N. C. GIELSTRUP & I. A. FIELD.

Vessel Loading Apparatus.

No. 203,334. **Patented May 7, 1878.**

Fig 1.

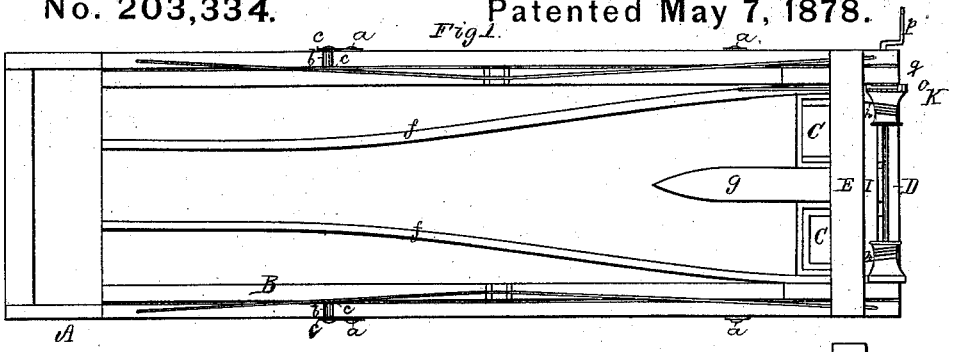


Fig 2.

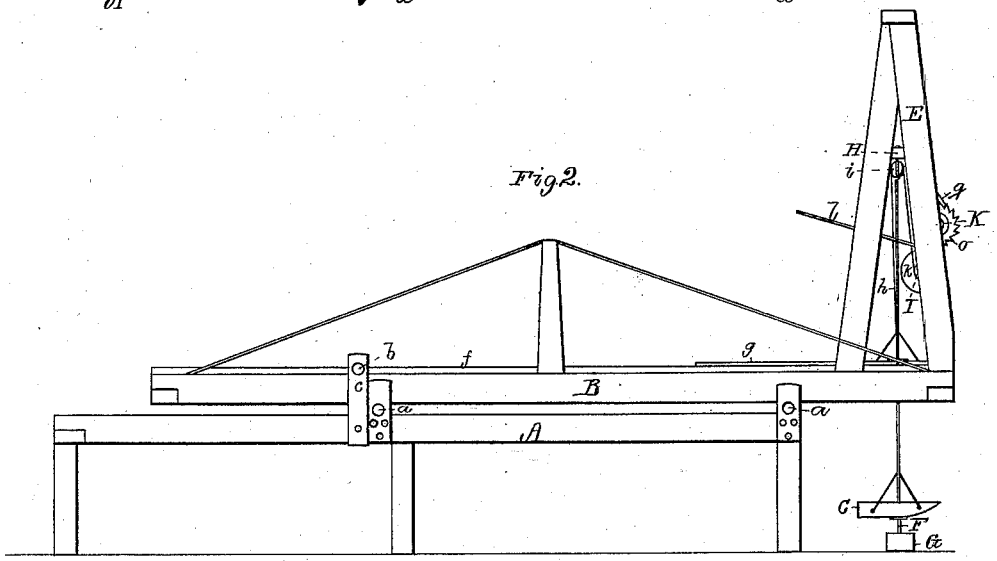


Fig 3.

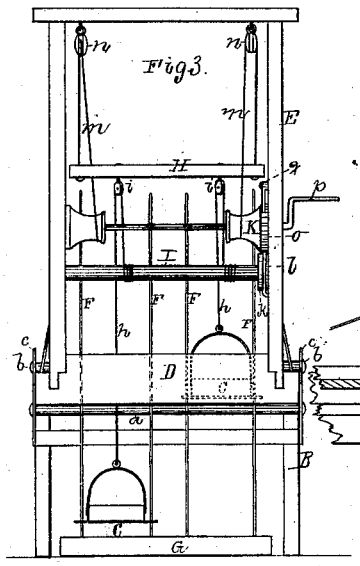


Fig 4.

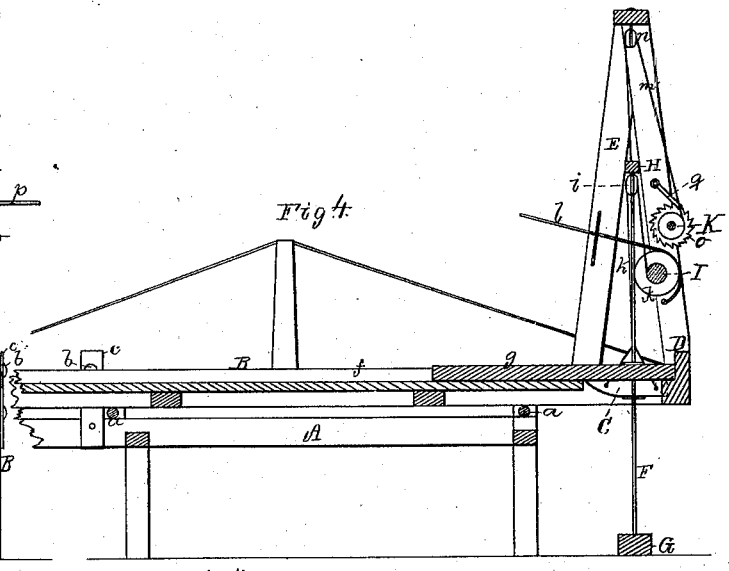
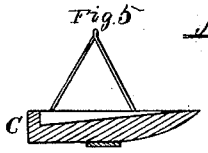


Fig 5.



