J. O'HANLON.

Coal-Tipple for Loading Boats.

No. 198,383. Patented Dec. 18, 1877.

Fig. 1.

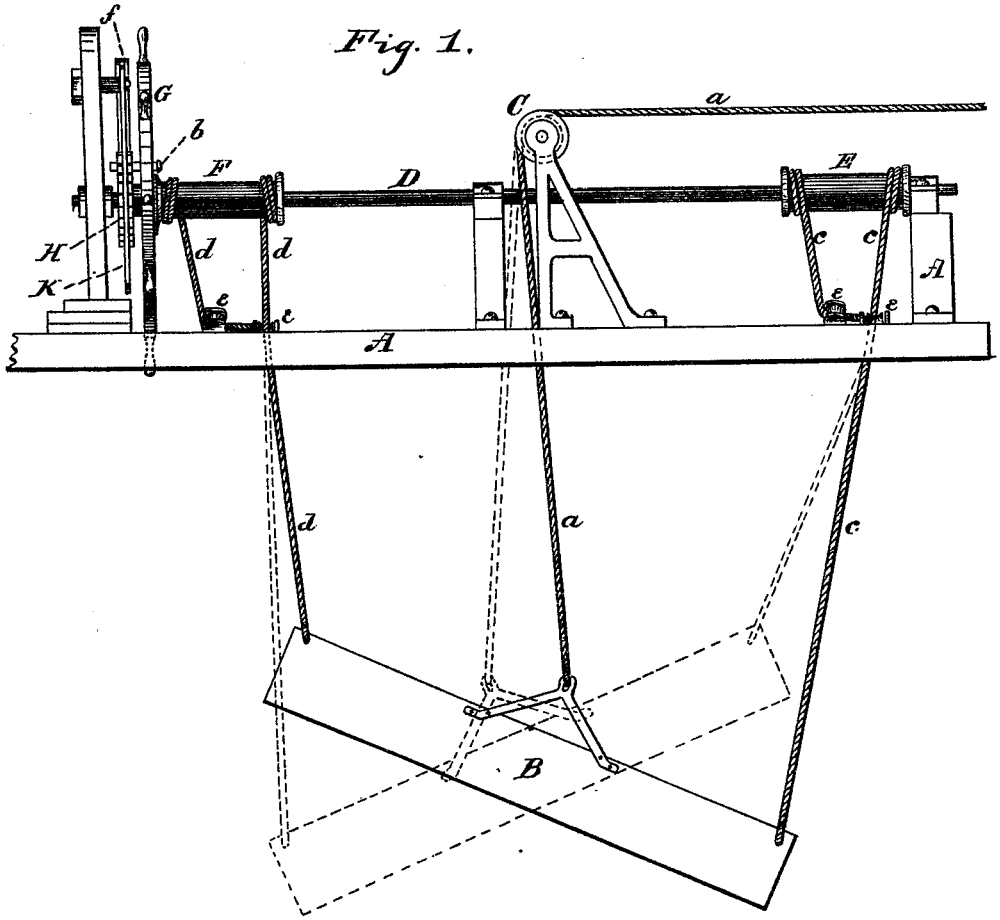
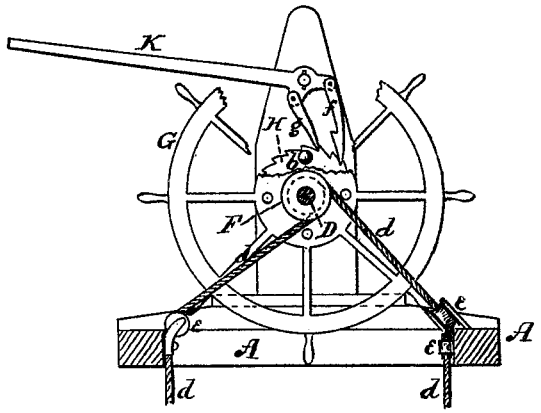



Fig. 2.




Witnesses

G. Smith

F. A. Pollock.

Joseph O'Hanlon Inventor.

By Connolly Bros & McTighe.

Attorneys.

# UNITED STATES PATENT OFFICE.

JOSEPH O'HANLON, OF ELKHORN, ASSIGNOR OF ONE-HALF HIS RIGHT TO HENRY B. HAYS, OF PITTSBURG, PENNSYLVANIA.

## IMPROVEMENT IN COAL-TIPPLES FOR LOADING BOATS.

Specification forming part of Letters Patent No. **198,383**, dated December 18, 1877; application filed August 16, 1877.

*To all whom it may concern:*

Be it known that I, JOSEPH O'HANLON, of Elkhorn, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Coal-Tipples for Loading Boats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation, showing the basket tipped; and Fig. 2 is a transverse section between drum C and drum F, looking toward the latter.

