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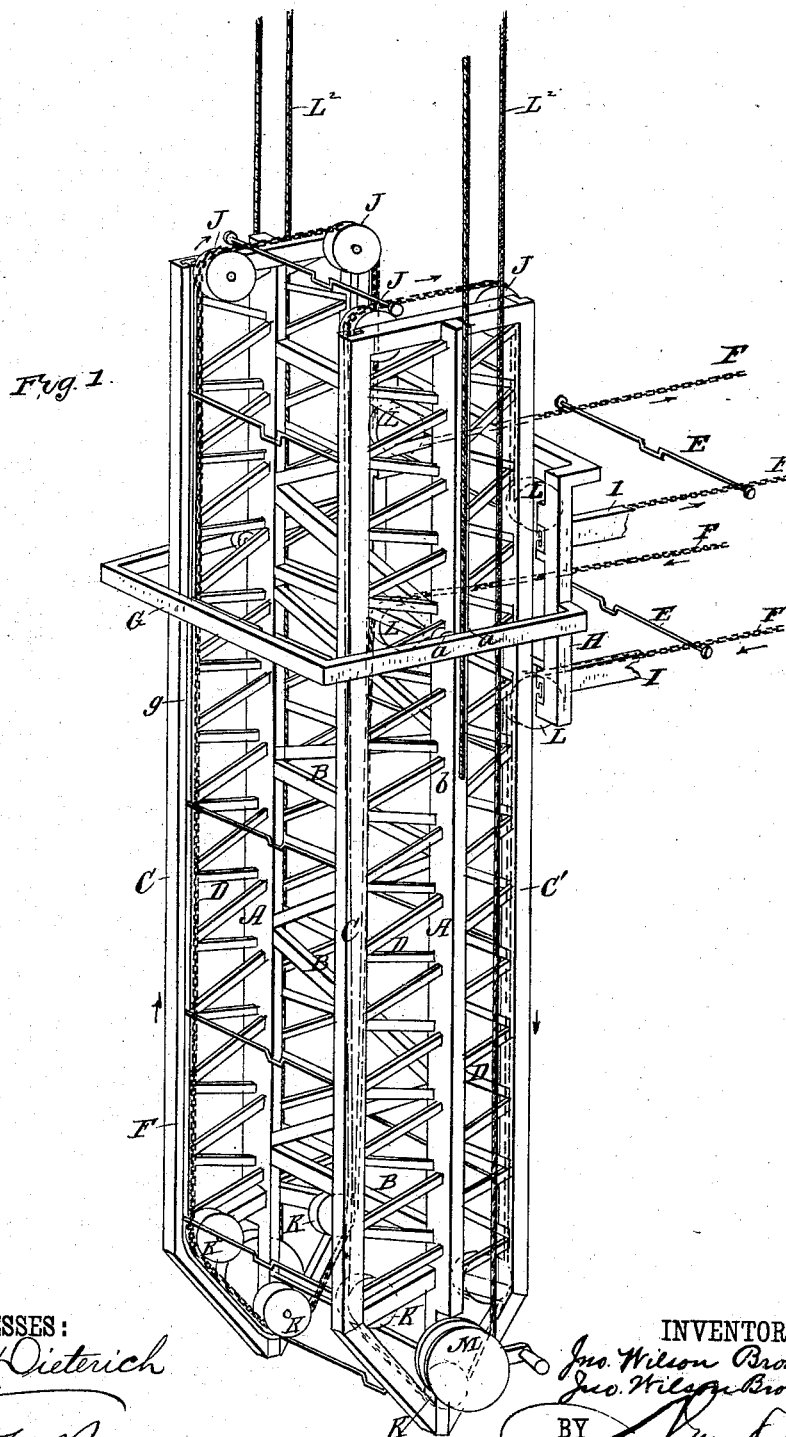
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J. W. BROWN & J. W. BROWN, Jr.

APPARATUS FOR LOADING AND UNLOADING VESSELS.

No. 263,848.

Patented Sept. 5, 1882.



WITNESSES:  
*Fred. G. Dieterich*  
*Edw. W. Ryan,*

INVENTOR:  
*Geo. Wilson Brown*  
*Geo. Wilson Brown Jr.*  
BY *Wm. F. L.*

ATTORNEYS.

(No Model.)

