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The Transfer of Gold Coin in New York.

The last annual report of President William Dowd, to the Clearing House Association, showed that within the twelve months covered by his review, $375,000,000 in gold coin was taken through the streets of this city to meet the requirements of the threescore banks included in the association. This $375,000,000 weighed over 686 tons, coming from the sub-treasury to the clearing house on balances. Of course these balances vary from day to day. During the administration of Assistant Treasurer Acton, the largest debit noted for any one day was on July 3 last, when over $7,000,000 went out. Prior to the appointment of Mr. Acton the balance on one occasion reached over $8,500,000, and to pay it 17 tons of gold had to be taken from the sub-treasury vaults and passed over to the clearing house authorities for proper distribution among the creditor banks.

Not the least interesting feature of this immense transfer of gold under the direction of the Clearing House Association is the fact that each and every dollar of the millions is carried through the streets and delivered by one man, or, rather, by one man and his assistants. That man is John C. Barkley, popularly known to every banker, broker, and office boy in the city's financial center as "Honest John Barkley."

Service for the clearing house by no means limits his work. Every dollar shipped to Europe or received from Europe is conveyed to or from the ship on his trucks, and scores and scores of fashionable families are never content to leave the city for summer homes until Barkley has transmitted their silver to safety vaults.

John C. Barkley does not work for nothing, nor for mere pleasure, nor for glory. He has a truck on which he can carry, in gold, $2,000,000, or 40 shipping kegs. The fee for each keg is $1, or for the trip out of Wall street to the steamship company's pier, $40. But this is far from excessive when consideration is given to the responsibilities attending the business.—*N. Y. Times.*

Progress of Telegraphy.

131,100 miles of poles, 374,368 miles of wires, 12,100 offices, nearly thirty millions of messages transmitted, over seventeen millions of dollars received, over ten millions paid for expenses, leaving over seven millions of dollars in profits—such are the astonishing returns of the Western Union Telegraph Company for the single year ending June 30, 1882. Enterprise, good management, and the possession of valuable patents have been the basis of this extraordinary success.

A Test of Potato Seed.

This season's tests of the productiveness of different sizes of potato seed, at the New York State Experiment Station, show the following per acre yield of small plats planted side by side in drills three feet apart and one foot distant in the hill:

Kind of Seed.	Merchantable.	Small.	Total.
Single eyes cut deep..........	152 bush.	39	191
Ordinary cuts................	127 bush.	75	202
Whole potatoes.............	83 bush.	75	158

Besides the increased return Director Sturtevant notes that the quality from "single eyes cut deep" was "superior," while that from the other seed was "but ordinary."

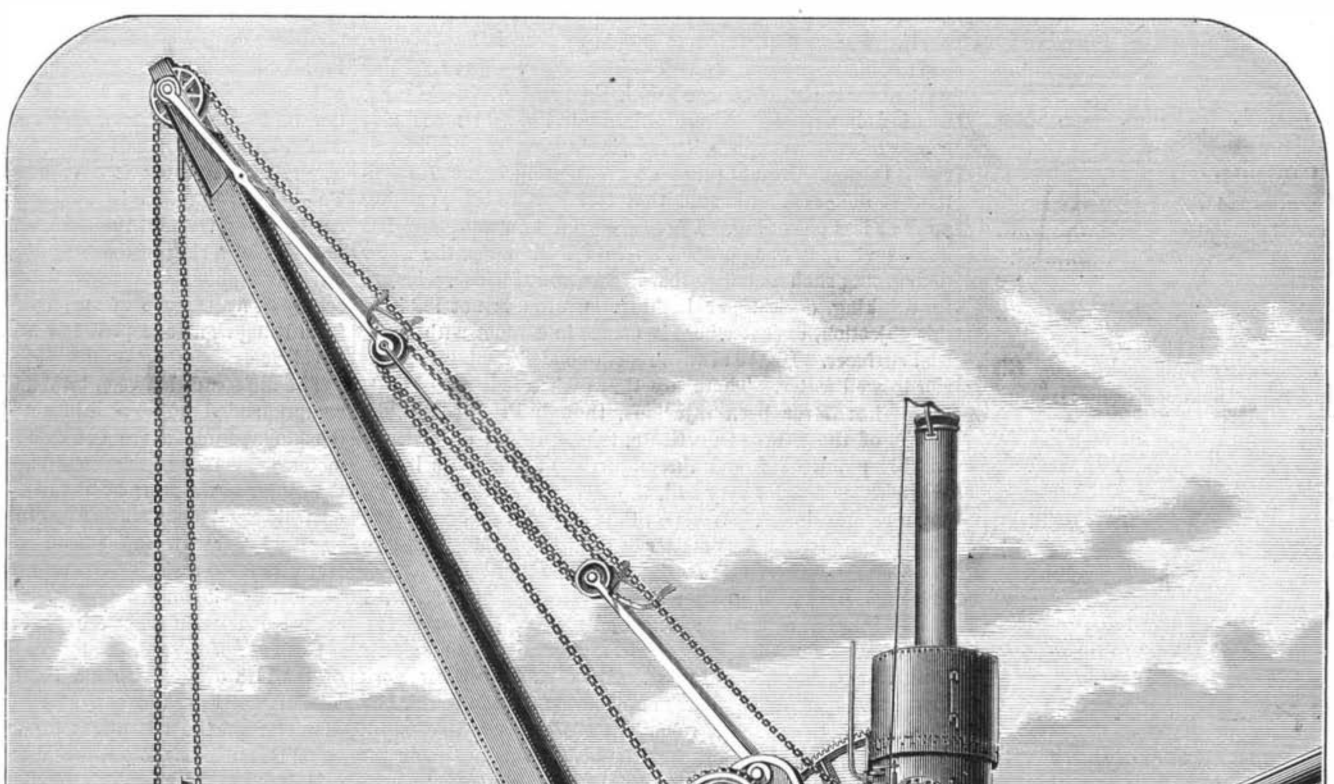
TWENTY-TON PORTABLE STEAM CRANE.

