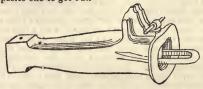


DEITZ SOLID DRAW BAR.

drawbars the same height from the rail. This will afford a better opportunity for the adoption of one of the many automatic couplings that have been introduced this short time past. One of those which I saw working, and is worthy of note, was the Deitz-jointed or solid drawbar. These drawbars when pushed together lock into each other. Then when you want to uncouple a handle at the side is pulled which unlocks, and the drawbar opens, allowing the opposite one to get out.



DEITZ FREIGHT DRAWBAR.

Shunting Operations.

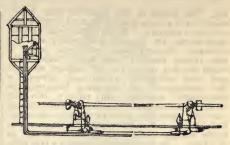
When shunting or marshalling trains each man ancouples and brakes his car back, then couples it to the next one before he leaves it. This process occupies more than double the number of shunters to one engine than at home, and we can make three shunts in the time of our cousins making one.

Falling from Trains.

When a freight train starts with a load of forty cars—as I counted some with that number of a train—when full manned, the crew consists of one conductor, who stays in the brake van at the rear, and three or four brakesmen. Their place is on the top of the cars. As each car is fitted with a brake, the wheel for working it is placed on the top at one end. Now, these brakesmen have to travel along the tops of the cars when running and attend to the brakes. The brakesmen are the dirtiest class of railway servants I ever saw; between dust and smoke, one could scarcely tell whether they were black or white men. Now, the reader can imagine within his own mind the situation of these men on a frosty morning and the roofs all covered with ice. No wonder although many of them fall off and get killed, not to speak of the danger of coming in contact with bridges. Of course, the latter are very scarce in America, but where a bridge did span the line I noticed a warner, or, I would call it, a reminder, was erected. This was a spar of wood fastened across the line a little higher than the bridge, and about one hundred yards from it. On this spar ropes about six feet long are attached every few inches, hanging down, and when a train is approaching a bridge these ropes strike the brakesman and remind him of the bridge.

Railway Crossing Gates.

This is a specimen of the gates used in and round many streets in Chicago crossing the railways. The old style of them was worked by a hand-lever, but the gate above illustrated is of the new improved style called the Mills pipe gate, opened and closed by the aid of compressed air carried through small



MILLS' RAILROAD GATE.

pipes to make the pressure. There is a small cylinder with a hand-pump to work the gates. The pump is wrought several times until a few pounds of air are shown on the indicator, then a small cock or valve is turned, admitting the air, which lifts the gates perpendicular. They are shut the same way. On the crossbar or gate, as it is called, a ticket is hung printed in big letters "Look out for the cars." This gate is shown in the Exhibition at Chicago.

SCOTSMEN IN CHICAGO.

Mr Mungo Smith, Dundee, reports:—I called on Mr William Gardner, president of the North American United Caledonian Association. The objects of this Society are the encouragement of the Scottish Highland costume and games, the cultivation of Scottish music, history, and poetry, the uniting more closely of Scotsmen and those of Scottish descent, and advancing the interests of their countrymen by friendly methods. The club had a Scottish week at the World's Fair, commencing Monday, July 24th, with receptions every morning and entertainments at night, finishing with games at Wentworth Avenue. There was a grand parade of societies. They were escorted by the Royal Scots regiment and Highland cadets of Montreal. Mr Gardner gave me a very hearty welcome, and invited the whole party to meet him.

FROM CHICAGO TO PITTSBURG.

AN EVENTFUL JOURNEY.

A BIG RAILWAY SMASH.

COLLAPSE OF A TUNNEL.

TRESTLE BRIDGE.

DELEGATES AT PITTSBURG.

HOMESTEAD IRON AND STEEL WORKS.

USE OF NATURAL GAS.

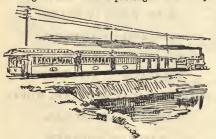
WAGES OF WORKMEN.

THE GREAT STRIKE.

(From the Dundee Weekly News of October 21.)

The delegates left Chicago, on Friday, July 14, for Pittsburg, travelling from the Wisconsin Central Depot by the Baltimore and Ohio Railroad. For some distance their way lay by the western outskirts of Chicago, and then they were able to form a better idea than ever before of what a huge city it really is. It took a considerable time to reach the open country, which, when struck, was flat, bare, and uninterest-

ing. The houses in the outskirts were mostly wooden, and a dense mass of thick inky smoke hung over the whole city. When Indiana was entered, their course lay through good-looking and well cultivated districts with numerous scenes of fine sylvan beauty; but some time afterwards the first of a series of mishaps occurred, and the delegates experienced several of discomforts and annoying inconveniences ionally incidental to railway travelling the on the great continent of America. When Chicago was left about 100 miles to the west, the engine broke down, and a 2½ hours' detention occurred before another locomotive was run up to take on Then, when they had got a few miles the train. beyond Chicago Junction, information was received that a disaster had occurred ahead on the direct line-either the roof of a tunnel had fallen in or a freight train had come to grief—and it was necessary to make a detour southwards by Newark and Wheeling on another line, increasing the distance to be run from 488 to 537 miles. The train was accordingly run back, and then on to this other road. The time-table showed that the train should reach Pittsburg at half-past eight on Saturday morning, but it was midday before it got to Wheeling, and then a change of cars and a delay of nearly another hour followed. On resuming the journey, all went well, though slowly, through a hilly country thickly studded with oil well derricks, hilly country thickly studded with oil well derricks, of which a snap-shot or two were taken with a Kodak camera by Mr Murray, the conductor, until the train arrived at Finleyville, about 20 miles from Pittsburg. Here another provoking delay occurred, due to a tender and three or four freight cars having "jumped" the track at a sharp curve, a good few of which were passed. For three or four mortal hours, therefore, the delegates with the train lay inactively in a roasting sun at this outlandish spot, and the remarks passed by them and their belated fellow-passengers were anything but complimentary to passengers were anything but complimentary to the Company operating the line. Amongst others was a suggestion that as it seemed so difficult to get the train to Pittsburg it might be easier for the Company to bring Pittsburg to the train. At last the track was cleared, and the cars proceeded, but the troubles and unpleasant experiences of the poor fatigued and wornout passengers were not yet



ON THE WAY FROM CHICAGO TO PITTSBURG.

over. As Pittsburg was approached a terrific thunderstorm occurred, and the rain poured down as it knows how to do in America. In the outskirts of the city the rain water ran down from the high ground, passed below the railway, and was rushing along a street like a mountain torrent in flood. The storm had caused a landslip, which blocked the line on which the train was running, and another halt was rendered necessary. Several of the passengers, disgusted with the repeated delays, and anxious to reach their respective destinations, left the train in order to catch the electric.

cars, but on jumping down into the street they landed knee deep in water. In order to pass the obstruction the train was shunted on to another track, and at 8 p.m. Central time—or 9 p.m. Eastern time—after a journey of 27 hours—the delegates reached the St James Hotel in a state of almost complete exhaustion. Their only consolation on reaching Pittsburg was to hear that their unfortunate experience had been somewhat unusual on the Baltimore and Ohio Railway of late, as the trains of the Company had been running remarkably well on time since the opening of the Fair.

Our Journey from Chicago.

In his description of the journey Mr Watson, enginedriver, says:—On leaving our hotel near the Exhibition we travelled to the B. & O. Grand Central by way of the Illinois Central. This rail-way runs alongside of Lake Michigan all the way way tuns are three double lines of rails, and the most of the World's Fair traffic passes along these lines. Trains are run at short intervals, and one cannot go far wrong to catch a train at any time. If you want to travel with a fast one you take the line nearest to the lake. If you want a stopping train take the one nearest the city. These lines are all wrought with the automatic signalling system. They are divided into short circuits with signal bridges every half mile or so. The signals which are placed on these are round targets. When a train passes these targets a red disc by day and a red light by night appears in them and remains until the train has passed into the next circuit. Then the signals in the circuit behind indicate clear for another train to follow. No train passes a red target. A class of trains was specially built for the World's Fair traffic to run on these lines. The carriages are fitted with cross seats much the same as at home, but there are no doors on them, just a curtain to shade from the sun, while an iron rod about an inch thick is wrought on hinges with a lever from the rear of the train, which the conductor works. This rod is to keep passengers from falling out. When the train arrives at a station it is lowered to let passengers get out or in. On reaching the city, we proceeded along the streets to the Grand Central Station, getting our baggage at the office, which had been sent on by the parcel express. We took our seats in a first-class sleeping-car of the 4.55 p.m. limited express to take us on to Pittsburg, a distance of 488 miles, due to arrive at 8.25 a.m. The bell rang and the train started almost on time. After a few slows for signals and a stop or two, we were soon flying away out through the suburbs of Chicago, skirting round through a very level district. We could see the towers and Ferris Wheel of the World's Fair, but we soon bade farewell to them all as our train sped along, leaving Chicago and its great Fair in the distance. Now the steward intimates that dinner is ready. We entered the dining-car and got served with

Splendid Dinner.

The tables in the dining-cars stand across, with a passage along the centre, and each table holds four passengers, two at each side. This is decidedly a great comfort in railway travelling in America. After dinner we retired to the smoking or observation compartment, and had a look of the country, which seemed to be a very rich district. The people were all busy with the harvest, and very fine crops seemed to grow in this locality. On entering our sleeping-car we find the attendant, who is a coloured man, converting our seats into beds. It seemed to me that a sleeping-car has a place for everything, and everything in its place, for in folding down the seat backs he pulled out the



PULLMAN DINING CAR, B. &. O. LINE.

pillows from under the seats, on which he placed clean linen slips, then lowering down from the roof another tier of beds, in them were stowed blankets and wooden partitions, also curtains. In a very short time Sam, as we called him, had everything in its place, which filled the car with two tiers of beds on each side, with curtains hanging down in front, and the passage through from end to end.



DINING CAR COOK.

To know your bed you look your ticket number, then find the number of bed to correspond. Darkness began to draw over us as our train was speeding along through the State of Indiana, and each member began to search for his hed and in a form into 11. his bed, and in a few minutes all were turned in with the hope of seeing Pittsburg next morning. But that was not to be the case, for about 2 a.m. I awakened up, and everything seemed so quiet that I inquired at Sam if anything was wrong. He replied, "Yes, sir, the engine has wrong. He replied, "xes, sir, the engine has broken down, and we have been standing here for two hours." "What is broken about the engine?" "Something," said Sam, "about the gearing, but we have got another." We soon got started again, but we did not proceed very far when we stopped again, and I was informed that a

Tunnel Had Fallen In

ahead, and we could not get any further. So our engine got round to the rear end of the are constructed with long beams of wood laid flat train, and pulled us away back the road we came across on the ground, then come upstanders resting



PULLMAN CAR PORTER.

for a few miles to the station called Chicago Junction, a distance of 278 miles from Chicago. We then proceeded away round a branch line by Mansfield, stopping at Mansfield Station, where we had breakfast, during which time one of the We then cars got its brake gearing repaired.



A RAILWAY BREAKDOWN.

made another start, and were conveyed through houses here and there, and grand crops of wheat and Indian corn, all fenced round with the old snake fences. A little further along we came in sight of the River Leekingcreek. We ran for a considerable distance alongside of this river. was said to be a very fine fishing river, and we could see lots of people living in camps or sportsmen's huts enjoying themselves in shooting and fishing along its banks. A little further along we reached Wheeling Junction. Our car was detached here and shunted on to the Wheeling and Pittsburg branch train. Having 45 minutes to wait on this train starting, we had a run through the town and got dinner. Returning to the station, we got seated, and our train backed out of the station, then began to move away right up the middle of the street, just the same as a tramcar in Dundee. After getting clear of the town we soon got into good speed, but this seemed the wildest-looking road we had travelled over. There were tunnels and high rock cuttings, and a number of trestle bridges across some very high creeks and streams. I drew our members' attention to some of these bridges, but they did not seem to care for them. They said they would rather prefer the Tay or Forth Bridges to any they had seen.

Trestle Bridges

on these beams, angling towards the top, and strongly braced together. Then longitudinal beams are placed along the top and the sleepers fastened across them, then the rails. There are no parapets or ledges, just the ends of the sleepers projecting. One looking out of a car window can see right down between the sleepers to the foundation. Our train slowed across a few of these bridges, some of which are very high. All went well until we reached Finleyville, a station about halfway to Pittsburg on this branch, when our train stopped, and we were informed that a block was ahead by some cars leaving the rails. An old engine standing in the siding without its tender, and its fire drawn and steam blocked for three hours before we arrived, and we stood another three hours before the line was cleared. We again proceeded—it being now 6.45 p.m.—thinking we would surely reach Pittsburg without any more detention; but that was not so, for when approaching Pittsburg a very severe thunderstorm had passed over and the rain came down in torrents, washing stones and sand off the hill down on to the rails, blocking the road a short distance from the station, causing our train to cross on to the other line and get into the station on the facing road. After all these obstructions we arrived at Pittsburg at 8.45 p.m., being 27 hours 50 minutes on our journey of about 488 miles—no less than 12 hours 20 minutes late.

nearly so black as it was represented, and that it was kept much cleaner and in better order than Chicago, in their tour with Mr H. C. Torrance, of the Oliver Iron and Steel Works, a friend of Mr D. C. Thomson, of the Weekly News, and a native of Scotland, who not only kindly acted as their guide, but secured letters of introduction to the most important and representative firms in the district. Mr Torrance took the delegates through the city, and showed it to them from various points of vantage, and also ran them round the suburbs. The view from Highland Park with the beautiful Alleghany valley stretching some miles up was particularly admired. Two large reservoirs to which engines pump 40,000,000 gallons of water daily for the supply of the city have been constructed in this park, at a height of 356 feet from the river, and the surrounding grounds are beautifully laid out, and much frequented by the citizens, to whom bands perform several times a week in summer. The Alleghany River, from which the water supply is taken, was of a clayey colour, but this, it was explained, was due to the heavy rains of the previous day, and was of very infrequent occurrence. Numerous handsome mansions, mostly of terra-cotta, brick, and stone, but with a few still of wood, were seen in the suburbs, and it was noted that the grounds of many of these containing flowers and fruit trees were protected by neither wall nor railing. In America, it was explained, young people sel-lom or never thought of stealing flowers or fruit,



THE HOMESTEAD WORKS.

General Features of Pittsburg.

The city of Pittsburg, writes the Conductor, is about 450 miles from New York, and is situated on broken, hilly ground at the junction of the Alleghany and Monongahela Rivers, which there form the Ohio. It is the second largest city in Pennsylvania, and is the great centre of the iron and steel, glass, and electric appliance industries in the United States, prominent amongst the iron and steel works being those at Homestead and Braddock, with which the name of Mr Andrew Carnegie, of free library fame, is associated. Its population now amounts to about 250,000, while in Alleghany City, on the opposite side of the Alleghany River, there is an additional population of about 120,000. The two portions of Pittsburg and the two cities are connected with each other by numerous large and strong bridges. Formerly, on account of the large quantities of coal consumed in the iron and steel trades of Pittsburg, it was popularly known as the "Smoky City," but since the introduction of natural gas, which is found in large quantities in the district, and which is now extensively used in the rolling mills and for domestic purposes, this appellation is somewhat of a misnomer, and Pittsburg in this respect will compare favourably with any other industrial centre in the States. The delegates had ample evidence that the city was not

and malicious mischief in this connection was practically unknown. The delegates quickly discovered that they had struck Pittsburg at a bad time, as nearly all the iron and steel works were shut down for repairs, and on account of the fixing of the annual wages scale for the succeeding year, the employers and the men not having yet come to terms, while the whole of the glass works were also closed as usual at this season.

Homestead Steel Works.

Mr R. Dunlop, Motherwell, reports:—Pittsburg is undoubtedly the great centre of the iron and steel trade of America. Every branch of industry in connection with steel or iron is here represented—blast furnaces, steel works, rolling mills, foundries, tube works, bridge building, locomotive works, boiler and tank building, agricultural implements, chain works, wire works, spring works. These are only some of Pittsburg's great industries in the iron and steel trade. When we visited the city a large number of the works were closed for repair and settling the wages scale. A dispute had also arisen between the employers and the workmen in connection with the fixing of the scale of prices which regulate the wages of the workmen. This scale is fixed annually at the end of June, and remains for a year, being mutually

agreed upon by both parties. At the time we were there the Western manufacturers were complaining of the Eastern men being paid a lower rate for all classes of work, maintaining that the wages in Pittsburg should be brought a little nearer the level of the Eastern men. Although the most of the iron works were closed down, still there were some of the large steel works going on, the above dispute not affecting them. The most important unspute not affecting them. The most important works in or near Pittsburg are the great Homestead Steel Works of Carnegie, Phipps, & Co, at Munhall, a few miles distant from the city. With a card of admission signed by Mr Frick, the visitor will receive every attention, and on showing your card someone is told off to guide you through the great establishment. The plant is of the most modern type, and every mechanical device that supersedes hand labour and facilitates a large out. supersedes hand labour and facilitates a large output is to be seen at work. The most of the steel made at Homestead is made by the open hearth process for boiler and ship plates, and all kinds of structural work. They also make nickel steel for the great armour plates which they are making daily for the American Government, In the melting department there are sixteen furnaces, two shops with eight furnaces each, and here I found in the superintendent of that department Mr Niven M'Connell, an old acquaintance with whom I had worked at Motherwell. His brother was there also as shop foreman. They had left D. Colville & Sons, Motherwell, seven years ago, and finding a situation in Homestead had gradually worked their way up to their responsible positions. their way up to their responsible positions, Several of the melters I found to be from Glasgow, having worked for the Steel Company of Scotland. Mr M'Connell made an excellent guide through the large works, and I was grateful for his kindness during my short stay at the works. The sixteen furnaces have a capacity of about 25 to 30 tons each. Fourteen of the furnaces have the basic bottoms, and two of them the acid bottoms. Each furnace runs from eleven to twelve charges per furnace runs from eleven to twelve charges per week. Before a general repair each furnace runs about 250 charges of metal. Here all the steel is cast for the har and plate mills, also the large 35-ton ingots for the armour mill. The system and 35-ton ingots for the armour mill. The system and method of work here adopted is entirely different from ours at home. The whole plant is

Run by Natural Gas.

Where we use coal and a large staff of men at our gas-producing plant they have here the gas led by pipes from the gas region 20 or 30 miles away. This valuable fuel was first used for boilers at the gas regions. In 1875 two iron manufacturers tried it at the furnaces, and in 1884 it came into general use at mills, factories, and for every purpose for which coal was used, displacing about 10,000 tons of coals per day. The mode of work on the furnaces here differs greatly from ours. The man in charge of the furnace here is called the "melter." He takes control of the furnace, but takes no part of the charging of the same. There are also the first helper, second helper, the boss pitman, with six helpers for eight furnaces, a boss ladleman, with four helpers, four stokers for hand charging, one for the machine charging, and six labourers for taking out slag and cleaning the pit. The wages vary a little in different works, but here the wages are:—Melter, \$5 (£1) a day; first helper, \$3 (12s); second helper, \$2.75 (11s); boss pitmen, \$3 (12s); helpers, from \$2 (8s) to \$2.75 (11s); stokers, \$2 (8s); labourers for slag and cleaning pit, \$1.68 (6s 9d). In some of the works I found on making inquiries that the melters could make \$7 (28s) a day, but the figures I have given are about the average.

luge charging machine. In others it is done by hand. The heats are mostly cast into the circle pits. Sometimes the moulds are set on carriages, and taken over to the mills at once by the locomotive. One of the melting furnaces is used for remelting the great ends of the ingots used for raking armour plates. The furnace is circular in shape, and the whole roof of the furnace is lifted off by a crane, while another travels along with ingot ends weighing 7 or 8 tons and drops them inside. In the

Finishing Department all the latest appliances are in use at these works. Ships and boiler plates of all sizes, and beams and bars of every shape and size are here rolled. the plate mills that I have seen in America are run on the three-high system, and are finished direct through the one set of rolls from the ingot, the movable tables with driven rollers rising and falling at each pass of the plate. The plates are finished off, and marked, sheared, and loaded without ever touching the floor. As soon as the plate is rolled the exact size, it runs on to a long train of rollers, which carry it on to the shears. Here it is marked to size, and the end cut off. It goes straight through to another set of shears, and is finished off there. The train of rollers is very finished off there. The train of rollers is very long, so that by the time the plate reaches the shears it is cool, and if the mill is working too quick for the shearman there is a contrivance to throw off two or three plates, where they lie until the men have time to finish them off. Another thing I notice very good and useful here is that the blade of the shears when not in use is thrown out of gear, instead of continuously rising and falling. A reversible crab is attached to all the shears, and throws the blade in or out of gear in a second, giving the men time to properly set the plate to the

The Bar Mills

here are also far in advance of ours in the use of the latest and most wonderton. In the bar mins necessity, namely, electricity. In the bar mins necessary mills, namely, electricity. In the bar mins necessary manual transfer and drawing, working like clockwork. In one of the large bar mills there is a machine for charging and drawing, the motive power of which is electricity. The machine charges the ingots in the furnaces and draws them out, placing them on tables for the rolls, with a rapid movement which is astonishing. At the same mill, too, there is an electric machine at the rolling table, working the blooms and bars in a manner almost automatic. Another interesting sight is the large beam mill, where the heaviest sections are rolled for bridge building and fireproof buildings. These are rolled direct from the cogging mill. The ingots are large, and, after passing the cogging rolls are cut in two, the first half of bloom passing on to the finishing train by driven rollers. While the first half is being rolled the second half passes directly under a small circularshaped furnace on the same table, where it remains until the other part is rolled, thus saving the cost of reheating. Some of the large beams are two feet wide, and the whole train of rolls run with remarkable smoothness. All over the works are to be seen electric cranes, and I noticed in the newspapers that this company had given an order for eleven electric travelling cranes for loading beams on cars, &c., all to be used out of doors—one of the largest orders given by any steel mill. In the foundry also there is an overhead electric travelling crane. the machine shops the planing machines are nearly all from Leeds, England. Here they have a splendid American machine called a boring mill cutting plates in a 30-feet circle. Here, too, the great armour plates are finished under the supervision of

the U.S. Government Inspector. The wages of the tradesmen here are:—Machinists, \$2.50 to \$3 (10s to 12s) a day; blacksmiths, \$2.75 (11s) a day; moulders, \$2.75 (11s) a day; roll turners, \$4 (16s) a day, all working a ten hours day.

The plate mill men work an eight hours day. In these mills we use more fall near day. In these mills we use more fall near day. these mills you can see men of all nationalities at work—coloured men, Poles, Hungarians—in fact, men from every clime here intermingle and work side by side. The number of men employed is on side by side. The number of men employed is on an average 3500, and pay-roll for a month is \$225,000 (£45,000). The average amount of finished product per month is 15,000 tons. This includes both finished and unfinished material-ingots, blooms, billets, and slabs. It was here

The Great Strike

took place last year, which ended in rioting and bloodshed, and as I had previously read the newspaper account of it, I had a desire to see the place where it occurred, and the place where the Pinkerton men tried to land was pointed out to me. A full account of the strike is published in the Foreign Office report (United States), as Congress appointed a Committee to inquire into the circumstances of the strike, and the employment of the Pinkerton detectives. The wages had been for many years fixed in these works by a sliding-scale based upon the selling price of steel. The details of the scale were arranged between the Company and the Amalgamated Association of Iron and Steel-workers. The scale agreed upon in 1889 expired on 30th June, 1892, and as that date approached the Company gave notice of a considerable reduction, and to make the scale terminable in January instead of July. The workmen rejected the proposal, and the Company discharged all who refused their terms. The Company had provided against the contingency of a strike during the previous six weeks by building a fence three miles long round their works and twelve feet high. Three hundred Pinkerton constables were brought to the works.

On the way up the river the Pinkerton men unpacked their boxes and arrived fully armed.

Large crowds of strikers waited their arrival to present them landing. A skirmigh thus energed in which vent them landing. A skirmish thus ensued, in which seven strikers were killed and many wounded, while three Pinkertons were killed and several wounded. The crowd also ran barrels of burning oil into the river, and finally the Pinkerton men surrendered to the crowd, and were afterwards maltreated in spite of the efforts of the strike leaders to control them. Troops were sent to restore order, and some of the leaders arrested. Then came the shooting of Mr Frick, the manager, by a Russian named Berkmann; but this act was quite independent of the men on strike. At the inquiry the feeling against the employment of Pinkerton men found expression, especially in the evidence of Mr Powderly, the leader of the Knights of Labour, who alleges that the Pinkertons are men of dubious character, and rather ferment than allay disorder. Massachusetts and New Jersey have passed Acts prohibiting the employment of Pinkerton constables. This Act was passed last year—1892. Non-Unionists were imported, the works were started, and a great number of workmen lost their A plot was afterwards formed to poison some of the non-Unionists, which was afterwards carried out. Several men were arrested, tried, and found guilty, and sentenced to long terms of imprisonment, among whom was H. F. Dempsay, a master-workman of the Knights of Labour. A sensation has been caused by the confession in prison of Patrick Gallacher, one of the prisoners, to the effect that Hugh Dempsay is innocent. This will probably re-open the case, as Dempsay's friends will do all they can on his behalf. The great strike

EDGAR THOMSON STEEL WORKS.

RAIL-MAKING DESCRIBED.

CARBON STEEL WORKS.

WAGES OF STEELWORKERS.

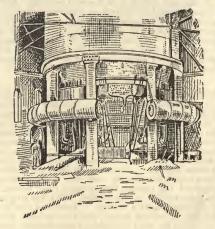
STANDARD OF LIVING.

WORKINGMEN'S DWELLINGS. COST OF FOOD AND CLOTHING.

VISIT TO OIL WELLS.

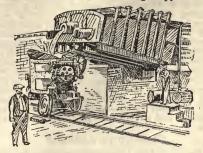
WESTINGHOUSE ELECTRIC WORKS.

(From the Dundee Weekly News of October 28.) Mr Dunlop, Motherwell, reports :- The Edgar Steelworks and blastfurnaces are acknowledged to be the best rail Thomson generally plant in the United States, consequently a description of this mill will interest a great number of people at home. The works are situated at Bessemer, about eleven miles from Pittsburg. The Monongahela river gives facilities of water carriage, while no less than three railways run past the works, transporting material to all parts of the country. There are nine blastfurnaces, the last two built—H and I furnaces—being each 22 feet diameter of bosh and 90 feet high. The average



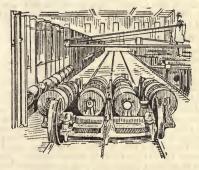
FURNACE "F."

output of these furnaces is about 300 tons per day of twenty-four hours. The plant is all designed and arranged specially for the manufacture of Bessemer The steel is made by the direct steel rails. process-that is, instead of being cast into pig-iron, the metal from the blastfurnace is taken to the converter and made into steel. The whole plant is a wonderful example of the ingenuity of man, and reflects great credit on the designers of the mill. The progress of the metal from the time it leaves the blastfurnace till it is pushed on the car a finished rail is marvellous. A rich ore from Lake Superior is used at the blastfurnaces. The metal on being tapped from



DRAWING THE METAL MIXER.

the blastfurnace is taken to the mixer. This is a large vessel lined with brick mounted on a shaft, and has a capacity of about 100 tons. The mixing plant ensures a uniform grade of iron for the converting department. From here the metal is taken to the converting works and at once run into one of the converting vessels, where, in from 15 to 20 minutes, it is blown into steel by the usual Bessemer process. Each vessel holds about 15 tons. The moulds into which the metal is here tapped are generally set in a pit, but here the moulds are set in a train of carriages driven by a small locomotive. In a few minutes, as soon as the metal is set, the locomotive runs the whole train over to the mill furnaces. Here a crane lifts off the moulds, leaving the row of ingots all stand-



CHARGING BLOOM FURNACES.

ing on end. A huge charging machine running on rails and carrying boiler and engine comes along to the furnace, a pair of tongs move forward and grasps the ingot, placing it in the furnace with a rapid movement that is most astonishing. It only takes a few minutes to charge the heat, and meanwhile another furnace is drawing. As soon as the ingot is taken out of the furnace, it is carried along rollers to the blooming mill, a three high 36-inch train. After a few passes, the bloom runs on driven rollers to the shears, and is cut through the centre. Here the bloom is whisked round a curve to

The Rail Mill.

