



TORRY HERITAGE GROUP

September 2019

ABERDEEN HARBOUR SHEER POLES 1855 to 1975

A series of lifting devices erected by Aberdeen Harbour authorities to carry out heavy lifts, such as stepping the masts of sailing ships or installing ship's engines and boilers.

Sheer poles can also be referred to as sheer legs, shear legs, shear poles, or shears.

Shear Legs (first used in 1860) A device consisting of three poles of wood or iron bolted together at their upper ends and extended below, carrying tackle for raising heavy weights.

TRAVERSING SHEERS.—LAND AND FLOATING
DAY AND SUMMERS' PATENT.

Upwards of sixty Sets of these Sheers have now been made for Lifts varying from 20 to 150 tons.

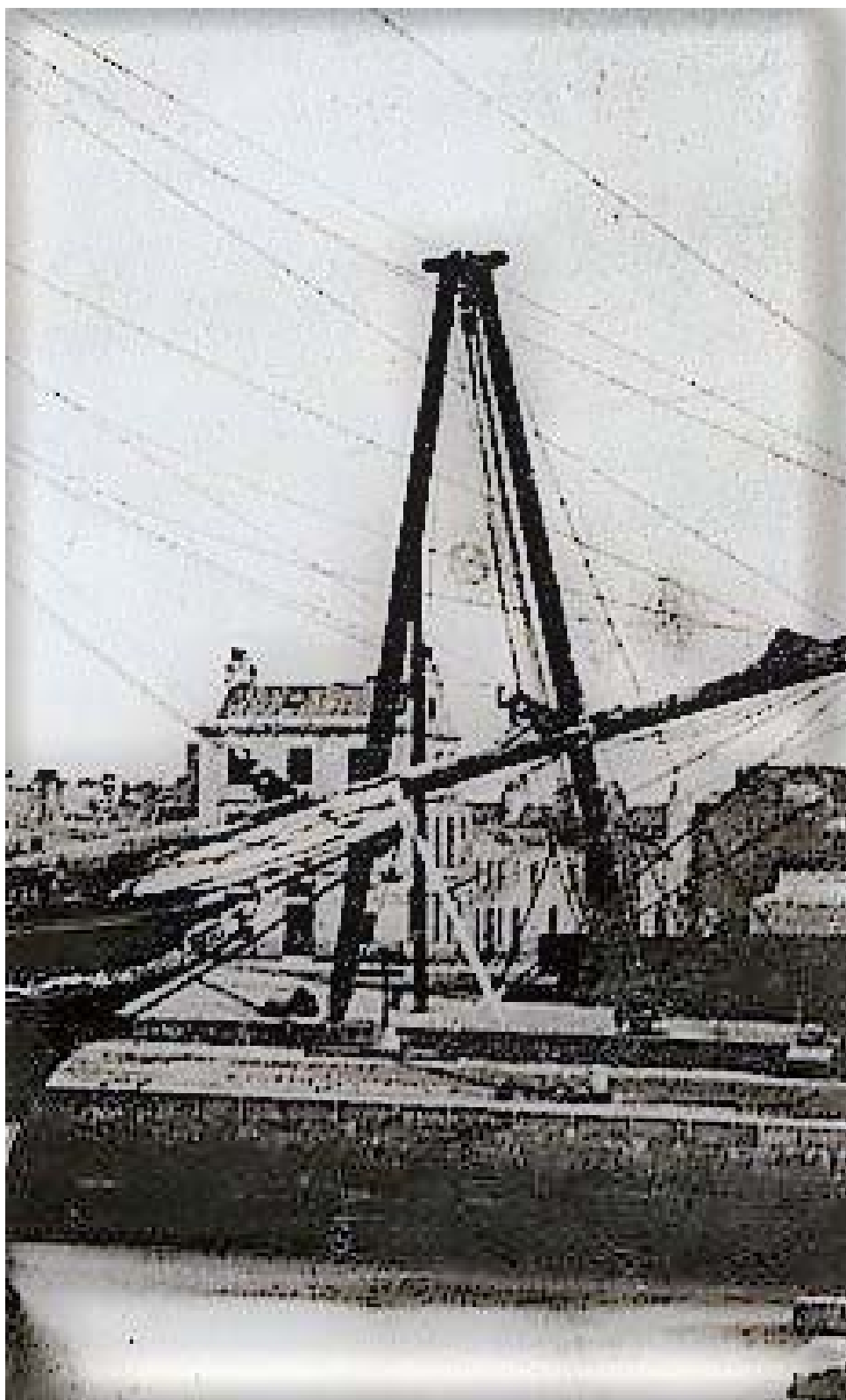
They are used in H.M. Dockyards at KEYHAM, WOOLWICH, CHATHAM, and PORTSMOUTH, and the following Foreign Government Dockyards: AUSTRIAN, BRAZILIAN, GERMAN, PORTUGUESE, RUSSIAN (two sets), SPANISH (three sets), and TURKISH. Also by the following Dock and Railway Companies and private Firms, &c.

