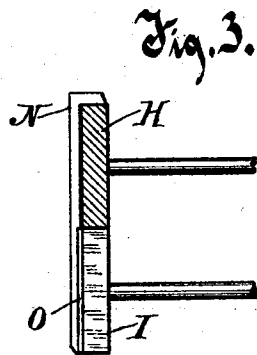
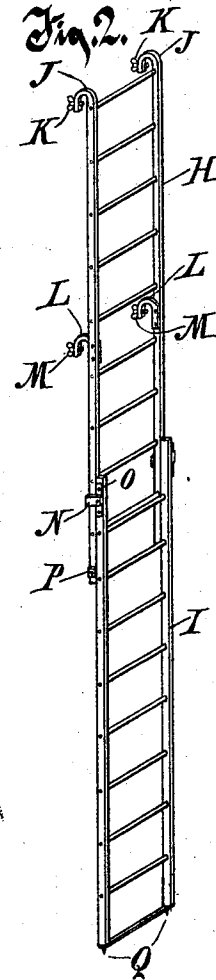
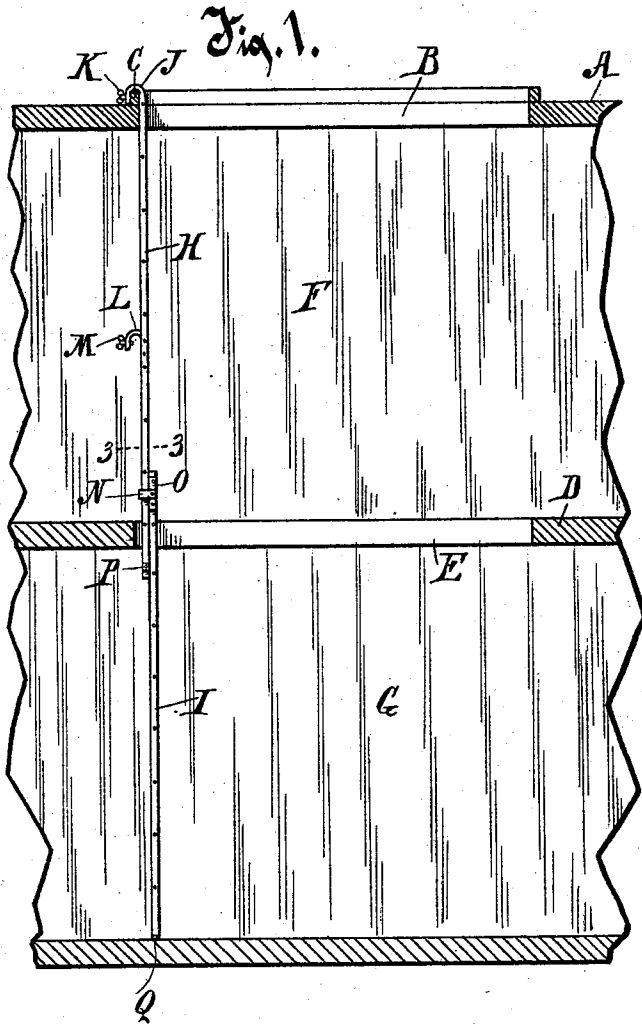


(No Model.)

J. J. NAGLE.
HATCHWAY LADDER.

No. 506,063.

Patented Oct. 3, 1893.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES J. NAGLE, OF MILWAUKEE, WISCONSIN.

HATCHWAY-LADDER.

SPECIFICATION forming part of Letters Patent No. 506,063, dated October 3, 1892.

Application filed May 18, 1893. Serial No. 474,628. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. NAGLE, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Hatchway-Ladders, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in hatch-way ladders.

In the ordinary form of ladders employed for the purpose of permitting access to the holds of freight vessels, rounds or rungs are arranged between the skids, which latter are permanently secured, and depend down into the hold of the vessel from one side of the hatchway. As the skids are used for the purpose of forming tracks for the ascending and descending freight, it is obvious that it is impossible for a ship-hand to ascend or descend the rounds between the skids during loading or unloading without being struck by heavy pieces of freight. Frequently serious accidents occur from this, when persons handling freight are unaware of the fact that a person is on the ladder.

It is the object of my device to provide a construction to prevent the danger above alluded to, and with this end in view the invention consists in the improved construction hereinafter more fully pointed out.

In the accompanying drawings, Figure 1, is a sectional view taken through the hold of a vessel showing my improved ladder applied thereto. Fig. 2, is a detail perspective view of the ladder, and Fig. 3, is an enlarged horizontal section on the line 3—3 of Fig. 1.

Like letters of reference denote like parts in all the figures.

Referring to the drawings the letter A indicates the deck of a vessel, provided with the usual hatch-way B, around which is arranged the raised rim C, comprising the usual coamings and head-ledges. An intermediate deck D, also provided with a hatch-way E, divides the hold into upper and lower compartments F and G respectively.