This mill is divided into three trains, each driven by its own engine. It here makes five passes, and runs along to the second train, also a three high train with movable tumblers and lifting tables. From here it passes to the finishing train, and travels on to the hot saws, where the four revolving saws alrop on it at once, cutting the piece into three

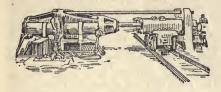
length rails at one stroke. The rails cut to length are placed on the hot beds by pushers driven by winding cables. From the hot beds they are pushed on to a line of driven rollers to the finishing department. The rollers are driven by reversing engines, so that the rails can be sent forward or backward as desired. When a rail reaches the proper point, two arms are raised; these lift the rail from the roller, and as the arms are inclined at a steep angle, the rails slide down to the straightening press, where they are straightened and drilled. There are eight straightening presses and eight drill presses. The finished rails are pushed out of the side of the building to the loading beds, where there is a line of railroad cars, on to which they are loaded. The mill runs very smoothly and with the regularity of a clock, very seldom a hitch occurring. From the time the metal leaves the blastfurnace until it is a finished rail on the bank is only a little over an hour, and during its progress it is entirely handled by machinery, not a man requiring to use a pair of tongs, the mechanical appliances being perfect. There are four converters working about fifteen tons each blow. The heaviest output of ingots has been 2124 tons in 24 hours. The rail mill has rolled 1904 tons of rails in 24 hours. The average output is about 1600 tons in the 24 hours. The men about the converters work

An Eight Hour Day,

and they earn on an average 14s to 16s a day. The chief roller and heater are paid a monthly salary. The tonnage men at the roll trains earn on an average 18s a day. The rail furnacemen earn 26s a day. The rail straighteners have 5d a ton. There are three set of men working eight hours. On the roll trains the men work twelve hours, but where the work is continuous they have a spell hand, that is, three men are employed instead of two, and take spell turns. At the blastfurnaces the average wage is about 9s a day; mechanics, blacksmiths, and moulders, from 10s to 12s a day; labourers, 5s 3d a day. The number of men employed is about as a day. The number of men employed is about 3500, and great numbers of them own their own houses. The company advances money, charging six per cent. interest. They also take deposits from the workmen, paying six per cent. For that purpose a special department is kept with three or four clerks. Lots for workmen's houses can be bought for from £60 to £100; cost of house from £240 to £400. This means a house with five or six apartments. The wages of the workmen are regulated by a sliding scale based on the average price received for rails during the preceding month, a printed scale showing the amount to be paid each class of workmen, according to the price of rails as indicated. Four men representing the workmen see the books of the firm, and know the price received for rails. The system gives every satisfaction. The works run to four o'clock on Saturdays, but after this date the mill will close on Saturdays. The annual holidays are on 4th July and Christmas Day. The boilers are all fired with the natural gas, led in pipes from the gas regions. In the office here I saw Mr Melville, one of the chief clerks, who belongs to the neighbourhood of Dun-dee. He had heard of the Weekly News Expedition, and was anxious to see all the party. He has been here six or seven years, and likes the country well. These works very seldom close down, running almost continuously, although some of the other mills shut down for a month or six weeks. works are excellently managed, disputes between the workmen and the company being of rare occurrence.

The Carbon Steel Works, Pittsburg.

Mr Dunlop also reports:—On Tuesday we paid a visit to the Carbon Steel Works. This was originally an iron-rolling mill, but a company was formed and bought the place and built the present steel plant. The lessened demand for iron and the great demand for steel is gradually pushing the iron tradeout of existence. Steel is here made on the open hearth system. They have eight melting furnaces—six at 30 tons and two at 20 tons capacity. They are built on Lash's patent, Mr Lash being the present manager of the works. The furnaces give great satisfaction, running a long time without getting out of repair. The regenerators or checker work, instead of being in chambers directly beneath the furnaces, are placed in the flues. No



INGOT PUSHER.

slag or other matter can get among the checker work. This enables the furnaces to run longer without repair. Mr Naismith, the foreman brick-layer, I found to be a Wishaw man, having worked layer, I found to be a Wishaw man, having worked a long time for the Messrs Williams at Shieldmuir. He has had charge of the building of all the furnaces at the "Carbon," and is presently building new plant. During my visit he was very obliging, and conducted me all over the works, and was inquiring kindly about a good many old country folks. The rolling plactices consists of a three high plate mill, a sheet mill, and a universal mill for rolling long narrow plates. a universal mill for rolling long narrow plates. These plates only require the ends cut off, the edges being kept smooth by a set of vertical rolls, which can be set to any width. The plate mill is a three high train, finishing the plates direct from the soaking furnaces through the one set of rolls. There are seven electric cranes at these works, and the screws at the rolls are worked by electricity. There are overhead electric cranes at the soaking furnaces and also at the loading bank. The plate mill is run on the same method as at Homestead. The ingots are charged into the soaking furnaces and run on driven rollers direct to the roll train, and are finished off at the shears without touching the floor. The system of work in the melting shops is somewhat similar to Homestead, the stokers and all the pitmen helping to charge the furnaces. The furnaces are all run with the natural gas, the older furnaces being built specially for that purpose, but they are building the new ones in such a manner that they can be worked with manufactured gas when necessary. The supply of natural gas cannot be inexhaustible, and there is talk of the supply running short, and they are preparing for a change when circumstances require it. The wages at the Carbon are about the same rate as at Carnegie's. As I stated previously the ironworks were all closed down during our visit. On making inquiries into the wages, I find that the rate paid for puddling was 22s per ton. The employers wish a 10 per cent. reduction all round. Several conferences had been held between the representatives of the amalgamated association and the workmen, and although no settlement was made while we were there, it was the general opinion that the reduction will be agreed to. The puddlers work five heats per shift, charging 5 to 51 cwts. per heat, paying the under hand 10s A feature in

a day. The following scale is for rolling wire rod from 4 inch billets to No. 5 wire gauge:—Rollers, 1s 3d a ton; heaters, 1s 6d a ton; rougher, 5d a ton; bull-dogger, 3½d a ton—ten hours each turn, from 5 a.m. to 7 a.m., from 7.45 to 12 noon, from 12.45 to 4.30, and not later than 2.30 on Saturdays—average output, 70 tons per shift. It is not necessary to give the scale of prices governing the wages in the several departments, as that would take up too much space, but I have the association scale of prices for all the departments. Anyone interested in any special mill can have the prices if desired by saying which mill he desires information on. The workmen are generally paid every three weeks. The works as a rule

Close Down Annually

at the end of June for general repairs and the signing of the scale for regulating wages. The length of stoppage all depends on the state of trade and what repairs are necessary. Some works, if well supplied with orders, may sign the scale at once, and work on with a short stoppage. Others may shut down for a month or six weeks. At the present time trade is dull, and they are having a long shut down here. All the Scotsmen we have met here have given us a hearty welcome, and we are greatly indebted to them for the kindness shown to us during our short stay in Pittsburg Here is a sample of a good working rod mill in the Glandon Rolling Mill, Pittsburg. The roller, Mr A. Cullen, is a Scotsman. The average output of this mill is 50 tons per day. The roller, is a ton, about 48s to 52s; heaters, 6d a ton, or 1s 6d on their own furnace, 3 furnaces in the mill, 26s to 27s a day; roughers, 6d a ton, 26s to 27s a day; boys, $3\frac{1}{2}$ d down to $2\frac{1}{2}$ d a ton. The roller, heater, bricklayer, and engineer of this mill all own their own homes.

Standard of Living in Pittsburg.

To the average artisan the cost of living in Pittsburg is pretty high, as the working classes here all live as well and as comfortably as their circumstances will permit. A laudable desire to own their own house seems to take possession of great numbers of people as soon as they settle down in America. It is apparent in every town and city we have been in, and Pittsburg is no exception to the rule. Here great numbers of iron and steelworkers own their homes, and even those who pay rent for a house live in large houses that would be deemed most extravagant in the old country. Numbers of ordinary tradesmen, such as engineers, bricklayers, &c., pay rental of from £2 16s to £4 a month for a house of five or six apartments. These houses may be either brick or wood houses. I was in four houses of the kind just described—namely, houses of six apartments—all tastefully furnished, and superior to the ordinary tradesman's house at home. More 100m is required, especially in the summer time, as the heat is so great, that they tell you that it would be impossible to live in such small houses as the working classes do at home. The average rent of the working classes for houses of from four to six apartments is from £28s to £34s a month. This includes all taxes. This means respectable tradesmen, and in good localities. The poorer class of labourers cannot afford to pay such rents, and require to huddle closer together, especially the foreign element and coloured people, who, as a rule, are all unskilled labourers. The cost of a lot for a house all depends upon the locality, and can be bought for from £60 to £120. A house of six apartments can be built upon it at a cost of from £240 to £360, according to mode or style of finish.

American Households

is the cooking stove, which is to be seen in every house, and with the aid of the stove the handy wife often prepares some nice dishes for the family. Fruit of all kinds is cheap, and is largely used among all classes. In season, grapes can be had from 4 or 5 cents a pound, and melons, tomatoes, and such like fruit are part of the daily food of the people. The dearest things here are clothing, all kinds of woollen goods, and house rents. Another thing



WORKING MAN'S DWELLING.

very dear here is felt hats. A good suit of clothes will cost from £6 to £9. You can buy clothes for half that figure if you like, but no wear in the cheap hats that sell here at 6s there is ones. felt Hard will cost from 15s to £1. Butcher meat, tea, coffee, tobacco, are all cheaper than at home. Butter sells at from 1s in summer up to 1s 8d in winter. Eggs are the same price as at home. Shoes range from 8s to 24s, but the leather seems to Cotton goods be poor, and does not wear long. are cheap, prints for morning gowns can be bought for 2d or 2½d a yard. The charge for doctor's attendance and medicine is heavy here. The lowest charge is 4s a visit and medicine to pay for, so that when illness overtakes a family the doctor's bills are a heavy drain on the purse. Our system of paying so much per week in large workshops for the doctor's attendance is much better, and could be copied more extensively in the States with advantage to the working classes. All the schools are free, and all the churches self supporting. Few people here can see where it would be right to give any one denomination help from the State in the shape of money. As the churches live for the spiritual needs of the people, they consider they should now for it the mealure. should pay for it themselves.

The Westinghouse Electric Works.

Mr Ebenezer Bennett, Newcastle-on-Tyne, reports:—I had the honour of being conducted through their works by a member of the firm, who was very kind in showing me every detail of these

works, and gave me the following account of Mr Westinghouse. When he went to Pittsburg about 26 years ago, the capital of Mr Westinghouse consisted solely of his fertile brain and limitless energy. These were soon at work, and in a short time he invented the air brake, which has made his name familiar to the civilised world. He entered upon his career at the time when railway development was young, and he made the railway world dependent upon the fruit of his genius. Another limitless field was just opening—viz., that of electricity, and he entered this with the same amount of energy that he had entered the railway field. The interest of Mr Westinghouse in electricity has been a steady but rapid growth, and the revelation to him of its full scope culminated in his founding the Westinghouse Electric Company. Mr Westinghouse secured rights under the patents of Ganlard & Gibb to the alternating current system of light-This system was put upon the market; at once business began to grow. The name of this Company was changed in 1860, and it is now known as the Westinghouse Electric and Manufacturing Company. It is very encouraging to us working men to see one of our own craft rising as Mr Westinghouse has done. He got this Company chartered in 1886, only then a small company, and to-day he is head of one of the largest electrical engineering firms in America. This Company has the incandescent lighting at the World's Fair, but are rather slack of work at their works in Pittsburg, having paid off only two weeks previously over 1000 men. They say that at this season of the year things always do quieten down, and it gives them a chance to get their machinery all overhauled, and their shops thoroughly cleaned, and everything put in order ready for the busy season coming on again. Their workmen are all on piecework, and from 3 to 5 dollars (12s to 20s) from 3 20s) per the They commence work at 7.15 in morning, having breakfast before starting. They leave off at 12 noon for lunch, and have three-quarters of an hour, then they work till 5.15 at night, Saturday and every day alike. Every man washes and changes before leaving the works, lavatories being provided in each shop. They employ a great number of females for lapping wires with tape, &c. They say they can get them cheaper than men, and after a little practice they can do more work of that particular kind than a man. Apprenticeship is a thing that is not known amongst them, boys taking the place of men as soon as they are able to do a man's work.

Oil Wells, Pittsburg.

Mr D. Brown, Govan, reports:—I had the pleasure of calling upon Mr A. O. Evans, superintendent of the Forrest Oil Company at M Donald, when the property of Pittsburg. a place some eighteen miles west of Pittsburg. received me very courteously, and kindly showed me several wells in different stages of operation.



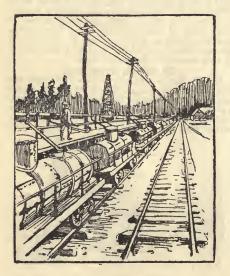
PITTSBURG OIL WELLS.

informed me his district extended some six miles | by five, and that he had no less than 115 wells by five, and that he had no less than 110 wells under his charge. We first visited a grass field, where, along with the farmer, he went through the operation of allocating a site for a new well. (They must keep a certain distance, 300 feet, from the boundary of other people's lands). We next visited some wells in process of drilling, large boring rods of 4½ inches in diameter and about 44 feet long being used for the purpose. The owners of the wells provide the material and erect the large wells provide the material, and erect the large wooden framework, called riggs, about 80 feet high, and let out the work of boring to contractors, who perform it at so much per foot (85 cents). We next visited a well which had been in operation for about a month, where the oil every 50 minutes or so comes up the pipes in such great quantities as almost to ourst them. The pipes, three of 2 inches in diameter, are led into a large wooden vat about 10 feet high and 15 feet in diameter. In about five minutes some 420 gallons of oil were forced up the pipes, this being caused solely by the accumulation of gas in the well. During the intervals the pipes are quite dry. The wells are very deep; they are some 2500 feet deep on an average. The first or outer casing is fourteen inches in diameter, and is put down a distance of 280 feet or This excludes the surface water, sand, &c., which is met with, and which has to be overcome. The next casing is ten inches, and is for the purpose of keeping out the salt water and other matter which is met with. It is put down a depth of 1350



SECTION OF OIL WELL.

feet. The oil rises in the centre tube, and is very strong at first, when, after the lapse of some months, the force gradually weakens, then it has to be pumped up by means of engine-power. The gas rises outside the tube but inside the casing, which is closed in at the top. The gas is then led away in pipes to supply fuel for the boiler fires. They have



AN OIL TRAIN.

a system of conveying the gas to and from the different wells of their own, so that when there is a deficiency from one source they get it in another, so that the supply is constant. The output of the wells varies considerably, according to the length of time they have been sunk, some of them producing as much as 700 barrels per day of twenty-four hours, while others only give one barrel. Each barrel contains 42 gallons. The Alleghany County is the richest spot in proportion to its area to be found in the whole United States. Around Pittsburg there has been produced in the last four years 67,905,478 barrels of 42 gallons each of the finest oil, and the total production of the United States for the years mentioned was 111,354,879 barrels, so that the Pittsburg district produced three-fifths of the entire output and seven-eighths of the entire value. There are upwards of sixty oil refineries and about twenty natural gas companies in and around Pitts-The wells are very numerous; in some cases are to be found nearly every 100 yards apart. The region is to be found in some cases in "belts," in others in "pools," and the regions are sometimes from one to fifteen miles wide, and about one hundred and fifty miles long. In supplying the natural gas (which does not have a very great illuminating oower) there was always great danger attached to it from the fact that the leakage was very great, and when they attempted to discover the whereabouts there was almost sure to be explosions. They have now two sets of pipes. One is fitted for high pressure, and is then conveyed to another. not unlike our street lamps, some of which are kept burning day and night. The pressure of the gas is very strong, being in some cases as high as 700 lbs. very strong, defing in some cases as high as 700 lost to the square inch. The gas is mostly used for heating and cooking purposes, for which it is specially adapted. The oil is pumped out of the reservoirs by means of force pumps, and forced along miles of pipes to the seaboard for general distribution.

AN AMERICAN SUNDAY.

AMONG THE NEGROES.

SERVICES IN A DARKEY CHAPEL.

INTERESTING PROCEEDINGS.

A NOVEL COLLECTION PLAN.

THE LAW AND ORDER SOCIETY.

ENFORCING SUNDAY OBSERVANCE.

THE STATE LIQUOR LAWS.
STRINGENT REGULATIONS.

PUBLIC BUILDINGS IN PITTSBURG.

STONECUTTERS' WAGES.

THE LAMP GLOBE INDUSTRY.

(From the Dundee Weekly News of November 4.)

No one, writes the Conductor, can travel any distance through the United States without meeting negroes. They are as numerous as gooseberries in a well-kept fruit garden in summer. They are to be seen every few minutes on the street, most of them dressed in a style which for smartness would put many whites to shame. They are the waiters in the hotels and the restaurants and the porters on the cars and at the depots; and for attention, civility, and devotion to duty no race can surpass them. As a rule they speak excellent English, in

the Northern States at least, and no matter what his social position may be, the "nigger" is almost always smiling, and happy and contented looking. They have places of divine service of their own, and are usually regular and devout worshippers. When walking along Wylie Avenue, Pittsburg, on Sunday, July 16, the delegates accepted an invitation to attend service in Bethel Chapel (Methodist Episcopal), of which the Rev. C. Asbury, D.D. (coloured), is the pastor. When they entered only four or five persons were present, but more negroes came in steadily and quietly until the sermon was well started on its way, and then there would be an attendance of some hundreds. Everyone was faultlessly attired, and most of the girls looked quite charming, some of them being in pure white dresses, with white shoes and brilliant millinery. The first part of the service consisted of the singing of hymns, prayers, and the reading of portions of Scripture, including the Ten Commandments. After the reading of each Commandment the congregation chimed earnestly in with "The Lord have mercy upon us, and turn our hearts to keep his law." At first the singing, which was led by an organ played by a lady, and wrought by a young man in full view of the congregation, was a little wanting in spirit, but Dr Asbury said, "We want everybody to sing. If you can't sing open your mouth and do the best you can." Then the congregation certainly did as they were bid, as the singing afterwards was really hearty and good. The preacher was the very

Embodiment of Candour,

and it is doubtful whether any of our Scottish preachers would be equally candid. Having given out the text-Colossians ni., 4-he said he had returned from Chicago the previous day, and felt fatigued from the travelling and the extreme heat, and had not had time to prepare anything, but they must put in the time and do the best they could. Anyhow, he felt that a man could not preach if the Lord did not help him. After warming up he preached an able and impressive discourse, with frequent passages of rare eloquence, on the Divine creation of man as opposed to the theory of evolu-His illustrations, although homely, were telling, and were fully appreciated by the audience, who frequently burst out when wrought up to a high pitch of excitement, with enthusiastic "Hear, hears," "Glory to God," "Praise the Lord" (which by the way were also uttered by the members during the prayers), "Yes, "My very experience," "Hallelujab," &c One gentleman was particularly demonstrative, One gentleman was particularly demonstrative, while others smiled happily, showing their beautiful teeth and testifying their concurrence by nodding their heads. In appealing to his hearers to prepare to meet God, he said—"Christians by name have no place in the army of God. Your name may be George Washington, but you are not George Washington, the father of your country. Your name may be Wellington, but you may be only a dwarf and not a great soldier. Stand upon principle, stand for right, stand for truth, stand principle, stand for right, stand for truth, stand for God." The taking of the collection was a great feature of the proceedings. The preacher stated that they would sing a verse and then the collection would be made, and if they came forward quickly they would all be out in five minutes, and that would be nice. He himself was going to put something in the plate, and the Lord would tell them what they should give. The plate, with a white napkin, was then placed in front of the preaching platform, and three stewards took their station beside it. One of these-a venerable-looking man—explained that it took about 25 dols. (£5) a NEGRO PREACHER. week to "run" the church, and that a certain sum gentleman, came over to Mr Bennett and I and

was required that forenoon, as they expected so much at the evening service which was to be held at eight o'clock. At first the worshippers were a little slack in going to the front and placing their offerings in the plate, whereupon the preacher said they would sing another verse and see what effect this would have. A good rousing stanza was accordingly gone through, after which large numbers, including the delegates, trooped forward and

Made Their Offerings,

whereupon one of the stewards who were counting the money as it was laid down remarked with de-light—"You are doing well; just continue," Eventually another lull occurred, when a steward intimated that they were 14s short of the sum required, and that if some were to add another nickel (21d) they would make it up, and that they would go round with the bag. Round the bag did go, the required sum was obtained, and the congregation dispersed after singing "Praise God from whom all blessings flow" and the benediction. The service was particularly refreshing, and was greatly enjoyed by the delegates after their railway experiences of the previous days. Japanese fans were found lying on all the seats, and the delegates, as well as the worshippers, kept using these during the whole of the service, the weather being intensely warm. At times also in the course of worship the preacher had recourse to his own fan. At the close Dr Asbury and several of the negroes shook hands with the delegates, thanked them warmly for their attendance, and invited them

A Negro Sunday School.

Mr Sinclair, of Cambuslang, reports:—On Sun-day afternoon Mr Bennett and I went to visit a negro Sunday School. When we arrived we found the school well filled, mostly with adults, and after the usual preliminaries of praise and prayer, the juveniles were marched out to another hall, and then the various classes of adults began. Bennett and I having taken our seats in a class that was being conducted by an old negro just as he was in the middle of his exposition on Paul at Athens, for that was the subject, the pastor, a coloured



took us into the juvenile room, where there would be about 100 coloured children mostly dressed in white. He then introduced us to the teacher, who was an elderly woman, remarking that she had taught this class for over thirty years, having taught some of their parents when they were young. The children also sang some beautiful hymns, and after saying a few words to them we came back into the main hall, when we heard one of the teachers read a very excellent report regarding a conference he had attended with the pastor during the week. The pastor then introduced Mr Bennett and I as two of the Artisan Expedition from the old country. Our impression of this school was such as to lead us to believe that the instruction given there from week to week and the truths expounded would have a most beneficial effect on those taught, and confer a lasting good on the community.

The Law and Order Society.

When in Pittsburg on Sunday, July 16, the delegates, writes the Conductor, were greatly pleased to observe, in contradistinction to observe, in contradistinction the practice of Chicago, that although the street cars were running as usual, the shops were closed, and that business was entirely Business proved, however, to be too suspended. much suspended for them, Scotsmen and profesing Christians as they all were. They were astir early in the morning, and were taking a walk before attending church. The weather was hot, so hot that the starch was out of their collars with the perspiration, which was streaming from them in less than half-an-hour. When a man is in this way he wants a drink badly, and the delegates were only mortal. Seeing an open chemist's shop, or drug store as it is called in America, they entered it, and asked for soda water. "Can't, sir," was the reply. "Why?" said one of the delegates. "Because the Law and Order people would lodge information against us, and we should be fined \$25" (£5). "Then I should like to shoot some of these Law and Order people if I could get them, or that they and Order people if I could get them, or that they should be as thirsty as I am this morning, and have nothing to drink," remarked the delegate. The delegates, however, were readily given some water, of which they were glad, although Pittsburg water is not of the finest quality. This is possibly the reason why there is not, so far as the delegates saw, a single street fountain in the city, the public authorities in all likelihood deeming it better that the public and visitors should suffer from thirst rather than from the effects of bad In answer to inquiries it was afterwards ascertained that Sunday trading of all kinds, including even the opening of hotel bars, and excepting only restaurants for the sale of food alone, was sternly prohibited throughout the State of Pennsylvania by an old Quaker or Blue Law 100 years old. In Pittsburg there is what is known as the Law and Order Society, composed of people who contend that they are descendants and representatives of

The Scottish Covenanters,

and who specially look after the enforcement of this law, and by means of its detectives and spies it has, much against what appears to be the general feeling of the community, secured numerous convictions for trifling breaches of the ancient enactment. The Society, of course, has a direct interest in securing convictions, as the half of the penalty goes to the informants and the other half to public charities; otherwise matters might be different. Shortly before the visit of the delegates several of

juries of conspiracy, blackmailing, and appropriation of the portion of the fines which priation of the portion of the fines which should have gone to the charities, and a scoundrelly spy was convicted of perjury. Some of these land pirates are now where they should always be-fast in the common jail-but those better off and with more influence have taken temporary refuge by lodging appeals against the judgment passed upon them, and their cases will probably be re-heard. The proprietors of the Dispatch and the Press, which have Sunday issues, have been repeatedly convicted of selling papers on that day, and the vendor of an apparently innocent beverage known as "milk-shake," a mixture of milk, soda-water, syrup, and ice, has also frequently paid the penalty for Sunday dealing. The State Legislature by a majority refused last session to repeal the obnoxious Blue Law, and although the same body passed a resolution reducing the fine in Allegham County to \$4 (16s)—the same as in all the other parts of the State—the Governor vetoed it, and matters remain as they were. The delegates were quietly informed that they could get something warm at the "speak-easies"—the local name given to shebeens—but nearly all of them being teetotalers they did not desire to make any acquaintance with these questionable institutions.

The Liquor Laws.

The liquor laws of Pennsylvania differ considerably from those of Illinois. In the old Quaker State applications for licenses must be lodged annually at the Courthouse, and are considered at annuary at the Courthouse, and are considered as Court, presided over by two of the ten County Court Judges, who are elected directly by the people for a ten years' term, and from whose decision there is no appeal. These Judgez examine into the character of the applicants, and grant licenses solely in view of the requirements of the district, the utmost possible attention being paid to remonstrances from the localities interested. In Pittsburg and Alleghany, with a population of about 400,000, there are fully 700 licenses, and the \$1000 (£200) paid annually for each license is given to the county and city authorities to be applied to public purposes. The bona fide traveller is un-known, as hotelkeepers even are prohibited from selling any liquor on Sunday. The "speak-easies" or shebeens, however, are reported to do a good trade in some districts.

Pittsburg Post Office.



POST OFFICE.

the head officials of the Society, including, it is said, Alderman Rohe, who tried the parties Mr Sinclair reports:—Having been introduced by accused under the law, were convicted by James M'Kean, the latter gave me a most cordial

welcome, and said he would be very glad to give me all the information he could. He asked Mr Albert J. Edward, assistant postmaster, to go over the building with me, which that gentleman very kindly consented to do. This is one of Pittsburg's best buildings. The front of the structure is 160 feet on Smithfield Street running back toward Cherry Alley 178 feet. The height of the building proper is 104 feet, and the top of the tower is 213 feet above the pavement. The annexe or mailing room is 42 by 49 feet. The building cost £300,000. From the great Rotunda on the second floor visitors can look down into the Post Office and see the opera-tions of receiving and distributing mail matter. The Pittsburg Post Office ranks as the fifth largest in the United States. The United States weather in the United States. bureau office is on the fourth floor and is reached by the elevators at the north-west corner. number of employés in the Pittsburg Post Office is 171, with 133 carriers, making a total of 304 persons. The gross receipts for the past year— Box rents, stamps, envelopes, &c., was £139,168 an increase of £14,605 over the previous year. The business transacted in the money order division was £486,326. The following shows the business transacted in the city delivery division:—

Number.	1890.
Letters delivered,	16,678,616
Post-Cards delivered	2,747,329
Pieces 2d, 3d, and 4th class matter,	5,313,813
Local letters collected,	3,513,749
Mail letters collected,	8,784,362
Local post-cards collected,	1,071,910
Mail post-cards collected,	1,582,128
Pieces 2d, 3d, and 4th class matter,	1,347,624
Total pieces handled,	41,039,531

Total Postage collected on all matter collected by carriers and deposited in

office, £31,692
The wages of the various pressmen, carriers, and others range from £80 to not exceeding £180 a year.

Buildings of Pittsburg.



CARNEGIE LIBRARY AND MUSIC HALL.

Mr Sinelair, Cambuslang, reports :- In Pittsburg proper, 25,170 houses have been erected in the past ten years. 15,489 have been erected since 1887, at a cost of more than forty million dollars. When you are reminded that the vicinity of Pittsburg is When keeping pace with the city proper, you can form a correct idea of the greatness of her growth. character and dimensions of the public buildings, business blocks, church edifices, and schools erected since 1886, demonstrate architectural talent and mechanical skill of the highest order. The new Government building cost £300,000, and the Courthouse £500,000. Half a score of office Courthouse £500,000. buildings, an equal number of churches, and as many magnificent business blocks, attest the progress made within a few years. years. The finest examples of American Renaissance and



ALLEGHENY COUNTY COURT HOUSE.

American Romanesque are found here. The residence districts in Pittsburg to-day are a constant source of surprise and pleasure to all capable of appreciating the fine examples of modern architecture in exterior and interior finish. Pittsburg's suburbs are universally conceded to be the most picturesque and the residences as beautiful as any in the United States. Alleghany County abounds in picturesque views, and no more charming sites for suburban residences are to be found than between Maine and the Gulf. Alleghany County is the only county in the Union that has three cities within her boundaries. The Alleghany River divides Pitts-burg and Alleghany. M'Keesport is only a few miles distant from Pittsburg, around which 38 thriving boroughs cluster. Alleghany, 38 thriving boroughs cluster. Alleghany, M'Keesport, and the boroughs are integral parts of Pittsburg, practically they are one community.

All the others depend upon Pittsburg commercially and financially. The population of these three cities (385,123) added to the population of the 38 boroughs and 41 townships aggregates upwards of 600,000. Pittsburg is entitled to the fifth place on the list of the great cities of America. The county valuation for 1892 shows a total of £84,132,787. The property exempt from taxation in the three cities in Alleghany County exceeds £8,009,000.



BELLEFIED PRESBYTERIAN CHURCH.

Stonecutters' Wages.

Having called on Mr Walker, the secretary of the Stonecutters' Association there, I learned that the stonecutters of Pittsburg were paid 1s 11d per hour, with 9 hours per day and 8 hours on Saturday, with fortnightly pays. In conversation with Mr Walker I learned from him that, taking into account the months stonecutters are idle during winter and early spring, they were no better off in Pittsburg than they were in the old country. His house rent cost him £3 a month, and during the past year—from April, 1891, to April, 1892—he had kept a correct record of his earnings for that year, and his total moome was £162 8s. Bricklayers' wages were 16s per day, with 9 hours per day and 8 on Saturday. In reference to some of the large cities of America, stonecutters' wages were 16s per day, with 8 hours per day. That is the wage in Salt Lake City, Chicago, Denver, New York, 8t Louis, Cleveland, Minneapolis, and many other places. All throughout America work is begun at 7 o'clock a.m., with only one stoppage for dinner at midday—one hour. Here, as in the other towns I visited, all stone is cut in the yard, and not at the building, and the foundations of building are separate contracts from the mason work. Stonecutting in Pittsburg was fairly good, and all hands seemed to be employed, though in Chicago many men were idle, and future prospects looked bad.

