(No Model.)

J. T. MATTHEWS.

ADJUSTABLE MAST SUPPORT FOR VESSELS.

No. 457,323. Patented Aug. 4, 1891.

Fig. 1.

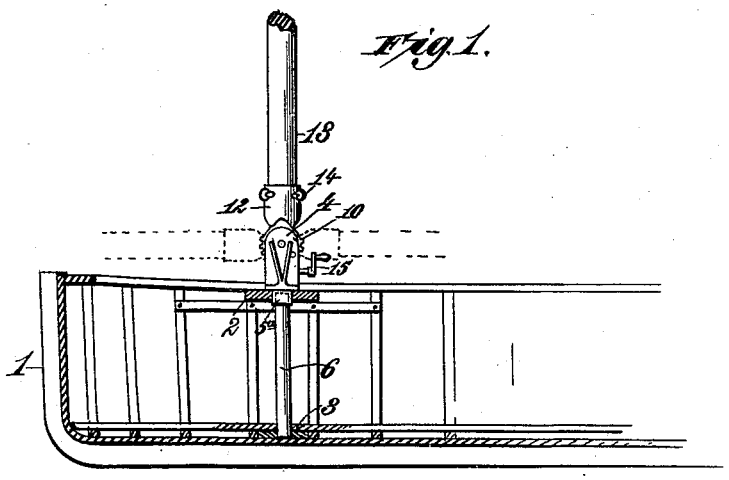


Fig. 2.

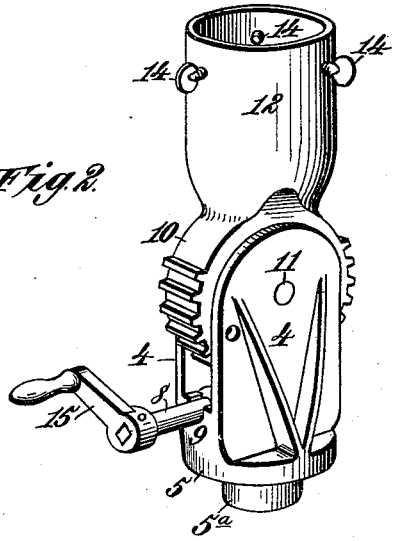


Fig. 3.

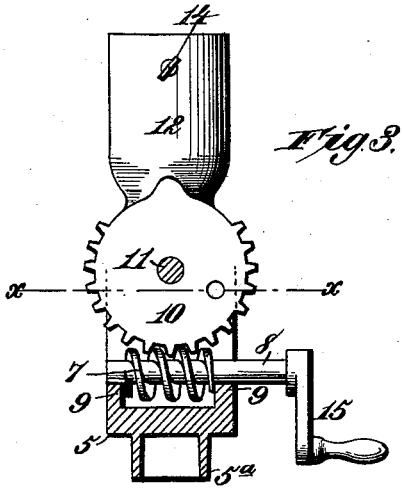
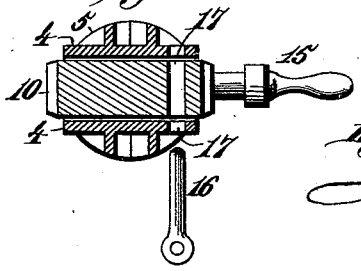


Fig. 4.



Witnesses.
Robt Ewatt.
Geo. W. Rea.

Inventor.
John T. Matthews.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

JOHN T. MATTHEWS, OF ANNAPOLIS, ASSIGNOR TO LEONARD M. LEVERING, OF BALTIMORE, MARYLAND.

ADJUSTABLE MAST-SUPPORT FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 457,323, dated August 4, 1891.

Application filed November 26, 1890. Serial No. 372,726. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. MATTHEWS, a citizen of the United States, residing at Annapolis, in the county of Anne Arundel and State of Maryland, have invented new and useful Improvements in Adjustable Mast-Supports for Vessels, of which the following is a specification.

This invention has for its object to provide a novel support for the mast of a sailing-vessel, whereby the mast can be conveniently and rapidly lowered fore and aft to place it in an approximately horizontal position if occasion should therefor arrive—as, for instance, in a storm, or in passing under bridges, or to reduce the rolling of a vessel in a high sea, or to so adjust the mast that it will aid in floating the vessel if aground fore or aft.

The invention also has for its object to provide novel means for swinging the mast in a vertical plane fore or aft, or at either side of the vessel to render the mast susceptible of being utilized as a means for loading and unloading a vessel with or without block and tackle.

The invention also has for its object to provide novel means whereby a mast can be conveniently raised or lowered and readily removed from its heel-support for repairs or the substitution of a new mast, as occasion may demand.

The invention also has for its object to provide a mast-support of such construction that the mast is locked in a perpendicular position or at any angle of inclination fore or aft, or laterally at either side of the vessel without the employment of block-and-tackle mechanism or extraneous locking devices.

To accomplish all these objects my invention involves the features of construction, the combination or arrangement of devices, and the principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a sectional view of a portion of a vessel, showing the manner of applying the improved mast-support. Fig. 2 is a detail perspective view of the mast-support. Fig. 3 is a sectional side elevation of the same, and Fig. 4 is a horizontal sectional view taken on the line $x\,x$ of Fig. 3.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, where—

The numeral 1 indicates a sailing-vessel of any type or construction and having a thwart 2 and a step 3 arranged on its keelson. The mast-support comprises a metallic frame, preferably cast integral with parallel upright cheek-pieces 4 and a circular base-plate 5, from the center of which at its under side depends a circular hub or journal 5^a, formed hollow to receive a wooden or other post 6, which is adapted to set and axially turn in the step on the keelson. The hub or journal is designed to set within a suitable socket provided in the thwart 2 in such manner that the entire metallic frame can be rotated axially.

