(No Model.) 2 Sheets—Sheet 1.

H. WINTER.

APPARATUS FOR TOWING AND SECURING HAWSERS OR LINES OF VESSELS.

No. 336,829. Patented Feb. 23, 1886.

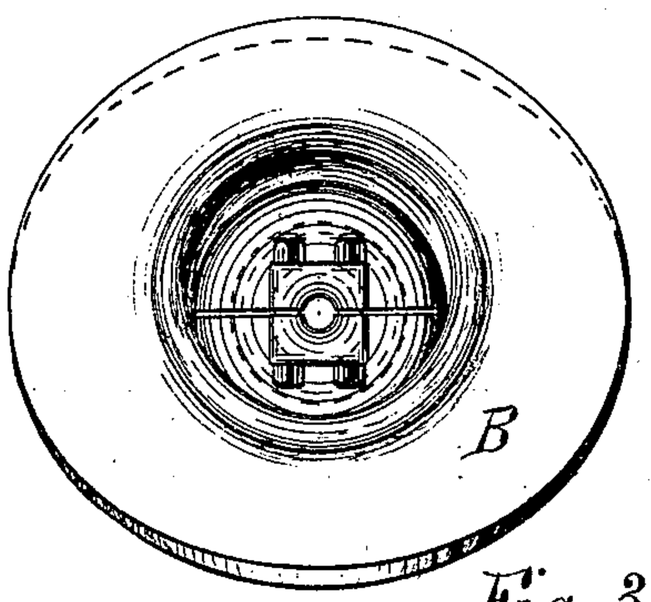


Fig. 3.

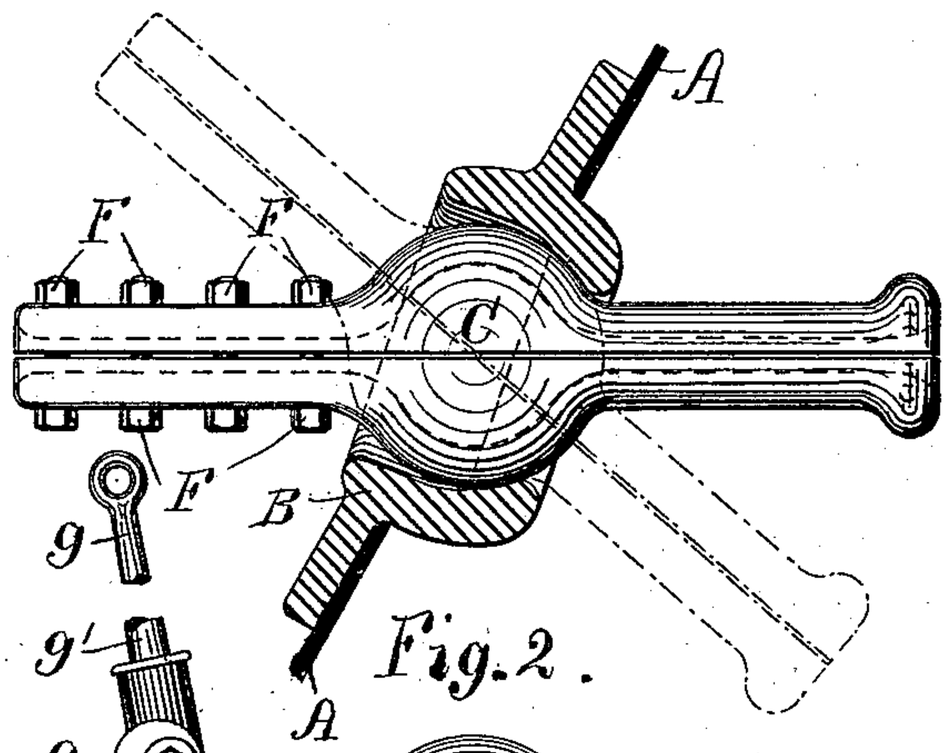


Fig. 2.

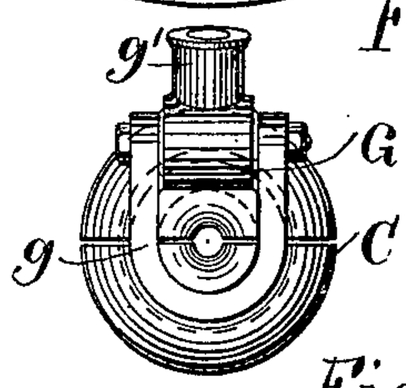


Fig. 5.