Pittsburg Locomotive and Car Works.



A POWERFUL CONTRAST.

Mr Watson, Dundee, reports:—The Pittsburg Locomotive Works were organised in August, 1865. The buildings, when constructed, were ample and substantial, and the equipment the best to be obtained. Additions to equipment and buildings were made from time to time until 1889, when the demands upon the company had reached such proportions that extensive additions became imperative, and it was decided to gradually remove all of the then present buildings and replace them with fireproof structures of the most approved design, and having a capacity for turning out one complete locomotive each working day in the year. The works are situated in Alleghany City, and occupy nearly twelve acres of ground. The new buildings, so far as erected, are the most complete in construction and equipment of any intended for a similar purpose to be found in the country. The use of the most improved hydraulic appliances for viveting, flanging, and handling of materials makes the boiler department a model of its kind, and insures a high grade of workmanship. The foundry is supplied with modern moulding and other machinery necessary for furnishing first-class castings. A new blacksmith shop, supplied with heavy steam hammers and all modern appliances for making first-class forgings and smith work is approaching I visited the above works on July completion. 17th, and got

A Very Hearty Reception.

This work employs 950 men, and their average output is four engines a week. They work ten hours a day, or sixty hours a week, commencing at 6.55 a.m., dinner from 12 to 12.45, stop at 6 p.m., but on Saturday stop at 4 p.m. There is some very fine machinery working, of which some was made in England. Nearly all the machinists

are paid by piece, and they work very hard. If working time the scale for overtime is, from 6 p.m. to 12 midnight time and quarter, from 12 midnight to 6 a.m. time and half. Sunday time is paid at the rate of time and half. The men are paid once a fortnight. The following is a list of their pay per hour:—

	Highest,	Lowest	Average
Machinists,	 1s 2d	10d	18 0ld
Turners,	 1s 3d	10d	1s 1 d
Boilermakers,	 1s 21d	10d	1s
Blacksmiths,	 Is ld	94d	11d
Do., Helpers,	 8d	7d	71d
Carpenters,	 ls	10d	114d
Painters	 ls	9d	10 d
Moulders,	 1s 2d	84d	18
Carmakers,	 ls	7d	10d
Patternmakers,	 1s 3d	18	1s 23d
Brass-Moulders,	 1s 41	18	1s 21d
Skilled Labourers,	 ls	7d	83d
General Labourers,	 8d	74d	7jd

The conditions of apprenticeship are, serve four years, and must be seventeen years of age. Apprentices are paid as follows:—First year, 2s per day; second year, 2s 10d per day; third year, 3s $7\frac{1}{2}$ d per day; fourth year, 4s 10d per day; premium at close of term, £25; all lost time to be made up before entering on another year.

The Westinghouse Air Brake Company, Wilmerding.

Mr Watson also writes:—I paid a visit to the above shops on July 18, and was highly pleased to find such a well-conducted shop, clean, and situated in a lovely glen, and surrounded by trees. Wilmerding is fourteen miles from Pittsburg, the shops having been shifted out there for the purpose of getting more room. This is just on the suburbs, and four tracks of railway run close past, giving a good service of trains. Many of the workmen live in the city, and travel by train every day. There are workmen's tickets sold, which only cost about one half of the ordinary fare. The shops of the Westinghouse Company are very large two-scorey buildings, with rails running round them all for receiving and despatching traffic. They are filled with the finest machinery one could desire to look upon. I had a talk with one of the managers regarding the hours of labour and wages. He did not at first seem to care about telling me, but after explaining my object he said that the average wages earned were as follows:—Machinists, 14s per day; moulders, 10s per day; patternmakers, 10s per day. When all their machines are running, about 2000 men were employed, but at present there were only about 1200 employed.

Lamp-Globe Making.

Mr Logan, Glasgow, reports:—Messrs George A. Macbeth & Co., lamp-globe manufacturers, Pittsburg, have the largest work of its kind in America, employing over 1000 men, and paying about £2000 per weck in wages. It is all piecework in the glass trade in America, and the wages earned average £3 12s per week of 6 hours per day. The Union connected with this trade is very strong, having 7500 members. It is so well organised in America and Canada that they compel the manufacturers to close their works for two months every summer, when great numbers leave Pittsburg with their wives and families to camp by the river's side a considerable distance up the country. Mr Macbeth also mentioned that there is always a big demand for good men in Pittsburg, and in fact all over America. As it was one of the warm months, and the works all closed, I had no chance of seeing them in operation.

DELEGATES AT PITTSBURG.

HOW SCOTSMEN RISE IN AMERICA.

A YANKEE'S OPINION.

SCOTSMEN WHO HAVE CLIMBED THE LADDER.

SCOTTISH SOCIETIES IN PITTSBURG.

TRAM CAR FACILITIES.

STREET RAILWAY SYSTEM.

FREEMASONRY IN AMERICA.

STANDARD COAL MINES.

SYSTEM OF WORKING.

WAGES OF MINERS.

LABOUR LEADER INTERVIEWED.

IRON AND STEEL PRODUCTS.

(From the Dundee Weekly News of November 11.)

The Conductor reports:—In Pittsburg, as in several other American cities and districts, a considerable proportion of the population hails from the "land of cakes," and they usually get on as well here as elsewhere. A striking illustration of the American opinion of the national character of Scotchmen, and their natural tendency to rise in the world was afforded by Mr Arthur Kirk, who deals in explosives, and hails from Lesmahagow, Lanarkshire. Mr Kirk was met by the delegates when calling at the office of Mr A. Leggate, of Messrs A. Leggate & Son, real estate agents, Fourth Avenue, another Scotchman belonging originally to Glasgow. Mr Kirk is known by many to interest himself particularly in getting work for Scottish artisans who go out to America, and all such who are in search of employment are usually sent to him. He mentioned to the delegates that on one occasion he went to the manager of an ironwork in Pittsburg soliciting an engagement for a Scot whad just arrived in the city. The manager said—"A Scotchman is he?" Mr Kirk replied "Yes." "Then," said the manager, "I won't have him, because if I take him in even to hurl a wheelbarrow he would own the whole works in ten years, and would probably then kick me out."

Some Scotchmen who Have Climbed the Ladder.

During their stay in Pittsburg the delegates were visited by great numbers of their countrymen anxious to see some new faces from the land of brown heath and shaggy wood, and ready to give them a hearty welcome to America. All these appeared vigorous looking and happy, and without a single exception they stated that they were more comfortable and better off in the land of their adoption than they would have been had they remained in the old country. Mr Andrew Carnegie is well known, by name at least, throughout Scotland as one who has attained to a high degree of affluence in America, but he is not the only Scotchman who has made his millions in that country, or even in Pittsburg, as there are some in

that city reported to possess considerably more of this world's means than the great iron and steel producer of the States. Prominent amongst the wealthy men of Pittsburg is Mr Charles



MR ANDREW CARNEGIE.

Lockhart, a native of Kelso. Mr Lockhart, who has been in America about forty years, "struck ile," as the Yankees say, at a good time, and his connection with the Standard Oil Company has been the means, it is stated, of giving him a fortune of forty or fifty million dollars (£8,000,000 to £10,000,000 sterling). He is reported to be the wealthiest man in Western Pennsylvania, although he commenced life as a boy in an oil store with only \$3 (12s) a-week. Mr Lockhart lately bought an estate near Castle-Douglas, which he is to visit this year. Colonel James Andrews, who left Dumfriesshire also about forty years ago, built the piers of the \$E Louis Bridge and the jetties at New Orleans, which were considered great feats in their time, and is now living a comfortable retired life. Mr John G. A. Leishman and Mr Geo, Lauder, who are respectively the vice-chairman and a member of the Board of



MR ROBERT PITCAIRN.

Management of the Carnegie Steel Works, have also shared to a large extent in the prosperity of these great undertakings, and Mr Wm. J. Lindsay and Mr W. C. M'Cutcheon have also succeeded well with the Iron Pipe Mills. Mr Robert Pitcairn, who was born in Johnstone, risen Renfrewshire, has risen

From Being a Brakesman

to the proud post of superintendent of the Pennsylvania Railroad, one of the largest and best conducted lines in the States. A large part of his means was derived from his association with the Westinghouse Air Brake, he having been one of the few holders of the original patent. So great is his affection for the old country that he visits it every summer, and he also caused the name of the station near his own residence to be changed to Mr David M'Cargo, who belonged Ben Venue. Ben Venue. Mr David M Cargo, who belonged originally to Paisley, has also ascended far up the ladder, climbing by his own efforts from a humble position until he has become president of the Alleghany Valley Railroad, and is now one of the bighest railroad men in the States. Mr David Hutcheson was once a poor Scotch boy, but he has made a "pile," principally by dealing in real estate. Mr John Young and his brother, Mr Robert Young, are both prominent Scotchmen, the former being are both prominent Scotchmen, the former being superintendent of the Alleghany Heating Company, and the latter superintendent of the Alleghany Gasworks. Mr Alexander Dempster, from a position of obscurity, attained to the post of city engineer, which office he held for twelve years, and it is stated that he was one of the best engineers which the city ever had. The Brothers Clark, of Alleghany, have executed some of the best building work in the district, and Mr James Johnstone was the builder of the German National Bank, one of the finest examples of Pittsburg architecture. Mr William Campbell and Mr Peter Dick who own one of the largest and best-equipped dry goods and house-furnishing stores in Pittsburg came originally from Sauchie and Paisley respec-The Postmaster of Pittsburg is Mr James S. M'Kean, who left New Abbey, Dumfriesshire, for America in 1850, but being a Republican, as almost every Scotchman in the district is, he is liable to be removed by the present Democratic Government.

Scottish Societies in Pittsburg.

Scotchmen, it is stated, are more Scotch when abroad than at home, and this is particularly true of those in Pittsburg who have national bonds of several kinds. In Pittsburg there is a Waverly Society with a membership of about 150 representative Scotchmen, and the object of whose existence is set forth as follows:—"For the purpose of sultiviting 'fraternal feelings among Scotchmen; of promoting a deeper interest in our native land; of perpetuating what is worthy of imitation and emulation in the history and achievements of her noblest sons and daughters, and of becoming still closer knit in friendship's ties each passing year, by cherishing the pleasant memories of 'Auld Langsyne;' we organise ourselves into a Society under the title of The Waverly." On the occasion of the anniversary of the birthday of Burns the Society holds a great haggis feast, which is usually attended by from 250 to 300 gentlemen, and on the week following the visit of the delegates there was to be a midsummer basket picnic. Mr Peter Dick, of Messrs Campbell & Dick, is at present the president of the Society. The Caledonian Club of Alleghany also serves to keep alive recollections of the dear old land by holding annual Highland games. It is said to have a membership of about 100.

The Tram Car Facilities.

Mr E. Bennett, Newcastle, reports:—Few cities present more or better opportunities for the study of the problem of rapid transit than are offered in the cities of Pittsburg and Alleghany. The street railway system of these cities is essentially modern, animal traction having been almost entirely supplanted by mechanical power. There are three excellent cable roads, which embody many of the best elements in that means of traction. There are also nine electric roads, all, I believe, of very recent construction. Although as recently as four years ago the car horse and mule jointly held the situation, they have practically disappeared within that brief time. In the matter of construction, equipment, and operation, the different roads offer a considerable variety of, and opportunity for, instructive study. There is much to interest prac-

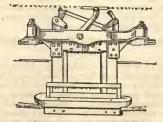


CABLE CAR.

tical street railway men in the methods by which the various conditions of curves, grades, crowded streets, and the demand for high speed have to be successfully met. There are twelve distinct companies in the two cities, and each company represents a separate and independent interest. The natural result of this condition of affairs is an active competition, the effects of which are manifest in the excellent service rendered. The total cost of the combined companies in stock and bonds amounts to \$26,035,000. That is equal to £5,207,000 in English money. The miles of rails of the combined companies are almost 160 miles. These two cities combined have a population of nearly 350,000, and, although they are very closely connected, are governed each by its own city council or government. I had a magnificent view of these two cities from the top of one of the hills that surround them. This is reached by means of

An Incline Railway,

which rises to a height of 375 feet. The incline upon which I went up is one of seven varying in grades from 23 to 71½ per cent. I had the pleasure



CABLE GRIP MECHANISM.

of travelling upon the steepest one, which goes by the name of the Monongahela Incline. This was designed and built in the year 1870 of wood, but was rebuilt in the year 1882, the present structure being of iron. The plane is 640 feet long, and is built on a grade of 71½ per cent., with a total rise of 375 feet. The gauge is 5 feet, and the

track is laid with 45-lb. steel T rails. The hoisting plant consists of two 12 + 20 inch connecting link motion engines. One car ascends while the other descends after the fashion of our coal pit cages, but each has a separate hoisting rope and drum. These drums are 8 feet 10 inches in diameter, made of cast iron, with wooden lagging on the hoisting surface. This surface is plain, having no grooves. The hoisting rope is 1½ inches in diameter made of crucible steel; the speed is about 600 feet per minute. The rope is said to last from five to seven years. There is also a safety rope of the same size. This rope passes round a single large sheave at the top from one car to the other. A good story was told me on our upward journey by a gentleman who was in the car. He said that an old lady had been travelling up one day who was very much afraid. On nearing the top she asked the conductor—"If your rope should break now, sir, where would we go?" The conductor coolly answered—"That would all depend upon how you have spent your past life, mum."

Standard Mines, Mount Pleasant.

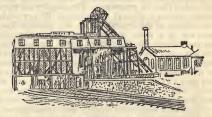
Mr Muir, Hill of Beath, Fifeshire, gives the following account of a visit to the H. C. Frick Coke



MR H. C. FRICKS.

Co.'s Shaft No. 2 Standard Mines, Mount Pleasant, Pa.:—The shaft was sunk to the Connellsville coking coal at a depth of 306 feet. It is located in It is located in the basin between the eastern and western outcrops, and has an area of 4500 acres of coal to mine, varying in thickness from 7 to 8 feet, and almost level. The shaft is 10 feet by 24 feet inside of the timbers, and the space is divided into two cage-The entire bottom ways and a pump and airway. The entire bottom on both sides is arched with brick, and all the trucks, both for loads and empties, are graded in favour of the movement of the hutches. The winding machinery consists of a pair of 30 in. cylinders, having a 4-feet stroke, and the link motion is operated by hand and steam reverse—that is, it can be worked by hand alone, or steam as desired. The drums are conical, and placed apart on the shaft, 10 feet smallest diameter and 12½ feet in their largest diameter, and fitted with a brake flange to each drum. The boilers are six in number, and are 48 inches diameter and 30 feet long, and the feed water is heated by a heater placed over the flues to take up the waste heat in its flues to take up the waste heat in its passage from the boilers to the chimney, which is 6 feet diameter and 65 feet high, and built of ‡-inch boiler plate lined with fire-bricks to a height of 35 feet above foundation. The head frame is of the triangular type, is 69 feet high, and is built of wood, having a stairway on one of the backstays, which runs right up to the wheels. The

hutches, or cars as they are called, have a capacity of $2\frac{1}{2}$ tons, and it was found necessary, in order to handle them with rapidity, to adopt machinery for that purpose. The cars run on a down grade from the cage to the tipple, also run from the tipple to a transfer truck behind the shaft on a grade. At this point the car is 12 inches below the level of the cage, which is overcome by the transfer truck being moved up an incline to a point opposite the cage, and on the same level. This is accomplished by a steam cylinder and piston, having a stroke equal to the travel of the truck, 10 feet 9 inches. For the other cage there is the same arrangement, except that the cylinder moves both trucks, the one truck being opposite one cage while the other



THE STANDARD SHAFT.

is receiving the car from the tipple. A steam ram is situated behind each empty car when it is ready to be pushed on the cage, and the act of pushing on the empty car pushes the full one off, which runs on the down grade to the tipple before mentioned. The coal is dumped from the pit cars into a coalbin of 450 tons capacity, and taken from there in lorries to the coke ovens. All the enginehouses and buildings above ground, as well as the pit bottom are lighted with gas.

The System of working

is called double-entry pillar and room, and is just another modification of stoop and room. The mine is ventilated by a Guibal fan, 25 feet in diameter, and is drained by three Yough mine pumps situated at the bottom of the downcast shaft, and forcing direct to the surface, a distance



COKE OVENS AND CARS.

of 51 fathoms. The average output is about 2000 tons per day, but as much as 3000 tons has been put up in nine hours. The whole haulage is done by main and tail rope and mules, which take the empty hutch right up to the face and brings out the loaded one on to the haulage. The average

Wages of Miners

at this colliery is about 8s per day, shift wages 8s per day, and are regulated by sliding scale taken from the price of coke supplied to the furnaces. Hoisting enginemen earn £15 to £16 per month, trappers 3s per day, labourers 5s 6d per day, and at 56 hours per week. Rents are about 22s per month, which includes fire coal. Medical aid 2s per month, or 4s per visit, if not kept off at the office. The entire work was designed and

built under the supervision of superintendent Robt. Ramsay, a native of Crossgates, Fifeshire, and of whom I have written before in connection with his exhibit at the World's Fair, and to whose ability the wonderful success of these improvements is entirely due. The plant is now the best in the entire coke regions, and is copied with more or less success by other colliery proprietors in this and other States.

Labour Leader Interviewed.

The Conductor reports :- As formerly mentioned, mostly all the iron and steel works in Pittsburg were shut down during the visit of the delegates in consequence of the annual negotiations between the masters and the men for the fixing of the wages scale being then in progress. The employers were holding out for a general reduction of 10 per cent. in the wages of the operatives on the grounds that trade was in a state of great depression through over-production and that they could not compete with the non-Union works of the Carnegie Steel Company, where the men had been working since the riots of last year for much less rates than had been paid to the Association men up to the end of The proposed reduction was resisted by the June. Amalgamated Association of Iron and Steel Workers, who contended that it was unwarranted, and although several conferences had been held between representatives of both parties no solution of the difficulty had been arrived at when the delegates left Pittsburg. With a view to ascertain the position from

The Men's Standpoint

a call was made by a delegate at the office of the Association. Mr Garland, the president, was unfortunately absent, but Mr J. C. Kilgallan, the secretary, kindly volunteered some information. He said that he believed that the rates in the old reale were a little higher than those in operation at the Carnegie Works, but he pleaded that iron was no longer made in these, except for structural purposes, and as regards this the Association, feeling that it was necessary to do something to help their employers against the Carnegie Company, had agreed to a reduction. Mr Kilgallan represented that the resistance of the men against any further reduction was well founded, as there was no warrant for the stand being taken by the masters. The scale, with the modifications agreed to by the men, had, he said, been already signed by 23 employers, and he should not be surprised to see a large number of the mills running next week. The membership of the Association at present was fully 17,000. Some of the Carnegie Company's men were on the roll, but they would not insist on the enforcement of the rules in their works until a favourable opportunity presented itself. No allowance was, he explained, made to the members of the Association during July and August, unless in cases of absolute necessity.

Iron and Steel Produce.

The Commissioner of Labour's report for 1890, says Mr Dunlop, of Motherwell, shows that the United States produced over 30 per cent. of the whole output of iron throughout the world in 1889, and 32 per cent. of the output of steel. Its production was only surpassed by that of Great Britain, but whereas the amount produced in Great Britain decreased during the eleven years preceding 1889 that of the United States almost doubled. Comparing the United States, Britain, and Germany, he found that between 1878 and 1889, when the amount of pig-iron produced throughout the world increased from 14,117,902 tons to 24,869,534

tons, the percentage produced by Britain fell from 45 per cent. to 33, while the United States rose from 16 per cent. to 30, and that of Germany from 15 per cent. to 17. Again, the steel produced in the world for the same period increased from 3,021,093 tons to 10,513,977 tons. Britain's percentage fell from 36 to 34, that of Germany from 18 to 17. The United States rose from 24 to 32. At that time Mr Carrol D. Wright, chief commissioner of labour, stated that Britain stood first in the production of coal, iron ore, pig-iron, and steel, and the United States second, but the progress in recent years had been greater in America in proportion than that of Britain. In 1890 the two countries were equal as regards the production of steel, but since then the United States has taken the lead, both in the production of pig-iron and steel. In America last year the total make of pig-iron was the enormous amount of 9,151,000 tons, 46 per cent. of that being made in Pensylvania. Last year's make of steel was:—

GREAT BRITAIN.

Bessemer, . 1,500,810 Bessemer, . 4,168,435
Openhearth, . 1,418,830 Openhearth, . 669,889

Total, . 2,919,640 Total, . 4,838,324

Freemasonry in America.

Mr Watson, Dundee, reports:—I made several inquiries into Masonry in America, and have met with many who belong to that society of men. I visited the Grand Temple in Chicago, also one in Pittsburg, and I find the craft far more respected and adhered to than in Scotland, and one thing I noticed it seemed to have a far higher effect amongst working men, as a great many of them reach a higher degree in America than in Scotland. It is, however, more costly to join and keep up than in the old country. I found it a great benefit to me in finding my way about in strange towns. Through its influence I got many guides, who put themselves to more trouble to see me safe than many of our brethren would care to do in this country. For instance, I met one on board of ship returning to Scotland after being many years in America whose health broke down. He tried all the cures and doctors until he had spent nearly all he had, and was not getting any better. The Lodge to which he belonged sent him home for a change, and paid his passage return fair. Chicago Temple is 20 storeys high. On the seventeenth storey there Chicago Temple are six Masonic lodges. People going up or down are conveyed with a hoist, which is far easier and quicker than going upstairs, and no noise is made in the mode of travelling.

The Shoeblacks' Union---A Novel Proposal.

Those who have travelled in America know to their cost that, as a rule, the cleaning of shoes is not included in contracts with hotelkecpers, and residenters are also aware to their annoyance that domestic servants draw the line at this sort of work. This necessary service has therefore to be secured outside or in a special apartment on the ground floor of the hotel, for which 10 cents (5d) is charged. One day in Pittsburg two of the News delegates were accosted by a shoeblack, who interrogated one of them with the usual "Shine, sir?" and the following dialogue ensued:—Delegate—"What's the charge?" Shoeblack—Ten cents, sir." Delegate—"That's too much. Won't you do it for less?" Shoeblack—"Can't, sir; I am a member of the Union, and that's the Union rate." Delegate—"Then won't you give both of us a shine for ten cents?" Shoeblack—"Yes, sir, I'll shine one for each of you." No bargain was struck, and the shoes went unpolished for the day.

VISIT TO M'KEE'SPORT.

THE NATIONAL TUBE WORKS.

WORKING MEN'S HOUSES.

THROUGH A TOBACCO FACTORY.

A MODEL ESTABLISHMENT.

DELEGATES AT PITTSBURG.

WAGES OF RAILWAY MEN.

THE PITTSBURG NEWSPAPERS.

DOLLAR SAVINGS BANK.

COAL MINE REGULATIONS.

VENTILATION OF PITS, &c.

(From the Dundee Weekly News of November 18.)

Mr Mungo Smith, Dundee, reports :- Meeting two Dundee gentlemen who have resided for a number of years in M'Keesport, and are both employed at the National Tube Works, they told me it was the largest establishment in the world of the kind. It comprises among its plants the National Tube Works, National Rolling Mills, National Forge and Iron Works, Republic Iron Works, Monongahela Furnaces, Boston Iron and Steel Works, National Transportation Company, and Locomotive Injector Works. These various and severally extensive enterprises were owned practically by the same persons, and it was deemed best, both from motives of economy to the stockholders and for the benefit of customers, who could thus be more promptly supplied, to combine all of these great plants under one name and one management. All of the plants of the Company give employment to about 10,000 men, and the pay roll of this gigantic enterprise runs closely up to £30,000 a month, the men receiving their pay every two weeks. The mills at ceiving their pay every two weeks. The mills at M'Keesport were built—No. 1 in 1879, No. 2 in 1882, No. 3 in 1886, and No. 4 in 1887. The National Forge and Iron Works at M'Keesport were National Forge and from Works at M. Ressport were built in 1881, and have an annual product of 12,000 net tons of blooms and billets. The annual product of finished goods turned out by the mills of the National Tube Works will amount to from 250,000 to 300,000 tons annually. The Company 250,000 to 300,000 tons annually. The Company uses natural gas for fuel, piped through it own lines. The enginemen, firemen, and private policemen do twelve hours per day, and other workmen are employed 60 hours per week. They begin at seven o'clock in the morning, and knock off at six o'clock in the evening. On Saturday work ceases at half-past five. There are a good many hands employed on piecework. On asking the wife of one of my friends about the

Cost of Living

as compared with Dundee, she said, 'Vou cannot make the money go so far here. Everything is dearer. 'Shoes and wearing prints you may have pretty-eneap, but a few showers will finish them, and it does come down heavy here." That it did come down heavy I had an opportunity of judging that same day on returning from M'Keesport to Pittsburg. The line skirts the edge of the rising ground, and in a very few minutes after the rain commenced, the water was rushing across the rails in such torrents that one would almost think the train was to be swept into the Monongahela River. The prices of provisions at M'Keesport rule pretty much as at Pittsburg. The equipment of the

schools, which are maintained by a tax on incomes, is much to be commended. The houses of the working class are built entirely of wood, and self contained. There are usually on the ground floor parlour and kitchen. The houses have both front and back doors, these being placed opposite each other to permit of a draught of cool air passing through the building. The houses have each a covered verandah in front, raised a little above the ground. Here, in the summer months the occupants sit in their rocking chairs, for life indoors is unbearable. It is rather a novel sight to walk along the streets and see so many people sitting outside smoking and chattering, nearly every man smoking a cigar. The sleeping apartments are all upstairs, and the furniture struck me as being of light but elegant construction.

A Typical Working Man's House



The above is a representation of a model house for a working man which I had the pleasure of visiting. It is owned and occupied by Mr David Heggie, son of our respected townsman, Mr John Heggie, draper, Strathmartine Road, and brother of Mr Alexander Heggie, tailor and clothier, 41 Commercial Street, Dundee, and also well known as an athlete of considerable reputation. This house, which consists of five rooms and kitchen, is built of wood, and, to a person accustomed to the stone buildings of Scotland, the structure looks cold for winter and hot for summer. Such is not the case, however, for wood is neither a conductor of heat nor of cold, and the way these American houses are ventilated in summer and warmed in winter makes them comfortable at all seasons, more so, it is contended, than if the walls were of stone and lime. The exteriors have a bright and attractive appearance, the body of Mr Heggie's house being almost white and the decorative portions painted green. The cost of a house of this description is about £640. The "lot," that is to say, the site, which cost Mr Heggie £250, is 25 feet by 60 feet wide. It is in an improved street, which means that the owner has to pay for half of all improvements, such as sewerage, paving, grading, and laying of sidewalks. Altogether it is a very stylish-looking house, and no one would suppose that it is owned and occupied by a working

mechanic. The interior furnishings were charming. Mr Heggie gave me a very cordial welcome, and afterwards travelled to Pittsburg and and afterwards travelled to Pittsburg and showed the members of the deputation round. He told us that taking all things into account he was much better in the States, his only complaint being the want of leisure. Darkness sets in very early, and by the time a man gets home and his supper he has not much opportunity of engaging in any outdoor amusements. Generally, too, people have long distances to go to their work, and as for Saturday my friend could hardly call it a half-holiday, seeing that he works on that day until half-past four in the afternoon. I may add that Mr Heggie has been ten years in America.

Visit To A Tobacco Factory.

Mr Mungo Smith while in Pittsburg visited the extensive tobacco factory of Messrs Weyman Brothers, and he says in his report:—Mr Ritchie, the manager, very kindly showed me all over the work. The women employed in packing the tobacco are very neat and good-looking, and wear a uniform dress. The place is kept scrupulously clean, and for the accommodation of the workers there is a well-appointed lavatory and cloakroom, also a large reading-room, supplied with several hundred books, which they can take home to read if they choose. There is also a dining-hall, and a free dinner provided them. When I was shown into the hall the dinner was set, and it quite astonished me to see the sumptuous spread on the tables. All these comforts of his hands are looked after and provided for by Mr Weyman. The girls The girls had just started that morning after getting a fort-night's holiday all paid for. The working day of night's holiday all paid for. The working day of the women is six and a half hours, and their pay is \$5 per week. The work is pleasant, light, and clean, and much better than a weaver or shop girl at home. The men work eight hours, and are equally comfortable and well paid. They do all the machine work, I was shown all the process of making snuff from first to last. The tobacco leaf is put into a machine, and closely pressed together with knives driven at a great speed cutting the fibre into very small particles. It is then taken to the different stoves, and so particular is Mr Weyman that the article may be pure that there is a machine for blowing any dust out of it, a very unusual process in the any dust out of it, a very unitar process in the trade. The manager said that hundreds of pounds a year could be made out of this dust which they throw away as useless. They call this small stuff Scotch snuff. It has to go through a gradual drying process into wooden bins, being removed from the one to the other about thirty times. When it is dry and fully matured it is spread on a table, and scented with otto of roses, and put through another machine, when it is packed into barrels, and is ready for the market. The scent used is pure, and is very dear. They make out tobacco only-no twist, or bogie roll as we call it Their tobacco is made up into neat quarter-pound packages, and these are put up in cardboard boxes made on the premises. The wholesale price of the quarter-pound packet is 8 cents., or 4d—not the price of 1 oz. at home. On asking Mr Ritchie how it could be done so cheap, he said with a twinkle in his eye, "Because we are not free trade Scotland. You must take a sample over to the old country, and let them have a taste of what Weyman can produce." The tobacco made here is manufactured from selected leaf, absolutely pure. The firm is of long standing, having been established in 1827.