My improved ladder is shown as consisting of two sections, the upper section H being adapted to be secured rigidly, and the lower section adapted to have a sliding motion thereon. The side bars of the upper section are

formed or provided, at their upper ends, with hooks J J, which are adapted to fit over the raised rim of the upper hatch-way, either over the coamings or head-ledges, as desired, and secured thereto removably by means of thumb-screws K K. Hooks L L are also secured about medially to the inner side faces of the side bars of the upper section, said hooks likewise adapted to receive thumb screws M M, for securing them in place when adjusted to the raised rim of the upper hatch-way. Each side bar of the lower section I has secured to its outer face an angle iron N embracing the side face and rear edge of the contiguous side bar of the upper section, whereby the two ladders are held together, and the lower permitted to have a sliding movement upon the upper. Each angle iron is also provided with a securing flange O.

At or near the lower extremity of each side bar of the upper section is secured a stop P, which when said section is secured to the raised rim of the upper hatch-way by means of the medial hooks L L, prevents the lower section from becoming detached from the upper when the cargo is sufficiently unloaded to permit the lower section of the ladder to be extended its full length.

The ends of the side pieces of the lower section are advisably provided with projections Q Q, to prevent slipping, and of such form as to provide against injury to freight contained in bags, or within other destructible coverings.

In unloading from the hold the movable section of the ladder, as the cargo decreases in height, automatically lowers until the freight is entirely removed, when it becomes extended its full length, as shown in Fig. 1. In loading the cargo, as the height of the goods gradually increases, the lower section of the ladder is raised to make room therefor, as necessity requires. When the freight is piled up to such a height as to extend through the central hatch-way, and rest on the central deck, the upper section of the ladder is suspended by the central hooks L L. When suspended in this way, its upper end projects above the upper deck, while the lower end extends about half way down into the hold, and the lower end of the sliding section rests upon the piled up freight. As

the goods are removed, said lower section lowers with the lowering of the freight, always resting upon and being supported by said freight. When it has lowered sufficiently to allow the angle irons to contact with the stops, the upper section can then be suspended from the upper hooks.

From the foregoing description, it is thought that the operation and advantages of my improvement will be readily understood. Ship hands may descend and ascend the ladder with comparative safety, as there is very little danger of their being struck by heavy pieces of freight in loading and unloading, when the ladder is disposed and arranged in accordance with my invention.

While I have shown and described my improved ladder as consisting of two sections, I do not wish to be understood as limiting myself to that particular number of parts, inasmuch as it is evident that any number of sections may be employed to suit the requirements of a particular vessel, without departing from the spirit and scope of my invention.

In my improved construction, a ladder entirely independent of the skids is employed, which, by reason of its detachability, can be shifted to any side of the hatchway farthest away from moving freight, and therefore, at a point where ascent and descent can be accomplished without fear of injury.

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

1. A hatchway ladder, consisting of an upper section having the upper ends of its side bars formed or provided with hooks adapted to fit over, and to be detachably secured to, the raised rim surrounding the hatchway opening, said section extending down vertically through the hold to the hatchway opening beneath, and a lower section sliding freely upon the upper section, and extending vertically down, and normally resting upon, the floor of the lower hold, and adapted to be elevated or lowered as the cargo is loaded or unloaded, respectively, substantially as set forth.

2. A hatch-way ladder, consisting of an upper section having the upper ends of its side bars formed or provided with hooks adapted

to be detachably secured to the raised rim surrounding the hatchway opening, said section extending down vertically through the hold to the hatchway opening of the intermediate deck, hooks secured medially to the side bars of said upper section, and adapted to be hooked over the raised rim surrounding the hatchway, when the height of the cargo in the hold prevents the suspension of the section its full length into the hold, and a lower section sliding freely upon the upper section, and extending vertically down, and normally resting upon the floor of the lower hold, and adapted to be elevated or lowered as the cargo is loaded or unloaded, respectively, substantially as set forth.

3. A hatchway ladder, consisting of an upper section having the upper ends of its side bars formed or provided with hooks adapted to be detachably secured to the raised rim surrounding the hatchway opening, said section extending down vertically through the hold to the hatchway opening of the intermediate deck, hooks secured medially to the side bars of said upper section, and adapted to be hooked over the raised rim surrounding the hatchway, when the height of the cargo in the hold prevents the suspension of the section its full length into the hold, stops secured at or near the lower ends of the side bars of the upper section, a lower section sliding freely upon the upper section and extending vertically down, and normally resting upon the floor of the lower hold, and adapted to be elevated or lowered as the cargo is loaded or unloaded, respectively, and angle irons secured to the side bars of said lower section and embracing the sides and edges of the side bars of the upper section, said angle irons when the upper section is suspended by the medial hooks, and the lower section extended its full length, adapted to contact with the stops of the upper section, and thereby support the lower section in its extended position, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES J. NAGLE.

Witnesses:

ARTHUR L. MORSELL,

C. T. BENEDICT.