<p>Aberdeen. A. & J. Inglis. Baltic Shipbuilding Co. Belham. Blount & Yom. Bombay. Bremerhaven. Cork. Denny & Co. Doxford & Co. Elsinore. Eltingham & Co.</p>	<p>Flensburg. George Clarke & Co. Gosport Dock. Hawthorn, Leslie & Co. Hull (two sets). Hamburg (two sets). John Elder & Co. Kiel (two sets). Kurrachee. London & N.W. Railway Co., Holyhead. Millwall Docks.</p>	<p>Middlebro' Docks. Morris Dock, Australia. Malaga. Natal. Pile & Co. Pola. Palmer Shipbuilding Co. Rio Janeiro. Rushford & Co. Richardson, Duck & Co. Southampton Dock Co. (three sets).</p>	<p>Sunderland Dock (two sets). South-Eastern Railway, Newhaven. Singapore (two sets). Stockholm. St. Petersburg. Sir W. G. Armstrong & Co. Thames Iron Works. Wallend Slipway Co. Wigham, Richardson & Co.</p>
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DAY, SUMMERS and CO., Engineers and Shipbuilders, SOUTHAMPTON. 6717

PATENTEES AND MANUFACTURERS ALSO OF NON-FLEETING HAULING-UP-SLIP MACHINERY.

ABERDEEN'S SHEER POLES in 1868



© unknown

Note the Aberdeen Steam Navigation Company's office at the corner of Wellington Street, which remains today as it was then.



© http://www.abdn.ac.uk/historic/harbour/harb_single.php?harb_id=AHB2200
The newly installed 100-ton shear poles under load test in 1910 using a Scotch boiler filled with water.

80-ton Legs (nearest)

Manufactured by Day, Summers & Co. Ltd., Northam Works, Southampton.
Steam powered.
Built in 1873 and demolished in the 1940s.

100-ton Legs (further away). Height 95 feet.

Manufactured by Day, Summers & Co. Ltd.
Electric power by J.H. Holmes & Co., of Newcastle.
Erected 21.08.1910, fell and re-erected in 1950 and demolished in 1975.



© unknown.

The 100-ton shear poles circa 1950.

The 100 ton sheer poles from the north east showing the 30 ton block (lower), with the weighing scales on it, the 100 ton block (upper), the inspection platforms at the top of the legs and the access ladder up the outside of the right hand front leg. The hoist ropes can be seen running from the apex of the legs to the winch house and the traversing screw runs between the winch house and the foot of the back leg, above the centre two vehicles.

HISTORY

26.04.1899 History of Aberdeen's sheer-poles by Harry Davies.

Aberdeen Journal

ABERDEEN AND SHIPBUILDING THE SHEER POLES

OPINIONS AND RECOLLECTIONS OF AN OLD RIGGER.

Mr Harry Davies, for many years an active and well-known figure about the harbour of Aberdeen has some interesting recollections about launches, ships and shipping at the port. These old memories have been recalled to him by an article published recently on the inadequacy of the sheer poles for the fitting out of large modern steamers. Mr Davies, who is now somewhat infirm, called at this office yesterday to confirm by his own experience what has been stated as to the unsuitability of the sheer poles. Mr Davies knows something of the matter, for he is a ship rigger to trade, and had charge of the fitting out of some of the most famous of the Aberdeen clippers. He is an Englishman, but has been resident in Aberdeen since 1855, when he came as a young man to rig the **SCHOMBERG** (*Alexander Hall No. 195 /1855*) – one of the fastest of the Aberdeen ships. Mr Davies says that there have never been adequate facilities at Aberdeen for fitting out vessels.

The first sheer poles, he says, stood at the bottom of Church Street, near the Queen's Arch. These were used for putting boilers in, the masting being often done, or partly done, by erecting temporary sheer poles on the vessel's deck. A second set of sheer poles was erected on the opposite side of the dock, where the ten-ton crane now stands. At these sheer legs Mr Davies masted the **STAR OF TASMANIA** (A.H. No. 202/1856) and several other vessels. Then the old wooden sheer legs were erected on the site occupied by the present sheer poles at the Dock gates. Mr Alexander Hall superintended the erection of the old set, for which the contractor was James Nicol of the Dockgates. The first vessel masted by the wooden sheers was a brig launched from Milne's yard. There was no steam on the old sheers. When the new iron sheers were erected and tested to a strain of 80 tons, they were looked upon as a great advance, but in Mr Davies's opinion, the apparatus has been a huge failure all along. It was useless alike for masting and for putting heavy machinery into vessels. From the very first Mr Davies had the greatest difficulty in getting masts into ships by these awkward, clumsy sheer legs. They are, in his opinion, a source of danger and of expense, involving delay, and constituting a serious danger to the vessel. They also occupy twice or three times as much room as they ought to do. If a proper jib pedestal crane were erected, it would not occupy more space than an area from 35 to 40 feet along the dock entrance and would thus leave the whole space clear for traffic or for laying out masts and machinery intended to be hoisted on aboard. Moreover, as Mr Davies points out, the sheer legs are 10 to 15 feet too low. The foundations should have been that much higher.