A Big Dry Goods Business.

Mr Smith also reports:—I saw Mr Dick, of campbell and Dick's Dry Goods House. Mr Pullman carriages. The Dispatch, which claims to

Campbell is a native of Perthshire, while Mr Dick hails from Paisley. Mr Dick landed in Boston from Scotland in 1856, a poor boy with only a few shillings in his pocket and was some weeks before he got work, and he wrought his way to the position he now occupies through sheer perseverance. He is a member of the Caledonian Club, and is always willing and ready to give advice or assistance, which many Scotchmen can testify. The house of which he is partner is a very substantial structure built of redstone. The firm employ 165 They do a busi-000. The wages hands, 60 of whom are females. ness turn-over in the year of £192,000. of salesmen run from \$15 to \$25 per week. women are paid from \$6 to \$12 per week. In the building there is a complete electric plant, consisting of 65 arc and 260 incandescent lamps. boilers are fired with natural gas, and is considered very good service.

The Newspaper Press of Pittsburg.

The press of Pittsburg is thoroughly American, both in its style and enterprise. The leading morning papers are the Dispatch (Independent), Times and Commercial Gazette (Republican), and the Post (Democratic). The Times, which is a one cent paper, and has a very large circulation, is located in a handsome, new eight-storey granite building, fitted internally in mahogany and marble. It sent fifty-two public school teachers, elected by the votes of its readers, belonging to Pittsburg, Alleghany, Western Pennsylvania, Ohio, West Virginia, and Maryland, to the World's Fair and kept them dur-



"PITTSBURG TIMES" OFFICE.

be one of the six leading newspapers in the United States, has a daily circulation of about 35,000, while its Sunday issue varies from 65,000 to 100,000. It has wires running into its own office from both Chicago and New York. The evening papers are the Penny Press, Leader, and Chronicle Telegraph. Through the agency of the Press the Newsboys' Home, an institution for the education and care of newsboys, was established. There are also some German newspapers published in the city. In several of the offices there are quadruple Hoe printing presses similar to the Weekly News machine.

The Dollar Savings Bank.

Mr W. Smith, Denny, reporting on this institution, says:—The amount due depositors on June 1st, 1893, was £2,814,540, and the last dividend was £54,184. No sum less than \$1 is taken as a deposit, and depositors must bring their book with them or the Corporation will not be responsible for the money. The officers of the Corporation are a president, twelve vice-presidents, secretary, and treasurer. One book only is given out in the same name. Deposits may be made by one person as trustee for the benefit of another. No interest is given until the deposit amounts to 12s. No money can be withdrawn unless two weeks' notice be given, and no less than £1 can be withdrawn, and if the whole amount be withdrawn the book must be given up to the Corporation. Good rules are framed to prevent any fraud or imposition taking place in the drawing out of money, and each de-positor must give in writing his or her occupation and residence. The Dollar Savings Bank is very much patronised by the working classes of Pittsburg, and I am told that there is a good few of the working class have laid a good lot of dollars against a rainy day. The books of the bank are audited by four members, and are audited every six months. There are some other savings banks in Pittsburg conducted on somewhat similar lines.

A Popular Building Society.

Mr Smith also reports:-The first National Building and Loan Association of Pittsburg has for its object to enable members to raise the money to build or buy a home or establish a business for themselves. It is managed by a Board of Directors of seven, and the officers consist of President, First Vice-President, Second Vice-President, Treasurer and Trustee, Secretary, and Solicitor. The capital is £200,000 authorised to increase to £2,000,000 shares of £20 each. The admission fee is 4s per share. Payments are made every month, and all persons who handle any of the funds are under heavy bonds of security. The securities are deposited with the Safe Deposit and Trust Company of Pittsburg. There can be no speculating in its securities by its officers. The shares are paid monthly, of 2s 6d each per month. Stock may be withdrawn any time after thirty days' notice. No interest is paid unless in six months' stock. Moncy drawn out at two years gets 6 per cent. interest; four years, 7 per cent.; after four years, 8 per cent. A member may reduce his shares, and the amount will pay for his remaining shares, and the amount will pay for his remaining shares. Ten shares will pay for five years if one becomes short of funds. Fines of 2 per cent. are levied on all arrears. They pay 18 to 22 per cent. per annum. The borrower, as well as the non-borrower, receives this profit, so that the stock matures in about seven years. The interest is paid monthly, and is at once re-loaned, thus being compounded monthly. £200 borrowed first three months after you join will cost you £263. If you months after you join will cost you £263. If you wait seven years you get £200 for £101. If these payments had been deposited in a savings bank the profit would be about £14. The total number of shares at December 31, 1892, was 13,041, with a total capital in force of £160,260. The number of loans made during the year was 84, and the capital stock represented £16,000. The Directors have the general management of the Society and of the duties of the officers, and they appoint auditors to audit the books quarterly and yearly so as to see every quarter that the Association is in a good position. All questions are decided by the majority of votes at the meeting. I am told that this Association is very popular with the working classes of Pittsburg, and that, through its assistance, some fine homes have been built by artizans in and around Pittsburg.

Wages of Railway Servants.

Mr Watson, Dundee, reports:—Pennsylvania Railroad passenger drivers, running 117 miles each way, with four hours' rest before returning, receive £1 10s. Firemen of same lift 15s. A good fireman can lift a bonus from 16s to £1 12s a month for saving coal. Freight enginemen running 104 miles are paid 18s; firemen of same 10s 6d, resting a day at each end without expenses. One conductor and three brakesmen form the crew of a freight train. A full-load train is forty cars of stock and two engines. Each car holds about 30 head of stock. Conductors are paid £15 a month, and brakesmen from £10 to £12. Pointsmen east of Pittsburg are paid £10 a month. Dayshift men get 11s 6d a day, and night men 9s 6d per twelve hours. Day men west of Pittburg are paid 10s night or day. Goods yard masters are paid from £16 to £20 per month. Shunters in yards are paid the same as pointsmen. Operators, both male or female, are paid from £9 to £15 per month. Stationmasters at roadside stations and all prominent places and ticket-collectors are paid £12 a month, with coal and gas. Workmen's trains are run at cheap rates. All the railway companies issue tickets of 1000 miles. Cleaners work by piece work—1s &6 for an engine—the average earnings being £7 a month.

Mine Regulations in the United States.

The following statement by Mr Muir shows some of the difference between the mine regulations of this country and those enforced in America:-All plans to have levels marked on at points not exceeding 300 feet apart. All plans to be open for inspection of workmen. Outlet shafts to be ceeding 300 feet apart. All plans to be open for inspection of workmen. Outlet shafts to be separated by not less than 50 yards. Stairs may be used in outlets of under 75 feet in vertical depth, and must be 2 feet wide, 10 inches on tread, and 9 inches rise, and to be angled at not more than 60 degrees, and have convenient landings. If more than 75 feet deep to have suitable machinery for lowering and raising persons. If the outlet be a slope it shall not have a greater angle than 20 degrees and shall not have a greater angle than 20 degrees, and may be any depth. In every shaft used for lowering and raising persons there shall be a metal tube suitably adapted to the free passage of sound, through which conversation can be carried on between persons at the top and bottom of the shaft, and there shall also be provided a safety catch for each cage or carriage to stop the de-scent of same in case of a rope breaking. All cage chains shall be tested to the satisfaction of the Mine Inspector by means of weights or otherwise, and no single chain shall be allowed for raising or lowering persons. There shall be ample ventilation provided to dilute, carry off, and render harmless the noxious or dangerous gases generated in the mine, affording not less than 100 cubic feet per minute for each and every person employed therein, but in a mine where firedamp has been



A MOUNTAIN MINE.

detected the least shall be 150 cubic feet per minute for each person, and as much more in either case as one or more of the mine inspectors may deem requisite, and not more than 65 persons shall be permitted to work in the same air current; and mines where more than 10 persons are employed shall be provided with a fan furnace or other artificial means to produce the ventilation. In mines

Generating Firedamp

in sufficient quantities to be detected by ordinary safety lamps, all main air bridges or overcasts shall be built of masonry or other incombustible material of ample strength, or driven through the solid strata. The doors used for guiding the ventilation of the mine shall be so hung and direct that they will clear themselves or the results of the sufficient that they will clear themselves or the results of the strength of the adjusted that they will close themselves or be supplied with springs or pulleys, so that they cannot be left standing open, and an attendant shall be employed at all principal doors through which cars are hauled. The same person may attend two doors if the distance between them is not more than 100 feet. No accumulation of explosive gas shall be allowed to exist in the worked-out or abandoned parts of any mine if it is practicable to remove it. In all mines or parts of mines worked with locked safety lamps, the use of electric wires and electric currents is positively prohibited, unless said wires and machinery, and all other mechanical devices attached thereto and connected therewith are constructed and protected in such a manner as to secure freedom from the emission of sparks or flame therefrom into the atmosphere of The use of the common Davey safety the mines. lamp for general work in any bituminous coal mine is prohibited, neither shall the Clanny lamp be so used unless it is shielded, but both lamps can be used by mine officials for the purpose of examining for gas. All holes for shelter on the haulage roads shall be kept whitewashed. The

Amount of Ventilation

shall be measured at least once a week. No wood shall be allowed in the construction of stables, and the air current used for ventilating the stable shall not be intermixed with the air current used for ventilating the working parts of the mine, but shall be conveyed directly to the return air current, and no open light shall be permitted to be used in any stable in any mine. No hay or straw shall be taken into any mine unless pressed and made up into compact bales, and stored in a storehouse excavated in the solid strata or built in masonry for that purpose. The oiling or greasing of cars inside of the mines is strictly forbidden, unless the place

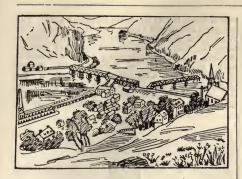
where it is used is cleaned at least once every day, and only pure animal or pure cottonseed oil shall be used for lighting purposes, and any person found using explosive or impure oil shall be prosecuted. The mineowner or operator can

Procure a Right of Way

on the surface from the opening of a coal mine to a public road, upon the request in writing of fifty miners employed in the mine of such owner or operator, provided that these miners deposit satisfactory security to fully pay all damages and expenses for such right of way. Each inspector of mines shall receive for his services an annual salary of £600 and actual travelling expenses. It shall be his duty to examine each mine as often as possible, but not longer than three months between his examinations; and it is his duty to make out a written report of the condition in which he finds such mine, and post the same in the office of the mine or other conspicuous place, and it shall remain there one year, and may be examined by any per-son employed in or about the mine. Besides a stretcher, a woollen and waterproof blanket shall be kept at all mines, and where there are more than two hundred persons employed, two of each of these articles shall be kept. The mine foreman shall direct that all miners undermine the coal properly before blasting, and shall order the miners to set sprags under the coal when necessary at distances not exceeding seven feet apart, and he shall provide a book, so that the miners can write plainly the quantity of props and their length, and the number of caps and other timber which they require. The bottomer or pitheadman shall not allow any tools to be taken or put on a cage in which men are to be lowered or hoisted. No person in a state of intoxication shall be allowed to go into or loiter about a mine. All fans to be provided with instruments to record the number of revolutions or effective ventilating pres-Where the clothing or wearing apparel of employés becomes wet by reason of working in wet places in the mines it shall be the duty of the owner or superintendent of each mine, at the request in writing of the mines inspector, who shall make such request upon the petition of five miners of any ore mine where the wet places are, to provide a suitable building at the mine for the use of persons employed in wet places therein for the purpose of washing themselves and changing their clothes when entering the mine and returning therefrom.

From Pittsburg to Washington.

The run of 342 miles from Pittsburg to Washington by the Baltimore and Ohio Railroad, by which the delegates travelled, was accomplished without any untoward mishap or incident, the train arriving at the latter city well up to time. On the way the delegates witnessed many scenes of great natural beauty and others invested with much historical It is here that the railway is carried interest. through the Alleghany Mountains, where for miles a continuous grand panorama is viewed of mountain, valley, and river, resembling in nume-rous places the scenery of the Scottish Highlands, and in this way recollections of their far distant homes crowded upon the minds of the travellers. Much of the region traversed was also during the great civil war the debatable land over which the Northern and Southern armies contested fiercely for supremacy, and the historic town of Harper's Ferry is full of historic interest. It was at this It was at this place that John Brown, of Ossawatomic, with less than a score of followers took up arms against the combined forces of public opinion, the institution of slavery, and the State of Virginia. He was called a madman and a



HARPER'S FERRY.

murderer, and he died upon the gallows. Three years later his name was the song and watchword

of an army, and
"His soul goes marching on! Brown chose this place as the base of his operations, he said, because he regarded these mountains as having been designed by the Almighty, from all eternity, as a refuge for fugitive slaves. On the evening of October 16, 1859, he captured the town and the United States Arsenal, and the following and the distributions of the captured known day was driven into a building, afterwards known as John Brown's Fort. He refused to surrender till his two sons had been killed, and he was supposed to be dying. Brown and his followers were



JOHN BROWN'S FORT.

hanged at Charlestown only seven miles distant, and the spot where the Fort stood is pointed out, the building itself, bearing thousands of bulletmarks, having been placed on exhibition at Chicago. During the war the place was alternately in the hands of both parties. In September, 1862, a Union force of about twelve thousand, under Colonel Miles, was stationed here. On the 12th, four days before the battle of Antietam, a strong Confederate force, under Stonewall Jackson, appeared before Maryland Heights, on the Maryland shore, and early in the morning of the 13th drove the Union troops stationed there behind their breastworks. These were soon after taken, when the Federals withdrew across the river. On the same day the Confederates established batteries on Loudon Heights, on the Virginia shore, and on the 14th opened fire from these and Maryland Heights, renewing it at daybreak of the 15th from seven commanding points. The Federal guns returned fire from Bolivar Heights, behind the town, but ineffectually, and Colonel Miles surrendered his force—all but the cavalry, who had escaped in the night.

DELEGATES AT WASHINGTON. SIGHTS OF THE CITY. VISIT TO THE CAPITOL. THE STATUARY HALL. THE SENATE CHAMBER. HOUSE OF REPRESENTATIVES. THE WHITE HOUSE. WASHINGTON MONUMENT. THE SOLDIERS' HOME.

GOVERNMENT AND JUDICIAL SYSTEM OF THE UNITED STATES.

(From the Dundee Weekly News of November 28.) Washington the political capital of the United States, is in many respects one of the most beautiful and interesting cities in the world. It occupies a fine site on the banks of the Potomac River, and is built in what is known as the district of Columbia, a district not exceeding ten miles square and under the exclusive legislation of Congress. The city is laid out on the common American rectangular plan, but combined with this there is what is known as the Versailles system of broad diagonal avenues, and viewed from a commanding height the great artistic beauty of the combination is at once apparent. The two leading thoroughfares are Massachusetts and Pennsylvania Avenues, 160 or 180 feet wide, while the other avenues and streets run from 80 to about 120 feet in width. Nearly all are laid with asphalte, and one great feature of the city consists in the fine treeswhich line each side of almost all the thoroughfares. Trees also abound in the parks, grounds, and crescents, squares, and triangles, formed by the crossing of the squares, and triangles, formed by the crossing of the streets, by the diagonally running avenues; and it is a common saying that there are more trees than negroes in Washington, although the coloured people number about 70,000. Washington is almost a purely residential city, yet the population amounts to 220,000, while in the district outside there is an additional 40,000 or 50,000. Having secured accommodation in the Metropolitan Hotel in Pennsylvania Avenue, the delegates, on the morning of the 19th of July, set out to view the sights of the city. Naturally they first proceeded



THE CAPITOL.

to the Capitol, which, with the Chamber of the Senate, the House of Representatives, the Supreme Courtroom of the United States, and relative buildings, occupies fully 50 acres of magnificently laid out ground, embellished with statues of Washington and other national heroes. The

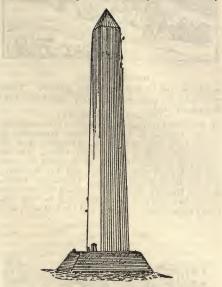
Capitol, which crowns a hill 90 feet in height, is undoubtedly one of the most magnificent public edifices on the earth. It consists of a main building 352 feet long and 121 feet in depth, with two wings—one for the Senate and the other for the House of Representatives—each 238 by 140 feet. The central or older building is of a light yellow freestone, painted white, but the wings and colonnade are of pure white marble. The style of architecture is richly ornamented classic. It will be remembered that the original pile was burned by the British in 1814, and the Americans have their revenge for this in displaying to visitors several historical pictures in different parts of the buildings illustrating victories of the Stars and Stripes over the Union Jack. The present building dates from 1817-27.
The central portion of the Capitol consists of the grand Rotunda, 96 feet in diameter and 180 feet in height, over which rises the massive iron dome, 3071 feet high from the floor, or 377 above low tide, and which is visible many miles away on the Virginian Hills. The picture in the ceiling of the dome representing the Apotheosis of Washington is a remarkably fine work of art. Surmounting the dome is a statue of America, 19½ feet in height, and costing \$24,000 (£4800). The Capitol and its furnishing has cost upwards of £6,000,000. The delegates visited in turn the Senate Chamber, the House of Representatives, the Library, the Supreme Court of Justice, and the Statuary Hall, whose marvellous echoes they tested with great delight. When visiting the House of Representatives they observed that workmen were busy making repairs, and they were informed by the guide that this part of the building required more frequently the services of tradesmen than any of the other on account of the generally stormy character of the



STATUARY HALL.

proceedings which it witnessed, and they were also told that if the columns of the lobby could speak they might unfold many a strange tale of political intrigue and jobbery. The delegates stood on the portico on the eastern side of the Capitol from which the Presidents deliver their inaugural addresses, and when here they witnessed in course of erection the new Congressional library, estimated to cost \$6,000,000 (£1,200,000). The building is of granite in the Italian Renaissance style, and will have accommodation for 8,000,000 books. The present collection numbers about 700,000 volumes, exclusive of pamphlets, and is increasing at the

rate of from 10,000 to 15,000 volumes a year. The delegates afterwards visited the White House, the Washington Monument, the Smithsonian Institution, the National Museum (where they saw the uniform and other interesting relies of Washington), the Bureau of Labour, and severat of the other administrative offices of the Government, which are scattered throughout the city, and which have cost in the aggregate fully \$20,000,000 sterling. The Washington Monument,



THE WASHINGTON MONUMENT.

which cost £240,000, is the highest piece of masonry in the world, this huge obelisk of white marble rising to the lofty height of 555 feet. The delegates ascended to the highest platform (500 feet from the ground) by means of an elevator, which occupied eight minutes in the ascent, and from the observation openings obtained a splendid view of the whole district, the terra-cotta brick houses in the city appearing embowered in the green foliage of the numerous beautiful avenues stretching out in every direction, while outside there was also a profusion of green wood and field, with the broad waters of the Potomac on the south glistening in the bright rays of the noonday sun. Away to the north could also be seen, in the centre of a magnificent park of 500 acres, the home for disabled soldiers of the delegates were informed that the President was absent at Gray Gables, Massachusetts, his private country residence, but that he would return to the capital to meet the Special Session of Congress, which had been summoned for the 7th of August, in order to devise means for alleviating the present unfortunate financial condition of the country. When in Washington the delegates put themselves in possession of much useful information relative to the various branches of the Government of the United States. There is one thing which is sure to arrest the attention of a foreigner in Washington—at least when Congress is not in session—and that is the almost entire absence of any representative of the military force of the country.

The United States Legislative System.

The supreme legislative body of the United States is known as Congress, and consists of two

houses—the Senate and the House of Representatives—which in some respects correspond to the House of Lordsand the House of Commons in Great Britain. In the States, however, they know far better than to have one house almost entirely composed of hereditary legislators. The people there believe in an aristocracy of mind and not in an aristocracy of birth. It is open to any man, no matter how humble his origin, to rise not only to the dignity of a Senator or a Representative, but to become the uncrowned sovereign of upwards of sixty millions of



THE SENATE CHAMBER.

his fellow human beings. The Senate, a seat in which is the envy of every citizen, is composed of two members elected by the Legislature of each State, so that the Senators may be said to reflect the opinion of the State which they represent. The term of office is six years, but one-third of the members retire every two years, so that some time necessarily elapses before a change of mind on any question on the part of the people can usually be given effect to in the Senate. Large powers are vested in the Senate, as all Bills must be passed by it as well as by the House of Representatives before becoming law. with foreign powers and declarations of war must receive the approval of two-thirds of the Senators, otherwise they are invalid, and the Senate is also required to confirm the appointment of all ambassadors and agents to foreign powers. The President has large powers in the way of patronage, but his nominee for even a postmastership has to he approved by the Senate. No person is eligible No person is eligible for the office of Senator unless he has attained the age of thirty years, and been a citizen of the United States for nine years, and he must also at the time of his election be an inhabitant of the State which he represents. The Senate is presided over by the Vice-President of the United States, who, however, has no vote except in cases of equal division. Of the 88 present Senators, 44 are Democrats, 38 Republicans, and 3 Peoples Party, while the remaining three were considered doubtful at the time of the completion of the return from which these figures were taken.

The House of Representatives

consists of 356 members, who are elected directly by the people under the ballot system. Each State is represented in exact proportion to its population, as ascertained by the decadal census, so that the Yankees have also settled the question of equal electoral districts. The qualifications requisite for electors are the same as those which the State Constitutions require for electors of members in the same branch of the respective State Legislatures, and as regards representatives themselves the conditions are that each shall be at least twenty-five years of age, that he shall have been a citizen of the United States for seven years, and that he is an inhabitant of the State for which he sits. In this

connection it may be remarked that if a condition similar to the last were in force in Great Britain there would be fewer "carpet-baggers" representing Scottish constituencies in the Imperial Parliament. The election of representatives takes place



HOUSE OF REPRESENTATIVES.

every second year, and Congress meets twice a year, namely March and December. Senators and representatives are paid alike—\$5000 a year (£1000) and travelling expenses. The payment of members is therefore one more problem which the Yankees in their full speed ahead political course have left far astern, while it is still ahead of our political mariners at home. It may interest Church defenders to know that the Federal Constitution contains the following article :- "Congress shall make no law respecting an establishment of religion, or prohibiting the free use thereof, or abridging the freedom of speech or of the press, or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances." In comparing the cost of the Republican system in the United States with the cost of the Monarchy in Great Britain, Mr Andrew Carnegie states that the Queen and the Royal Family draw £860,379 annually from the public purse, while the total salaries paid to the President of the United States, the Vice-President, the Senators, and the Representatives in governing a population twice as large, and a country about the size of Europe, amounts to only £410,800, or barely one-half the cost of Royalty in Great Britain. In connection with the government, however, it is admitted that the politics of the Republic are in the hands of men inferior, so far as position and character are oncerned, to those in Great Britain. The House of Representatives is composed as follows:—Democrats, 220; Republicans, 126; Peoples Party, 8; unelected (Rhode Island), 2. The present ratio of representation is 1 to every 173,901.

The President.

as already stated, is the uncrowned ruler of the whole people of the United States, and occupies a position analogous in many respects to that of the Sovereign of a European nation, as in him is vested the executive power of the Federal Government. He is the first civil magistrate, and he is also commander-in-chief of the army and navy, and all the military forces of the nation, which, should necessity arise, could be made to outnumber those of any other nation in the world. If any one should doubt this he has only to realise that the army alone could be raised to about nine millions. The President holds office for four years, and along with the Vice-President, who is chosen for the same term, is voted upon by Electoral Colleges, composed of electors of each State equal to the whole number of Senators and representatives to which the State is at the time of such election entitled in Congress. No Senator or representative on pension

holding an office of trust or profit under the United States shall, however, be appointed an elector. The votes in the Presidential election throughout the whole of the United States are cast on the same day. If no candidate has a majority of the whole number of electors appointed, then the House of Representatives, voting by States, and not as individuals, elect—again by ballot—the President from among not more than the three highest in the poll. The Vice-President is elected in much the same way. Every candidate for the Presidency must be a natural born citizen or a citizen of the United States at the time of the adoption of the Constitution, and he must be at least thirty-five years of age and have been fourteen years a resident within the United States. The salary of the President is \$50,000 per annum (£10,000), and, in addition to his official residence in Washington, known



THE WHITE HOUSE.

as the White House, he has also a country house a few miles distant. He is far from adopting a "high and mighty" attitude towards those who are practically his subjects, as at stated times for some hours every week he receives, as Mr Andrew Carnegie states, "such respectably-dressed and well-ordered people as choose to call upon him." Regarding his relations to Congress, it may be explained that he has absolute power in the appointment and removal of the members of his Cabinet who do not take any part in the proceedings of the Legislature. He can veto any Act of Congress, but his power in this respect is invalid should the measure vetoed be again passed by two-third majorities of both Chambers. The salary of the Vice-President is \$10,000 per annum (£2000).

The State Legislators—Home Rule in General Operation.

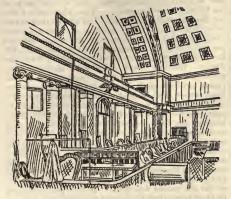
Congress has power to levy taxes, duties, &c., to pay the debts, and provide for the common defence and general welfare of the United States, but the taxes must be uniform throughout the States, and also to borrow money on the credit of the States. It is also the sole authority in the matter of coinage, commerce, Post Office, naturalisation, bankruptey, the army and navy, war and peace, and the punishment of particular offences, but except in the subjects specially delegated each State has sovereign power to pass laws for its own government, and in this way Home Rule prevails throughout the Union. Each Legislature must, however, like Congress, legislate within the lines of its own constitution framed by the people of the State, otherwise a Court of law may declare the statute to be invalid. Amendments on the constitution can be made only by the people themselves. Altogether there are forty-four States in the Union, the largest being Texas, which with an area of 265,780 square miles is larger than France or the German Empire, and the smallest, Rhode Island, with an area of 1250 square miles. The State populations vary from fully 6,000,000 in New York to about 40,000 in Nevada. The form of government in its main outlines, and to a large

extent even in its actual working, is the same in all the 44 Republics, the differences relating only to points of secondary importance. As regards the electoral franchise, each State has its own laws, As regards the but under the present uniform naturalisation laws passed by Congress a foreigner must have resided in the United States for five years, and for one year in the State or territory where he seeks ad-mission to United States citizenship, and must declare two years before he is admitted that he redeclare two years before he is admitted that he re-nounces allegiance to any foreign prince or State. Professor Bryce, in his "American Common-wealth," says:—"The peoples of the States have room to distrust their respective legislatures. Hence they desire not only to do a thing forthwith and in their own way rather than leave it to the chance of legislative action, but to narrow as far as they conveniently can (and sometimes farther) the sphere of the legislature. This sentiment is characteristic of democracies everywhere." In each State there is an executive, consisting of a Governor and various minor officials, all elected by the people for short terms. These officials are "compensated" for their duties, the salaries of the Governors varying from 1000 dollars (£200) to 10,000 dollars (£2000). Their powers, generally speaking, correspond to those of the members of the Federal Cabinet. The legislative body consists of two Houses, and every State has its own system of local government, taxation, and civil and criminal procedure. No appeal from a State to a Federal Court is competent except in cases touching Federal legislation or the Federal constitution. Mr Simon Sterne, a member of the New York bar, declares that "the great evil in connection with State institutions is that which arises from the difficulty in dealing with municipalities so as to leave them on the one hand the power to govern themselves, and yet on the other to restrict a tendency which in all American cities has developed itself to an alarming degree-its unlimited debt-creating power and methods of unwise taxation." All the members of both the State Legislative bodies are paid, either at the rate of from \$3 (12s) to \$8 (£1 12s) a day, or from \$300 (£60) to \$1500 (£300) per annum. Some of the States also pay in addition the travelling expenses of the Legislators.

The Judicial System.