Witnesses.
S. N. Pipe.
L. W. Miller

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by their attorney
R. H. Eddy

UNITED STATES PATENT OFFICE.

NEILS C. GIELSTRUP, OF BATH, AND ISAAC A. FIELD, OF PHIPSBURG, ME.

IMPROVEMENT IN VESSEL-LOADING APPARATUS.

Specification forming part of Letters Patent No. **203,334**, dated May 7, 1878; application filed April 16, 1878.

To all whom it may concern:

Be it known that we, NEILS C. GIELSTRUP, of Bath, and ISAAC A. FIELD, of Phipsburg, of the county of Sagadahoc and State of Maine, have invented a new and useful Means or Mechanism for Rapidly and Safely Loading a Vessel with Ice or Goods; and do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, Fig. 3 a front-end elevation, and Fig. 4 a longitudinal section, of it.

Our invention, as hereinafter explained, involves a stationary wharf or platform, a movable carriage, its stand-frame and bunter, two gigs, their supporting-lines, windlass, and brake, sundry guides, and a movable bar or traveler and its operative mechanism, all being constructed and applied essentially as represented.

In such drawings, A denotes a wharf or platform, provided with rollers *a a*, on which is placed a carriage, B, to slide lengthwise on such rollers. Rollers *b b*, arranged in uprights *c c c c*, prevent the carriage from tipping when projecting over the deck of a vessel while the hull may be at the end of the wharf. The carriage is furnished with rails *f f g*, for guiding the blocks of ice to and upon the gigs C C.

Extending up from the carriage at its outer end is a cross-bar or bunter, D, and an elevated frame, E, such frame being over openings in the carriage for the passage of the ice to the gigs. These gigs slide vertically on guide-wires F F F F, projecting upward from a timber, G, which is to rest on the keelson or cargo of the hold, and rises and falls with the hull as the latter does with the tide. The gigs are supported by ropes or chains *h h*, running through blocks *i i* suspended from a bar, H, which we term the "traveler." From these blocks the ropes go to and wind in opposite directions upon a windlass, I, having its head or wheel *k* provided with a friction-brake, *l*, all being arranged as shown.

A loaded gig, on descending, revolves the windlass, so as to cause the empty gig to be drawn up to the carriage to receive a load.

The traveler H is suspended by ropes *m m* leading through blocks or eyes *n n* at the top of the frame, and thence to a windlass, K, provided with a ratchet-wheel, *o*, and a crank, *p*. A pawl, *q*, pivoted to the frame, engages with the ratchet. By having the windlass the traveler may be raised or lowered, in order to regulate the fall of the gigs as the loading of the vessel may progress, or as the state of the tide may require. The bottom of each gig slopes relatively to the upper edges of its end and sides, in manner as shown in Fig. 5, the gig being open at one end. This is to prevent a block of ice from sliding out of the gig while the latter may be descending with it.

In operating with the above-described ice-loading machine or contrivance, the blocks are slid along the carriage to the gigs successively, one gig, on being laden, going down to discharge its load and driving the other up to receive a load. These mouths of discharge stand in opposite directions, so as to cause or enable the ice to be ejected from one on one side of the keelson and from the other on the opposite side thereof, such serving to facilitate the stowage of the ice in the hold. The rate of descent of a laden gig is regulated by the brake operated by an attendant.

The bunter is to estop the ice or prevent it from sliding off the forward end of the carriage, and to cause it to be properly delivered upon the gig.

Our invention, though specially designed for loading ice or cargo into a navigable vessel, may be often used to advantage in loading the cars of a railway, and also for loading store-houses with ice or other matters.

What we claim is as follows—that is to say:

1. The combination of the carriage, provided with the standing frame and bunter, as described, with the pair of gigs, their guides, supporting-ropes, windlass, and brake, all being arranged and to operate substantially as set forth.

2. The movable traveler and its supporting-lines and windlass, in combination with the movable carriage and its standing frame, and the two gigs and their supporting-lines, windlass, and brake, all being arranged, applied, and to operate essentially as specified.

3. The combination of the stationary wharf or platform and the movable carriage, its stand-frame and bunter, applied substantially as de-

scribed, with the two gigs, their guides, supporting-lines, windlass, and brake.

4. The combination of the stationary wharf or platform, the movable carriage, and its stand-frame and bunter, applied substantially as described, with the gigs, their supporting-lines, windlass, and brake, and with the traveler and its supporting-lines and windlass.

5. The gigs arranged between their guides, and so as to discharge in opposite directions relatively to the keelson or the foot-frame of the guides, as set forth.

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