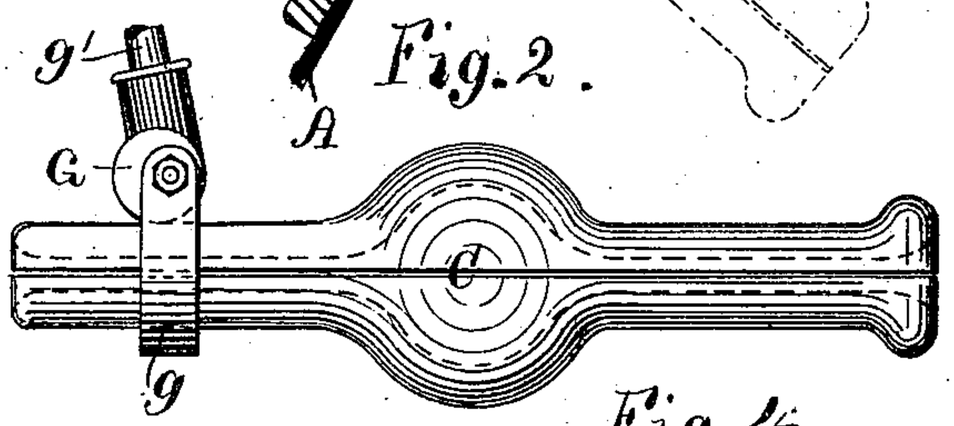
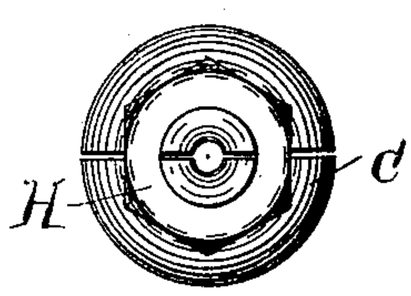


Fig. 4.



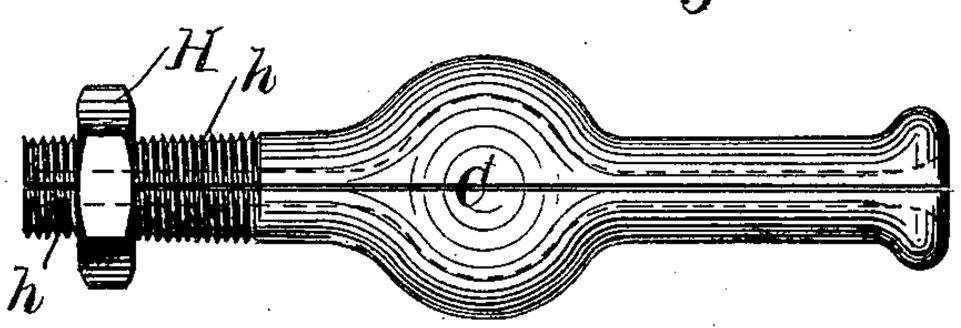


Fig. 6.

Fig. 7.

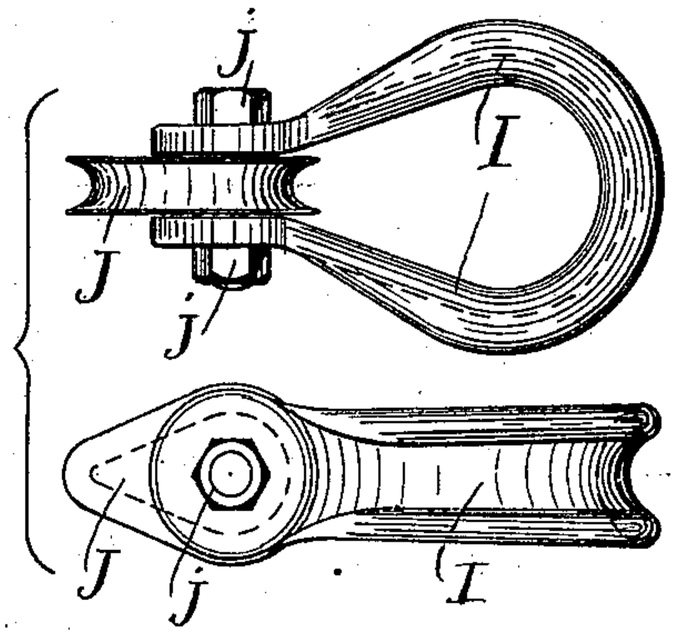


Fig. 8.