The very fine crane which we here illustrate has been erected on the Stobcross Wharf, near Queen's Dock, for the service of Messrs. Henderson Brothers' Anchor Line steamers. For some years four cranes have been in use for loading and discharging these vessels, two of which have a lifting power of five tons, and two of three tons, at a radius of 30 feet. It was found with these cranes that, although quite competent for nearly all the work required, there occasionally were pieces above their lifting capacity, which necessitated removing the steamer to another part of the harbor to get the use of one of the fixed public cranes. In order to obviate this inconvenience the crane we illustrate was constructed by Messrs. George Russell & Co., of Motherwell, near Glasgow. Its leading features are patented by Mr. Russell, of that firm, by whom this special crane has been designed.

Fig. 1 shows an outline of the crane, and the extremely limited space between the edge of quay wall and sheds. The gauge of the wheels is 10 feet center to center, but in order to clear the eaves of the shed the central post is only 2 feet 6 inches from the center of the outside wheels. In order to distribute the weight equally on the quay wall and grooved rail near the shed, eight supporting wheels are fitted on each side of the carriage.

Fig. 2 is an elevation of a corner of the carriage, showing the wheels and levers for distributing the weight equally. There are on each corner a pair of main levers with fulcrum, A; at each end of these are fulcra, B B, with shorter levers carrying the axle pins of the wheels, C C C C. The levers being free to adjust themselves, it will be evident that the pressure at A is equally distributed over the four wheels, notwithstanding any irregularities in the quay surface. The outer wheels bear directly on the granite curb, and the inner in a grooved rail. The carriage is of malleable iron plates, 1½ inches thick, 4 feet deep; the eight wheels on each side being 3 feet, center to center, give a wheel base of 21 feet. The central post is of malleable iron, 2 feet diameter; the jib is 50 feet long, of malleable iron plates of box section, and its radius is variable by steam; the chain barrel is 2 feet 3 inches diameter, screw grooved for the chain, and there are double and single purchase gears.

Continued on p. 290.



TWENTY-TON PORTABLE STEAM CRANE, GLASGOW HARBOR.

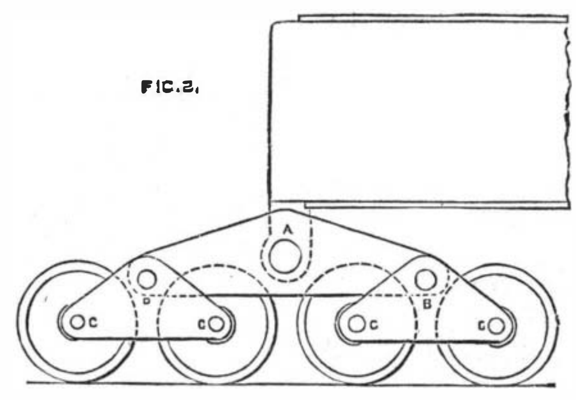
TWENTY-TON PORTABLE STEAM CRANE.