Reverting to the sheer poles, Mr Davies's emphatic opinion is expressed as follows: - "They are no use; they were never of any use; they were a mistake from the first, both for masting and other purposes; the way masts used to get entangled about the head of the poles, causing breakages of guy ropes and other difficulties, and to make me swear. Mr Davies thinks the quay opposite the end of Church Lane would be the best place for fitting out vessels, but he recognised that this would rather obstruct the quay traffic, and, on the whole, he favours the erection of the crane on the present site, coupled probably with an extension of the finishing berth by the erection of a jetty to the westward. He also thinks that the new crane should be erected about 30 feet to the westward of the present sheer legs.

Harry Davies

Harry Davies, ship rigger, was born in Liverpool on the 23rd July 183, the son of a journeyman shoemaker, and from 1845 to 1854 he served in the Merchant Navy. He died at 103 West North Street, Aberdeen on 6th Sept. 1899.

Harry Davies's Recollections

1855 A set of sheer poles were at the foot of Church St, near the Queen's Arch.

Post 1855 There was a set of sheer poles on Provost Blaikies Quay on the site of the "10 ton crane".

1855 to 1859 A set of wooden poles were erected at the end of Waterloo Quay, on the site of the later steel poles.

These poles would have had manual winches and blocks. The first vessel to Use these was from Milne's yard which is listed from 1855 to 1859.

04.041866

The Shear Poles

Aberdeen Journal

A letter was read from Messers Hall, Russell stating that the chain in connection with the shear poles had broken under a strain of 17 ton and that the poles were themselves of inferior material.

The SHOREMASTER said that at the last meeting power had been taken to get a new chain, in consequence of its not being sufficiently strong. Mr Berry had got a plan, and was taking estimates for a new chain and all the appurtenances, and he (the Shoremaster) thought that by the next meeting these would be laid before them for their approval. The matter was remitted back to the Committee.

07.05.1873 **Harbour Commissioners - NEW SHEAR POLES** **Aberdeen Journal**

A Sub-Committee, appointed by the Maintenance of Works Committee, in reference to the harbour shear poles, had a conference with the gentlemen who had memorialised the Commissioners on the subject. In that conference the deputation expressed an opinion that new patent tripod shear poles worked by steam should be erected, capable of lifting 40 tons. The deputation farther expressed their opinion the present site of the shear poles is the most suitable site on which to erect new shear poles, and that, in the event of steam power being adopted, those using the shears should, in addition to the statutory rate for the use of the shear poles, pay the cost of said power, viz – the amount of the expenditure for workmen's wages and the coals and other stores used. The Harbour Engineer, however, recommended that the shear poles should be capable of lifting 50 tons, and estimates were got which the Engineer was appointed to enquire into and report on, being also authorised to visit places at which patent shear poles are in use, if he considered it necessary to do so.

The Lord Provost stated that the Harbour Engineer had visited the Clyde, the Tyne, the Wear, and the Mersey, in reference to these patent shear poles and that a report on the subject would be read in a few days.

08.10.1873

Harbour Commissioners

Aberdeen Journals

The Committee deferred consideration of the site for the new shear poles; but authorised payment of the 1st and 2nd instalments of the price of the shears to Messers Day, Summers, & Co., Southampton, amounting to £2760.

17.08.1891

Testing the Shear Poles

Evening Express

At a meeting of the Works Committee of the Harbour Board today, it was resolved, on a report by the harbour engineer, to increase the strength of the shear poles from 80 tons to 90 tons in view of the heavy machinery which will have to be lifted on board the S.S. "THERMOPYLAE", the large steamer about to be launched from the yard of Messers Hall, Russell. The cost of the new chain, shafts, furnace, boiler, and pump that will be required is estimated at £215.

The THERMOPYLAE was launched in September 1891.

24.09.1891

Strengthening Aberdeen Shear Poles

Aberdeen Journal

Strengthened by adding two pulleys to the block and two new falls of chain. New chain, made from "very superior scrap iron", by Glegg & Thomson, Aberdeen. Alterations carried out by Hall, Russell under the supervision of Wm. Hall and Mr Farquhar (*draughtsman/manager, Alexander Hall*).

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24.09.1891

S.S. THERMOPYLAE BOILER

Aberdeen Journal

The boiler for the THERMOPYLAE, weighing 63 tons, was lifted aboard.



© Aberdeen City and Aberdeen Shire Archive Image No 284/4

A yacht's mast being installed, showing difficulty of stepping even a small mast.
For larger mast, see Aberdeen Harbour Board No. GB 0231 MS 3595/AHB0098

30.07.1910

NEW SHEER POLES

Aberdeen Journal

(The 89th set of sheer legs built by Day, Summers and their second set for Aberdeen.)

