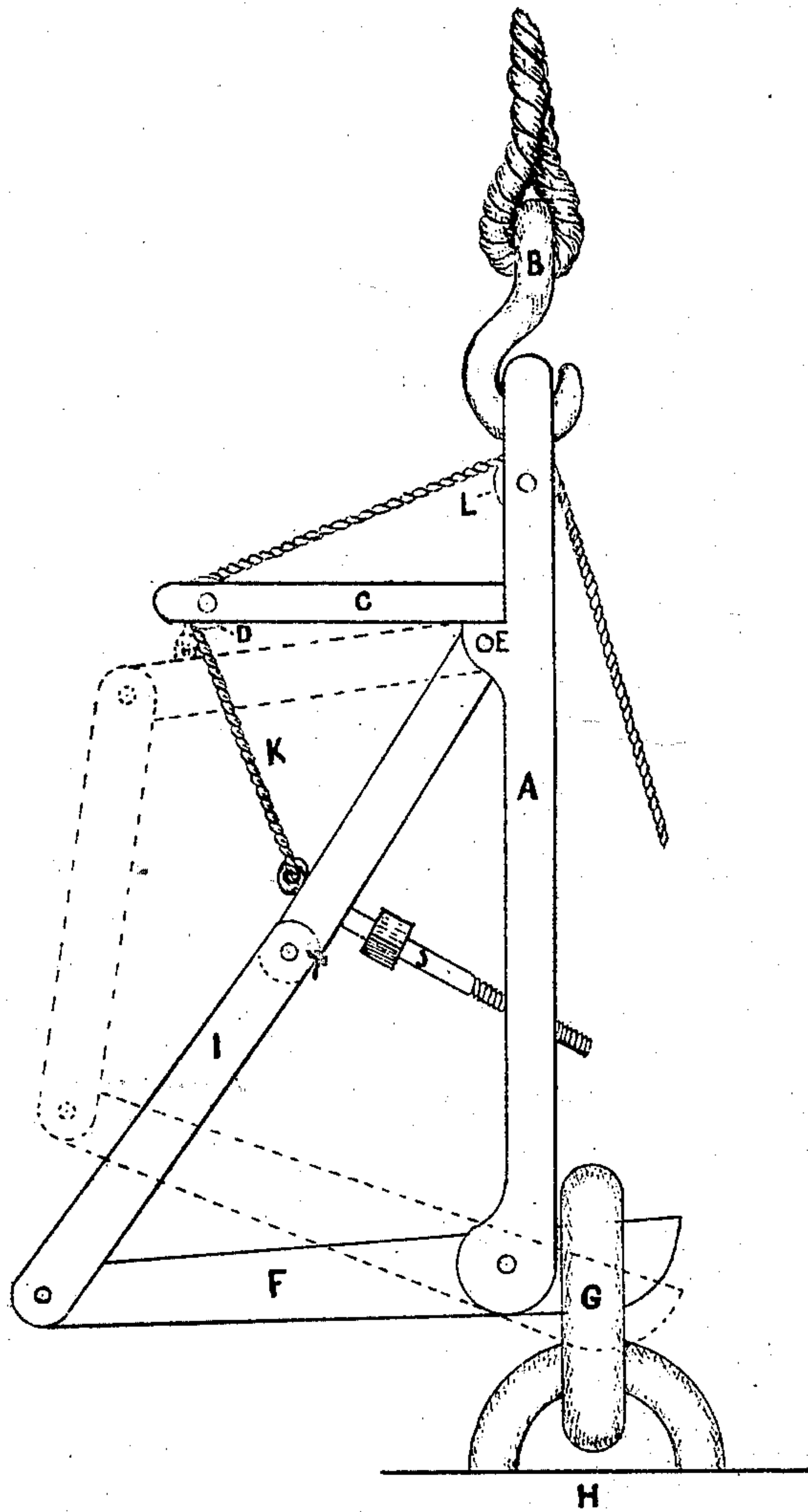


*N. Havermale,*

*Elevator.*

*No. 99671.*

*Patented Feb. 8. 1870.*



Witnesses.

*W. H. Haswell*

*N. S. Wright*

*Nath. Havermale*

INVENTOR.

# United States Patent Office.

NOAH HAVERMALE, OF CANTON, ILLINOIS.

*Letters Patent No. 99,671, dated February 8, 1870.*

## IMPROVEMENT IN SHIPPING AND UNSHIPPING-HOOKS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Know ye that I, NOAH HAVERMALE, of Canton, in the county of Fulton, and State of Illinois, have invented a new and useful Shipping and Unshipping-Hook, for hoisting heavy weights, and instantly dropping them at any desired elevation; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification.

The nature of my invention consists in so arranging and attaching a series of levers to a draught-bar, connected to the power, and on which hangs the resistance, that the weight may be easily attached and discharged at will.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

Of suitable metal, of proper size and strength, I make the draught-bar A, having an eye in the upper end, to receive a hook, B, coupling it to the power.

About three inches from the top a stationary arm, C, is fixed to the side of the bar, at a right angle, and having a pulley, D, near its outer end.

Directly under this arm is E, a mortised projection of the bar, and the lower end of A is widened on the same side, and mortised to receive the lever-hook F, pinned therein, and which passes through to the rear far enough to receive the ring G, attached to the weight or resistance H.

The front end of the lever F enters and is pinned to a slotted or mortised end of the jointed lever I, whose upper end is secured in the mortise at E.

A set-screw, J, working in the draught-bar, becomes a bearing for the jointed lever I, when the machine is raising a weight.

Fastened to the jointed lever is a cord, K, which

passes over the pulleys D and L, down the back side of bar.

The machine is so made, that when the power and weight are coupled, as shown in the drawing, the back end of the lever F inclines toward the draught-bar, and the jointed lever I bears inward and rests on the screw J.

If this machine is to raise a heavy weight, such as a pile-driver hammer, the hook B is inserted, and the lever F placed in the ring of the hammer. As the power is applied, the ring draws toward the draught-bar, because the upper edge of the lever F is a plane, inclined to the bar.

As the weight is drawn up, the cord K rises with the tackle, and is long enough to reach to the ground at the highest elevation. By drawing on the cord K, so that the outer angles of I become acute, the weight at once throws up the lever F, (as shown by red lines,) and unships itself.

This unshipping can be done at any desired height of hammer, by pulling the cord K. If the height of elevation is determined, the weight is unshipped at that point, by tying the cord K, at the proper length, to the frame which supports the main line and forms the guides to the hammer.

What I claim as my invention, and desire to secure by Letters Patent, is—

The construction, arrangement, and combination of the several parts, lettered A, C, D, E, F, I, J, K, and L, each constructed, and arranged, and combined, substantially as hereinbefore set forth, as and for the uses and purposes herein named, and I expressly disclaim all other parts and uses.

NOAH HAVERMALE.

Witnesses:

W. H. HASKELL,  
J. S. MURPHY.