Excepting the check contained in the constitution of the United States, the Supreme Federal Court sitting in Washington occupies a position even higher than the President, the House of Representatives, or the Senate. The judges may veto legislation by declaring it to be unconstitutional, but in the article referred to they may be impeached and removed by two-thirds of the Senate acting upon a representation by the House of Representatives, if they are proved guilty of a gross violation of the judicial discretion lodged in them. The Federal Courts are divided into three classes—the Supreme Court, which sits at Washington; the Circuit Courts; and the District Courts. The Supreme Court consists of nine judges, the chief of whom is paid \$10,500 (£2100), and the eight others \$10,000 (£2000) each. On attaining seventy years of age they can retire upon full pay for life. Nominated by the President and confirmed by the Senate, they and the other judges hold office during their good behaviour. Impeachment has been four times resorted to—three times against District Federal judges, and once against a judge of the Supreme Court, but only two of the former were convicted. The Supreme Court has appellate jurisdiction in all cases of law and equity arising under the constitution, or in connection with U.S. treaties, and in cases where citizens or subjects of any foreign State are parties, while it has original

jurisdiction in all cases affecting ambassadors and other public ministers, consuls, and those in which a State shall be a party. The sitting of the Court extends from October till July, and the presence of six judges is required to pronounce a decision. In this way cases are certain of receiving a thorough consideration, but business



THE SUPREME COURTROOM.

is greatly retarded in consequence. Of this the unfortunate shareholders of the Oregonian Railway Company, who were kept on the tenter-hooks for four long years only at last to receive an adverse judgment, are only too painfully aware. At present there are nine Circuit Courts which meet annually, and to each of these one of the judges of the Supreme Court is allotted. The Circuit judge, who has a salary of \$6000 (£1200), may, however, try cases alone or conjointly with the Supreme Court judge, or a district judge, the former having a similar power. The District Courts form the lowest class of federal tribunals, and are fifty-five in number. Their judges are appointed in the same way as the others already mentioned, and their salaries vary from \$3500 (£700) to \$5000 (£1000). The State Courts are also of three classes, differing greatly in name, relation, and arrangements from State to State. The jurisdiction of the State Courts, both civil and criminal, is absolutely unlimited, there being no appeal from them to the Federal Courts, except in the cases specified in the Federal constitution above-mentioned. Each State recognises the judg-ments of the Courts of a sister State, gives credit to its public acts and records, and delivers up to its justice any fugitive from its jurisdiction charged with a crime. In 25 States, (including nearly all the Western and Southern) (including nearly an one trestern and the the judges are elected by the people; in 5 they are elected by the Legislature; and in 8 by the Governor, subject, however, to confirmation by the Council or the Legislature. The first 25 are recognitive to the council or the Legislature. nised as the most democratic. In only four States are the judges appointed for life, the appointments in the other States ranging from two to twenty-one years, but a judge is always eligible for re-election. Judges of the higher State Courts are paid from \$10,000 (£2000) to \$2000 (£400), the salaries of the judges of the inferior Courts being proportionately lower. Generally speaking, the Western States put the least value upon their State Court judges, and in the larger States in particular the salaries fail to attract the best legal talent. The jury system prevails in America as in England, the whole twelve having to return a unanimous verdict or a new trial is resorted to.

The Government of Washington.

The citizens of Washington, as well as all the residenters in the district of Columbia, occupy a very peculiar political position in the United States. That is to say, they have no vote at all, and take no part in any election unless they have residences also in one or other of the States of the Union. Congress itself legislates for the district, and the whole administrative work is directed by three Commissioners—representing both political parties—who are appointed by the President with the approval ot the Senate. Owing to the Federal Government contributing exactly one half of the total sum required for public purposes in the city the taxes are comparatively light, one gentleman stating that on a property of the capital value of \$15,000 he paid only \$72.

SIGHTS OF WASHINGTON.

THE GOVERNMENT DEPARTMENTS.

THE PATENT OFFICE.

THE DISPLAY OF MODELS.

HOW PATENTS ARE GRANTED.

BUREAU OF PRINTING.

U.S. GOVERNMENT PRINTING OFFICE.

THE SMITHSONIAN INSTITUTE.

(From the Dundee Weekly News of December 2.)

The Patent Office.

Mr Ebenezer Bennett, Newcastle-on-Tyne, reports:—This is a beautiful and impressive building of Doric architecture, four hundred and ten by two hundred and seventy-five feet, and three storeys and a basement high. It contains over one hundred and ninety rooms, and cost £540,000. The centre is built of freestone and painted white, and the wings are of white marble. It was originally intended for the use of the Patent Office alone, but the business of late years that has been added to the Interior Department has increased so rapidly that now besides the patent offices the General Land office is also located there. It is only that portion occupied by the Patent Office, however, which is of interest to us. These offices are on the second floor and the galleries. They contain over 210,000 models, which are arranged in glass cases, so as to be easily viewed in continuous halls beautifully constructed. These halls are 64 feet wide, two of them being 271 feet long, and the other two 145 feet long. There are many ex-ceedingly interesting models of inventions in the early stages of steam, telegraphic, phonographic, agricultural, naval, and other sciences. Such names as Fulton, Hoe, Edison, Bell, and many others of equal note frequently occur on the cards with which all the models are accompanied. An improvement in inland ship navigation by Abraham Lincoln is among the many curiosities. Weeks could be very profitably spent in these galleries. On these floors are the offices of the special examiners and their assistants. There are 32 principal examiners and 162 assistants of the thirty-two divisions into which all patents are classified. This Office has a special library of great scientific worth of over 50,000 volumes, and the general library of the department contains about 11,000 volumes in addition. At one time, only very recently, all applicants for patents had to furnish the Office with a model of their invention or discovery. This is not the case now unless the commissioners request one to be furnished, which they hold the right to do.

Patents Now Issued.

All patents shall be issued in the name of the United States of America under the seal of the Patent Office, and shall be signed by the Secretary of the Interior, and countersigned by the Commissioner of Patents, and they shall be recorded together with the specification in the Patent Office in books to be kept for that purpose. Every patent shall contain a short title or description of the invention or discovery, correctly indicating its nature and design, and a grant to the patentee, his heirs or assigns, for a term of seventeen years, of the exclusive right to make, use, and vend the invention or discovery throughout the United States and the territories thereof referring to the specification, and drawings shall be annexed to the patent, and be a part thereof. Every patent shall bear date as of a day not later than six months from the time at which it was passed and allowed, and notice thereof sent to the applicant or his agent; and if the final fee is not paid within that period the patent shall be withheld. Any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, not known or used by others in this country, and not patented or described in any printed publication in this or any foreign country before his invention or discovery thereof, and not in public use



PATENT OFFICE.

or on sale for more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by the law, and other due proceedings had, obtain a patent therefor. No person shall be desarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid by reason of its having been first patented or caused to be patented in a foreign country unless the same has been introduced into public use in the United States for more than two years prior to the application; but every patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or if there be more than one, at the same time with the one having the shortest term, and in no case shall it be in force more than seventeen years. When the nature of the application admits of drawings the applicant shall furnish one copy signed by the inventor or his attorney and

Attested by Two Witnesses,

and shall be filed in the Patent Office, and shall be attached to the patent as a part of the specifications. In all cases which admit of representation by model the applicant, if required by the Com-missioners, shall furnish a model of convenient size to exhibit advantageously the several parts of his invention or discovery. Then they have a law his invention or discovery. Then they have a law for citizens only. Any citizen of the United States who makes any new invention or discovery and desires further time to mature the same may, on payment of the fees required by the law—viz., £2, file in the Patent Office a caveat setting forth the design thereof, and of its distinguishing characteristics, and praying protection of his rights until he shall have matured his invention. Such aveat shall be filed in the confidential archives of the office, and preserved in secrecy, and shall be operative for the term of one year from the filing thereof, and if application is made within the year by any other person for a patent with which such caveat would in any manner interfere the Commissioners shall deposit the description, specification, drawings, and model of such application in like manner in the confidential archives of the office, and give notice thereof by mail to the person by whom the caveat was filed. If such person desires to avail himself of his caveat he shall file his description, specification, drawings, and model (if required) within three months from the time of placing the notice in the Post Office in Washington, with the usual time required for transmitting it to the caveators added thereto, which time shall be endorsed on the notice. An alien shall have the privilege herein granted if he has resided in the United States one year preceding the filing of his caveat, and has made oath of his intention to become a citizen.

Fees in Obtaining Patents, &c.

On filing each original application for a patent, except in design cases, \$15 (£3); on issuing each original patent, except in design cases, \$20 (£4); in design cases, for three years and six months, \$10 (£2); for seven years, \$15 (£3); and for fourteen years, \$30 (£6); on filing each caveat, \$10 (£2); on every application for the re-issue of a patent, \$30 (£6); on filing each disclaimer, \$10 (£2); on every application for the extension of a patent, \$50 (£10); on an appeal for the first time from the primary examiners to the examiners-inchief, \$10 (£2); on every appeal from the examiners-in-chief to the Commissioners, \$20 (£4); for certified copies of patents and other papers, including certified printed copies, 10 cents per 100 words. That is equal to 5d per 100 words. The total number of employés in the Patent Offices is—Principal examiners, 32; assistant examiners, 162; clerks, &c., 400—594. The average number of patents granted per month is 500. The total number of applications filed at the Patent Office infity-six years—1837-1892—was 832,144; number of caveats filed, 95,899; number of patents issued, 626,751. The receipts amounted to £5,584,221, and the expenditure to £4,522,749, showing a surplus of £1,061,472.

The Bureau of Printing and Engraving.

The large four-storey, terra cotta brick building near the Washington Monument, in which all the bonds, notes, and revenue stamps of the United States are printed, is designated the Bureau of Printing and Engraving. In this department of the public service there are in all 1400 operators



BUREAU OF PRINTING.

mainly occupied in the engraving, printing, examining, numbering, and counting rooms. The printing room, crowded with hand presses, contains about 400 employés, men and women, and in order to prevent the place from getting overheated in summer upwards of 100 fans are kept in steady operation by machinery. On an average notes representing one million of dollars are printed every day, but it takes thirty days to engrave a single plate, and then a note with its four printings cannot, includ-ing the time for drying, &c., be passed over to the Treasury until the expiry of another thirty days. The paper used is made at Dalton, Massachussets, and is very carefully watched. It is counted out to each printer every morning, and all the machines register the number of impressions made, this register being in a locked box, which is examined and checked by a clerk every night. A bond of the value of \$50,000 (£10,000), and a note of \$10,000 (£2000) were among the curiosities seen by the delegates. The printers are paid according to the amount of work which they turn out, and it was stated that they made as much as \$6 to \$8 (£1 4s to £1 12s) a day. A large number of women are employed in day. A the Bureau. the Bureau. They start as printers' helpers at \$1.25 (5s) a day, and are promoted as vacancies occur to be examiners at \$1.50 (6s); numberers,



TREASURY BUILDING.

\$1.75 (7s); and counters, \$2 (8s) a day. The notes when completed are conveyed to the Treasury Building, in whose vaults are stored gold and silver against the paper issue.

The United States Government Printing Office.

The Government of the United States is the largest printer and publisher in the world, using daily about 30 tons of paper in printing the various national forms, documents, reports, &c. The printing office, which is of white brick, and of four storeys, is situated to the north of the Capitol, and is occupied by about 3000 employés. Excepting certain compositors who are paid 50 cents (2s 1d) per 1000 ems, all the employés—compositors, pressmen, and those in the bookbinding department—receive 40 cents (1s 8d) per hour for an eight hours day (Saturdays included), with 20 per cent. additional for any work performed between the hours of 5 p.m. and 8 p.m. No typesetting machines are used in the establishment,

but the printing machinery is of the best quality, and about a year ago three new web perfecting presses and folding machines, capable of producing 22,000 copies of 16-page signatures per hour were introduced. There is no pension system in connection with the department. The holidays are as follows:—1st January, 22d February, 30th May, 4th July, Thanksgiving Day, and, every fourth year, Inauguration Day. These latter remarks also apply to the Bureau of Engraving and Printing. For the fiscal year ending June 20, 1892, the total cost of the printing department was \$3,467,871 (£693,574). The salary of the Public Printer is \$4500 (£900). Like many more of the other officials of the United States, he is appointed by the President, with the confirmation, of course, of the Senate, and with each change in the Presidency a good many of the subordinate officials receive the Irishman's promotion.

The Smithsonian Institute.

Mr Logan, Glasgow, reports:—This institution is a fine specimen of Norman architecture, with towers, battlements, and loopholes. A fund of



SMITHSONIAN INSTITUTE.

over £100,000 was bequeathed in 1828 by Mr James Smithson, an English scientist, to the United States to found an institution for the increase and diffusion of knowledge among men. The building, which is of dark red sandstone, was erected in 1847. and rebuilt in 1866, the Smithsonian Fund in the United States Treasury being over £140,000. interest is devoted to original scientific research. The institution is in charge of a Board of Managers, of which the Chief Justice of the United States is chancellor, and the President of the United States is an ex officio member. A secretary is appointed by them, one who has an acknowledged standing in the scientific world, and under him the work of the institution is carried on. An entire wing of the building is occupied by the executive offices and the library, which contains about 250,000 volumes and pamphlets. The main hall contains the best representative collection of shells in America. There is also a fine collection of birds, over eight thousand in number. In another part of the building there is a large collection of relics from the mounds and buried cities of the American Indians. The National Museum was erected in 1879 by the Government as an annexe to the Smithsonian Institution. It is built of brick in the form of a cross, and one storey high, with pavilions at the four corners three storeys high. The dome in the centre rises to a height of 108 fect. The museum contains the usual collection of industrial products, historical relics, and ethnological objects. Among the most interesting relics seen by the members of the Expedition were those of Washington, Lincoln, and Grant.

THE NAVY YARD.

STRENGTH OF THE FLEET.

THE UNITED STATES ARMY.

LIFE OF PRIVATE SOLDIERS.

THE PENSION OFFICE.

THE LABOUR BUREAU.

STATISTICS FOR THE WORKERS.

WHERE LINCOLN DIED.

THE CENTRE PUBLIC MARKET.

WASHINGTON MONUMENTS.

THE STEEL CARS.

(From the Dundee Weekly News of December 9.)

Mr Brown, Govan, reports:—I visited the navy yardat the foot of Eighth Street, S.E. Itwas laid out under order of the Department in 1799. It covers 42 acres of ground, and is a most interesting place to visit, from the fact that here may be seen in progress most of the work of gun-making, &c. The yard also embraces ordnance foundries, shot and shell factories, and also copper mills. Workmen of all trades are engaged here. They are employed just as occasion demands. They work eight hours per day, beginning work at 8 a.m., with only half-an-hour at midday for meals. I was also at the Navy Department, and saw Lieutenant Lauchimner, U.S.M.C. at the Judge Advocate General's Office. I afterwards saw the Secretary of the Department. He stated that their navy had fallen considerably, and that when young men were trained for the navy openings were always found for them in the interior of the country at more wages than they could give them, so that they work trained. He also remarked that their merchant navy had not recovered yet since the Civil War, and that the "schooner" trade was more profitable than the square-rigged trade. The naval forces of the United States gradually fell away after the termination of the Civil War, and although successive Secretaries of the Navy represented strongly the

Weakness of the Fleet

nothing was done towards its actual reconstruction until August, 1883. At that date three new protected cruisers and a despatch boat were authorised to be built by contract at a total cost of nearly half a million sterling. A great deal has, however, been done during the last few years toward building new vessels. Since 1885 £6,154,622 have been allowed for naval purposes outside of the £1,400,000 in the naval appropriation of March, 1889, and since that time twenty-two steel vessels have been ordered. These include various classes, having a total tonnage of 65,609 tons, armed with two 12-inch, twenty-six 10-inch, twelve 8-inch, and eighty-one 6-inch guns. The above batteries do not include the dynamite guns, the torpedoes, the Hotchkiss rapid-firing guns, and the Gatling revolving guns. One of the most remarkable of the new vessels is the dynamite cruiser Vesuvius, which is fitted out to carry three of the new Zalinski dynamite guns. This is an exceptionally fast vessel, running from twenty to twenty-one knots

an hour. For the further increase of the navy Congress has authorised the construction of three armoured battleships of 8500 tons displacement; one steel cruiser of 7500 tons, with protected deck and maximum speed of 21 knots; one cruising monitor of 3130 tons displacement, to be armed with one 15-inch dynamite gun, two 10-inch, and one 6-inch B. L. R., and to have a speed of 17 knots; one ram of 2000 tons; one torpedo cruiser with a speed of not less than 23 knots; one torpedo boat; and one dynamite cruiser. The navy is commanded by one admiral, one vice-admiral, and six rear-admirals, who have under them 965 officers. There are 7500 enlisted men and 750 boys, besides a marine corps of 2177 officers and men. We were informed that the Government experienced great difficulty in getting native-born Americans to join the navy, and that a large number of the men composing it belonged to the maritime provinces of Canada to whom special inducements were held out. Seamen are paid from £46 to £58 per annum with rations. The expenditure on the Navy last year amounted to nearly £6,000,000, and has been steadily increasing for some years. At the navy Department in Washington there is a library containing some twenty thousand volumes of especial value to those interested in naval science and warfare.

The United States Army.

Mr William Smith, Denny, reports:—Being under no dauger from powerful or warlike neighbours, the United States are saved from that ruincus competition in armaments which presses on the industry of European countries. The American army is little more than a police force, of which a few regiments serve as a reserve to the civil powers in the great towns, while the rest are dispersed in small posts along the frontiers or among the American districts. By an Act of Congress of 1870 the number of land forces constituting the standing army of the United States was strictly limited. It was subsequently enacted that from the year 1875 there shall be no more than 25,000 enlisted men and 2155 commissioned officers at any one time. The force consists of 10 regiments of cavalry, each



HORSE AND FOOT, FULL DRESS AND FATIGUE.

of 12 companies or troops; 25 regiments of infantry, of 10 companies each; 5 regiments of artillery, and 1 engineer battalion. The cavalry, broken up in small detachments, partake more of the character of mounted police than that of European cavalry. They are armed with swords and breechloading or repeating rifles, and trained to act on foot as well as on horseback, and the whole cavalry drill is assimilated as closely as possible to that of the infantry. The latter are organised after the old British fashion in single battalion regiments of 10 companies. The army is raised entirely by

Voluntary Enlistment.

The standard of height for infantry is 5 feet 5 inches, and soldiers serve five years. They receive £3 12s per month, and all their rations and clothing. Promotion is got by good behaviour and capabilities, and if they are smart men they can rise well up. They are allowed twenty days in the year for holidays, and if they take no holidays, say, for three years, they can get their sixty days all at once to go on furlough, and when they come back they get their pay and the price of the rations they did not use. The men are allowed plenty of good meat; are allowed one suit of clothes in the year, and if one suit does them for two years they get the price in money of the other suit they are entitled to. If they use more they have to pay for it. So careful soldiers can sometimes save as much as £16 to £20 in five years. The profits that are derived from the canteen or liquor saloon, after paying its own expenses, are divided amongst the men in the barracks, each getting the same amount, and when a soldier is disabled and not fit for duty he receives £4 16s per month when discharged as

A Pension for Life,

although he is able for other work. When they get their discharge with five years' service, they get twenty days' pay and ration money along with them, and they can go and enlist in any other regi-ment if they choose. The following is the routine of the United States soldier's life :- At the first note of reveille the morning gun goes off, the national colours are raised, and the military day begins. At 5.45 reveille is sounded, the men fall in ranks, and the rolls are called. At 6 they again fall in line and are marched to breakfast. fast over they return to the barracks, make up their beds, and put things in order generally, after which the barracks are inspected by the captains At 6.45 the sick call is sounded and the sick are taken before the surgeon, who examines and prescribes for them. Then comes drill from 7 to 8. New recruits have additional drill from 9 to 10. At 9.30 comes guard mounting, when those that are to go on guard for the succeeding twenty four hours are paraded, inspected, and marched to their duty. The breakfast has consisted of beef stew, coffee, and bread. At 12 o'clock the dinner call sounds, and the men

Sit Down To Roast Beef

and gravy, sour beef stew, soup, and bread. This is varied with pork and beans, rice, hominy, and bacon. More drilling comes from 1 to 2, supper—corn beef and lettuce, tea, and bread—at 5.15, and dress parade from thirty minutes before sunset, or before the firing of the sunset gun. The flag then goes down, and the military day is done. The men enjoy themselves until 9.30, when lights go out in the dormitories, but those who desire can remain in the recreation and library rooms until 11

o'clock taps, when all lights are extinguished, and the men are inspected in their beds to see if all are safely stowed away for the night Besides the regular army each State Is supposed to have a militia In which all men from 18 to 45, capable of bearing arms, ought to be enrolled, but in several States the organisation is imperfect. The organised militia numbers 9059 officers and 118,172 men. The number of citizens who in case of war might be enrolled in the militia is upwards of 64 millions. In 1880 the males of all classes between 18 and 44 years of age numbered 10,231,239, of whom 7,000,000 were native-born whites and 1,242,354 coloured.

The Militia

is called up every year for training, and the men receive £3 4s, clothes, and ration for the training. If they are called out for special duty they receive £8 sper day. The territory of the United States is divided for military purposes into nine departments, and these are grouped into three military divisions, namely, Division of the Missouri, composed of the Departments of Dakota, the Platte, Texas, and the Missouri; Division of the Pacific, composed of the Departments of Columbia, California, and Arizona; Division of the Atlantic, composed of the Departments of the East and the South. The expenditure on the army in 1892 amounted to £9,400,000.

Desertions From The Army.

Notwithstanding assertions as to the good times that the soldier enjoys it appears that of late there has been a marked increase in desertions from the United States army. Under certain reform measures instituted by Secretary Proctor desertions for the year 1889 were reduced below any figures ever shown by army records. For the month of July of this year, however, 205 desertions were recorded, showing an increase of fifty over the desertions of July, 1892. The reasons for this increase seem to lie with legislation attendant upon the last Army Appropriation Bill. With this appropriation re-enlistments after service of ten years were made impossible. There is enough in this act of legislation to precipitate dissatisfaction in the ranks. Service in the army necessarily consumes the best years of a man's life, and his savings as a common soldier must be small. When twenty-five years was the limit of service, with gradually increasing pay for that period and the ease of the retired list at the end of it, the soldier had some prospects. Cut down to a ten year service, with the chance of being turned adrift on the world at middle age, the prospect is discouraging to the better class of men in the army.

The Pension Office.

Mr Mungo Smith, Dundee, reports:—I called at the Pension Building in Washington and met the chief clerk, who very readily supplied me with what information I desired. The building, an immense brick structure, stands at the north end of



THE PENSION OFFICE.

Justiciary Square. It was erected about nine years ago, and its first use was as a ballroom at the inauguration of President Cleveland. It is 400 feet long, 200 feet wide, and 75 feet high. It is not a handsome building, resembling a factory more than anything else, but it is admirably adapted to the purposes for which it was erected. Its chief architectural attraction is a band or frieze of sculptured terra-cotta, designed to represent the various experiences of the army and navy in war. The building cost £20,000, and required 15,000,000 bricks. The court will accommodate 18,000 persons at an inaugural ball, and 59,000 closely packed. In this building the vast pension machinery goes round and round. Thousands of clerks are daily employed in various duties, and the receipt of the mail alone is an immense item. Over 5,000,000 letters are received yearly and 4,000,000 sent out. This is an average of nearly 14,000 letters received each day. Perhaps a better idea of the gigantic scale of the transactions of this department will be gained from the following list of the staff employed :- Official force of the Bureau of Pensions now authorised by law, 2009; 18 pension agents and 460 persons employed at said agencies, in all, 478; 1252 boards of examining surgeons of 3 members each, 311 single surgeons, and 142 eye and ear specialists, in all, 4209—total numbers of persons applicable in consection with the ber of persons employed in connection with the Bureau of Pensions, 6696. On the 30th of June, 1892, there were 876,068 pensioners on the rolls, these included 165 survivors of the war of 1812, and 6651 widows of those who served in that war, and that, let it be noted, was three years before the date of Waterloo. The oldest pensioner on the roll was John Downey, of Allen Factory, Alabama, aged 105 years. The roll contains the names of 22 widows of soldiers engaged in the Revolutionary War of 1776, the men who were young at the time of the war having evidently in their old age married young women. It is possible that one of these widows may be drawing a pension in 1918. A soldier's widow is entitled to a pension as long as she lives, unless she should marry again. Children also receive an allowance until they attain the age of sixteen. The annual value of all penthe age of sixteen. sions on the roll at 30th June, 1892, was £23,375,974, and the average annual value of each pension, £26 15s.

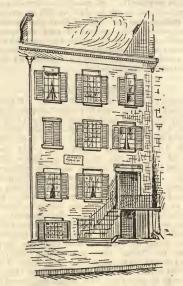
Abuses of the Pension System.

It is notorious that the facilities provided for the enrolment of pensioners in the United States opens the door to fraud, and revisals of the roll never fail to show that many hundreds have been drawing money from the public purse for years who had no earthly claim to it. A very bad case brought under notice this year was that of Judge Long, of Michigan, who had been drawing £14 10s a month for total helplessness, while earning a salary of £1400 a year as Justice of the Supreme Court of his State. Another incident will illustrate the demoralisation caused by the pension system. A business man in Boston, well-to-do in purse and vigorous in body, who already carried a considerable amount of life insurance, applied for £2000 more. The medical examiner found nothing whatever to indicate disease, past or present, and the investigation was almost concluded when the doctor asked the question—"Have you ever been a pensioner?" Thereupon the applicant stammered, and at last owned up that he was drawing a pension of £2 10s a month. Further inquiries drew from him "a tangled series of admissions that he had never really suffered any injury or illness entitling him to a pension, but he had made out some sort of a case of nervous shock or deteriora-

tion, at the instigation of a pension agent, and had taken his £2 10s a month from the United States Government, rich man though he was, on the principle that 'they all do it.'" The company refused to grant him insurance, on the ground that a man who had perjured himself to get £2 10s a month from the Federal Treasury was quite capable of cheating an insurance company if he got the chance, and consequently was not a good risk.

The Assassination of Lincoln.

The building in which President Lincoln was shot by John Wilkes Booth on the night of Friday, April 14, 1865, and which was then known as Ford's Theatre, stood on Tenth Street, between E and F Streets, and latterly was used by the Government as a part of the Surgeon-General's office, but a few weeks before we arrived in Washington the structure had collapsed. It will be remembered that the theatre was crowded with a distinguished audience witnessing the play of "Our American Cousin," when Booth entered the President's box, discharged his pistol, and leaped to the stage, where, with bowie knife in hand, he shouted, "Sic semper tyrannis! The South is avenged," and then disappeared. The house on the opposite side of the street to which the President was removed as soon as it was known that he was dangerously wounded is noticeable to-day by a marble



THE HOUSE IN WHICH LINCOLN DIED.

slab which bears the words—"A. Lincoln died in this house April 15, 1865." He never regained consciousness, and died on Saturday morning at a few minutes past seven o'clock surrounded by his wife and family and prominent officials. Booth was pursued and finally surrounded at Port Royal, Va., where he was shot upon refusing to surrender. Four of his associates were tried and executed at the old arsenal, now the barracks of the 3d Artillery.

The Centre Market.

Mr Watson, Dundee, reports:—The above, which is the largest of the public markets in Washington, is situated to the south of Pennsyl-

vania Avenue, and a tremendous business is done in it every morning up to mid-day in selling butcher meat, vegetables, fruit, butter, eggs, ham, fish, and bread. It has two storeys, and the top flat is used for cold storage rooms. Ice is manufactured on the premises, and in these rooms a great quantity of beer, eggs, and fresh meat is stored, and can be kept in good order for a month, while eggs will keep for four months. The whole market belongs to a company, who let it in small stalls at from £2a month, but articles placed in the freezing room cost ½d per lb. for a month. The number of waggons and carts that I saw standing disloading



OUTSIDE THE MARKET.

round the building was over a thousand. The following were the prices of different articles sold in the market:—Best beefsteak, 10d per lb.; best roast steak, 7½l per lb.; stewing or boiling, 2½d to 5d per lb.; lamb and veal, 6d to 10d per lb.; loaf bread, 2½d per lb.; rye bread, 2d per lb.; butter, 1s 5d per lb.; American chees, 10d per lb.; eggs, 9d per dozen; salmon, 1s 5d to 1s 8d per lb.; sea trout, 5d per lb.; sheep's head and red snippers sold at 7½d per lb.; other sea fishes, 4d to 6d per lb.; chickens, 9d per lb.; potatoes, 1s 3d per peck of 14 lbs.; ham (cured), 8d, 8½d and 1s 1d per lb.; cabbage, 2d each; cauliflower, 5d each; lemons, 10d a dozen; brambleberries, 6d per box; blaeberries, 5d per box; melons, 1s 5d each; sugar, 3d per lb.; tea, 1s 8d, 2s 1d, and 3s 4d per lb.; oatmeal, 2½d per lb.; coffee, 1s 1d to 1s 5d per lb.; flour meal, 1½d, 2d, and 2½d per lb.; rice, 3½d per lb.; red currants, 6½d per qr. or box; Indian corn, 10d per dozen; onions, 1s 1d per 7 lbs.

Vehicular Traffic.

Washington has running on the streets twenty-eight miles of electric cars supplied by the overhead current, cable cars sixteen miles, and horse cars ten miles. Drivers and conductors of electric cars work twelve hours a day, and are paid 8s per day. Cable drivers and conductors work a ten hours day, and are also paid 8s per day. Horse drivers and conductors work a twelve hours day, and are paid 8s per day. By the hack and carriage regulations attempts to overcharge are strictly prohibited. Any attempt to do so should be reported to the nearest police station or officer on duty. Two trunks or their equivalent may be carried without extra charge, but 2s each may be charged for extra pieces over that amount. Such small packages as

can be conveniently carried within the hack are free of charge. Drivers are bound to unload all baggage free. On omnibus lines the fares are the same as those of street cars. 'Bus drivers are paid £8 a month.

Statues and Monuments.

There are a great many statues of distinguished soldiers and statesmen scattered over the city, located in the various parks and squares. Of these may be enumerated the Thomas equestrian statue



STATUE OF GENERAL THOMAS.

in Thomas Circle, at the junction of Fourteenth Street and Vermont Avenue; Scott's equestrian statue in Scott Circle, at the junction of Sixteenth Street and Massachusetts Avenue; M'Pherson's equestrian statue in M'Pherson Square, Fifteenth and "K" Streets; Farragut's statue in Farragut Square, Seventeenth and "K" Streets; Jackson's equestrian statue, fronting the White House; Rawlin's equestrian statue, New York Avenue, between Eighteenth and Nineteenth; equestrian



THE JACKSON STATUR.

statue of Washington in Washington Circle, Pennsylvania Avenue, and Twenty-Third Street. These are all in the north-western part of the city. East of the Capitol in Stanton Square, at the intersection of Maryland and Massachusetts Avenue, is the equestrian statue of General Nathanial Greene of revolutionary fame; and in Lincoln Square, due east of the Capitol a half mile or more, is the bronze group called "Emancipation," representing President Lincoln striking the manacles off the slave.