ABERDEEN SHIPBUILDING

The Industry Encouraged. Improved Facilities

At present an interesting operation is in progress at Aberdeen Harbour, where a new set of sheerlegs is being erected near the Dock Gates. For many years the existing set has formed a landmark at the east end of Waterloo Quay; but in order to encourage the shipbuilding industry, and in view of the larger ships and heavier loads that have to be dealt with, the Harbour Commissioners decided a few months ago to erect a new set capable of lifting a load of 100 tons. A set of sheerlegs provides a simple and convenient method of raising heavy weights, such as boilers and machinery, and consists of three legs, or poles, the two front legs being hinged at their lower ends and united to the back leg at the upper ends by means of a pin. The lower end of the back leg can be moved backward and forward by means of a traversing screw, a heavy block and tackle being suspended from the apex. The load is raised by means of a winch, and is moved horizontally by means of the traversing screw moving the back leg outward or inward.

The new set now in course of erection will be capable of lifting a load of 100 tons at a point 9 feet within the line of the front legs and placing it 56 feet outside the line

of the front legs or 38 feet beyond the quay wall. Each front leg consists of a tube of steel 130 feet long and tapering in diameter from 3 feet 9 inches at the centre to 1 foot 10½ inches at each end. The back leg is 170 feet long and 4 feet 5 inches in diameter at its centre. The traversing screw by means of which the back leg is moved is a solid steel forging 60 feet long and 9½ inches in diameter. Two winches are provided for raising the load, the heavier one being capable of raising the 100 tons loads, and the lighter one being capable of raising loads up to 30 tons. These winches are driven by an electric motor of 100 horse-power, and a second electric motor drives the traversing screw. The load is raised by means of a steel wire rope, 5 inches in circumference, and a block having five sheaves is used for the heavy loads and a two sheaved block for the lighter loads. This steel rope has a breaking strength of over 80 tons.

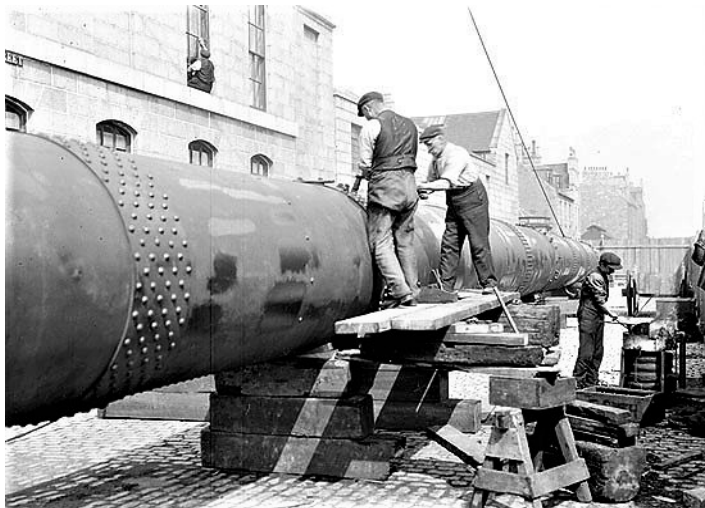
The contract was placed with Messers Day, Summers & Co. Ltd., Northam Iron Works, Southampton, about 3½ months ago, and the steelwork of the legs is completely finished, and has all arrived on the ground where it is being put together. The winches and motors are also practically ready, and will arrive within a few days.

The steelwork of the legs arrives in sections about 30 feet long, and the work of piecing these together and riveting them up is being actively pushed forward

METHOD OF CONSTRUCTION

The sections forming each leg are laid out separately on the ground and riveted together; the completed leg is then moved into position, and the three legs are then coupled up at the apex by means of a steel pin.

A set of temporary legs, 80 feet high, is erected over the apex, and by means of blocks and tackle the apex of the legs will be gradually raised off the ground. The lower ends of the front legs will then be shipped into cast-iron sockets, and the lower end of the back leg will be pulled forward into position, and in this way the heavy mass of steelwork will be raised into its proper position. At present the legs when lying on the ground stretch from the edge of the quay at the lock entrance right across Waterloo Quay, and for about 100 feet up Wellington Street.



© Unknown (probably GWW) The leg being riveted is lying along Wellington Street. To carry out the riveting, there must have been a man inside the steel leg, either to “haud in” the rivet, or to “close” it and form the head. Either way, the noise inside the leg must have been excruciating.

Note also the window cleaner working on the windows of the Aberdeen Steam Navigation Co. offices, one of the few buildings of this era remaining intact today.

As may readily be imagined, the foundations for the sheer-legs are of the most massive description. The front legs rest on two reinforced concrete bases, and these rest partly on piles and partly on the quay wall, and the traverse screw is anchored on a bed of concrete from 7 to 8 feet deep, by means of 42 tie bolts 2½ inches in diameter. The total amount of concrete used in the foundations exceeds 350 tons. The actual work of putting in this quantity of concrete only occupied 2½ days, the men working night and day to avoid any joints or weak parts in the foundation. These foundations were done departmentally by the Engineering Department of the Harbour Commissioners.