(*Continued from first page.*)

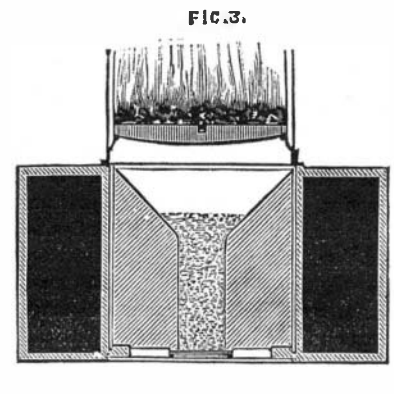
The engines have a pair of 9 inch cylinders by 13 inch stroke, with steel link motion. The boiler is vertical, with three cross tubes, and a large cylindrical feed water tank is placed above it, through which the heat passes to the chimney; the exhaust steam is also led into it.

Fig. 3 shows a section of the combined ash-box and balance weight; the ashes drop from the fire bars into a conical space terminating in a door at the bottom; when this door is opened the ashes are at once emptied into any convenient receptacle. The crane is moved alone the quay by gearing fitted under the carriage, grasping by means of a capped pulley a pitch chain made fast to any of the mooring blocks. The maximum working load is 20 tons at a radius of 30 feet, and 16 tons at 35 feet. Besides ordinary lifts, it is fitted with tipping gear for lifting coal wagons, and will shortly be used for coaling the vessels. The crane weighs 103 tons, and there are about 12 tons of iron ballast in the tank under the boiler, and 35 tons in the land side of the carriage; so that the total weight is 150 tons. Although of such large capacity it is found to work with extreme ease under control of one man.

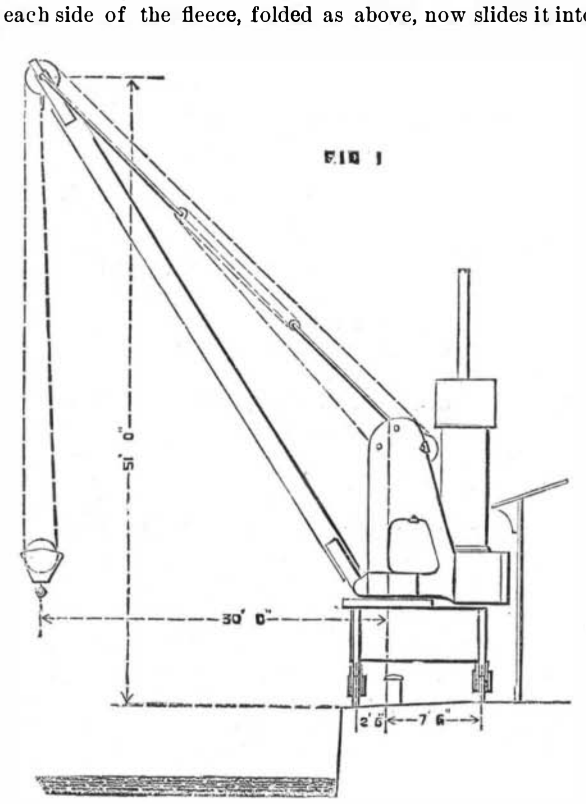
This is a very favorable example of thoughtful designing, the conditions under which the crane has to work being very exceptional. Messrs. Russell's reputation is an ample guarantee for the quality of the material and workmanship.—*Engineer.*



ONE CORNER OF THE CARRIAGE.



SECTION OF ASH BOX AND BALANCE WEIGHT.



OUTLINE OF THE CRANE.

WOOL SHEARING.

The proper way is first to clean all the points, the crutch, and the belly wool, and let this be first taken away by itself. Then the neck should be carefully opened until the wool is posted, and there is a "good face" to the work. The greatest injury to the fleece takes place on the back, and is caused by the operator not raising his hand, so as to keep the points of the shears close down to the skin. This is known as "cutting through," and it takes place when the sheep is being shorn on one side; and in shearing over the back the points of the shears cut nearly or quite through the fleece, from the inside to the out. When the sheep is being shorn on the other or turning out side the shears are again pointed upward, and the cuts on the first and last side overlap each other, forming a sort of Vandyke line, and causing the fleece to part in two halves all along the back. This is soon detected by spreading the fleece on the table, with the cut side uppermost.