A worm 7, provided with a shaft 8, is journaled in bearings or boxes 9, located on the base-plate between the cheek-pieces, and this worm engages a worm-wheel 10, which is mounted upon a suitable shaft 11, having its bearings in the cheek-pieces, whereby a rotary movement of the horizontal worm will impart a turning movement to the worm-wheel. The worm-wheel is provided with a rigidly-attached socket 12, in the form of a cup, for receiving the heel of the mast 13, which may be secured in the cup-shaped socket in any manner suitable for the conditions required, but as here shown is held by a series of set-screws 14, extending through the socket and engaging the heel of the mast. The cup-shaped socket may be formed integral with the worm-wheel, or it may be rigidly attached thereto in any suitable manner, the construction being such that by turning the worm-shaft in the proper direction the worm-wheel may be rotated in a vertical plane, whereby the mast is lowered to an approximately horizontal position on the sailing-vessel. I prefer to rotate the worm-shaft through the medium of an ordinary crank 15; but obviously any suitable device or mechanism may be employed for turning the worm and imparting the desired motion to the

worm-wheel. The rotation of the worm-shaft in one direction will lower the mast toward the prow of the vessel, while the rotation of the worm-shaft in the opposite direction will lower the mast toward the stern of the vessel.

If the metallic frame be turned axially through the medium of its hub or journal, the mast can be lowered laterally at either side of the vessel in various positions. By the engagement of the worm with the worm-wheel the mast will be held in any position to which adjusted, for obviously it is impossible for the worm-wheel to turn unless the worm is intentionally rotated; but I prefer to provide a locking device for retaining the worm-wheel against rotation in case of breakage of or injury to the worm. This locking device may consist simply of a locking-pin 16, adapted to pass through orifices 17, Fig. 4, in the cheek-pieces of the metallic frame and the worm-wheel. The construction of the mast-support is such that the mast can be removed from the cup-shaped socket if repairs be necessary or if a new mast is desirable.

By the swiveling of the metallic frame the mast can be lowered fore or aft or laterally at either side of the vessel, which is useful in that the weight of the mast can be thrown in any direction desired to aid in floating the vessel if any part thereof is aground. The swiveling of the mast-support also enables the mast to be utilized after the manner of a derrick for loading and unloading vessels and other similar purposes, and this can be effected without block-and-tackle mechanism, since the mast can be raised and lowered in various positions within a circular line round the vessel.

The invention is useful for all light sailing-crafts, schooners, and the like, and provides for conveniently raising and lowering the mast without block-and-tackle mechanism.

It will be obvious that my invention is useful for flag-staffs, derricks, and like purposes, and therefore I do not confine myself to any particular use of the mast-support.

Having thus described my invention, what I claim is—

1. A mast-support for sailing-vessels, consisting of a worm-wheel carrying the mast, a frame adapted to be supported by a part of the vessel and carrying the worm-wheel, and a worm journaled on the frame for rotating the worm-wheel to raise and lower the mast fore or aft, substantially as described.

2. A mast-support for sailing-vessels, consisting of a worm-wheel having a cup-shaped socket for receiving the heel of the mast, a frame adapted to be supported by a part of the vessel and carrying the worm-wheel, and a worm for rotating the worm-wheel to raise and lower the mast, substantially as described.

3. A mast-support for sailing-vessels, consisting of an axially-rotating frame, a worm-wheel journaled on the frame and carrying the mast, and a worm journaled to said frame and serving to turn the worm-wheel for swinging the mast in a vertical plane fore or aft or laterally to either side of the vessel, substantially as described.

4. A mast-support for sailing-vessels, consisting of a frame having a base-plate provided with a pendent hub or journal, a post secured to the hub or journal and adapted to rest in a step on the keelson, a worm journaled on the frame, and a worm-wheel supported by the frame and carrying a mast, substantially as described.

5. A mast-support for sailing-vessels, consisting of a frame having cheek-pieces and a base-plate provided with a pendent hub, a worm journaled in the frame, and a worm-wheel journaled between the cheek-pieces and having a socket for the heel of a mast, substantially as described.

6. A mast-support for a sailing-vessel, consisting of a frame, a worm journaled thereon, and a worm-wheel supported by the frame and having a cup-shaped socket provided with set-screws for holding a mast, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN T. MATTHEWS.

Witnesses:
JAS. REVELL,
J. ROLAND BRADY.

Correction in Letters Patent No. 457,323.

It is hereby certified that Letters Patent No. 457,323, granted August 4, 1891, upon the application of John T. Matthews, of Annapolis, Maryland, for an improvement in "Adjustable Mast-Supports for Vessels," was erroneously issued to Leonard M. Levering, of Baltimore, Maryland, as owner of the entire interest in said invention; that said Letters Patent should have been issued to said *John T. Matthews and said Leonard M. Levering, jointly*, said Levering, being assignee of one-half interest only in said invention as shown by the assignments of record in this office; and that said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 11th day of August, A. D. 1891.

[SEAL.]

CYRUS BUSSEY,
Assistant Secretary of the Interior.

Countersigned:

W. E. SIMONDS,
Commissioner of Patents.