

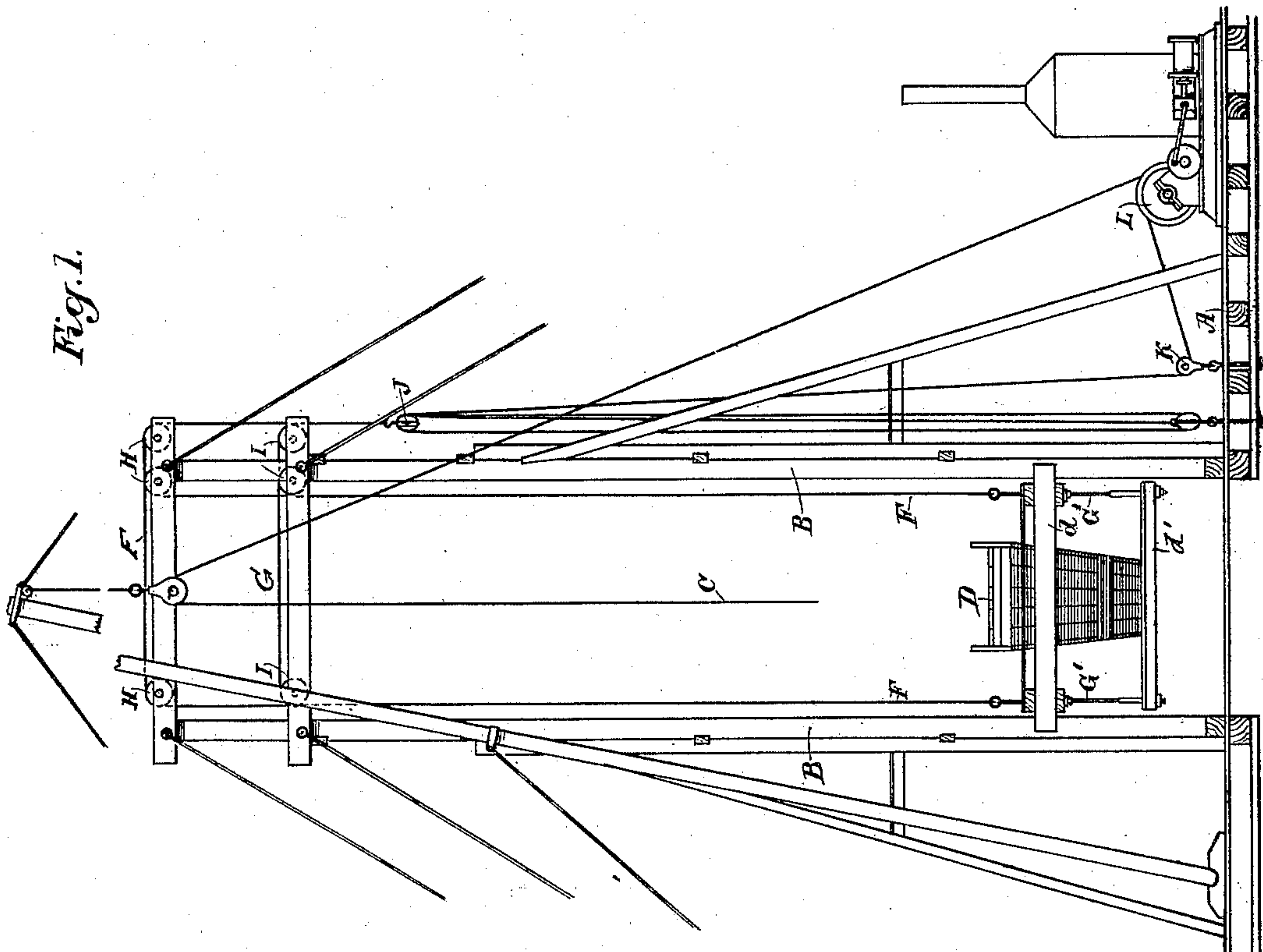