No good shearer makes any second cuts; the fact that the wool has been left by the first cut proves that the shears have not been held properly, and the wool thus removed by the second cut entails a great loss on the manufacturer, and lowers the repute of the brand in the market.

Sometimes the fleece is broken into "pieces" by the sheep not being properly held. Sixty or eighty wethers is a fair day's work, and more should not be allowed unless the shearer is a very specially good man. It is well known that the purchaser expects to see the "best side out," and graduates his price accordingly. Of course every fleece is done up by itself, and he who neglects this care cheats himself.

To do up coarse fleeces in fine ones, put in trimmings, or dung, or use unnecessary twine, is undesirable practice, and nothing short of fraud. The fleece should be laid on the table, outside up, in its natural form (see Fig. 1). The folding table should be 8 feet long, 5 feet wide, and 3 feet high. After the fleece is spread, dung, burs, etc., should be carefully removed with a pair of shears. It is then pressed together with the hands, so that it will occupy no more space than it would cover on the skin of the animal. About a quarter of the fleece lengthwise, or from head to tail, represented by 1 in the cut, is then turned or folded in (inverting it) toward the middle. The opposite side (2) is then folded in the same way, leaving the fleece in a long strip, say 18 inches wide. The forward end (3) is then folded toward the breech to a point (represented by dotted lines) corresponding with the point of the shoulder. The breech (4) is next folded toward the head. The fleece now presents an oblong square, represented by Figs. 5 and 6.

The clean fribs are placed in a small compact bunch on the breech, so that they can be subsequently readily separated from the fleece. They do not include trimmings, which should not be done up in the fleeces. The fribs may be laid in at some earlier stage of the folding; but if thrown on top of the fleece, as is very customary, before it is folded at all, they show through, if the latter gets strained apart, as it frequently happens in the process of rolling; and being coarser, and perhaps less white than the fine shoulder wool, they injure the appearance of the fleece.

The fleece is now folded together by turning 5 over on to 6; and the tier carefully sliding it around on the table with his arms, so that the shoulder should be toward him, it appears as in Fig. 2, ready to go into the wool trough. The wool trough, shown with one of its sides off, should form part of the table, and be 9½ inches wide, and 9 inches deep, and the length 5 feet, the width of the table. Near its back end, and about one-third of its width from side to side, holes are bored for the twine. Two balls of twine are placed in a vessel beneath, the ends passed through the holes, and the whole length of the trough, and are fastened in front by being drawn into two saw cuts, as shown.

The tier placing his hands and arms, to the elbow, on each side of the fleece, folded as above, now slides it into the trough. Fig. 3 shows the ordinary, but not the best method. It will bring to the two ends of the done-up fleece the parts most seen in the wool room, the ridge of the back and two lines half way down each side of the sheep. The former is sometimes a little weatherbeaten, and the two lower lines are a little below the choicest wool. Placing it in the trough, as in Fig. 4, rolling would bring both ends of the fleece from the wool between 4 inches and 5 inches from the ridge of the back, the choicest part of the fleece. Besides the edges of the breech fold, which is not so fine as the shoulder, which sometimes shows by the first method of rolling, are always concealed by the last.

The wool being in the trough the tier steps round to the back end of it, and commences rolling the fleece from the breech to the shoulder. He presses this as tightly as he possibly can without tearing or straining it, to show the inside, and then ties it with the two strings. The fleece is slid out of the end of the trough, when it will be a solid glittering mass of snowy wool, in the shape of Fig. 5.

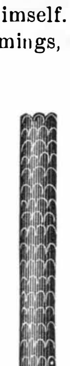


Fig. 7.—FIBER.

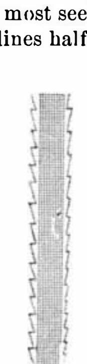


Fig. 6.—FIBER.

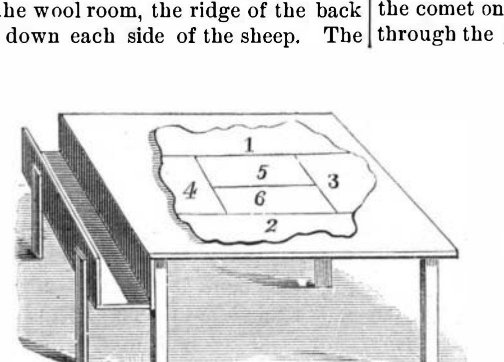


Fig. 1.—FOLDING TABLE.