The sheerlegs have to be completed, tested and made ready for use early in September, and the contractors are now pushing on the work with the utmost rapidity. The whole of the work is being carried out under the direction of Mr R. Gordon Nicol, harbour engineer, and the contractors are represented by Mr F.J. Porrott

22.08.1910 **ABERDEEN'S NEW SHEER POLES** *Aberdeen Journal*
Peculiar Sunday Undertaking. Smart Engineering Work.

An exceptionally interesting and smart piece of engineering work was carried out at Aberdeen Harbour yesterday morning, when the new set of 100-ton sheer legs, a description of which appeared in the "Aberdeen Journal" a few weeks ago- were raised in position. The decision to have the work done on a Sunday was arrived at with view to obviating the interruption of traffic which would have been caused on a week day. The work of raising the legs commenced at eight o'clock, and within the short time of an hour and a half they were in position and attached to the special foundation prepared for them. Heavy rain fell while the work was in progress, but, notwithstanding this, a large crowd viewed the proceedings with great interest from every available position in the vicinity.

Among those present were ex-Lord Provost Mearns, Shoremaster Wilson, Mr R. Gordon Nicol, harbour engineer; Mr Hugh R. Barr, assistant harbour engineer; Mr W. Panton, superintendent of work; and several other officials of the Harbour board. There were also present Mr F.J. Porrott, who has superintended the work of erecting the poles; Mr Day of Messers Day, Summers, and Company Limited, Southampton, the makers; and Mr J.H. Anderson, Messers Hall, Russell and Company, shipbuilders, Aberdeen. The new sheer poles have been erected in the near vicinity of the old sheer poles, and directly opposite Wellington Street.

Immediately after the special foundation had been made the sheer legs arrived in sections. These were riveted together on site. The back leg extended right across Waterloo Quay, and about 100 feet into Wellington Street. A set of temporary but substantial wooden legs were erected over the point where the three legs joined each other as they lay on the street. When the legs were in proper position, and everything in readiness for their elevation, a powerful set of block and tackle was placed near the apex. A wire rope from the tackle led to the machinery of the old sheer poles, and by this means the three legs were raised until the apex was about 70 feet from the ground.

A second set of block and tackle had been attached to the lower ends of the front and back legs, and connected with the machinery (which is worked by electricity) of the new sheer poles. This tackle was now utilised, and the lower end of the rear leg was pulled forward until it came above the rear end of the traversing screw. The nut was then slipped on and the screw drawn into place.

The work of raising the legs was carried out with the utmost despatch and efficiency. Not a single hitch occurred, and those who were responsible for the work are to be complimented on the efficient way it was performed.

The work of laying the foundation and erecting the poles was carried out by Mr F.J. Porrott, while the whole of the operations has been under the direction of Mr R. Gordon Nicol.

The new poles form a conspicuous feature at the harbour. The top of them is about 136 feet above the level of the ground, and they are capable of lifting a load of 100 tons and depositing it 56 feet opposite the base, or 38 feet beyond the level of the quay wall. The work of erection was started in the middle of July, and will be completed in about 10 days, which is an exceptionally smart performance and reflects credit on the contractors. The poles it may be mentioned, are required mainly for lifting boilers and engines into new vessels built at the port.

See photographs at end.

30.08.1910

ABERDEEN SHEER-POLES *Aberdeen Journal*
Important Suggestion

By the end of the present week the Aberdeen Harbour Commissioners will have two sets of sheer-poles in complete working order. The new sheer-legs erected last week are nearing completion, and will be tested this week, probably on Thursday or Friday. Yesterday, the new sheer-legs were worked for the first time without a load. The rear leg was drawn backwards and forwards on the screw attached to the foundation, giving every satisfaction.

A question which is agitating the minds of many around the docks is- What is to be done with the old sheer-legs? It is felt that the old poles ought to be kept in the city. Aberdeen as a distributing centre is year by year becoming more important. The Harbour Commissioners themselves are alive to this fact, and are doing much to attract vessels to the harbour. They are also endeavouring to provide accommodation for vessels of large type, and in this direction they are deepening the harbour channel by means of the rockcutter, which has been in operation for some time.

There are several reasons why the old sheer-poles should be retained. The large new steamer which is to be launched from the yard of Messers Hall, Russell and Company for the Rennie Line, will occupy a berth beside the sheer-poles for about two months. *INTABA* (HR 476/1910, launched 06.09.1910.) Should another new vessel require to get in boilers, the work of removing the large new steamer to allow another vessel near the sheer-poles would involve not a little risk. The removing of the large vessel and placing her into the berth again could not be undertaken if the slightest breeze prevailed. Another reason is that Aberdeen might produce, in future other large vessels, and while these were being fitted up, smaller new craft, such as trawlers, would have to wait, perhaps for a week or two, before the berth at the sheer-poles was empty. It has been suggested that the old sheer-poles should be taken down and erected in the vicinity of the Graving Dock. This would not entail a great deal of expense, and would be the means of making the port well up to date, and ready to undertake the equipping of all vessels launched from the local yards.

11.06.1940

Harbour Shear Poles as Scrap Iron. *Aberdeen Journal*

The Harbour Board unanimously agreed yesterday that, in view of the Government's need for old iron, it be remitted to the Works Committee to take immediate steps for the removal of the poles.