The Department of Labour.

Special interest attached to the visit paid by the delegates to the offices of the U.S. Department of Labour. The Commissioner of Labour is Mr Carroll D. Wright, a gentleman, who by his zeal in the cause, his abilities and thorough fitness for the post which he fills, has been the means of investing this office with a dignity and an importance which have attracted not only favourable notice at home, but the close attentions of several foreign Governments. Unfortunately he was residing in the State of Massachusetts at the time the delegates struck Washington, but Mr Dunham, the chief clerk, gave to the party much information regarding the Department, and explained its methods of working and the scope and objects of its inquiries. Mr Carroll D. Wright also forwarded a letter to the Conductor regretting his inability to meet the delegates, and conveying many interesting supplementary particulars with reference to the Department. By means of a Bill passed in 1869 the Massachusetts Legislature, impelled, it is said, by political expediency, established the first Bureau of Statistics of Labour in the world. The duties of that Bureau were defined as follows:— "To collect, assort, systematise and present in annual reports to the Legislature, on or before the 1st day of March in each year, statistical details relating to all departments of labour in the commonwealth, especially in its relations to the commercial, industrial, social, educational, and sanitary condition of the labouring classes, and to the permanent prosperity of the productive industry of the commonwealth." Efforts towards the establishment of a Federal Bureau were begun in 1871, but it was not until January, 1885, and only after numerous petitions by Labour organisations, that such a bureau was organised. After the National Bureau had been in existence three years and had shown the character of its work, the Knights of Labour demanded that Congress should create a Department of Labour, to be independent of any of the general departments, in order that its powers, duties, and efficiency might be placed on a better footing. Accordingly on January 13, 1888, an Act was approved, providing that "there shall be at the seat of government a Department of Labour, the general design and duties of which shall be to acquire and diffuse among the people of the United States useful information on subjects connected with labour, in the most general and comprehensive sense of that word, and especially upon its relation to capital,

The Hours of Labour,

the earnings of labouring men and women, and the means of promoting their material, social, intellectual, and moral prosperity." The Department is presided over by a Commissioner (Mr Carroll D. Wright), and the staff consists of a chief clerk, a disbursing officer, 4 statistical experts, 29 clerks (including 2 stenographers and 1 translator), 4 copyists, and 20 special agents. The term of office of the Commissioner is four years, but at the end of that term he may be reappointed. The service of the other members of the staff is not so limited.

The grade of pay is the same as that pertaining to other federal offices. Facts are collected by the agents under the direction of the Commissioner. These are arranged in tables, the tables are summarised, and the summaries form the basis of the conclusions or the suggestions embodied in the reports, the greatest possible care being taken to ensure accuracy in every part of the work. The Department may adopt a three-fold method of obtaining the desired information. First—Uniform schedules of questions may be issued to representative persons, whether employers or employed. Second—Evidence may be taken at public hearings. Third—The sending out of special agents. The first method has proved useless in the past, and where the method of public hearing has been adopted the result is a mass of incongruous statements, often obtained from journalists and others not belonging to the class of either employers or employed. Mr Carroll D. Wright says, after long experience, that the best method has been the sending out of the special agents. The reports deal with industrial depressions, convict labour, strikes and lock-outs, working women in large cities (the shop girl class, where the information was almost entirely collected by women), railway labour, cost of production, &c.; also the effect of

The Tariff Laws

on the imports and exports, the growth, develop-ment, production, and prices of agricultural and manufactured articles at home and abroad, and upon wages, domestic and foreign. Congress also occasionally directs special investigations to be made by the Department, as in the case of an inquiry into the statistics of marriage and divorce, and into the industrial and technical school systems. Regarding the Department Mr Carroll D. Wright said:—"Commencing with \$25,000 (£5000) as the annual appropriation for the Bureau of Labour, Congress now appropriates more than \$175,000 (235,000) exclusive of printing, for the administra-tion of the Department, and so far as I know there has been no inclination on the part of the House, the Senate, or the President to in any way abridge or interfere with the work of the Department, or in any way to strangle it in its labours or make it an object of ridicule, as has been alleged. On the other hand, it has met with the most generous confidence on the part of Congress and of the President, and been aided in all reasonable ways in bringing its work to a high standard of excellence." Indeed, as the delegates found, its reports are viewed with the utmost confidence by both workmen and capitalists. In 28 States there are also Labour Bureaus, who collect information and statistics on the hours of labour, and the condition and prospect of the industrial classes. Meagre appropriations have, however, obliged them in many instances to confine their investigations to the simplest topics, and all their reports

Complain of Lack of Funds

in the matter of Labour legislation, also in the method of presenting its reports. Massachusetts is ahead of any other State, and its results are carefully summarised. The New York Bureau of Labour Statistics keeps a list of trades, on which to enter every item of information bearing upon a given trade. The Commissioner in this State has power to subpeena witnesses and examine them under oath. It is a misdemeanour not to answer the questions or to reply untruthfully, and the Commissioner reports that this power has been of considerable advantage to him in collecting information.

THE QUAKER CITY.

WHITE MARBLE STEPS LEAD TO WORKMEN'S HOMES.

EVERY MAN HIS OWN LANDLORD.

A DAY IN A BIG SHIPYARD.

UNCLE SAM'S NEW NAVY.

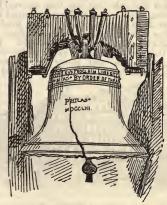
THE QUEEN OF THE SEA.

A MODEL ART SCHOOL.

(From the Dundee Weekly News of December 16.)

The Delegates at Philadelphia.

The old Quaker city of Philadelphia, reports Mr Murray, the Conductor, was the next halting point of the Expedition. With a population of nearly 1,200,000, it is the third largest city in the States, and is situated on the Delaware River, 140 miles from Washington and 90 from New York. Although 100 miles from the Atlantic Ocean, it is the seat of the largest shipyard on the Continent, and still holds a very important place among the seaports of the United States. Founded by William Penn, the Quaker, in 1682, it to-day, in many respects, and chiefly through the agency of its numerous building societies, presents the best conditions of artisan city life in the world. With an area of 129½ miles, it has no fewer than 250,000 separate buildings, and the number of families living with



THE LIBERTY BELL.

more than ten persons in a dwelling is only 12\(^3\) per cent. This city has also been laid out by men with rectangular lines on the brain, but there are in addition a few leading thoroughfares running diagonally. Some of the main streets are 100 feet in width, but the majority, although generally well paved, are considerably narrower, the most of the cars running one way on one street, and the opposite way on the adjoining street. During their stay in the city, from July 21 to July 24, the delegates visited many places of interest, in addition to those specially enumerated. These included Independence Hall, where the famous Declaration

of Independence was adopted and proclaimed by the outraged colonists, and in which the old Liberty Bell and many relics of Washington and other national heroes are kept; Carpenters' Hall, where the first Congress of the United States met; Christ Church, where Washington worshipped; and



BENJAMIN FRANKLIN'S GRAVE.

Benjamin Franklin's grave in the adjoining burying-ground.

Impressions of the Quaker City.

Mr Thomas Logan, Glasgow, reports :- Philadelphia is the most characteristic American city that we have yet visited, and one that a person from the old country would get to like very soon. The people are quite different from the reckless, devilme-care people of Chicago and New York. Philameter property of them are built of solid white marble, and are beautifully carved, many of the doorways being done up in a style we are not accustomed to see at home. Philadelphia, with all its grand buildings, suffers, like the other cities we have visited, from wretchedly bad streets, and a drive in an omnibus through one of them is enough to shake a person's teeth out. It is notably a "city of homes." The tenement house so common elsewhere is scarcely known within its precincts, the prevailing rule being one house for one family. No other city in America contains so many comfortable single residences, and great numbers of them are largely owned by their occupants, those occupied by the working classes being neat two storey structures, each with its bathroom and other modern conveniences. These houses are, as a rule, made with white marble steps and veniences. brick window sills, which give them a clean and pretty appearance. Philadelphia has an immense number of Building Societies; there are no fewer than four hundred companies with 87,600 members. They are conducted on much the same principle as at home. To rent a small brick house of four rooms and bathroom, with hot and cold water, £2 8s to £3 a month is paid. And to buy the same, ground and all, costs from £240 to £300. To rent a house of six rooms, with bath, hot and cold water, stationary wardrobes and wood mantels, and all the latest improvements, costs from £3 8s to £4 per month; to buy the same, £340 to £440, according to location. I had the satisfaction of seeing through several of these houses, and found them in many respects superior and more suitable for a working man than the tenement system we have at home. These houses are very much after the style adopted in England, every one having a front and back door of their own, also a small yard about 12 feet square.

Cost of Food, Clothing, &c.

The following is a list of provisions by retail in Philadelphia;—Butcher meats—Sirloin steak, 10d to 1s per lb.; rump steak, 8d to 9d per lb.; roast beef, 7d to 9d per lb.; stewing beef, 7d to 9d per lb.; soup beef, 3d to 5d per lb.; leg of mutton, 6d to 7d per lb.; mutton chops, 9d per lb. Bread is sold in all manner of weights at about the same price as at home. Tea, 1s 3d to 3s 6d per lb.; coffee, 1s 2d to 1s 10d per lb.; butter, 1s 1d to 1s 6d per lb.; sugar, 2½d to 3½d per lb.; cheese, 9d to 10d per lb.; milk, in winter, 4d per quart, three months in summer, 3d a quart, skimmed milk, 1d less; eggs, per dozen, 9d to 1s 6d; in winter, 1s 6d to 2s; rice, 4½d and 5d per lb.; potatoes, 1s 6d to 1s 8d a peck, in winter; 1s 8d to 2s 4d a peck; ham, by taking a half of one, 8d to 10d per lb. Clothing for summer wear—Serge and tweed suits, 32s to Philadelphia :- Butcher meats-Sirloin steak, 10d for summer wear—Serge and tweed suits, 32s to £3; finer material, £3 to £5; very finest, £5 to £8; straw hats, from 2s to 8s; felt hats, from 6s to 12s; boots and shoes, 8s to 28s; hand-sewed to measure. 18s to 28s; ladies' boots and shoes, 6s to 20s; dress-making, 16s to 20s for making a plain dress; men's shirts, 1s 6d and upwards; men's linen shirts, 2s to 6s; linen collars, 6s per dozen; linen cuffs, per pair, 1s to 1s 8d; cotton socks, 6d to 1s per pair; woollen socks for winter wear, 1s to 2s per pair. Coals—a ton (2240 lbs.), in summer, from 18s to 21s; in winter, 21s to 24s. Gas, 6s per thousand

Cramp's Shipyard.

Mr D. Brown, Govan, writes:—Along with Mr Murray and Mr Bennett, I visited the shipbuilding yard of Messrs William Cramp & Sons, Limited, and saw several ships in various stages of progress. We were all through the U.S. armoured cruiser New York, which was almost completed, and which will be a credit to the builders. We were also on board several others, and were well pleased to see the manner in which they were being finished. They have besides on hand several ships for the late German line of steamers, which are to rival the latest of the Cunard Line, namely the Campania and Lucania, but I have very grave doubts of that, and I have not seen their model, but this much I may say that if they come within what they say they promise they shall do well. The Messrs Cramp had also on hand a yacht, which they are putting the engines into. The different wages which obtain in the yard are as follows:—Engineers or mechanics (weekly) average about £3; joiner or carpenter, £3 6s; pattern-makers, £3 12s; labourers, £1 10s; riveters, &c., on piecework. They work 60 hours, but in summer when the weather is hot they only work 55 hours, stopping on Saturdays at twelve at midday, but nevertheless 60 hours constitute their week's work. They begin at 7, and work till 12, then have dinner till one, and work on till 6 p.m. They employ about 3700 hands at prealtogether. Besides the shipyard they have a brass foundry, where they make altogether is a superstant they have a brass foundry, where they make all the same and they have a brass foundry. foundry, where they make all their brass castings. They have also an iron foundry, and make all their light castings such as rapid-firing guns, &c. They have bought a large amount of property outside their yard for the purpose of extending it. They have upwards of four or five year's work on hand at present. I understand they employ a great amount of non-Union labour, and have reduced the wages considerably for some time back. Their yard is very commodious, and they have every facility for launching, the river being both broad and deep.

New American Warships.

Mr E. Bennett, Newcastle-on-Tyne, also reports: -Through the kind offices of Captain Samuels, of

the Bureau Veritas, we obtained a permit to visit I must say that I am not the above works. impressed with the way they carry on their work. With all the bounce of our Yankee cousins, they are certainly behind us in the general working of a shipyard, and would be all the better of a leaf out of the books of some of our builders at home, such as Armstrong, Mitchell, & Co., of Newcastle-on-Tyne, or the Fairfield Shipbuilding Co., Glasgow, and many others. From a conversation I had with a Scotsman who has just left that employ I find that the opinion I formed of the place on my visit is quite confirmed, and anyone wishing a job in that yard cannot have much difficulty in getting it if he will just wait for a short time at the gates. They will soon make room for him, as on an average five men were killed or maimed per week—at least so I was told by a Scotsman who had opportunities of knowing. The same who had opportunities of knowing. The same thing prevails here that we find in every place in America that we have visited—there is little or no value attached to human life. However, they turn out a fairly good job. We had the pleasure of inspecting some of their ships in various stages of progress, and found the work well done. The United States armoured cruiser New York, which was almost completed in 6th the following dimensions. was almost completed, is of the following dimensions :- Length, 3801 feet; breadth, 64 feet; mean draught, 23 7-24 feet; tons displacement, 8150; indicated horse power, 16,000; speed in knots, 20. She has twin-screw triple expansion vertical engines, her main batteries are six 8-inch breechloading guns and twelve 4-inch B.L.R., her secondary batteries are eight 6-pounders, four 1pounders, and four Gatlings; her armour plating is Belt, 37 inches; turret, 10 inches; deck, 6 nches. The contract price for this vessel was 2,985,000 or £597,000. They have also built two inches. \$2,985,000 or £597,000. cruisers named the Columbia and the Maniopolis. They are both exactly of the same dimensions.

Queen of the Sea.

Such is the title that has been claimed for the Columbia, which on her trial trips attained a mean Columbia, which on her trial trips attained a mean speed of 22.80 knots per hour, which would thus prove her to be the fastest warship afloat. The Columbia is unique among war vessels. Besides being the first triple screw cruiser, she combines speed, endurance, and power to a marvellous degree. In designing this vessel the United States



ARMY AND NAVY DEPARTMENT.

Naval Department evidently had in view America's only available method of warfare—the destruction of the enemy's commerce—and she was created with the intention of being able to capture and sink such ships as the Paris and the Teutonic should they In appearever fall into the hands of an enemy. ance the Columbia is more like a merchant ship than a man-of-war, for she has no sponsons or other projections that one finds upon all other war vessels, so she might easily creep up to an enemy until he is within range of her battery, and then either capture or destroy him altogether. The motive power of the new cruiser consists of three sets of triple expansion, vertical, inverted cylinder engines which will drive the triple screws, the centre one being about four feet below the other two. Each engine is placed in a watertight compartment, and is complete in every respect, so that the vessel may be propelled at slow speed with the centre screw alone, at a medium speed by the two outer screws, and by the three when high speed is desired. Each shaft is fitted with a disengaging coupling, so that the



THE CRUISER COLUMBIA.

propellers not in use are free to revolve and not retard the ship. The following are the principal dimensions of the Columbia:—Length by the water line, 415 feet; beam, 58 feet; draught, 23 feet; displacement, 7350 tons; sustained sea speed, 21 knots; horse power, 21,000. The battery will consist of four 6-inch breechloading rifles, eight of 4 inches, eighteen machine guns, and six torpedo tubes. The contract price of the Columbia was £545,000, but the builders earned a large premium for excess of speed. The

System of Premiums

adopted by the American Government in connection with the work done in private yards calls for a brief explanation. In the case of the New York the builders won £40,000 premium, because on her trial that ship made 21 knots instead of 20 knots guaranteed, the offer being £10,000 extra for each quarter-knot of sustained speed over the guarantee. The new gunboat Machias won £9000 extra for her builders in the same way, and many other of the new ships proportionate amounts, while there has never been any reduction from contract price because of a ship failing to attain the contract speed. The fact is the premium business is merely a scheme to pull the wool over the eyes of politicians, who would otherwise talk about extravagance in ship construction. The speed asked for is always figured by the Navy Department so well within the probabilities of the vessel, as set forth in the specifications and designs of the Department, that none but a most careless builder could fail to exceed the speed called for. Contractors recognise this by a study of the plaus, and are conse-quently able to bid at bottom prices, counting upon the premium as certain profit, while those who cry for economy have no chance to growl. I have the dimensions of several of the vessels the Cramps are building for the United States navy, which will perhaps be interesting to many readers. The battleship Indiana which had just been launched is:—Length, 348 feet; breadth, 69 feet 3 inches, mean draught, 24 feet; displacement, 10,298 tons; indicated horse power, 9000. She is to be fitted with the following guns-four 13-inch B.L.R., eight 8-inch B.L.R., and four 6-inch. That is the main battery. The secondary battery is to have twenty 6-pounders, six 1-pounders, and four Gatlings; her armour is—belt, 18 inches; turret, 17 inches; and deck, 3 inches. She is fitted with twin-screw triple expansion engines, the contract price being £612,600. Then there is the battleship Massachusetts which was also just launched. She is of exactly the same dimensions as the Indiana; for each \(\frac{1}{2}\)-knot over 15 these vessels make the

builder has a premium of £5000. The armoured cruiser Brooklyn—Length, 400 feet; breadth, 64 feet; mean draught, 24 feet; displacement, 9000 tons; indicated horse power, 17,000; speed guaranteed, 21 knots. Battleship Iowa—Length, 360 feet; breadth, 72 feet; displacement, 11,200 tons; indicated horse power, 11,000; guaranteed speed, 16 knots. She is to have four 12-inch, eight 8-inch, and six 4-inch breechloading guns. I was not able to get the contract price of these two vessels. The Newark, the Cramp Company say, is

Entirely American In Design

and fittings. Her hull was planned in the Navy Department at Washington, and her engines were designed and built by the Cramp Co. She was built by them and launched in March, 1890, and on April 17, 1891, she steamed away from their yard.



U.S.S. NEWARK.

The Newark is a protected steel cruiser, with ram bow and three bladed twin screws. She was designed to have a displacement of 4083 tons and 8500 horse power, and on the official trial trip exceeded the latter by about 368:578 horse power, which gained for them a premium of £7372. Her length is 328 feet; breadth, 49 feet; cxtreme draught, 21 ft. 6 in. Her maximum coal capacity is \$10 tons, and her daily consumption at a speed of 15 knots is about 70 tons. The complement of this vessel is 24 officers, 279 enlisted men, and 36 marines. Her primary battery consists of twelve 6-in. breechloading rifled guns. The secondary battery comprises four 6-pounder rapid fire, four 3-pound rapid fire, and four Gatlings. The protected cruiser. Philadelphia was launched on



THE CRUISER PHILADELPHIA.

September 7th, 1889, and run her trial trip in June, 1890. For four hours she developed a speed of six hundred and seventy-eight thousands of a knot in excess of what was guaranteed, earning a bonus for the builders of £27,120. She has horizontal twin-screw triple expansion engines, the diameter of her cylinders being 38 in. 46 in. and 58 and 40 in. stroke. She has four boilers, each 14 feet diameter and 20 feet long, working pressure 160 lbs. Her propellers are 14 feet 6 in. diameter, revolutions, 125. The battery consists of twelve 6 in. breechloading rifles, four 6-pounder rapid firing, four 3-pounder rapid firing, two 1-pound rapid firing, three 37 millimeter revolving cannons, and 4 Gatlings. She has proved in every way to be a most successful ship. Her complement is 28 officers, 309 enlisted men, and 40 marines.

The Cramp Company have at least six years' work on hand now, and are extending their yard, the presentarea being 25 acresand water-front 1229 feet. They employ 4000 hands. The total value of five ships, at present under construction, is £2,905,200. The workmen have an annual trip to Atlantic City, for which they pay \$1, and any man by purchasing a ticket for this trip enrols himself into a sick fund, from which he, in case of accident, receives \$3\frac{1}{2}\$ per week for five weeks, or, in other words, until he has received the total sum of \$18, after which he receives nothing more. This Company have five beds of their own in the hospital for their own men, and the ambulance van calls at the works once every day unless required oftener. A young man told me that be had been working in that yard eight weeks, and during that time there were no fewer than 40 lamed. He spoke in very strong language against the reports on America that have appeared in some of our Scottish newspapers. He says that it was these reports which induced him to go out, and he found things to be very different from what they were represented to be.

The Drexel Institute.

Mr Logan, Glasgow, also reports:—I paid a visit to this institution while in Philadelphia, and found it to be the most magnificent and thoroughly-equipped I have ever seen. The Drexel Institute is a school of art, science, and industry, and was founded and endowed by Mr Anthony Drexel, who devoted £400,000 for this purpose. The building



THE DREXEL INSTITUTE.

is an extensive one, and is highly ornamental, being a very fine example of classic renaissance. It is entered by a richly-carved doorway; which leads to a spacious court seventy feet square, and which is the entire height of the building. I was greatly struck with the beauty and grandeur of this hall, which is constructed of richly-coloured marble, and is covered with a ceiling of decorated stained glass. Surrounding this superb court are galleries which lead to the laboratories. classrooms, studios, &c., which occupy the upper floors. On the main floor there are library and reading-room, in which is a rare collection of manuscripts, and a museum which contains a valuable collection of textiles, ceramics, carvings in ivory and wood, metal work, &c. There is also on this floor a large auditorium with grand organ, and capable of seating 15,000 persons. In the basement are the engines, dynamos, and boiler-rooms, which supply light, heat, ventilation, and power to the entire building. In the rooms surrounding this plant are the electrical and mechanical laboratories and workshops for wood-working, pattern-making, wood-carving bench-work, and machine-construction. The Institute is under the charge of Dr James M'Alister, who is a Scotsman, and

A Native of Glasgow,

and until recently was superintendent of the Philadelphia Public Schools. The organisation of the Institute comprises the following departments:

—The art department includes lithography,

interior decoration, modelling, wood-carving, and stained glass. The scientific department physics. The department of chemistry and mechanic arts includes mathematics, science, drawing and English language, and shop-work. The department of domestic economy includes general and invalid cookery, dressmaking, millinery, and household economy. The technical electricity, mentmechanics and engineering, machine construction, and photography. The business department - bookbusiness keeping, stenography, and commercial geography. The physical training is a great feature in American schools, and the gymnasium of this school is acknowledged to be the best equipped in the country, and was designed by Dr Hartwell, of Boston, the leading authority on the subject in the United States. During the first year of the Institute, 1892-3, sixteen hundred students were enrolled in the several departments, while the teaching hedr consists of feath five prowhile the teaching body consists of forty-five professors, instructors, and lecturers. From the description given it will be seen that the Drexel Institute is a monumental work, embodying in its structure and plan the best elements of the latest educational methods, and no industry which offers



THE GREAT COURT.

a skilled means of livelihood to men and women is neglected. This is not a free school, but the fees are so low that no one need be excluded either from the day or evening classes.

MAKING MONEY:

HOW IT IS DONE IN THE U.S. MINT.

KNIGHTS OF LABOUR; THE INTERESTING STORY OF A

GREAT ORGANISATION.

HOW HIGH LICENSE WORKS.

(From the Dundee Weekly News of December 23.)

Visit to the United States Mint. Operatives Who Make Lots of Money.

Mr Murray, the Conductor, reports:—The delegates when they visited the United States Mint at Philadelphia on July 22 saw more hard cash than they ever did in their lives before, but after a little



THE U.S. MINT.

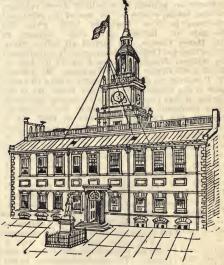
the sight did not appear to affect them any more than the same quantity of iron or lead would have done. The moment after entering the old building used as the Mint they were introduced to two great barrowfuls of silver ingots weighing from 60 to 80 lbs. each. They were good naturedly invited to take away one each as a souvenir of their visit, but although a few of the members of the party lifted up a chunk or two, they quickly treated them with contempt by replacing them on the barrows. It was here explained to them that the United States Government purchased from 4 to 4½ million ounces of silver every month to keep in the Treasury vaults against the paper notes which it issued, and that in both gold and silver coins ten parts out of every hundred consisted of an alloy. The furnaces and the rolling and stamping mills were next visited. Each of the twelve furnaces was, it was stated, capable of turning out 90,000 gold dollars in 1½ hour, with corresponding quantities of silver and copper money. The stamping mills, also twelve in number, were wrought by women, who could, it was stated, turn out money at the following rate:—100 pennies (1 cents) per minute each; 80 5-cent pieces (nickels) per minute; and 90,000 dollars in gold per hour. "Now," said the guide, when he gave this information, "see when you go home if you can find women who can make so much money as that!" These women are principally wives or dependents of men who have



lost their lives for or have rendered conspicuous service to their country, and are paid \$2 (8s) per day of eight hours, the men being paid up to \$5 (£1) per day. The principal officials are what the Yankees term "political snappers;" that is to say, they are like many others in the States who have to find employment elsewhere on the occasion of a change of Government. The vaults underneath the Mint were said to contain, at the time of the visit of the delegates, as much as 50 millions of silver dollars. The Government is shortly to erect a new Mint, probably in Broad Street.

"The Knights of Labour."

Mr Brown, shipbuilding representative, Govan, writes:—One of the most powerful and most remarkable organised societies of labour in America in modern times is what is called the Knights of Labour. It had its origin in a tailor of Philadelphia calling together eight friends on Thanksgiving Day, 1869, to form themselves into a society which should embrace all branches of skilled and unskilled labour for mutual protection, for the promotion of industrial and social education among the masses, and for the attainment of public and private reforms. The Order of the Knights of Labour was at first an organisation, the very existence of which was kept a secret. Its name was never mentioned, but was indicated by five stars (* * * * * *), and for several years it grew rapidly in this profound secrecy. Finally, however, rumours became rife about "The Five Stars," as it was called, and Philadelphians noticed with trepidation that a few cabalistic chalk marks in front of Independence Hall could bring several



INDEPENDENCE HALL.

thousand men together. Alarm spread, newspapers circulated absurd fictions in regard to its designs, in which accusations of Communism and incendiarism were prominent, and Catholic and Protestant clergymen bastened to denounce the unknown movement. It was afterwards decided to abandon the policy of secrecy which had characterised the infancy of the Order, and it came before the world with a statement of principles, and repudiated all connection with violent or revolutionary associations. One of the aims of the Knights of Labour, as found in their "Declaration of Principles," is—"To persuade all employers to

agree to arbitrate all differences which may arise | between them and their employes, in order that the bonds of sympathy between them may be strengthened, and that strikes may be rendered unnecessary." Their first general assembly was held in Reading, Pa., in 1878, when its membership is said to have amounted to eighty thousand, and one hears rumours sometimes that the membership amounts to one million, a million-and-a-balf, and even two million. Their growth has been more remarkable in the south and east of the United States than elsewhere. One of the best achieve-States than elsewhere. ments of the Knights of Labour is the good opinion they have won of many intelligent employers who really wish their labourers well. Not long since one of the most prominent manufacturers in Baltimore, in giving his testimony at a meeting of the Board of Trade, sufficed to induce that body to pass resolutions which were favourable to Labour organisations, and highly creditable to the broad in-telligence and generous feeling of its members. Each industry has its local assembly and its own officers. The local assemblies are represented by delegates in district assemblies, and the district assemblies again send delegates to the general assembly. Officers in these bodies bear the titles with the prefix "District" or "General," but the head of the Order is known as the Grand Master Workman. The Knights are strong advocates of temperance, and exclude from membership all those who live by making or selling intoxicating liquors, placing them in the same category with bankers, stockbrokers, lawyers, and professional gamblers. The Order is professedly non-political, and, though it has been suspected of attempting to exercise an influence on politics, there is little direct evidence of such action, except in the case of the municipal elections in New York in 1886, when the Knights of Labour gave their support to Mr Henry George, and carried all before them. by internal dissensions caused partly by the re-fusal of the Grand Master Workman, Mr Terence V. Powderly, to allow the Society to take an active part in the agitation for an eight hours day in the spring of that year, and also his strong opposition to a resolution protesting against the condemna-tion of the Chicago anarchists in 1887. It is certain, however, that a great secession from the Order took place at that time and on that account. In 1890 a great strike took place on the New York Central and Hudson River railroad amongst the Knights of Labour. Although Mr Powderly disapproved of this measure also, he was apparently powerless to prevent it. It arose from the discharge of some 78 employés, many of whom were prominent Knights of Labour. The district assembly of the Order were anxious The district assembly of the Order area to declare a strike, believing that the Company's action menaced the existence of the Order amongst its employés. The strike was declared, and it threatened to spread throughout the lines of the Vanderbilt system. The employes applied to the Board of Arbitration, but the Company held that they had nothing to arbitrate upon, and that the various employés were in each case dismissed for individual reasons, not on account of their connection with any organisation. Nevertheless the evidence taken by the Board of Arbitration in the course of its inquiry showed that the Company were perfectly showed that the Company were perfectly cognisant of the position held in the Order by those who were discharged. The Railroad Company, in

of the traffic. The result of the strike was that the men were beaten, and between 3000 and 4000 lost The Knights of Labour have their situations. condition of female labour up the in America, and acknowledge that women have been, and are still, more oppressed than men, and the truth has been fully perceived that it is impossible to better the condition of the masses permanently unless the lot of the working woman is ameliorated. As a consequence the Knights of Labour were everywhere endeavouring to help women to secure higher wages and more favourable conditions of service. When girls have struck work on account of indecent treatment in factories they have found the knights their most ardent champions, and large contributions have been made by them in support of their sisters. A new regard for women is thus being cultivated among the masses, and the full sigificance of this can only be appreciated by those who take an interest in the movement The working women of the country are, as would naturally be expected, learning to value the Order highly, and many of them have become members. Women are among the most ardent, self-sacrificing supporters of this labour movement. Another fact to which attention must be directed is the membership among the negroes in the south who are so much inclined to societies of various kinds that one can scarely find a coloured person, male or female, who does not belong to either one or another. They are everywhere joining the Knights of Labour, who do not discriminate against them, but consider them to the consider them. them among their most faithful m mbers. The dictation of trades unions is very often brought forward as an offence by those who are unwilling to recognise the right of the labourer to a voice in the management of the commodity which he supplies-labour-and in the management of which he is so vitally interested. I admit that it is quite possible that the labourer may make a foolish use of his rights, and it is certain that he too often does make such a use The surrender of personal liberty is often regarded as a condition of membership in a trades union, but this is little more than mere fiction in the case of any well-managed labour organisation. The Declaration of Principles of the undoubtedly Socialism, if Labour means draws the logical conclusions of these ments, and one might be inclined to statements, and one might be inclined to class them all as Socialists at once, but this would be a serious mistake. They do not bring their Socialism forward prominently, many do not even see that their principles imply Socialism; some of them are violently opposed to the theory itself, and many more to the name, while some do not think at all on the subject. The Knights are generally reported in Chicago to be decreasing in numbers and influence.