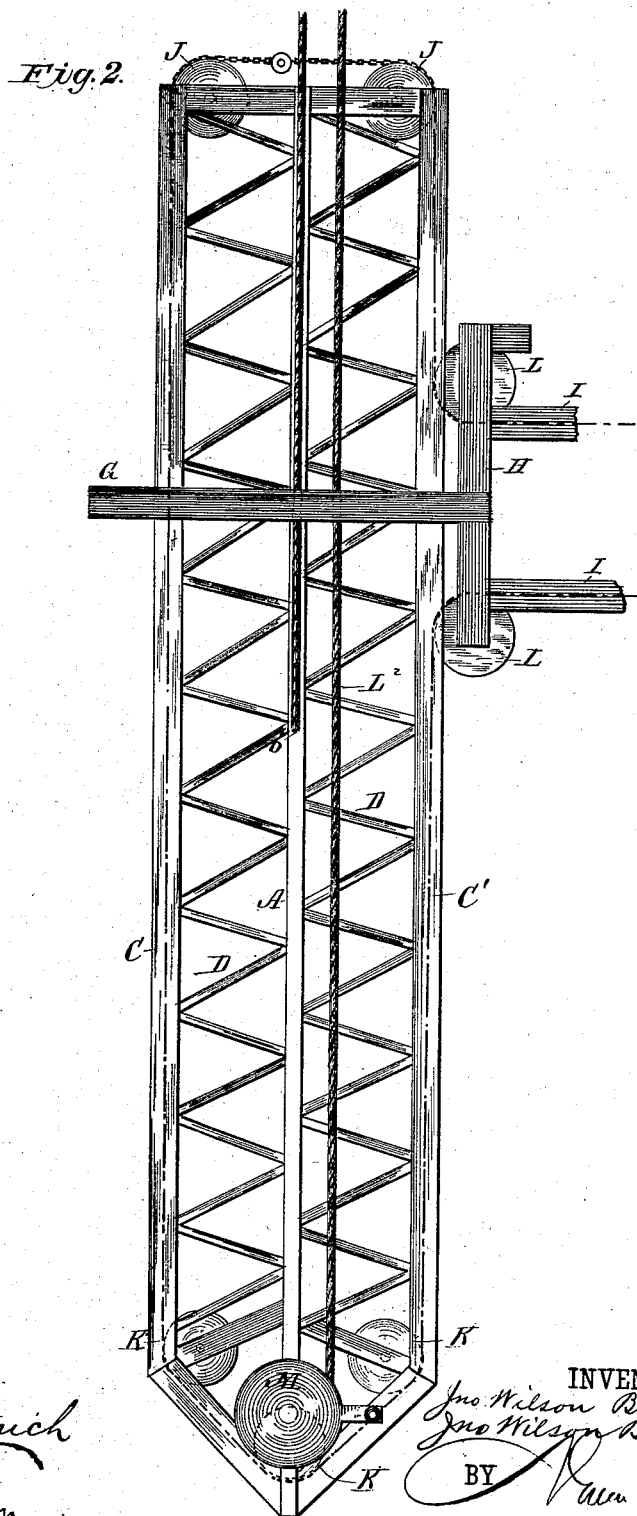
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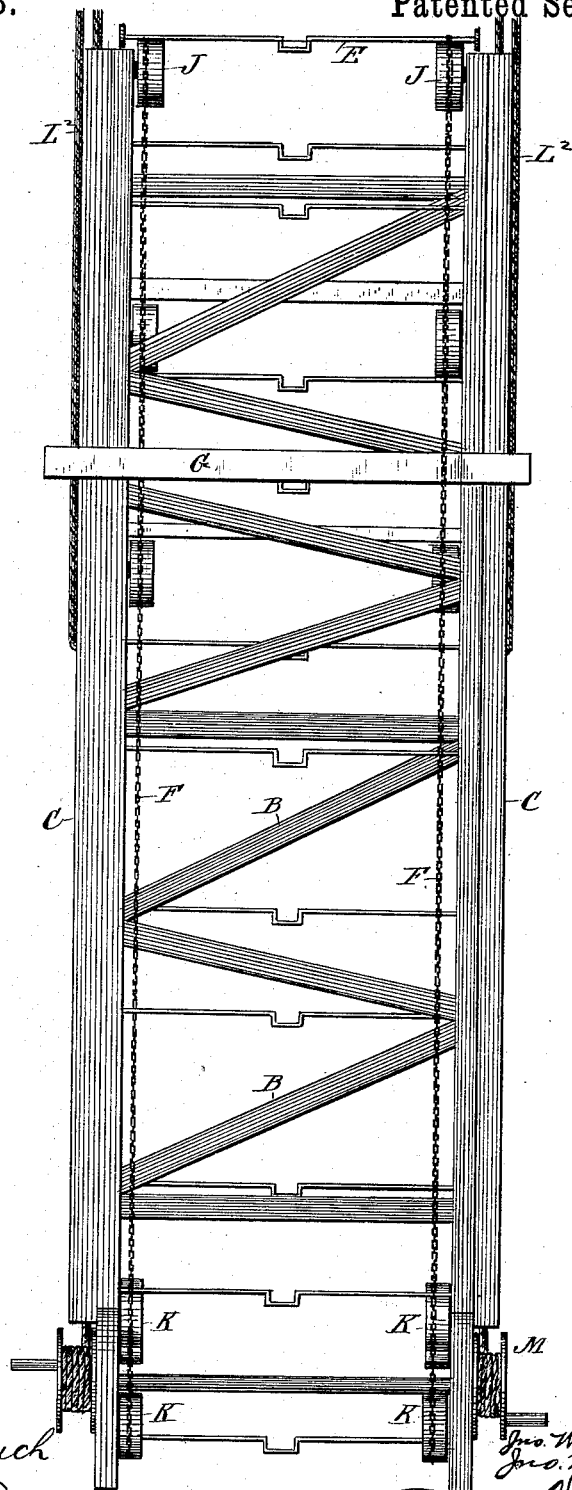
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Fig. 3