This invention relates to improvements in boat-loading coal-tipples; and consists in the construction and combination of devices, substantially as hereinafter fully described and claimed.

My invention renders the basket instantly reversible at all times, thus enabling the workmen to load the boat alternately on each side, thus saving the time now lost in shifting the boat, and preventing all straining and twisting of its timbers.

To these ends I proceed as follows:

A represents the elevated platform of the tipple, usually termed "outriggers," and on this is suspended the open-ended basket B, or discharger, whose weight is balanced, as usual, by the ropes or chains *a*, which pass up over and once around the drum C, journaled on the platform A; thence off to one side over appropriate sheaves, and ending in the usual counterbalance-weights, which are slightly heavier than the basket. All this is as usual. I make no change so far.

Passing along under the drum C is a shaft, D, journaled in standards on the frame A. At one end of shaft D, and firmly keyed thereto, is a drum, E, and near the other end is a loose drum, F, and hand-wheel G, both in one piece, or fastened together. A ratchet-wheel, H, is keyed firmly to shaft D, beside the wheel G, and capable of attachment thereto, by a pin, *b*, entering holes in the hub of wheel G and ratchet H, so that the wheel G and drum F may be made to turn with shaft D or not, as required by the circumstances. Ropes or chains *c* rise from one end of basket B and wind on the drum E in one direction, and ropes or chains *d* rise from the other end of the basket and wind on the drum F in a direction opposite that of ropes *c* on drum E. These ropes *c d* pass over sheaves *e*, placed so as to bring them in proper alignment with the drums.

Pivoted on a bracket rising from frame A is a lever, K, which has pivoted at its extremity a pawl, *f*, notched as shown, and at a point behind pawl *f* is pivoted a second pawl, *g*. When hanging loosely these pawls can be used to revolve the shaft D by simply oscillating the lever K; or they may be disconnected by lifting them outwardly till the point of pawl *g* enters the notch in pawl *f*, when both will lock and remain in that position, the lever being allowed to fall out of the way without danger of its pawls locking the ratchet-wheel.

Thus constructed, the operation is as follows: Suppose we have a boat to load. We moor it so that its middle line is under the middle of the basket, the latter crosswise of the boat. We wish to load the boat by discharging the loads alternately on each side, so that in one passage of the boat under the outriggers it shall be fully and evenly loaded. We turn wheel G until, by the winding and unwinding of the ropes *c d*, the basket acquires the proper right-hand inclination, as in Fig. 1. The basket, however, being empty, is held up in horizontal position, such that it can receive the coal from the chute. When the coal is received, its additional weight causes the basket to descend, maintaining its horizontal position till the slack of ropes *d* is paid out, causing that end (the left) of the basket to stop. The other end continues to descend, thus inclining the basket to the right, till the slack of ropes *c* is paid out, at which time all of the coal slides out toward the right, and is deposited in that side of the boat. The basket, being now empty, at once rises to its former elevated horizontal position, ready for another load. Now, wheel G is given a turn in the other direction, thus winding up ropes *c* and lowering

ropes *d*, and reversing the inclination which basket B will take. Another load of coal is shot into the basket, which drops down as before, and tips to the left, discharging into the other side of the boat, as shown by dotted lines in Fig. 1, and so on till the boat is loaded.

Two or three loads may be deposited in a pile before shifting, so as to load in "streaks." In that case we reverse only every second or third discharge. While discharging, the drums may be locked by a suitable stirrup or latch on the hand-wheel, or any convenient means.

According to the height of water in the river, it is necessary to regulate the height of the point at which the basket will discharge. If the river is rising I take out pin *b*, and wind up ropes *c* on drum E and ropes *d* on drum F to the point required, and replace the key. With a falling river, I, in the same way, slacken ropes *c* to the required extent. By this means I can tip the basket at any height.

Sometimes a load of coal is too light to tip the basket, or is not properly disposed. By operating lever K its pawls force the drums around and forcibly tip the basket. To force a tip in the other direction I use hand-wheel G.

I claim as my invention—

1. The combination of the open-ended basket B, shaft D, drums E F, both located on said shaft, wheel G, and ropes or chains *c d*, fixed to the ends of basket B, and winding on the two drums in contrary directions, respectively, substantially as described.

2. The combination of shaft D, drums E F, and ropes or chains *c d* with the open-ended basket B, centrally-supporting ropes *a*, and suitable counter-balances, arranged and operating substantially as shown.

3. The combination, with shaft D, drums E F, both located on the same shaft D, basket B, and chains or ropes *c d*, of the ratchet-wheel H, lever K, and pawl or pawls *f g*, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

JOSEPH O'HANLON.

Witnesses:

JNO. HOLLAND,

G. P. MITCHELL.