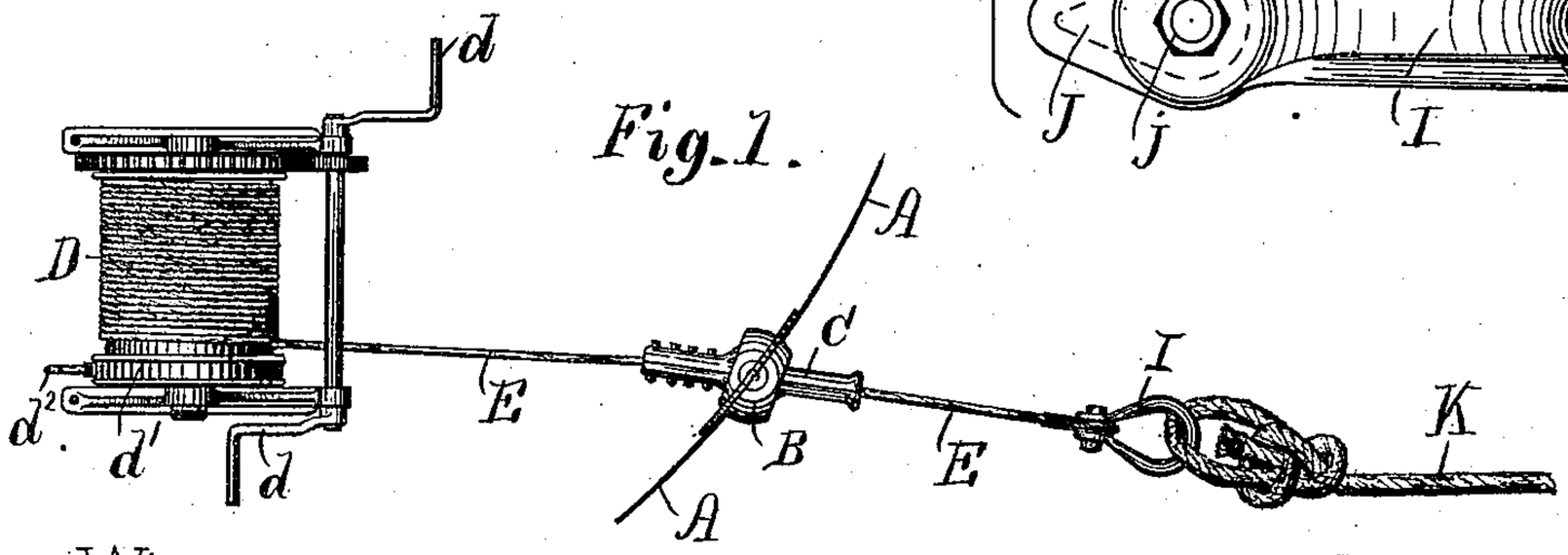


Fig. 1.

Witnesses.

Jacob S. Van Wyck

Thomas Hunt

Inventor.

Herman Winter

(No Model.) 2 Sheets—Sheet 2.

H. WINTER.

APPARATUS FOR TOWING AND SECURING HAWSERS OR LINES OF VESSELS.

No. 336,829. Patented Feb. 23, 1886.