Philadelphia City Hall.

Mr Sinclair, Cambuslang, reports:—A tendency exists in the public mind to seek to classify every considerable architectural design under the head of some "order or style," but modern genius and taste deal so largely in original adaptations of classic and other forms, that we often find no small difficulty in deciding under which, if any, of the heretofore established orders or styles many of the most important structures of the present day can properly be classed. The architecture of the above building is of this character. It is essentially A Special Force of Armed Men, but the only loss of life was the result of accidents to trains owing to the disorganisation



THE CITY HALL.

spirit of French art, while, at the same time, its adaptation of that florid and tasteful manner of building is free from servile imitation either in ornamentation or in the ordinance of its details. This immense architectural pile is located intersection of Broad and Market It covers, exclusive of the courtyard, an area of nearly 41 acres, and consists of one building, surrounding an interior courtyard. The north and south fronts measure 470 feet, and the east and west fronts 4861 feet in their extreme length. The tour fronts are similar in design. In the centre of each an entrance pavilion, 90 feet in width, rises to the height of 202 feet, having receding wings of 128 feet elevation. The fronts terminate at four corners with towers or pavilions of 51 feet square and 161 feet high. The whole exterior is bold and effective in outline and rich in detail, elaborated with highly ornate columns, pilasters, pediments, cornices, enriched windows, and other appropriate adornments. Archways of 18 feet in width by 36 feet in height, opening through each of the four central pavilions, constitute the four principal entrances, and at the same time afford passages for pedestrians up and down Broad and Market Streets directly through the buildings. The basement storey is 18 feet in height, above line stands entirely the pavement. the Its exterior of fine is white granite of massive proportions, forming a fitting base for the vast superstructure it sup-ports. The exterior of the building above the basement embraces a principal storey of 33 feet 6 inches, a second storey of 35 feet 7 inches, and a third storey in the centre pavilions of 26 feet 6 inches, with an attic over the central pavilions of 15 feet, and over the corner pavilions of 13 feet 6 inches, all of white marble wrought in all its adornments and forms of exquisite beauty. The small rooms opening upon the courtyard are each sub-divided in height into two storeys. In the centre of the group a courtyard of 200 feet square affords light and air to all the adjacent portions of

the building. From the north side of this space rises a grand tower, which will gracefully adorn the public buildings. The foundations of this tower are laid on a bed of solid concrete 100 feet square, 8 feet 6 inches thick, at the depth of 23 feet 6 inches below the surface of the ground, and its walls, which at the base are 22 feet in thickness, are built of dressed dimension stones weighing from two to five tons each. This tower which is so deeply and so strongly founded is 90 feet square at the base, falling off at each storey until it becomes at the spring of the dome an octagon of 50 feet in diameter. A statue of the founder of Pennsylvania (37 feet in height) will crown the structure and complete the extraordinary altitude of 547 feet. This statue of William Penn is presently standing in the courtyard, and when the tower is finished will be taken up in eight pieces and put in its permanent position. The weight of this statue is 60,000 lbs., and height 37 feet. The hat is 3 feet in diameter and the rim 23 feet in circumference. The nose is 1 foot long; eyes, 12 inches long and 4 inches wide; the hair 4 feet long; the shoulders 28 feet in circumference and 11 feet in diameter; waist, 24 teet in circumference and 8 feet 9 inches in diameter; legs, from ankle to knee, 10 feet; hands, 6 feet 9 inches in circumference, 3 feet wide and 4 feet long; feet, 22 inches wide and 5 feet 4 inches long.

Carpenters' Hall, Philadelphia.

Mr Brown, Govan, reports:—In the business quarter of Philadelphia, on Chestnut Street, between Third and Fourth Streets, is a quaint old building one hundred and twenty-two years old, and richly replete with historic memories. The building is of brick, with a low steeple, and of the old Colonial style of architecture. It is in a splendid state of preservation, and is known as "Carpenters' Hall." It was built in 1770 by the Carpenters' Company of the City and County of Philadelphia. The Carpenters' Company is one of the oldest associations of Pennsylvania and the oldest industrial society in America. It was instituted about forty years after the settlement of the province by William Penn, and maintains an uninterrupted existence from the year 1724. Among its early members were many prominent in Colonial history, and whose architectural taste and ability as builders have left their impress upon buildings that yet remain in Philadelphia as



CARPENTERS' HALL.

memorials of that early day. The object of the organisation, as expressed in its Act of Incorporation, was much after the style of the guilds of Europe, those historic ancestors of the modern trades unions. The society was patterned after the Worshipful Company of Carpenters of London, founded in 1477. The armorial insignia of this Company in Philadelphia are identical with those

of that ancient body; the officers bore the same designations, and its declared object, ceremonials, and privileges were in furtherance with the same ideas. Its object was to cultivate and instruct its members in the science of architecture, and to assist them and their families in case of accident or need. It established a "Book of Prices" for the valuation of carpenters' work, and, to quote from their ancient rules, "on the most equitable principles, so that the workmen should have a fair recompense for their labour, and the owner receive the worth of his money." This Company charged an entrance fee of £4 sterling, which kept out many journeymen carpenters, and made the Society one exclusively composed of "master carpenters." All the historic Colonial Congresse and meetings prior to the Declaration of Independence were held in Carpenters' Hall. Here it was that in 1774, from September 5th to October 20th, the first Colonial Congress was held, and it was on that occasion, as afterwards on other occasions, that the inspiring eloquence of Patrick Henry, the Adamses, John Hancock, and the patriot fathers of the country stirred the people of the Colonies to throw off the yoke of English domination. In this hall it was that Washington, Franklin, Jay, Rutledge, and the men of the first Colonial Congress met; and afterwards, at the State House, on July 4th, 1776, gave utterance to the Declaration of Independence. After the revolutionary war was over, it was in this Carpenters' Hall, in 1787, the convention to frame a constitution met, and, after four months' deliberation, agreed upon a constitution for the "United States of America," making Carpenters' Hall memorable, both for the first united effort to obtain a redress of grievances from the mother country, and the place where the fathers of the Republic changed by the constitution a loose league of separate colonies into a powerful nation.

The Post Office.

Mr Sinclair also reports:—Five squares east of the City Hall stands the new United States



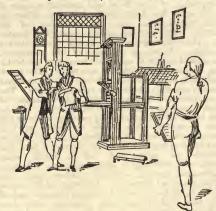
THE POST OFFICE.

Government building popularly known as the Post Office, but in reality containing within its massive walls besides perhaps the best appointed post office in the country the United States Courtrooms, and branch offices of the Coast Survey, the Geological Survey, the Lighthouse Board, the Sceret Service, the Signal Service, and the offices of various officials of the Federal Government. The building is of granite, four storeys in height, with a dome reaching 170 feet above the level of the street, and has fronts 484 feet on Ninth Street and 175 feet on Chestnut and Market Streets. The entrances to the public corridor are on the Ninth Street front, and the several apartments of the Post Office business are conveniently arranged on the first floor, besides which on this floor the Western Union Telegraph Company has an office.

Near each end of this corridor spacious stairways and hydraulic elevators lead to the upper storeys. Ground was broken for the erection of this structure October 11, 1873, and the business of the Post Office was first transacted within its walls March 24, 1884. Including the site, which cost the Government \$1,491,200, about \$8,000,000 were expended in its erection.

The Public Libraries.

Although Philadelphia is a very important manufacturing centre, it is also well equipped with institutions which have for their object the improvement of the mind. It has between 40 and 50 libraries, some of them free and others which charge an annual subscription of \$4 (163) or \$5 (£1). The largest is the Mercantile Library with 165,000 volumes, but it is closely followed by the Philadelphia Library, which has 155,000 volumes. The latter was founded in 1731 by Benjamin Franklin and the Junto Club, and is open free from 10 a.m. till sunset. Connected with it is what is known as the Ridgeway Branch, located in a handsome classic building, and erected by means of a bequest of £300,000 by Dr James Rush in 1869. The American Philosophic Society, also founded by Franklin in 1743, and the oldest scientific institution in the States, possesses a fine library of 60,000 volumes. The Historical Society of Pennsylvania and the Franklin Institute (free) have both rich and interesting libraries, the latter consisting chiefly of scientific and technical works. The Academy of Natural Sciences has a valuable collection of books and specimens, and the Athenæum possesses 25,000 volumes. A kindred



FRANKLIN'S PRINTING PRESS.

institution to these is the Academy of Fine Arts—a beautiful building in Venetian Gothic, and in which there is a magnificent collection of paintings and statuary. It is free on Sundays and Mondays, but a charge of 25 cents (1s) is made on other days. The delegates in passing it on Sunday, July 23, looked in for a short time, and found a considerable number of working men and ladies inspecting the works of art.

The High License System in Philadelphia.

The licensing system followed in Philadelphia is similar to that in operation in Pittsburg, both cities being in the State of Pennsylvania. Previous to the passing of the Brook's Law six years ago there were 5000 licensed houses in Philadelphia, but a clean sweep was then made, and the number was reduced to 1300. Since then, however, the

number has been gradually increased, until now there are 1800 saloons. The holders of the licenses pay \$1000 (£200) each annually, and, as in other places, this money goes to the Corporation to be applied to public purposes. In addition there are applied to public purposes. In addition there are licenses for which the holders pay \$500 (£100) annually, but these are not allowed to sell "unbroken packages" or less than a quart of liquor at a time, and only, too, for consumption off the premises. The sale of liquor to minors—persons under 21 years of age—is expressly prohibited. All license-holders have to appear annually before the judges elected by the people, when several skirmishes are witnessed between them and the officials of the local Law and Order Society. Strong language is frequently indulged in, and accusations of selling liquor after midnight are commonly made by the Society, but although a good few licenses have been cancelled on various grounds the judges generally advise the society to first bring the alleged cases of contravention before the criminal courts. In compliance with the provisions of the Brook's Act there is no Sunday opening in Philadelphia, the hotel bars being also closed, and it is said that this has led to the formation of a large number of Sunday drinking clubs and "speak easies," by means of which the law is evaded. According to one authority there are as many as 2000 such clubs in the city. It is also stated that in numerous cases working men combine together and purchase in turn on Saturday a keg of beer for Sunday consumption. No sign of Sunday drinking was, however, seen by the delegates during their stay in the city.

Cabinet-Makers in Philadelphia.

Mr Logan, Glasgow, reports:-The number of cabinet-makers employed in Philadelphia is very considerable. They work nine and nine and a half hours per day, Saturdays included, or 54 to 56 per week. Sixty per cent. of the cabinet-makers are Germans or German Americans. A good number of them are Swedes, the balance being divided amongst the other nationalities. The largest firm amongst the other nationalities. The largest firm in the city is The Hale & Kilburn Manufacturing Company, employing on an average 70 cabinet-makers, 70 upholsterers, 30 varnishers, and 10 carvers; about 350 hands in all. Another very good firm is that of Hall & Garrison, who generally applies 40 cabinet makers, 6, carries 20 rally employ 40 cabinet-makers, 6 carvers, 30 rally employ 40 cabinet-makers, 6 carvers, 30 mounters, and 30 gilders, or about 200 hands in all. I visited the workshops of Messrs Russell & Co., and found them very much like our own. The work is nearly all done by the same methods. The benches, tools, and machines are slightly different, being of American manufacture; but taking them all over, I think the tools and machinery that are used in our large factories in Scotland and England are quite as good in every Scotland and England are quite as good in every respect. It is very remarkable that the same tools used and manufactured by Americans can be bought from 5 to 10 per cent. cheaper in Scotland than they can be bought for in America. & Co., employ on an average 60 cabinet-makers and 20 carvers. They also have joiners, varnishers, and upholsterers, in all about 125 hands. There is a great deal of piecework done in the cabinet trade in Philadelphia. in Philadelphia, but the average wage for day workers is £2 16s per week of 54 hours.

Woodcarvers in Philadelphia.

There are about 150 carvers employed in Philadelphia, and about 30 apprentices. Wages run from Is up to 2s per hour, according to ability. The average hours wrought per week are 53, and the average pay is £3 18s. I also visited the carving shop of Edward Macne, a Belgian. This shop is considered the best of its kind in Philadelphia, and pass an examination for supervising principal of a

at present is doing some very fine work in wood, marble, and stone. There is generally employed in this shop, between stone and woodcarvers, about 20 men, and the wages average from £3 to £5 a week. About two-thirds of the woodcarvers in Philadelphia are members of the International Woodcarvers' Association. The length of apprentice-ships in wood and stonecarving is five years.

A CITY OF HOMES.

HOW WORKINGMEN BECOME HOUSE-OWNERS.

SUCCESSFUL BUILDING SOCIETIES.

EDUCATIONAL INSTITUTIONS AT PHILADELPHIA.

INDUSTRIAL TRAINING.

THE GIRARD COLLEGE.

THE PHILADELPHIA PRESS.

(From the Dundee Weekly News of December 30.)

Pennsylvania School of Industrial Art.

Mr Thomas Logan, Glasgow, reports:—The Pennsylvania School of Industrial Art is another school I visited while in Philadelphia, and deserves special mention. The purpose of this school is distinctly industrial, while the technical instruction is intimately associated with the training in art. In the Art Department the general course of study In the Art Department the general course of study embraces drawing and painting in water-colours, drawing from models, casts, draperies, and still life, lettering, plane and descriptive geometry, projections, with their application to machine construction and to cabinet and carpentry work; modelling, casting, and wood-carving. Lectures are also given on anatomy and historical ornament. In the Textile Department the course of instruction embraces the theory of textile designing, and intervential applications to the art of waving and its practical applications to the art of weaving of single and double cloths, gauzes, trimmings, carpets, curtains, furniture coverings, &c., and recarpets, curtains, furniture coverings, &c., and related branches—scouring, bleaching, and dyeing of yarns and materials. Chemistry is taught with special reference to the needs of the different branches of the textile industries. This is a very fine school, and every room seems to be perfectly equipped for the special work to which it is devoted. Like all the other educational institutions that I visited, I had no opportunity of seeing any of the departments in active operation owing to it of the departments in active operation owing to it being the summer holidays. I had to content myself with walking through the different workshops and empty classrooms, which in themselves were highly interesting. The following is the rate of fees:—Art class, day, £3 a year; art class, evening, £2 a year; textile class, day, £30 a year; textile class, day, £30 a year; textile class, evening, £4 a year.

The Elementary Schools.

Pupil teachers serve five years, and cannot get rupit teachers serve her years, and cannot get through and be able to teach before attaining eighten years of age. The females get £97 the first year as salary, with an increase of £6 each year for five years, and it stays at that until they secondary and grammar school. The salaries then range from £200 to £320. The male teachers graduate from £200 to £450. In some of the public schools they give the boys from nine to twelve years of age twice a week one hour at modelling in clay down in the basement of the school just to divert them from their other lessons, and the boys that do the best work get an apple, pear, or banana, or whatever it may be. Their work is also put on exhibition in the schoolroom till next modelling day. Philadelphia stands fourth highest in the salaries paid to school teachers in America. The highest are Boston, New York, and Chicago. The number of schools in Philadelphia is 428, attended by 118,268 pupils and employing 2878 teachers. School books are all free in the State of Pennsylvania.

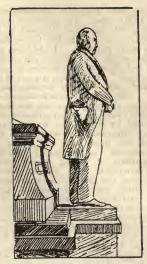
The Girard College.

Mr Sinclair reports:—On arriving here and delivering up my pass, which I received in Chestnut Street, and passing through the lodge or gatehouse



THE GIRARD COLLEGE.

I was at once confronted with one of the best laid off pieces of ground I have had the pleasure of seeing in America. On either side of the main entrance up to the College was a long bed of beautiful flowers, all in full bloom, and the colours blending in beautiful harmony. At the end of this main walk stands a massive building of white marble, noble and severe in its lines, of pure Grecian architecture. The building proper of Girard College is entirely fireproof in its construction, being built wholly of white marble—walls, floors, and roof. There is a portico around the entire edifice of 21 feet in width, which adds largely to its dimensions, making it 152 feet wide and 202 feet long, on the ground to which is added a flight of ten steps around the entire structure. With the College at first were built four other buildings, two on either side, of white marble, of plain but chaste architecture, intended for the residences of the officers, teachers, and pupils of the college. The College, and these four supplemental buildings were begun in 1834, and finished in 1847, at a cost of £594,000. The grounds are surrounded by a substantial stone wall ten feet high, with the principal entrance opposite the south front of the college building. The College building has a vestibule at both north and south ends. In the south vestibule, which is the chief entrance, stands the marble statue of Stephen Girard, and the marble sarcophagus containing his remains. Upon the sarcophagus is the name "Stephen Girard," and upon the base of the statue the words—"Who originated and endowed this College." The statue cost £6000. The marble columns surrounding the building are 34 in number, 56 feet high, and 7 feet in diameter at the base, The cost of these massive and elaborately-carved columns was £2600 each. The entire grounds, which take in an area of 45 acres, are lighted by electric lights, for which purpose there are erected tall and



STATUE OF GIRARD.

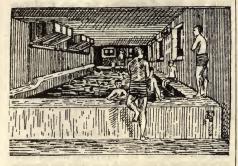
graceful light towers at suitable points. The electricity is furnished by power on the premises. On the west side of the College stands a beautiful and touching little architectural structure called "The Soldiers' Monument." This handsome tribute to the memory of the former pupils of the College was erected by the Board of Directors. Its design is an open temple, and within it, standing at rest, a white marble figure of a soldier life-size. The structure is of Ohio sandstone, upon a granite base. Upon the south side, which is the front, is sculptured these words—"Erected A.D. 1869 to perpetuate and record the services of the pupils of this College, who in the recent context for the preservation of the American Union, died that their country might live." In the western end of the grounds was



THE SOLDIERS' MONUMENT.

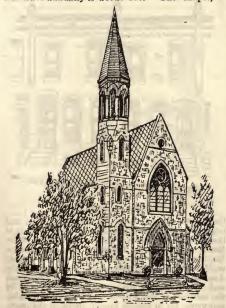
erected in 1883 the technical building, built of brown stone. Technical instruction was introduced in 1882. The results of the experiment were so satisfactory, that in the following year the Board of Directors decided to erect this building, which cost about £18,600, with its equipment of a powerful steam engine and necessary machinery, tools, &c. All of the pupils beyond a certain grade in the school are required to spend five hours per

week in this department. They are taught to work in metals and wood. The building contains a boiler-house and engine-room, foundry, iron department, department of mechanical drawing, and shoe department. Here the shoes of the pupils are repaired and many of them made. Near this is a large pond used by the boys for swimming



THE SWIMMING BATH.

in the summer and for a skating pond in winter, and it also furnishes the purest ice for the ice-house, which is beside it. Orphans are discharged from the institution by binding them out (indenturing to trades or other occupations), by cancelling their indentures to the college, or by dismissing for vicious conduct. When a boy finally leaves the College he receives an outfit of a good trunk and clothing to the amount of at least £15. The orphans are educated, clothed, and boarded in the College. The clothing is made in the style prevailing at the time, no uniform or distinctive dress being permitted. The annual cost of maintaining, clothing, and educating each pupil, including current repairs to buildings and furniture and the care of the grounds, is about £60. The number of boys who leave annually is about 150. The chapel, a



THE CHAPEL

fine Gothic building of white marble, was erected in 1867. According to Mr Girard's will, no ecclesiastic, missionary, or minister of any sect whatever shall ever hold or exercise any station or duty whatever in the said college, but moral and religious instruction is given on all suitable occasions both in the schools and section-rooms. The officers and pupils attend worship daily in the chapel before the opening of the schools and after their close. The exercises consist of singing, reading the Scriptures, and prayer. On Sundays religious instruction is given by lectures or addresses delivered by the President of the College or some layman who may be invited morning and afternoon in addition to the daily worship. The applicant for admission as a pupil of the College must be "a poor white male orphan, who is above the age of six and under the age of ten years, and who is destitute of means, or without relatives able to maintain and educate him." By the will of Mr Girard, preference is given as follows:—"1. To children born in the City of Philadelphia. 2. To those born in the State of Pennsylvania. 3. To those born in the City of New York. 4. To those born in the city of New York. 4. To those born in the benefits of this College may be felt as wide as the boundaries of the country, and be as lasting as the marble columns of its own portico.

The Peirce College of Business and Shorthand.

Mr Murray reports:—The general adoption of the typewriter for correspondence purposes in America has led to shorthand being made one of the principal subjects of education in many of the colleges for advanced pupils in the country. Business men and others recognised with Yankee smartness the great saving of time and labour which could be effected by means of a clever stenographer, who was also able to quickly manipulate the typewriter, and now the clerk, who has not these accomplishments, finds it very difficult to retain, far less secure, a good situation. In this connection, also, a new avenue has, as already mentioned in the notices with reference to Chicago, been opened up for female labour, and one is struck by the number of young women employed in offices as stenographers and typewriters. A thorough practical business education is also now more required than ever. The Peirce College of Business and Shorthand now located in three of the floors of the Record Building in Chestnut Street was established as a high-class commercial school twenty-eight years ago, and by keeping pace with the requirements of the times it continues to hold a leading place amongst the educational establishments of Philadelphia. The subjects taught include German, French, commercial calculations, law and business forms, geo-graphy, book-keeping, and business correspondence, penmanship, shorthand, and typewriting. average time required to complete the business course is from eight to ten months, and the shorthand and typewriting course about eight months. The fees run as follows:—Business or shorthand course—morning sessions—one month, £3; five Afternoon sessions-one month-£1 months, £12. 12s; five months, £6. Night sessions—one month—£1; six months, £5. The graduating classes regularly visit, in company with an instructor, trust companies, banks, mills, the U.S. Mint, the Post Office, and the Stock Exchange, and the methods of working these institutions are fully explained to the students. Last year the total number of students enrolled was 1248, of whom 269 were The shorthand course was attended by females. 202, and 115 of these, or fully one half, were

females. Sixteen of the States of the Union, including Florida and California, were represented on the roll, and there were also students from Canada, Brazil, and Colombia, South America.

How Building Societies are Managed.

Mr W. Smith, Denny, made inquiries regarding the management of the numerous and flourishing building societies in Philadelphia, and reports as follows:—The object of the City of Homes Building and Loan Association of Philadelphia is the saving of funds from monthly payments of the members to be advanced or loaned to those desiring to invest it, that the profits arising from the business thus transacted may, with the monthly payments, largely reduce the number of months required to make each share with its par value of £40. The capital stock of the Association is £200,000, and consists of five thousand shares of the par value of £40 issued in one or more series as the Board of Directors may determine. Each stockholder is entitled to a certificate of stock issued in the name of and under the seal of the Corporation signed by the President and counter-signed by the Treasurer, which certificate is transferable by assignment in person or by attorney in the presence of the Secretary. Each member for each share of stock by him or her held has to pay an initiation fee of threepence at the time of subscribing for stock, and 4s per month in current funds until the series with which he or she is connected has accumulated real assets sufficient to divide to each share on which no loan has been granted the sum of £40.

Loans or Advances.

Each member for each and every share of stock in his or her name is entitled to purchase a loan or advance of £40. The amount paid into the Treasury each month is sold to the highest bidder or bidders, and any member taking an advance or loan allows the premium offered by him or her to be deducted, and secures the Association for such advance or loan by judgment bond and mortgage or stock of the Association. A borrower giving real estate security also transfers to the Association a perpetual policy of fire insurance upon the property offered as security in such amount as the Board of Direc-Any member may have an adtors may require. tors may require. Any memoer may have an advance or loan without real estate security to the amount he or she shall have actually paid as dues to the Association. For each advance or loan of £40 per share to a member, at least one share of stock must be assigned to the Association as collateral security. Any member taking an advance or loan must also pay to the Association in addition to his or her monthly dues for shares monthly interest on the gross amount of the advance or loan at the rate of six per cent. per annum, or 4s per month for each share on which such an advance or loan is made. Should any stockholder, who has received any portion of his or her stock in advance, neglect or refuse to pay any or all dues to the Association for six successive months, then the directors may compel payment of principal and interest by instituting proceedings on the bond and mortgage, or otherwise, according to law. The Board of Directors have power to keep one series open at all time for borrowing members, and in case a borrower requires an advance or loan on more shares than were owned by him or her at time of bidding, the requisite number of shares can be furnished to him or her, the borrower paying all back dues and assessments on such shares. None but members are allowed to bid for a loan or advance. The successful bidder must not take an advance or loan more than ten shares at one bid, but may continue bidding if there be more money to sell. If there are not sufficient

funds in the treasury to meet such advance or loan, the balance will be supplied from the receipts of the subsequent meetings. All successful bidders are required to immediately submit to the secretary a full description of the property offered as security. In the event of a successful bidder failing to offer satisfactory security for the space of one month from the date of purchase, the loan or advance reverts to the Association, and he or she will be charged with one month's interest on the advance or loan, and all expenses attending the examination of titles, searches, and writings. All security for advances taken in the name of the Association, and after being executed, is deposited in the hands of the treasurer. No security can be deemed sufficient until it has been examined by the Property Committee of Directors and approved by a majority of the Board of Directors. No advance or loan can be made on property outside of the city and county of Philadelphia.

Repayment of Advances.

A borrower may repay an advance or loan at any time, and in case of the repayment thereof before the expiration of the eighth year after the organisation of the series to which the advance or loan was made, there will be credited to such borrower one ninety-sixth of the premium originally charged for every month of the said eight years, then unexpired. The borrower pays all expenses attending the cancelling of the mortgage or judgment. In case of a stockholder repaying an advance or loan, his or her shares originally transferred to the Association as collateral security are retransferred to said stockholders as free shares, precisely as if no loan or advance had been made thereon. From the premium offered for an advance or loan on stock more than one year old, one-tenth of said premium shall be deducted for each year that the series in which the advance or loan is made has run. Should any stockholder desire to sell a property on which the Association has loaned money, trans-



WORKING MEN'S HOUSES.

ferring to the purchaser all his right, title, and interest in the loan granted on his shares, he is at liberty to do so if he first obtains the consent of the Board of Directors to such sale or transfer. No such sale or transfer can be made until all dues, interest, and fines which the Association is then entitled shall have been paid, and the conveyance having been duly executed by the solicitor of the Association, with all the rights and privileges in respect to such shares of the members to whom the loan was first granted. Any stockholder having executed a mortgage in favour

of the Association, may substitute, subject to the approval of the Board of Directors, and at his or her expense, any other property as security to the Association in lieu of that originally mortgaged.

Purchases of Property.

The Board of Directors have power to purchase at any Sheriff's or other judicial sale, or at any other sale public or private, any real estate upon which the Association may have or hold any mortgage, judgment, lien, or other incumbrance or ground rent, when the interests of the Association require it. They also have power to sell, convey, or lease mortgage at pleasure to any person or persons whatsoever, any property of which the Association may become possessed. When any sale takes place of a property mortgaged to the Association, the Board of Directors requires the payment of all dues, interest, fines, and charges owing to the Association at the time of said sale, before satisfying the bond and mortgage against the property. In case the funds are not bidden for by any stockholder for the space of two months, the Board of Directors have power to invest the same in real estate, in United States Government bonds, or in the authorised loans of the city of Philadelphia, provided that no such investment be made except with the consent of two-thirds of the Board of Directors. Stockholders who have not received an advance may withdraw from the Association after thirty days' notice to the Board of Directors. They will receive the amount actually paid in as dues, less all fines and other charges, and after the expiry of one year from the issuing of the series in which the stock is held they are entitled to the amount of their payments as dues, with such part of the profits (not less than 4 per cent.) as the directors may allow. Not more than one-half the funds in the treasury can be used to refund money on withdrawn shares except by special order of the Board of Directors. The shares of any stockholder or trustee who neglects or refuses to pay his or her monthly dues or fines for the period of six months may be declared forfeited by the Board of Directors, when the shares revert to the Association. If such member has not received any advance, he is entitled to receive out of the first unappropriated money in the treasury the amount of dues he or she may have paid into the Association, in addition to the profits allowed withdrawing members of the same series after deducting all fines and charges, and thereupon cease to be a member of the Association.