18.09.1950

ABERDEEN ACCIDENT
Man Killed When Harbour Shear Poles Crash.

The Scotsman

Two men were injured, one fatally, a power-house was demolished, and other buildings were damaged when the three 48-ton shear poles at Aberdeen harbour crashed to the ground yesterday morning. Several other workmen had miraculous escapes.

The dead man was Peter Halley (63), watchman, 21 Prince Regent Street, Aberdeen, who was in the watchman's hut. He received severe injuries to his legs from the tackle block of one of the derricks, and died in Aberdeen Royal Infirmary seven hours later.



Mr Peter Halley
© Aberdeen Journals

Alfred Caird (36 see foot of p.12), rigger, 107 Commerce Street, Aberdeen, was also taken to the Infirmary suffering from cuts on the right hand side of his neck. He was allowed home after treatment.

The three poles, which were 95 feet high, and were one of Aberdeen's landmarks, were being lowered to the ground for repairs when the accident happened about 1.30 in the morning.

One of the poles crashed on the roof of the power-house, completely destroying it; the longest one fell into Wellington Street, grazing a building, and the third bent at an angle of 45 degrees and crashed to the ground, narrowly missing the watchman's hut.

18.09.1950

Sheer Poles Crash Kills Man, Leaves Trail of Havoc.

Aberdeen Journal



© Aberdeen Journals

Our picture shows the scene of the devastation after the crash

Two workmen were injured, one fatally, and several more had hairbreadth escapes when three 48-ton sheer poles at Aberdeen Harbour crashed to the ground early yesterday morning leaving a trail of havoc in their wake.

The dead man was Mr Peter Halley (63), 21 Prince Regent Street, Aberdeen, who was trapped in his watchman's hut and struck by a heavy tackle block of one of the derricks. His legs were severely injured – the right leg having to be amputated – and he died seven hours later in Aberdeen Royal Infirmary.

Miracle Escape

Mr Alfred William Caird (78) (*sic – see foot of page*), a rigger, was standing less than three feet from the dock side at the time and had a miraculous escape. He was cut on the neck, but after treatment at the Infirmary was allowed home.

Struck on the face and side by the winch handle, he reeled back and but for the presence of his colleagues would have been in the water. Other workmen had to run for their lives.

Houses in the harbour area and near the centre of the town shook when the tripod hit the ground.

'Like Thunder'

Mr Alfred Caird, who had a narrow escape, said; "The sheer poles fell with a roar like thunder. Sparks flew in all directions from the power house."

The longest sheer pole fell on to Wellington Street, grazing the building belonging to the Aberdeen Steam Navigation Company.

Pole Bent

The third, bent at an angle of forty-five degrees, smashed to the ground, narrowly missing the watchman's hut. One of the derricks landed on the roofs of some sheds.

The 95ft. high sheer poles, which have been one of Aberdeen's landmarks, were being lowered for repairs and examination. The accident happened about 1.30 in the morning.

"The rain was lashing down and it was worse than anything I'd ever seen in my twenty years at sea," Mr Caird told a reporter of "The Press & Journal" last night.

"When the winch hit me, all I saw was stars. I felt myself slipping and shouted to my mates to take hold of me. If they hadn't I would have been in the dock.

** Alfred William Caird was actually 38 at the time of the incident, having been born in Lochee, Dundee on 10.04.1912.*

22.11.1950

Sheer Poles Crash Caused by Gale. [Aberdeen Journals](#) Inquiry Jury Says Nobody to Blame.

A formal verdict was returned at an inquiry at Aberdeen Sheriff Court yesterday into the death of a sixty-three year old night watchman, Mr Peter Halley, 21 Prince Regent Street, who was fatally injured when three sheer poles, weighing a total of fifty-two tons, collapsed at Aberdeen Harbour about 1.30 a.m. on Sunday, September 17.

The jury considered that the accident was probably due to the terrific force of the gale which was then raging- gusts up to 90 m.p.h. were recorded-and that no blame could be attached to anybody.

The accident occurred during operations, conducted by Carter-Horseley (Engineers) Ltd., Newcastle, to lower the poles to the ground for the purpose of renewing several of the parts which were affected by severe corrosion.

It was stated by Mr Edward P. Hart, Whitley Bay, the engineer in charge of the job, that a gale warning had been received about 4 p.m. the previous day. At the time it was agreed by witness, Mr John Anderson, the harbour engineer, and his assistant, Mr Aitken, that it would be very unwise not to go ahead with the work under the circumstances.

Narrow Escape

Mr John W. Walker (62) trainman, 128 South College Street, told the court that he heard a crack and the whole thing collapsed. One of the sheer poles fell across the power house that he had just left.

His theory of how the accident happened was that the wind imposed such a terrific leverage on the bottom casting of one of the legs that it finally yielded.

The leg then swung into the air and threw the tension from one side to the other, and in consequence the leg folded double round the sling supporting it.