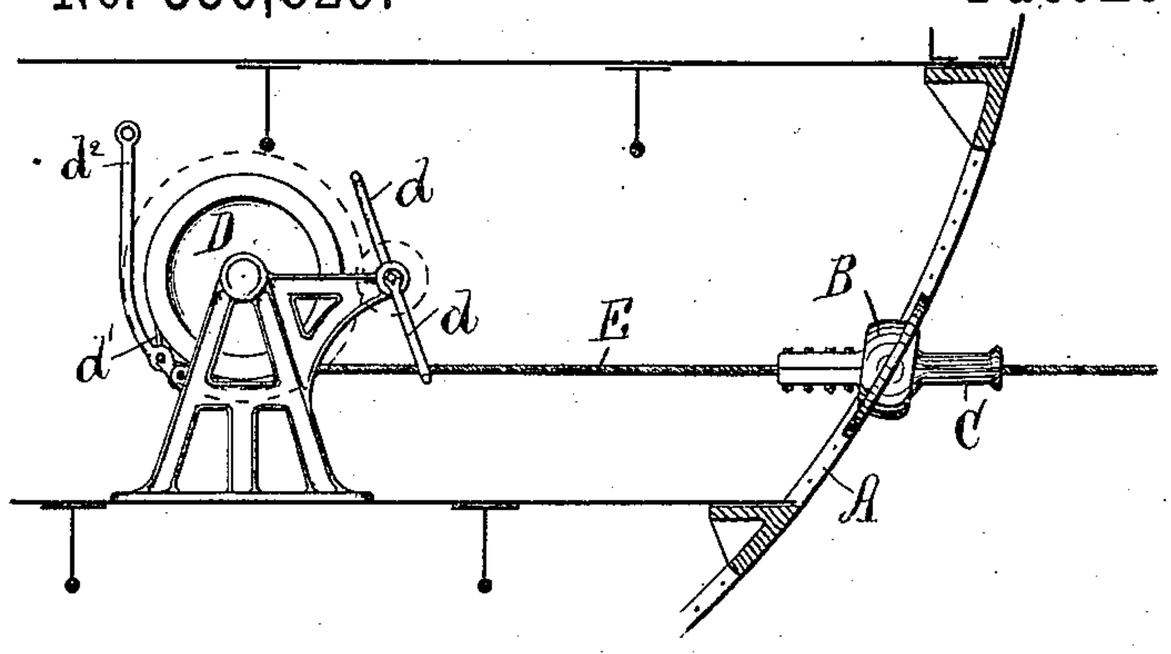


Fig. 9.

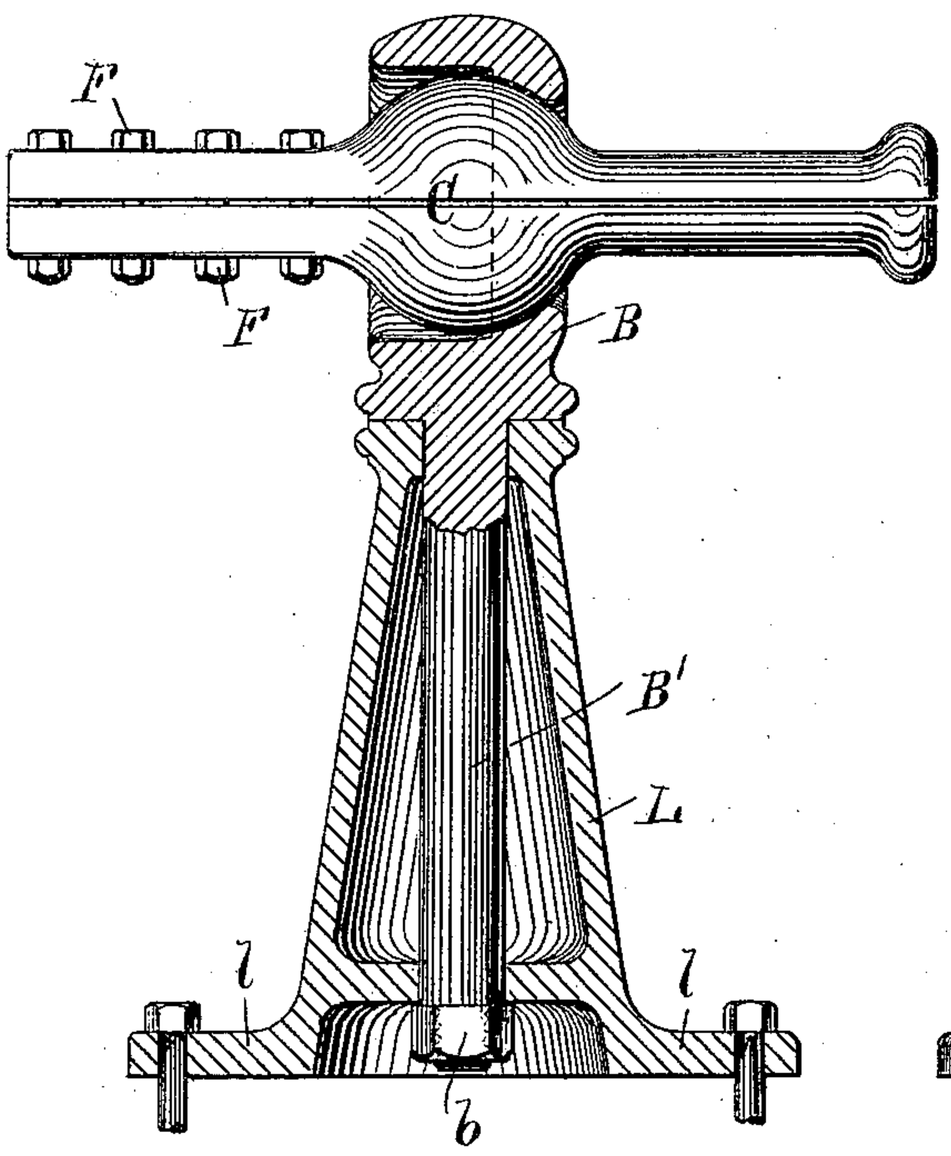


Fig. 11.