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(No Model.)

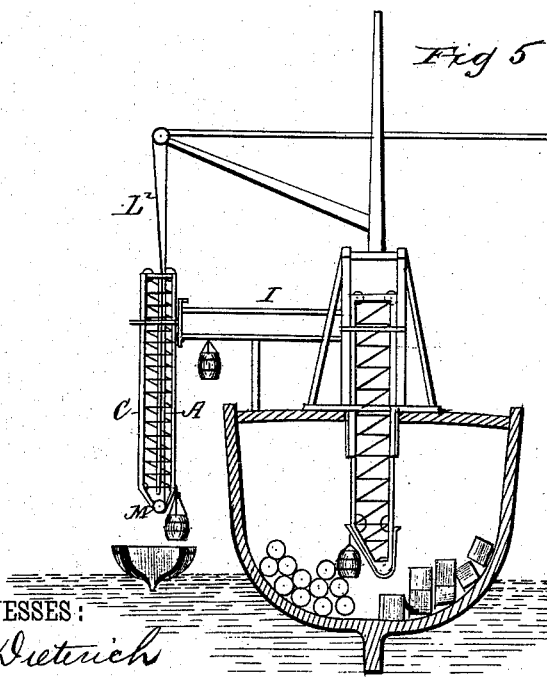
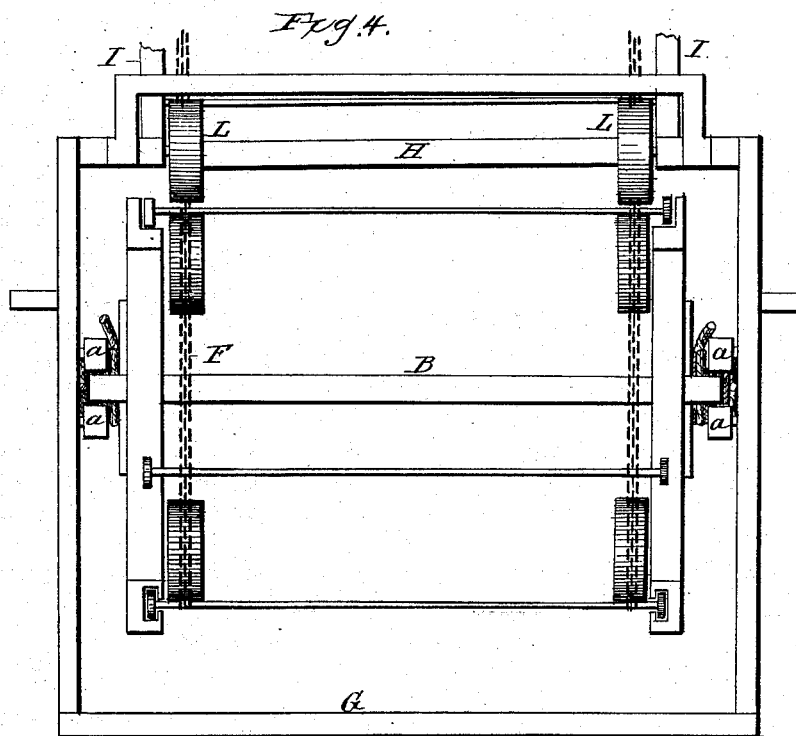
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# UNITED STATES PATENT OFFICE.

JOHN WILSON BROWN AND JOHN WILSON BROWN, JR., OF BALTIMORE, MD.

## APPARATUS FOR LOADING AND UNLOADING VESSELS.

SPECIFICATION forming part of Letters Patent No. 263,848, dated September 5, 1882.