Mr Hart said that in his estimation the corrosion had not reached a dangerous stage. The legs could have been used for a number of years more, but it was wise of the Harbour Commissioners to take precautions.

There was a certain amount of wear on the pins in the casting, but he was of the opinion that this would not have been detrimental.

Only Thing to Do

The accident was witnessed by Mr John Anderson, the harbour engineer, who was sitting in his car watching the poles being lowered.

He said in evidence that he was quite satisfied that all precautions had been taken. He considered that to dismantle the poles was the only thing to be done in the circumstances to beat the gale.

He saw the top of the sheer legs was "juddering" as if by the wind. A second afterwards the back leg started moving down and from that he presumed there had been an alteration of the balance of the various temporary members that were supporting the legs such that something might have given way.

If the balance was disturbed it was quite possible that the check on the shear leg gave sufficiently to allow it to move down.

The collapse did not seem to indicate any flaw in the bottom casting.

09.12.1950 **BIGGER LIFTS FOR SHEER POLES.** [*Aberdeen Journals*](#)

The lifting capacity of the sheer poles at Aberdeen Harbour which was originally 100 tons, but was reduced some years ago to 50 tons, with occasional lifts to 60 tons, has been increased to a maximum of 75 tons, with an occasional 80 tons. This has been made possible by the strengthening of the legs of the sheer poles by the welding and riveting of steel straps and the replacement of the existing pins.

22.12.1950 **Work on Sheer Poles Completed.** [*Aberdeen Journals*](#)

The work of raising the sheer poles at Aberdeen Harbour has been completed and the engineers who have been engaged on the job were testing yesterday.

The seven engineers from the Newcastle firm who have carried out the work, with the aid of a local firm, leave for home today.

Despite the accident when the poles were blown down by a gale and man lost his life, the work has been completed only a fortnight later than the original contract date.

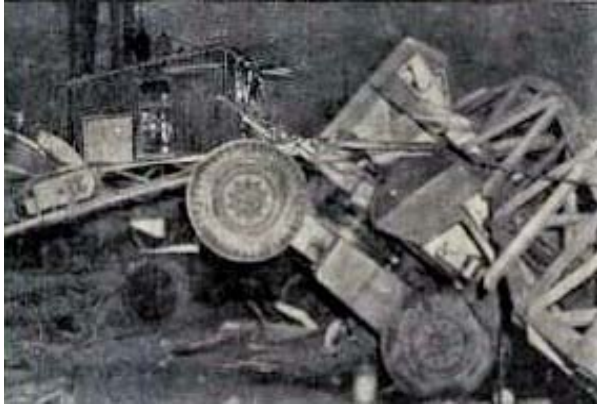
Messrs Hall, Russell & Co. Ltd., Aberdeen provided the cast-iron sections and mild steel plates required to carry out the extra repairs.

30.12.1950

Derrick Crashes.

Aberdeen Journals

Two mobile cranes were wrecked when a 120ft. thirteen ton steel derrick which had been used to help to re-erect the sheer-poles at Aberdeen harbour crashed to the ground yesterday.



© Aberdeen Journals.

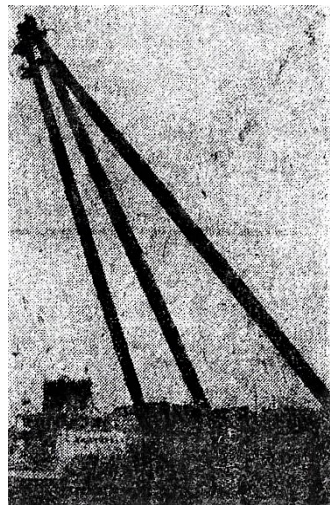
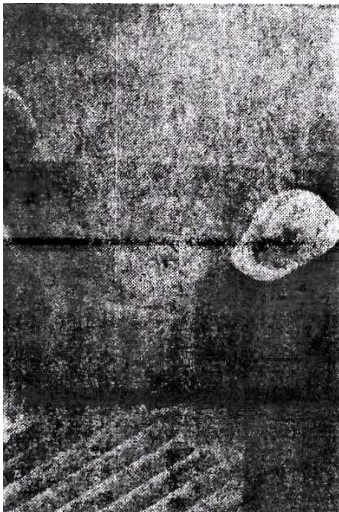
20.06.1975

GOING

P&J 27.06.1975

Early morning at Aberdeen Harbour and a demolition worker sets to work with an acetylene cutter on one of the legs of the tripod sheer poles which have towered over Waterloo Quay from more than 60 years.

As the cutters do their work the poles begin to lean towards the special “cushion” provided on the wharf



© Aberdeen Journals

For more than 60 years the tripod shear poles towering over Waterloo Quay have impressed and fascinated visitors to Aberdeen Harbour.

But that leggy landmark exists no more.

It was “amputated” yesterday in the latest piece of surgery to be performed on the swiftly-changing face of the harbour.

The operation was carried out in the early morning before harbour traffic was astir – but a “Press & Journal” cameraman was on the spot to record the final plunge for posterity. It was an impressive example of precision demolition. Completed without a hitch.