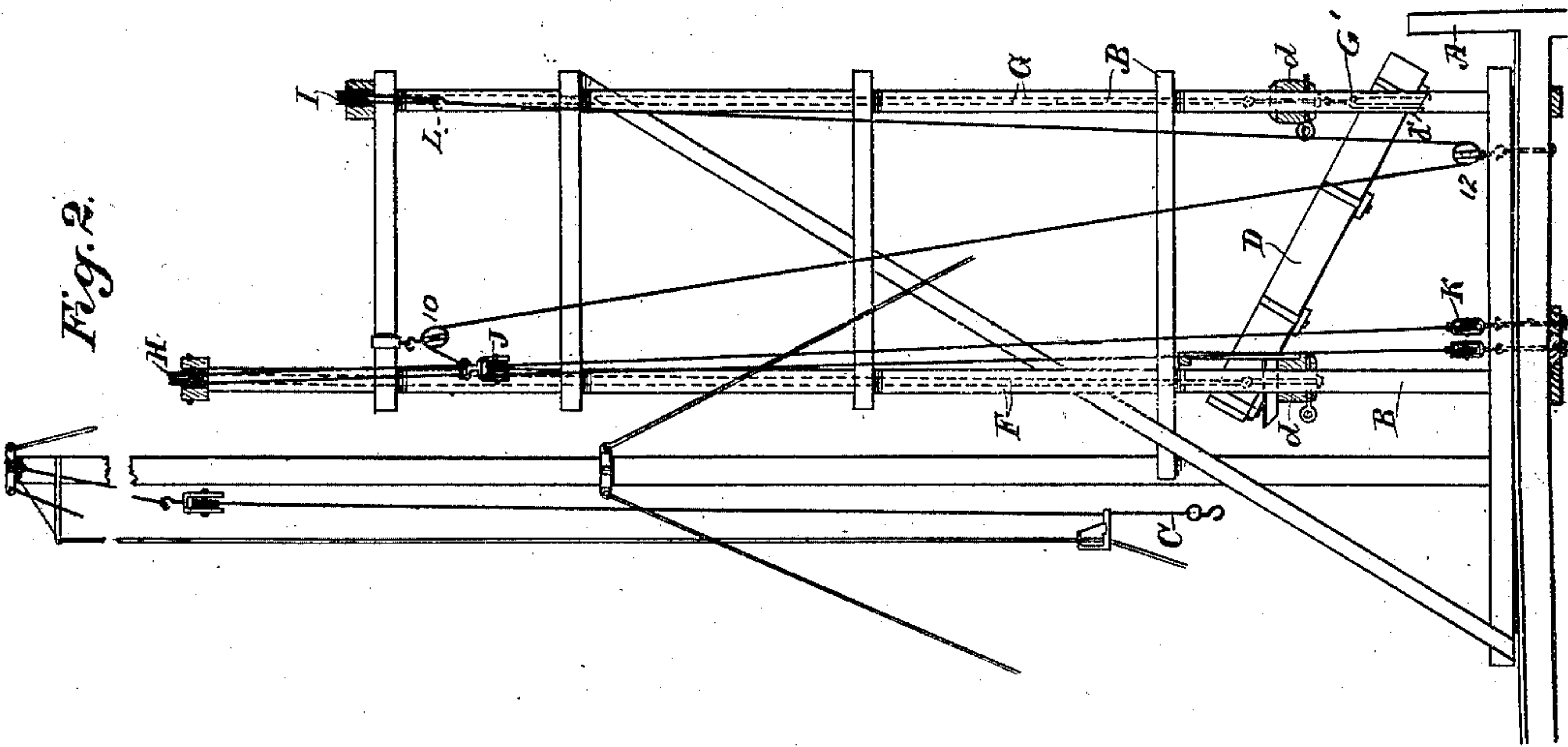
No. 709,609.