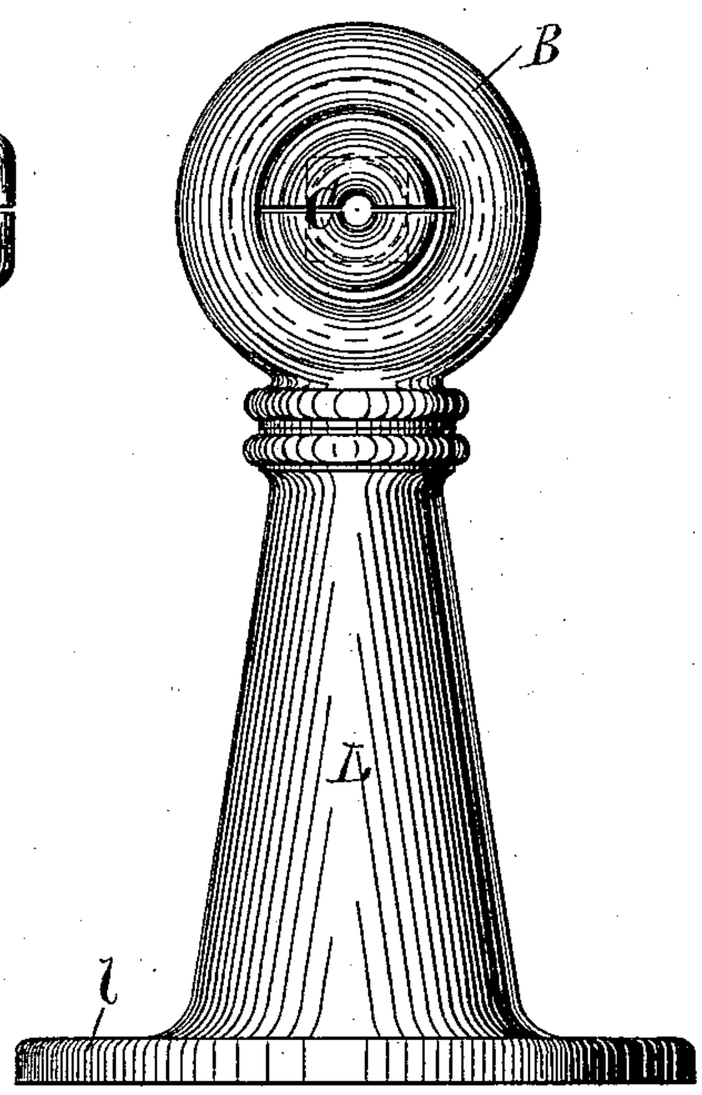


Fig. 10.

Witnesses.
Jacob S. Van Wyck
Thomas Hunt

Inventor.
Herman Winter

UNITED STATES PATENT OFFICE.

HERMAN WINTER, OF BROOKLYN, NEW YORK.

APPARATUS FOR TOWING AND SECURING HAWSERS OR LINES OF VESSELS.

SPECIFICATION forming part of Letters Patent No. 336,829, dated February 23, 1886.

Application filed March 27, 1885. Serial No. 160,173. (No model.)

To all whom it may concern:

Be it known that I, HERMAN WINTER, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Apparatus for Towing and Securing Hawsers or Lines of Vessels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to the manipulation of the tow-lines, hawsers, or lines upon various classes of vessels, and more particularly in ocean-going steamers. In the latter class of vessels the lines or hawsers, which are usually of wire, are very heavy, and consequently very cumbersome to handle. When these vessels are to be taken in tow, or are to take another vessel in tow, the line has to be passed by hand through a hawse-pipe, chock, or other device, and then made fast around a cleat, all of which necessitates the employment of many men, and, owing to the weight of the line, is a very slow and laborious operation. Moreover, it is extremely difficult to coil these lines or to otherwise stow them away in proper condition for instant use, especially when wet and frozen, owing to their weight and size.