A special “cushion” of timber and aggregate had been prepared to absorb the shock of the three tubular steel poles – two 130ft. long and the third 170ft. – crashed down, sending up a cloud of dust. The legs, buckled slightly under the impact, were then cut into manageable sections to be carted away for scrap. The shear poles had been in service since the early part of the century to provide the harbour with heavy-lift gear to handle bulky machinery and ship’s boilers. But their importance declined with the eclipse of steamships and finally became redundant with the port’s acquisition of a modern heavy-lift crane – now installed at Pacific Wharf.

The installation is being cleared to make way for further oil-service development at Waterloo Quay East. But although the shear poles are no more, part of the plant will still have work to do.

Mr David Nicol, managing director of the Dysart company who undertook the demolition, said the winch block and pulley would be used to salvage remnants of the German Grand Fleet scuttled in Scapa Flow.

The shear poles have only one “black spot” in their long service. A workman was killed when the legs were being lowered for inspection during a gale in 1950.



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The apex joint of 100-ton shear poles prior to erection in 1910.

Looking from the quayside across Wellington Quay and up Wellington Street. The 7-sheave top block can be seen at centre, suspended from the headmetal.

5 sheaves for the 100 ton hoist and 2 sheaves for the 30 ton hoist.
The curved covers in the foreground protect the end of the traversing screw.



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The 100 ton shear poles immediately prior to commencing their erection.
The 80 foot temporary shear poles are above the apex.
The hoist winches and motors can be seen in the lower left corner of the photograph, with the covers over the traversing screw seen between the legs.



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The hoist winches, motor and electric controllers,
before the erection of the building round them.

References: -

Graces Guide: - http://www.gracesguide.co.uk/Day,_Summers_and_Co.

Photographs of the 100 ton sheer pole erection and testing: - AHB2056 to 2274.
https://www.abdn.ac.uk/special-collections/aberdeen-harbour-board.php?pageNum_harbourset=10&totalRows_harbourset=330&harb_search=poles

MOVING ENGINES AND USING THE SHEERLEGS.

The weight of engines and their components fitted into Hall, Russell's ships was limited to 50 tons by the capacity of the crane in the engine shop where they were stored. When they had to be moved to the sheerlegs, the engine bogie, a massive wooden construction with cast iron wheels (*HR Book, p 70*) was used, usually pulled by one of Charlie Alexander's tractor units. The bogie had a steering axle at the front and the brakes were wood lined shoes, manually screwed down onto the outside of the wheel. Progress was slow and stately, but as York Place was laid in cassies, this was probably a good thing. The bogie was reversed into the engine shop and the engine lifted on and strapped down with chains and bottle screws. Then the fun started, as getting out of the engine shop door, turning onto York Place and travelling down to the quay was fraught and required all traffic to be stopped for the duration of the exercise.

The bogie trundled down to the sheerlegs and was aligned under the main hook, which couldn't move sideways, only back and forth, to have the slings hooked up to the sheerleg hoist. This was all controlled by the shipwrights, as they did all rigging outside the engine shop. The load was lifted (*HR Book, p.70*) and then, using the traversing screw at the foot of the back leg, the sheerlegs positioned the load over the ship's centreline. To locate the load fore and aft on the ship, the shipwrights had manual multi-sheave rope blocks from the bow and stern to the quay bollards and moved the ship to match the load, not the load to match the ship. This whole process was slow, inaccurate and definitely frustrating.

All this was fine if the lock gates at the St. Clement Bridge were closed, the Victoria and Upper Docks still being non-tidal at that time, but when the gates were open, ship movements caused swell and the ship moved all over the place. The shipwrights tried to control this with their tackles as they struggled to get the ship in the right place under the engine, but this really became desperate when it was part of an engine which had to be lowered onto bolts fitted to an engine bed already installed.

One Friday afternoon it was decided to take the scavenge belt for the **ABEL TASMAN's** 5- cylinder Sulzer engine down to be installed, bad move. The scavenge belt had to be lowered onto long tie bolts, about 8 studs round each cylinder standing several feet above the engine entablature. With the lock gates open, ships moving, and the scavenge belt not quite level, it was going onto the studs at one end first and then twisting and missing the next set of studs, or the ship would move and it would miss the studs all together, etc. etc. etc. All this while the riggers pulled their tackles back and fore and the load went up and down like a yoyo. We finally finished at about seven p.m. and I had to go up to the "Monkey House", still filthy and in a boilersuit, to tell the current girlfriend that I wouldn't be taking her out that night. The end of another perfect romance, she never spoke to me again.

The bogie's days were numbered when somebody in the Town Council decided to tar over the top of the cobbles in York Place. The bogie's four flat wheels put a huge point load on the tar and they were like ploughs, leaving twin furrows in the tarmac. It finally had to left in the middle of the road until two Pickford's tractor units arrived from Glasgow to move it.

References: - "HR Book" - *A History of Hall Russell Shipbuilders, Aberdeen Town & County History Society 2007.*