Patented Sept. 23, 1902.

L. ROSENFELD.  
ADJUSTABLE LOADING CHUTE.

(Application filed Oct. 26, 1899.)

(No Model.)



Witnesses,

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# UNITED STATES PATENT OFFICE.

LOUIS ROSENFELD, OF NEW YORK, N. Y.

## ADJUSTABLE LOADING-CHUTE.

SPECIFICATION forming part of Letters Patent No. 709,609, dated September 23, 1902.

Application filed October 26, 1899. Serial No. 734,844. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS ROSENFELD, a citizen of the United States, residing in the city and county of New York, State of New York, have invented an Improvement in Adjustable Loading-Chutes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device which is designed for loading vessels from lighters, docks, and other places, and where the vessel may be at a very considerable height above the point from which the coal or other cargo is to be discharged into the vessel.

It consists of the parts and the construction and combination of parts which I will hereinafter describe and claim.

Figure 1 is an end elevation of the device. Fig. 2 is a side elevation of the same.

In the present case I have shown my device as used in connection with a lighter or barge by which the coal or other cargo is conveyed to the vessel to be loaded.

A represents such a lighter or barge, and B is a framework of any suitable height and dimensions properly supported upon the deck. In the drawings it is so arranged with relation to the hatch that the material can be raised by means of elevating-tackle (shown at C) and adapted to raise the coaltubs to a point directly above the hatch and to a sufficient height to discharge the coal.

In order to properly deliver the coal, I have shown the device which is the object of my present invention. It consists of a chute D of sufficient length so that its higher end is within a short distance of the line of travel of the hoisting apparatus, and its lower end is extended so as to discharge into a port or through the hatches or other openings by which the coal is to be delivered into the vessel which is receiving it. The angle of the chute is such that the coal will flow freely by gravitation.

The ends of the chute are supported upon suitable transverse timbers *d* or framework, which are slidable upon vertical guides or parts of the frame B. As herein shown, the ends of the timbers *d* are grooved or forked to straddle or embrace the inner edges of the vertical guides.

The chute or its supporting-timbers is suspended by ropes F, G, and G', these ropes passing over pulleys H and I, respectively, and being connected with the pulley-block J. The fall or tackle consists of ropes passing over the sheaves of this block and other blocks for multiplying the power and giving direction to the ropes of the tackle. From the block K the rope is here shown as leading to a winding-drum L, which is actuated by the hoisting-engine, and the chute having been first adjusted in its suspension so as to have the proper angle may be raised or lowered to suit the conditions of tide, the amount of cargo within the vessel which would raise or cause it to ride high or low in the water, and when adjusted to the desired position it is in readiness to receive and discharge the material which is to be loaded and which is raised by the bucket previously described and delivered into the higher end of the chute, which transfers it over the intermediate distance to the point where it is to be delivered, and which may be at a very considerable distance to one side of the line of travel of the hoisting-bucket.

The lower end of the chute is secured to a cross-timber of stirrup *d'*, which is hung from one of the main timbers *d* by means of straps or rods G', and the ropes G operate together transversely of the chute over pulleys I and connect to a block or connection at L. The ropes F at the higher end of the chute operate together over pulleys H and connect to block J. In addition to the foregoing a block 10 is secured near the top of the frame and another block 12 is secured to the base of the frame, and a rope 13 passes from the block or connection L through the blocks 10 and 12 and connect with the block J.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of a frame rigidly secured to the deck of a vessel, an inclined chute, one end of said chute resting upon a transverse timber having its ends slidable in vertical guides on the frame, the other end of said chute suspended directly from a second transverse timber disposed in the same horizontal plane with the first timber, and having its

ends vertically slidable in guides on the frame, ropes attached to each end of said timbers and extending upwardly over pulleys disposed transversely of the frame, the pairs of  
5 ropes at each end of the chute connecting with a separate block, guide-blocks at top and bottom of the frame, a rope running through said guide-blocks and connecting the two first-named blocks, and connections with

a source of power whereby the chute may be adjusted vertically substantially as described.

In witness whereof I have hereunto set my hand.

LOUIS ROSENFELD.

Witnesses:

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