Application filed June 26, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN WILSON BROWN and JOHN WILSON BROWN, JR., of Baltimore city, State of Maryland, have invented a new and Improved Apparatus for Loading and Unloading Vessels; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

In another application for a patent filed by us of this same date, and marked "Case A," we described and illustrated a derrick-frame designed to be set over the hatchway of a vessel and combined with an extensible frame capable of being projected into the hold of the vessel, around which extensible frame an endless carrier was guided, to which carrier the packages and articles in the hold were slung, and by which they were raised from the hold preparatory to being delivered from the vessel. In a second application, marked "Case B," filed at the same time, we described an apparatus to be placed on the wharf to support the shore end of the carrier and receive and transfer the articles to the desired point.

Our present invention consists in an apparatus to be used as an alternative device with that shown in Case B, for the purpose of delivering the goods to a lighter or depositing them on a wharf having no receiving-frame for the carrier.

The present invention consists in a frame-work suspended from a suitable rigging on the ship and hanging over the side of the same, which suspended frame is provided with means for adjusting its height from below, and forms a guide for the endless carrier coming from the hold of the ship, and around which the carrier travels, and from which the packages are removed to the lighter or wharf when they reach the lower end of the said frame.

Referring to the drawings, Figure 1 is an isometric projection in perspective of our improvement. Fig. 2 is a side elevation; Fig. 3, a front elevation. Fig. 4 is a top view; and Fig. 5 is a view taken transversely to a ship and a lighter, showing the relation of the present invention to the other parts in loading and unloading.

A A represent the two main timbers of the frame-work, connected together by middle braces, B.

C C C' C' are four corner-posts, which are attached to the main timbers A by braces D, and are provided with grooves *g* to receive the ends of the cross-bars E of the endless carriers F. The grooves in C C receive and inclose the ends of the bars E, while those in C' C' are open grooves or longitudinal recesses to allow the carrier to pass out laterally at any point in the different adjustments of the frame-work.

G is a frame-work encompassing three sides of the main frame A C C', and provided with friction-rollers *a a* for each of the bars A, and which, by resting upon opposite sides of the said bars, guide the frame A C C' in its movement up or down. The ends of the three-sided frame G are fastened to a frame, H, that is attached to the horizontal guide-rails I for the carrier, which guide-rails extend from the frame A C C' to the derrick mounted above the hatchway, as shown in Fig. 5.

In the top of the frame A C C' are four pulleys, J, and on the bottom of the same are six pulleys, K, while in the frame H are four pulleys, L, around which the endless carrier travels, coming into the frame A C C' at the lower pulleys of the frame H, and, descending to the lighter, is relieved of its load, and then, after turning the pulleys at the bottom of the frame A C C', it rises to the pulleys at the top of the same frame, and then, descending to the upper pulleys in frame H, enters the horizontal rails, and passes back to the hoisting apparatus at the hatchway.

For raising or lowering the frame A C C' inside of the frame G and H, the said frame A C C' is connected on each side to a rope, L<sup>2</sup>, at the point *b*, Fig. 1, which rope passes up to a suitable support in the rigging, (see Fig. 5,) where it passes over pulleys, and then descends on each side of the apparatus and is wound upon the windlass M at the bottom of the frame-work and within easy reach for manipulation. This vertical adjustment of the frame A C C' permits said frame to be lowered as the ship rises from being lightened and the lighter descends from being loaded, and this adjustment

of frame A C C' in the frames G H, it will be seen, is such that the length of the carrier remains always the same.

The apparatus herein described may be used also for unloading or loading coal and other loose stuff by simply placing it in buckets, suspending them on the carrier, and providing means for dumping the buckets.

Having thus described our invention, what we claim as new is—

1. The combination, with a frame, G H, connected to a hoisting apparatus on the ship by guide-rails, a suspended and vertically-adjustable frame moving in said frame G H, and an endless carrier moving around said vertically-adjustable frame and extending to and around the hoisting apparatus on the ship, as shown and described.

2. The suspended and vertically-adjustable frame, combined with the ropes L<sup>2</sup>, supporting-pulleys in the rigging of the vessel, and a windlass, M, at the bottom of said frame, for the purpose of forming an adjustable terminus

or delivery end of the carrier capable of being worked from the bottom, as shown and described.

3. The combination of the braced frame A C C', having four pulleys at the top and six at the bottom, and provided with grooves *g* for the endless carrier, the encompassing-frame G H, provided with pulleys L and connecting with horizontal guides for the carrier, the carrier traversing said frame, and the rope L<sup>2</sup> and windlass M, as and for the purpose described.

4. A suspended and vertically-adjustable frame provided with vertical carrier-guides in combination with a relatively stationary frame with horizontal carrier-guides, and a carrier passing from the latter to the former in any of its adjustments, as described.

JOHN WILSON BROWN.

JOHN WILSON BROWN, JR.

Witnesses:

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FRANK SULLIVAN.