Interest and Fines.

All members paying dues averaging over six months in advance to the Association are entitled on such payment to interest at the rate of 6 per cent. per annum. Any stockholder neglecting or cent. per annum. Any stockholder neglecting or refusing to pay his or her monthly dues or interest as the same becomes due must pay the additional sum of 1d monthly on each 4s remaining unpaid. New shares of stock may be issued in lieu of all shares withdrawn, forfeited, or which have reverted to the Association. In the event of the death of a stockholder his or her legal representatives are entitled to a transfer of the shares to themselves, and thereupon assume all the liabilities and are entitled to all the privileges of other members. No fines can be charged to the account of a deceased member for non-payment of dues or interest from and after his death, but fines that may have accumulated prior to that time continue to stand against his or her account, and be deducted from the amount due to his or her representatives in any settlement thereof. These byelaws cannot be altered or amended except at the annual or at a special meeting called for that purpose, and with the consent of two-thirds of the members present.

The City of Homes Building and Loan Association has 2682 shares with a capital of £30,076. The society has handled £20,000, and the withdrawals and matured shares have been paid promptly. Any stockholder can withdraw his money at any time by giving the secretary notice. The houses cost from about £500. They are very nice and comfortable buildings. They have four rooms and bathroom, hot and cold water, with water closet built of terra cotta brick with granite and marble steps up to them. They have a back yard with cellar, and their home is freehold, and their own home when they buy it. According to the value of their house they pay for every £50 5s for taxes, and the rent that would be paid is about £218s per month. The Association loaned out in 1892 £88,000, and were repaid £7913. It takes about eleven years to pay for houses by maturity, but they can pay it off as soon as they can. There are about 500 of these building societies in Philadelphia, which have upwards of £8,000,000 invested, and discharge mortgages to the amount of about £1,000,000 annually. All the societies in and around Philadelphia are audited by the stockholders.

The Philadelphia Press.

The people of Philadelphia resemble those of other American cities in so far as they are great mewspaper readers. The city is accordingly well supplied with papers, there being no fewer than seven morning and seven evening issues. These are all well supported, some of the journals having very large circulations. The Ledger, the Record, and the Item (afternoon) are reported to head the list, the last named selling 170,000 copies, and the Record 165,500 daily. Amongst the others with



THE "RECORD" BUILDING.

big sales are the Times (80,000), the Call (65,000), and the Inquirer (60,000 to 70,000). The Ladies' Home Journal, a monthly edited by Mr Cyrus H. K. Curtis, is said to have a circulation of 600,000. Both the Ledger and the Record have new, spacious, and admirably arranged and equipped offices. In the latter all the composition is effected by means of fourteen Mergenthaler linotypes, driven by electricity. These machines have been found to work remarkably well, and although they cost \$300 (£600) each they are said to pay themselves in the course of a single year. Before their introduction into the Record office the weekly composition bill averaged \$1650, while for the week ending July 22nd it reached only \$872. The Typographical Union has allowed its members to operate these linotypes, and the men themselves greatly prefer them to hand composition. As an instance of the speed with which they can be wrought, it may be mentioned that a man in the Record office, who had not seen a machine until December, 1892, set in one day, of \$\frac{3}{2}\$ hours, 46,691 ems, receiving 16 cents (8d) per 1000. The men working these machines average, for six days' work, about \$24 (£4 16s) per week. The Union rate for hand composition is 1s 8d per 1000 emson the morning papers, and 1s 5\frac{3}{2}\$ on the evening issues, but the Ledger, is said to pay as high as 1s 10\frac{1}{2}\$ dper 1000. As a rule, apprentices are employed only in the book offices, and on weekly papers. It may be mentioned that a great many other American newspapers have ordered linotypes, but the supply of these at present is limited to 400 annually, of which the works at Baltimore can turn out 100, and those at Brooklyn 300.

A YANKEE SUNDAY.

WORK OF THE CHURCHES.

A MODEL SUNDAY SCHOOL.

A GREAT ORGANISATION.

SUNDAY IN THE PARKS.

(From the Dundee Weckly News of Jan. 6, 1894.)

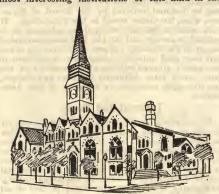
Sunday Observance in Philadelphia.

Mr Murray, the conductor, reports:—Although Philadelphia has a police force of nearly 2000 men, including mounted officers in the suburban districts, it retains the character which it had from the first of being essentially a law-abiding city. This is particularly manifest on Sunday. A few restaurants and drug stores are open on that day, but Sunday trading is not so strictly forbidden and punished as in Pittsburg as what are termed soft drinks (soda water, lemonade, &c.) can be purchased in many places, and eigars can also be had quite freely. One is also struck by the great number of cyclists of both sexes seen on the streets, and one prominent feature of this branch of recreation is the large number of men carrying little boys and girls on scats in front of their own saddles. The aspect of the city on the first day of the week, however, is distinctly that of a large Scotch city or town. There are between 700 and 800 places of worship in Philadelphia, but it appears that the great body of the working classes seldom or never attend any

kind of service, choosing rather to spend the day with their wives and families in one and families in one ic parks. A native or other of the public parks. A native of Dundee, who has been six years in Philadelphia, was spoken to on this subject by one of the delegates, and in reply to a question he said to be a local parks have here. he had never been in a place of worship since he entered the city, "he always felt too tired with working six full days in the week to go to church." He sent his children, however, to the Sunday School, and he mentioned that one day when he was taking one of his young boys past the 30 feet statue of William Penn, at present on the ground at the new City Hall, the little fellow asked—"Is that God, father?" On Sunday morning some of the delegates proceeded up North Broad Street with the view of attending the Presbyterian Church at the corner of Green Street, but found it shut, and on making inquiries they were informed that it was closed for some Sundays in summer in accordance with a common practice in the city. Both the minister and the congregation had apparently gone to the country, feeling that although they might be able to fight satisfactorily against sin and the devil, it was of little or no avail attempting to contend against the very much present force of the intense summer heat. The delegates having retraced their steps entered Arch Street Methodist Episcopal Church, where along with a fairly good congregation made up of various classes of society, they listened to a very thoughtful discourse. Mr John Sinclair worshipped in Spring Garden Methodist Episcopal (Dr Hulbard), and also attended the Sunday School, where, in response to a request made to him, he addressed a few appropriate words to the scholars.

A Model American Sunday School.

The Americans, as a rule, run their Sunday Schools on peculiar lines, and without doubt they consider them the best in the world. One of the most interesting institutions of this kind in the



BETHANY SUNDAY SCHOOL.

United States is that connected with Bethany Presbyterian Church, which a few of the delegates visited on the afternoon of Sunday, July 23. They found the body of the building occupied by 1600 scholars, but the average attendance out of the 3000 on the roll is about 2000 during the colder months. The scholars entered smartly but quietly and took their usual seats, the boys being on one side and the girls on the other, with the younger children of both sexes under the side galleries. The body of the hall is occupied with seats of horse-shoe form, holding six or seven scholars, and there are also three chairs in the centre of each horse-shoe. In the middle of the

hall was a small fountain in operation, and this induced a feeling of coolness in the intense heat of



INTERIOR OF SUNDAY SCHOOL HALL.

the bright summer day. The boys were all neatly attired, and the girls, who were mostly in dresses, presented a charming white and picturesque appearance. Almost every one of the latter had a fan, which she kept using steadily in lively fashion, and they all chattered as only American girls appear to know how to chatter. At 2.25, however, a single stroke of a bell brought about absolute silence, and five minutes later the opening exercises were commenced. In all, there are eighteen or nineteen orders of worship, and the one best adapted to the lesson of the day is chosen. These consist of the singing of various hymns in parts, with the reading of appropriate passages of Scripture at intervals, the scholars reading the verses alternately with the superintendent, the boys also occasionally by themselves, and the girls by themselves. The singing, which was led by an orchestra of eighteen instruments, was remarkably fine, the sweet voices of the young folks blending "remarkably well together, and nothing was more "taking" than the hymn sung by the younger girls. The Lord's Prayer was then chanted, and the first part of the proceedings, which occupied thirty minutes, was concluded with a brief extempore prayer by one of the teachers. Then followed the classes, when the lesson of theday was studied in The subsequent service consisted of the singing of more hymns, interspersed with a few selections by a quartette of male voices, after which an exposition on the lesson was given by one of the superintendents, and the whole proceedings concluded with a twenty minutes' prayer meeting, attended



MR JOHN WANAMAKER.

by teachers, scholars, and strangers, of whom there was a very large number present at the school. The superintendent of the school is Mr John Wanamaker, the owner of the greatest emporium in the city, and it is said that when Postmaster-General of the United States during the Presidency of Mr Harrison, Mr Wanamaker frequently travelled all the way to Washington on Saturday night solely in order to conduct his Sunday Bible class of 100 adult members at Bethany Chapel. There are numerous flourishing agencies in connection with the church and school. The church, which has now a membership of 1650, has been practically built up through the operations of the school. The object directly aimed at is to interest as well as instruct the children, and no one who has attended the school and carefully watched the methods adopted can have failed to be struck with the great success of the system. The objects, methods, and scope of Bethany Sunday Schools and Bible Classes are defined as follows:—Objects —To teach the Word of God, to lead souls to Christ, to build up Christian character, to train every one to usefulness, and to encourage and assist Christian workers. Methods—By Bible classes, Christian endeavour meetings, prayer services, mission work, temperance work, social entertainments, encouraging thrift and savings, sewing societies, aid societies, diet kitchen and kindergarten, and evening classes. Scope—(1) No limitation of sex, colour, creed, condition, nationality, or age. The youngest scholar is less than one year old, and the oldest is over eighty. (2) The sick find friends, many of the unemployed get work, the troubled find sympathy and aid, and the untroubled find hearty, kindly, strong friendships. (3) No person whatever can justly say that an open door



MR D. L. ANDERSON, ASSOCIATE TEACHER. was not set before him at Bethany to a better, happier life.

Methodist Episcopalian Services.

Mr Sinclair, Cambuslang, reports:—On Sunday morning after breakfast I went to Spring Garden Methodist Episcopal Church, and while standing in front of that grand edifice reading the board intimating the church services a gentleman came up to me and asked if I had a mind to go in. I would hear a good sermon, and seats were all free. I was very much struck with the frankness with which that gentleman addressed me and invited me in. I think we in Scotland would do well to show our interest more in our church services, and be more ready to give a cordial welcome to strangers. It was a most beautiful church, inside as well as outside. The floor was carpeted to the door, every seat was cushioned, and in every pew were a number of fans. The preacher, Dr Hulbard, came in exactly at 10.30, then the choir, which consisted of two ladies and two gentlemen, sang the last three veiges of Matthew xi., which had a very pleasing as well as inspiring effect on the congregation.

After prayer and the reading of the Scripture, the two ladies in the choir sang a duet ("Sweet Peace"), then the Doctor announced his text—Ist Peter, third chapter, and last verse—and preached a very powerful and eloquent sermon. At the close of the sermon, instead of walking down into the vestry as we are accustomed to in Scotland, the Doctor came to the door and shook hands with most of the congregation as they dispersed. When he shook hands with me he asked if I was a stranger, and when I told him who I was he asked me to come to the Sunday School at 2.30, which I promised to do. The Sunday School here was very much the same as the one Mr Bennett and I attended in Pittsburg, and conducted on the same lines. What astonished me most was to see the number of adults that came to the Sunday School. In the evening I attended a meeting in connection with the Young People's Society of Christian Endeavour. This Society was formed for the purpose of training converts for the duties of church membership. Each society is in some local church, and in no sense outside. It exists simply to make the young people loyal and efficient members of the Church of Christ. It is the church training the young. Its motto is "For Christ and the Church." Its essential features are the prayer meeting, the pledge, honestly interpreted, the lookout prayer meeting, and social committees, and the consecration meeting. Other committees are optional, and the constitution is entirely flexible in other points according to the needs of the local church. The United Society is simply the bureau of information for all the societies. It prints the literature, supports one general secretary, and is the general headquarters of the work. The office is at 50 Broomfield Street, Boston, Mass. It levies no taxes, however, and assumes no authority, but every society manages its own affairs in its own way.

Sunday in Fairmount Park.

Mr Mungo Smith, Dundee, reports:—I visited this beautiful park and took a walk along the side of the Delaware River, and was much struck with the sight of thousands of men and women, attired in their Sunday best, who were out for a day's enjoyment. The carriageway was crowded with buggies, many of them occupied by women, who handled the reins themselves. Bicycles ran past every moment, and lady cyclists were also numerous. Philadelphia is a great place for bicycles. One cannot turn round but they are to be seen driven in all direction. Family parties also come to Fairmount Park, laden with baskets of provisions, and picnic under the shady trees. The tramcars run all Sunday, and bring crowds of pleasure seekers to the park. You can have many miles of a ride on the cars for five cents, and one never thinks about walking any distance. Fairmount Park is unquestionably a beautiful pleasure resort. The extent of grounds and gardens is over 2800 acres. There are 50 miles of drives and 100 miles of walks and bridle paths. In addition, the city owns thirty other small parks and public squares, which brings the total park area of Philadelphia up to over 3000 acres. These beautiful breathing spots spread all over must tend to the healthy development of a great city like this with its 1,100,000 inhabitants. In passing round at all times of the day I saw many people sitting and enjoying the cool shade of the trees and near the water fountains, for these are much appreciated in such a warm country. The parks are all well supplied with seats, and though the flower beds are not protected in any way, no harm is ever done them. One of the things that the children are taught at the schools is not to tamp on forbidden



GRAFF MONUMENT

ground, and it would seem with good results. Schools that used to have their flower plots protected have removed the fences, and leave them open to train the children to look but not to touch. The Zoological Gardens are very large and well stocked. It took me three hours to walk and look at the various houses and enclosures containing the various animals, and it was really a splendid sight.

Sunday at Lincoln Park.

Mr Logan reports: — On Sunday afternoon, along with two friends, I went for a sail down the Delaware River to Lincoln Park, a distance of twelve miles. The river steamers in America are quite different from what we have at home. one we boarded was a three-decker, with three funnels spread broadways across the deck, and extraordinary large paddles, which gave it anything but a smart appearance. The Yankees think their steamers are the smartest vessels in the world, but I think differently. Those who say so have never been to the Firth of Clyde. The sail down the Delaware was very fine. There are no fixed seats on board the American steamers. Everyone gets fixed to a camp stool or a lounging chair, which is so dear to the American. The scene on board the steamer is very animating, a band dis-coursing fine music, while the girls were neatly dressed in white or other light-coloured material, which made them look as if they were going to a ball. The youths and men were also dressed in light clothes, and few of them wore vests. And no wonder! Just fancy, 96° in the shade, and not a breath of wind. After a sail of 45 minutes, we breath of wind. arrived at Lincoln Park Pier. Here again the piers are different from ours, and, I think, could be copied by us with advantage. There were practically two piers—one above the other. The people leaving the steamer take the under one, and those going on board take the upper one. I think this is a splendid arrangement, for it going on board take the upper one. I think this is a splendid arrangement, for it saves time, crushing, and the annoyance we have sometimes to contend with at home. Lincoln park is a large pleasure ground, which is a favourite place of resort by the Philadelphians during the summer season. The grounds are beautifully laid out with a large band stance in centre, and bands play all the popular airs of the day. There is a large number of refreshment and ice cram salons (the American girls are very and ice cream saloons (the American girls are very fond of ice cream), toboggan slides, switchback railways, and merry-go-rounds, and all other things incidental to a pleasure resort. I noticed that the merry-go-rounds are different from those we have at home. They are not so highly decorated, nor so well got up, but instead of all hor es as we have, they have a number of birds and animals such as an eagle, ostrich, lion, bear, Newfoundlaud dog, &c. There was always a great rush for the "eagle." As they are going round the attendants hand out small iron rings and there being a brass one amongst them, the person who gets it is entitled to another turn. After strolling about for some time, and seeing all that was interesting, I returned to the city in the cool of the evening, having had a fair idea how the Yankees spend their Sunday afternoons.

THE CALEDONIAN CLUB.

WASHINGTON MONUMENT.

AMERICA'S NATIONAL GAME.

FAMOUS LOCOMOTIVE SHOPS.

A DAY AT BALDWIN'S.

(From the Dundee Weekly News of Jan. 13, 1894.)

The Caledonian Club.

Mr Thomas Logan, Glasgow, reports:—Philadelphia possesses without doubt the finest and best equipped Caledonian Club in America. The handsome new quarters of the Club are situated in one



CALEDONIAN CLUB.

of the best parts of Philadelphia. It was opened about two months before our visit by a grand reception and banquet by the officers of the Club. The members and friends, after inspecting the fine new building, formed into line and marched to the banqueting hall, led by their chief, James Coupland, and three sturdy pipers dressed in full Highland costume. The rooms were beautifully decorated for the occasion with American colours

and Scottish emblems, while the Mayor of Philadelphia, who is a Scotsman, wore in his buttonhole a bunch of heather all the way from the hills of Deeside, Scotland. The building was erected at a cost of £16,000. It consists of five storeys and a basement, containing all the appurtenances necessary for a well-regulated, social, and athletic club. It is constructed of red sandstone and iron, and the interior is very tastefully done up with and the interior is very tasteruny done up with solid oak. In the basement are a swimming pond, Turkish and shower baths, toilet-rooms, and a bowling alley. The swimming pond is 67 feet long, 25 feet wide, and from 4 to 9 feet deep, making it one of the largest and handsomest in Philadelphia. On the second floor is a gymnasium, the apparatus of which cost £1400. A novel feature in this hall is a suspended running track of 35 laps to the mile. The surface of this track is to be covered with canvas or indiarubber. The third floor is a large hall capable of scating 1000 persons. At one end of the room is a large stage behind the hall, and at the other end is a ladies' parlour and billiard-room. The fourth and fifth floors contain a banqueting hall, ladies' and gentlemen's retiring rooms, &c., and a number of other rooms that are intended to be rented to other societies. The roof of the building is so constructed that it can be transformed into a roof garden in the summer. This form of garden is very popular all over America. The whole building is heated by steam and lighted by electricity. The architect who designed the new clubhouse (John Ord, a Scotsman) presented the plans, valued at £200, to the Caledonian Club. Mr Andrew Carnegie presented the library with a splendid collection of the best books of all kinds and varieties, while the carpets for the entire building were furnished free of cost by Mr Alexander Crow, of the Caledonian Mills, Philadelphia. Like all other Caledonian Clubs in America no persons are admitted to membership except Scotsmen, their sons, and sons of members. The entry money is £1, and the annual contribution 16s, and any member who desires the use of the gymnasium and baths has to pay a further sum of 16s. Scottish games are held by the Caledonian Club every year, and are very popular with the people of Philadelphia. This year the sports were attended by over 10,000 people, the majority of whom were

The Washington Monument.

The most striking work of art in Philadelphia (or for that matter the whole of the United States) is the Washington Monument. This is a grand eques-



WASHINGTON MONUMENT.

rian statue, with a lofty and richly ornamented marble base, the work of Professor Siemering, of Berlin, and is the outcome of subscriptions which were begun by the Society of Cincinnati as far back as 1819. The monument, of which an illustration is given, is about to be erected in a suitable location.

The American National Game.

Mr Murray, the Conductor, reports:—Americans take a keen interest in many kinds of sport, but the truly national game of the country is baseball. This game occupies in the States the same posi-tion which cricket does in England and football in Scotland, and although in the eyes of Britishers it might not be quite so exciting as either of their own great pastimes, it nevertheless possesses features of interest belonging to neither of these. When in the Quaker City a few of the delegates witnessed a baseball match between the Philadelphia and the Washington clubs in the contest for the National League championship. Both the teams were amongst the best exponents of the game in the country, and the match was witnessed by about 15,000 spectators who had paid a quarter of about 10,000 spectators who had paid a quarter of a dollar (1s) and upwards for admission to the ground. The enclosure was not nearly so large as that usually devoted to cricket, and on two sides the stands were close to the straight boundary lines, within which the ball had to be struck from the bat before the in-team could attempt a run. The batsman the in-team could attempt a run. The batsman stood near the corner where these two lines met, looking towards the pitcher, whose position was in the field midway between the two lines already referred to, and about 20 yards distant. "Catch," belind the batsman, is an important field, and, although the batsman has no protection, catch's head and face are guarded by an iron helmet similar to that used in fencing combats, while his breast and abdomen are shielded by a thick leather garment, the umpire being also similarly equipped. It will be understood that this protection is required when it is mentioned that the pitcher throws the ball to the batsman with the greatest force which he can use. Including the batting point, there are in all four bases, laid out in the form of a square, and apparently about 20 yards apart; and the same man must cover the whole 80 yards before a run is scored. He may be caught out or run out, and he is also out if he misses four consecutive fair balls, although it is hard to catch the lightning-like deliveries on the round clothes beetle-like bat. These facts will explain how, notwithstanding that a match consists of nine innings, it is generally completed within two hours, and so few runs are scored. In the case of the match referred to, the Philadelphia club had beaten Washington on the previous day, and it was confidently expected by their supporters that they would repeat their performance, but the Senators, who opened the game, sent dismay at once into the Phillie's crowd by scoring 6 in their first innings, amongst them being one or two home runs for strokes which sent the ball straight out of the ground. The Phillies responded with only two runs, and as the game advanced it was evident that, strive as they could, the home team would be beaten. Many thousands went to the ground prepared to cheer to any extent in favour of the Phillies. The Phillies, however, did little to merit cheers on this occasion, and their supporters, like those of some Dundee and other football clubs, could not in the circumstances think of bestowing marks of approval on a victorious enemy; they could only give vent to their feelings by whistling the popular tune— "After the Ball." Some wonderful running catches were made by the out-fielders during the match, and the cricketing readers of the News will no doubt be interested to learn that it is a very exceptional thing for a baseball fielder in the National League clubs to miss a catch. The players in the leading baseball clubs are practically all pro-fessionals, and some of them are paid handsome salaries. The writer was informed that as much

as 10,000 dols. (£2000) was once paid to a man for one season, and it is said that the salaries generally run from 2000 (£400) to 5000 dols. (£1000) for six months. Cricket is also extensively played in Philadelphia, and there are some fine batsmen and bowlers in the principal club. In addition to these, trotting matches are a source of great attraction all over America.

Pennsylvania Railway Station.

Mr D. G. Watson, engine-driver, reports :-

This building is situated on the north side of Market Street and facing to Broad Street, near by the City Hall. It has a frontage of 307 feet in length. On the corner of Market Street and Broad Street there is a stately tower 240 feet in height, with at its base a grand main entrance, besides another entrance from Filbert Street, and excellent accommodation for carriage entrance. On the second floor is a main waiting-room of large dimensions, dining-rooms, restaurant, and other places of convenient accommodation for the great multitude of passengers which travel from this station daily. The station is in the course of erection, and when finished will be ten storeys high, of which eight storeys will be used for offices for the Company. The train shed and platforms were being extended, and when completed will be one of the best in the world. The length of the shed is 598 feet, and it is 304 feet in width, covering over sixteen lines of tracks. The circular roofing is supported by great spans of iron arches of 294 feet. From this station about 250 trains depart and about the same arrive every day.

Baldwin's Locomotive Shops.

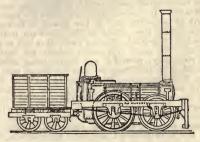
Mr Watson also reports:—I visited these large shops, which are situated in Broad Street. They are said to be the largest in America. There were at the time of my visit 5200 men employed in the works, and engines were being turned out at the rate of something like three a day. I was made very welcome, and shown round all the sliops, which are fitted with the latest machinery of every



BALDWIN LOCOMOTIVE WORKS.

description driven by both steam and electricity. The erecting shop alone is very large, and covers an entire block of ground. It is 337 feet long by 160 feet wide of one storey of 42 feet high. It contains nineteen roads, each capable of accommodating four locomotives, or a total of 76. Above is a very large travelling crane, which is capable of lifting and removing from one place to another the heaviest engine ever built. The Baldwin's Works are prepared to build locomotives adapted to every variety of service and of any required dimensions. By the system of manufacture employed, all important parts are accurately made to gauges and templates. They are, therefore, interchangeable throughout any locomotives of the same class. This system permits of any parts needed for repairs being supplied either with the locomotives or when required. Such parts are made to the same gauges and templates which were originally used in the construction of the locomotive, and in this manner the expense of repairs is reduced to a minimum.

The maintenance of locomotive power is, besides, attended with the least possible inconvenience and delay. I could notice in course of progress many different kinds of engines. One especially I could not help noticing. It was a four-cylinder compound engine, outside cylinders, with both piston rods connected to the same crosshead, and the slide valves being round like a piston working in cylinders. Some engines of this class have been running for some time, and are said to give great satisfaction, both for strength and speed. The men are all on piecework, and work very hard. They work a ten-hours day, commencing at 7 a.m. and stopping at 6 p.m., with one hour for dinner. Their average pay amounts to—Machinists, boiler-makers, moulders, from 8s to 12s per day; labourers, from 5s to 6s. Boys over sixteen years of age start at 2s per day, and when two or three years in the



THE "OLD IRONSIDES," 1832.

employment they get a machine. That is how they work up. One very good thing I saw in connection with this work was an eating-house large enough to accommodate 170 men. I learned the man that looks after it gets it rent free, providing he supplies diets for the men at a price from $7\frac{1}{2}$ d to 1s. About 1000 of the workmen in this work own their own homes.

A Journey on the Locomotive.

I was invited by the Baldwin Company to have a trip on one of their compound express engines from Philadelphia to New York, which offer I accepted, and I started on Monday morning the 24th July, with the 7.30 a.m. express by the Reading road, which is a distance of 90 miles. We had six stops, and were slowed several times by signals. The time occupied was 1 hour, 55 minutes, with a train of six heavy load cars. The fastest mile run was done in 48 seconds, and for 12 miles on end we ran it in 10 minutes 35 seconds. The road was pretty level and in good order although a rather stiff head wind was blowing. This engine



was 6 feet 6 inches, four coupled compound with small wheel leading and trailing, large firebox, and engineer's cab on side of boiler. The fireman was alone with two firebox doors and a steam gauge to look after. All the rest of the handles were wrought by the engineman from his cab.

PHILADELPHIA TO NEW YORK.

THE GREAT CITY DESCRIBED.

NEW YORK POLICE FORCE.

THE WORKING MAN'S SCHOOL.

BAKERS AND CIGAR-MAKERS.

THE ELEVATED RAILWAY.

(From the Dundee Weekly News of Jan. 20, 1894.)
Philadelphia Factories.

Mr Mungo Smith writes:—I visited the Star Crescent Mill Company in Philadelphia on 21st July. They make all kinds of Turkish towels, tidies, cloakings, dusters, &c. I was very well received, and shown over the place. It will not compare with our own weaving sheds at home. The looms are too closely huddled together, not giving room to go about the work with ease. The girls are paid by the piece, and the yaru stands the loom very well, and doesn't seem to bother them very much. One girl or woman holds on two looms, with two towel widths in each loom. Loom bosses (tenters) have a busy time keeping the looms in order, as I saw they were very apt to go wrong. Every boss has forty looms to attend. There are two yarn beams in the loom at one time, and they are twisted on. The cloth is taken from the loom, a woman puts it up in two towel lengths, and it is taken to the packing house if it is green, and if white it is put through a process of bleaching in a tub, then run through the drying machine and done up in small parcels. One side of the towel has no woven selvage, and it is put through a hemming machine driven at very great speed—apout 60 yards per minute. They also make up some of the goods on the premises. I saw them shaping and sewing Turkish clothing for gentlemen to wear. The employés work 60 hours weekly, commencing 6.45 to 12, and 12.20 to 6 for five days. The works shut on Saturday at 11.45. The hands are paid fortnightly, and the rates of wages are:—Loom bosses (per week), 36; winders (per week), 28; do. Other hands in the work are paid in proportion, a good many ranging from 20s to 25s. No one is employed below 16 years of age.

Manufacturers Who Work.

I also visited Sykes Brothers, manufacturers of carpet yarn, and these yarns are principally made from jute waste. I saw the jute waste gathered in Dundee and elsewhere teased up and spun into yarn of various sizes for carpets. One curious thing about this firm is that the four brothers were all working at the roughest work in the mill with shirt sleeves rolled up to the shoulders and faces black with sweat and dust. I said it was quite uncommon in Scotland to see men in their position working so hard. The answer was that that was the only way to make the thing successful, and it was good for them.

Brussels Carpet-Making.

I then called at the factory of Bromley & Sons, manufacturers of Wilton and Brussels carpets and Smyrna rugs and lace curtains. This is a very large building forming a complete square block of brick, five storeys in height.