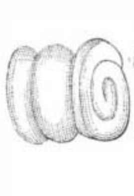


Fig. 5.

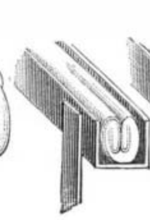


Fig. 4.

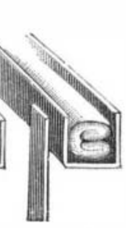


Fig. 3.

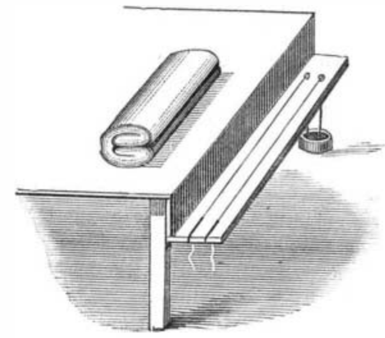


Fig. 2.—WOOL TROUGH.

The Great Comet.

The name of our new celestial visitor must, it appears, now be changed from Cruls' comet to Gould's comet. Late advices received at Harvard College Observatory from Dr. B. A. Gould, at Cordova, S. A., show that the honor of the discovery of the great comet belongs to him. It was first seen at his observatory more than a day previous to its discovery by Finlay at the Cape of Good Hope, and five days before it was seen by Dr. Cruls at Rio. Late letters from the Cape to a prominent English astronomer show that the comet was observed there upon the day of its perihelion passage clear up to the edge of the sun, where it suddenly disappeared. This observation has no parallel in the history of astronomy, and is evidence of the extraordinary brilliancy of the comet. Mr. Chandler, of the Harvard Observatory, has just computed a new orbit, which is of much greater accuracy than any heretofore obtained, and gives unmistakable evidences of periodicity. By means of this a comparison of the observation of Finlay with the position which the present orbit gives for that date has been made, and the variation between the observed and the computed place is less than the diameter of the nucleus of the comet. From this close agreement it is evident that no sensible perturbations attend the very close approach to the sun.

We learn, however, that Professor William R. Brooks, of the Red House Observatory, Phelps, N. Y., on the morning of October 21, while sweeping the heavens in the region of the great comet with his new nine-inch reflecting telescope, discovered a new fragmentary comet, eight degrees east of the great comet. It was a cometary mass, nearly two degrees in length, slightly condensed in the part toward the sun, and resembled in form the celebrated fragment detached from Biela's comet several years ago.

On the following morning the professor was enabled to verify his discovery by a second observation, when it appeared somewhat smaller and fainter, yet unmistakable as to its character.

The comet thus appears to have been in a terrible state of commotion since it left the immediate neighborhood of the sun, and Prof. Brooks believes that this new fragmentary comet was formed of an envelope thrown off during its disturbed condition. We are sorry to say, however, that the great spyglass at Washington, when turned on to the comet a few days later, did not confirm the observation of Prof. Brooks.

Commander Sampson, of the Naval Observatory, observed the comet on the morning of October 25, for the first time, through the great 26-inch equatorial telescope. It has not before had sufficient altitude to be visible in this instrument. With a low-power eye-piece an excellent view was had of the nucleus, which presented an appearance quite different from that seen in the smaller instrument, and showing with considerable distinctness all the appearance which has led to the opinion that the comet was breaking up. In the large instrument the nucleus has a well-defined center, which is quite circular and of considerable apparent diameter. The elongated appearance of the nucleus is due to two masses of nebulous matter, one of which is between the nucleus proper and the sun, and the other on the side toward the tail. Both these masses are somewhat detached from the nucleus—the one in the direction of the tail being the brighter, but neither presenting the condensed sun-like appearance of the nucleus. These luminous portions of the coma are probably the appearances that have been observed for separate portions of the comet; and led to the belief that the comet had "split." The spectroscope this morning showed that the character of the light of the comet had not changed during the past week. It indicates that incandescent carbon vapor is the principal source of light. A search for the small comet reported last Saturday east of the great comet was not successful.

IN the season of 1881–82 more than 3,000,000 trees were planted in Great Britain, out of which number Scotland claims about 2,000,000, England 600,000, Ireland 300,000, and Wales 40,000.