The objects of my invention are to avoid these difficulties, and to provide means for readily stowing the lines when not in use, and for rapidly paying them out when suddenly required.

Another object of my invention is to provide an attachment by means of which the lines may be kept in constant readiness for use, and which shall hold them fast under varying strains during towing.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement embracing a winding-drum, and also a movable clamp, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a plan view of my improved towing apparatus in operative position. Fig. 2 is a view, partly in side elevation and partly in section, of one of my improved clamps in operative position. Fig. 3 is an inner end view of the same. Fig. 4 is a side elevation of a modified form of the clamping attachments. Fig. 5 is an inner end view of the same. Fig. 6 is a side elevation of a still further modified form of the clamping attachments. Fig. 7 is an inner end view of the same. Fig. 8 illustrates in side and edge views an improved eye for the tow-line. Fig. 9 is a view of my improved apparatus located between decks. Fig. 10 is a front elevation of a modified arrangement. Fig. 11 is a sectional view of the same.

In the said drawings, Figs. 1 and 2, A designates the hull of the vessel, and B designates the port or hawse hole. It will be apparent that these parts may be situated in the bow or stern or in either quarter of the vessel.

C designates the clamp, which is a longitudinally-divided tube formed with a central spherical enlargement, which, when working in the eye or socket of the hawse-hole B, constitutes a ball-and-socket joint, so that the clamp, the outer portion of which extends through the hawse-hole, may be free to turn in all directions.

D designates a windlass or winch, which is placed as nearly as possible in line with the hawse-hole, and which is provided with suitable gears by which its drum is rotated either by hand-power applied to one or more cranks, *d*, or by steam-power applied in the manner usual with steam-windlasses. The windlass is also provided, preferably, with a band-brake, *d'*, operated by a lever, d^2.

E designates the line or hawser, of fiber or wire, which is coiled upon the drum of the windlass and extends through the clamp C, and thus out of the hawse-hole.

In Figs. 1, 2, and 3 the clamp C is shown as being provided with a series of bolts, F, which extend through the inner portion of the clamp, and are tightened by a corresponding series of nuts.

In Figs. 4 and 5 the clamp is shown as provided with an eccentric, G, which is secured pivotally to a U-strap, *g*, and carries a hand-lever, *g'*, by moving which the two parts of the clamp are forcibly drawn together, so as to clinch the line E.

In Figs. 6 and 7 the inner ends of the clamp-sections are shown as formed with external screw-threads, *h*, upon which works a nut, H.

In Fig. 8, I designates a U-shaped eye, and

J designates a sheave, which is mounted so as to rotate between the extremities of the eye upon an axle secured by bolts *j*. The line E is passed over the sheave and made fast, and a hawser, K, of fiber is passed through the eye and made fast, so as to afford the necessary spring for the line. Thus it will be seen that when the line is paid out and the clamp has been tightened up the strain will be borne entirely by the clamp, so as to relieve the windlass; at the same time the windlass serves to insure the ready paying out and hauling in of the line, and holds the line always in readiness for immediate use. Moreover, the clamp meets all of the requirements of varying strains, since said clamp acts as a swivel. This swiveling action may be produced in various ways, and for this reason I do not wish to be understood as confining myself to the precise form of clamp herein described.

In Fig. 9 the clamp and windlass are shown as arranged between decks, while in Figs. 10 and 11 the hawse-hole B is shown as swiveled upon a standard, L, having a base, *l*, by which the standard is bolted to the deck. A stem, B′, extends down into the standard, and its lower end is secured by a nut, *b*. This arrangement is particularly suited for tow-boats, and may also be employed upon wharves or piers for mooring vessels, so as to relieve the hawsers from the strains produced by wind and current.

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

1. An improved clamp for hawsers, formed of two parts constructed to surround the hawser, and having an enlargement adapted to work and operate as a universal joint in the hawse-pipe, substantially as described.

2. An improved clamp for hawsers, provided with an enlargement to work and operate as a universal joint in the hawse-hole, and means for holding the parts of the clamp around the hawser, as set forth.

3. The combination, with the windlass, the hawse-hole, and the hawser, of the clamp C, composed of the two parts provided with the enlargements adapted to operate in the hawse-hole as a universal joint, and attachments for drawing the two sections or parts of the clamp together, substantially as specified.

HERMAN WINTER.

Witnesses:
THOMAS HUNT,
JACOB S. VAN WYCK.