

(No Model.)

J. P. MANTON.

SHIP WINDLASS.

No. 350,464.

Patented Oct. 5, 1886.

FIG. 1.

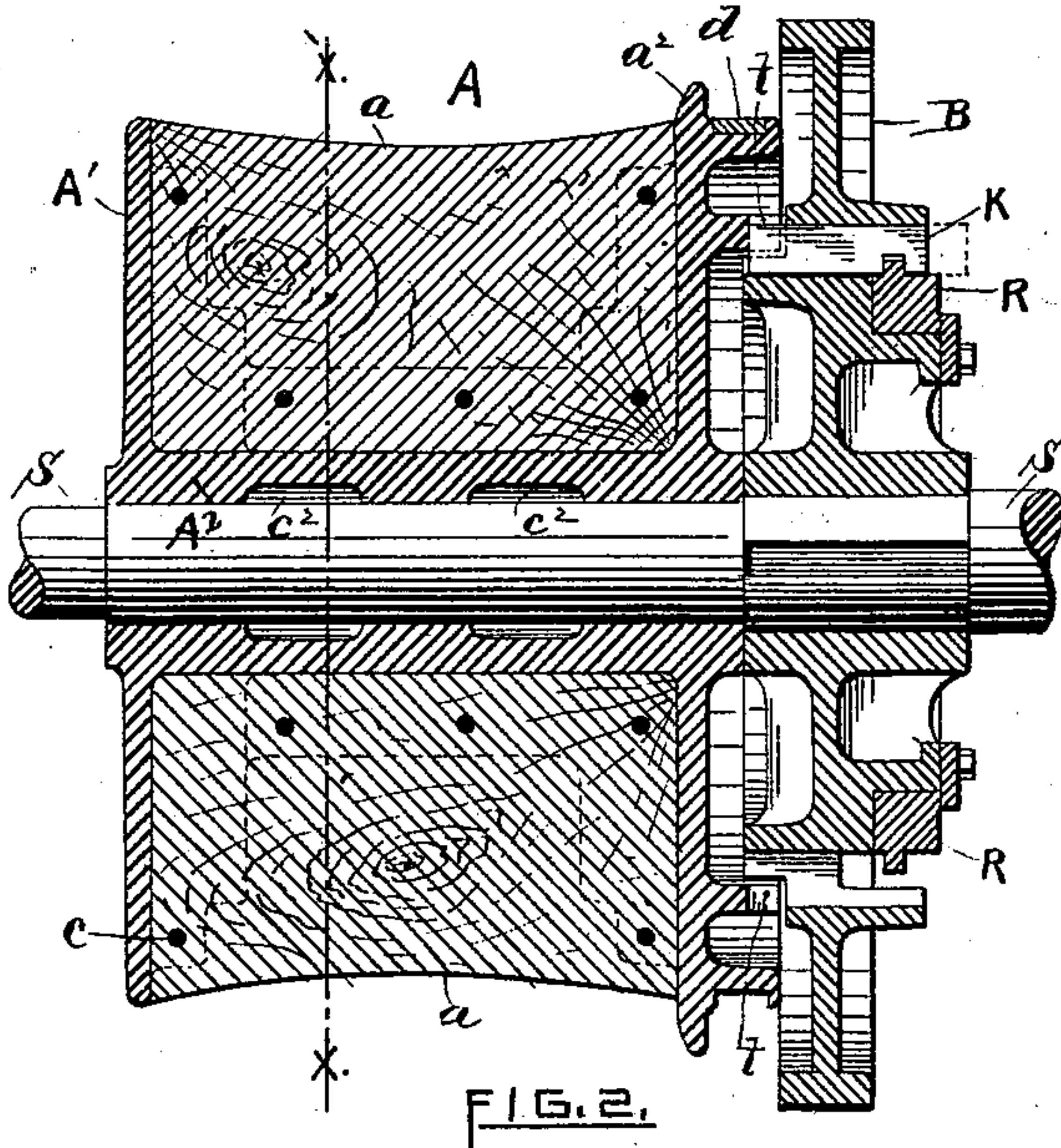
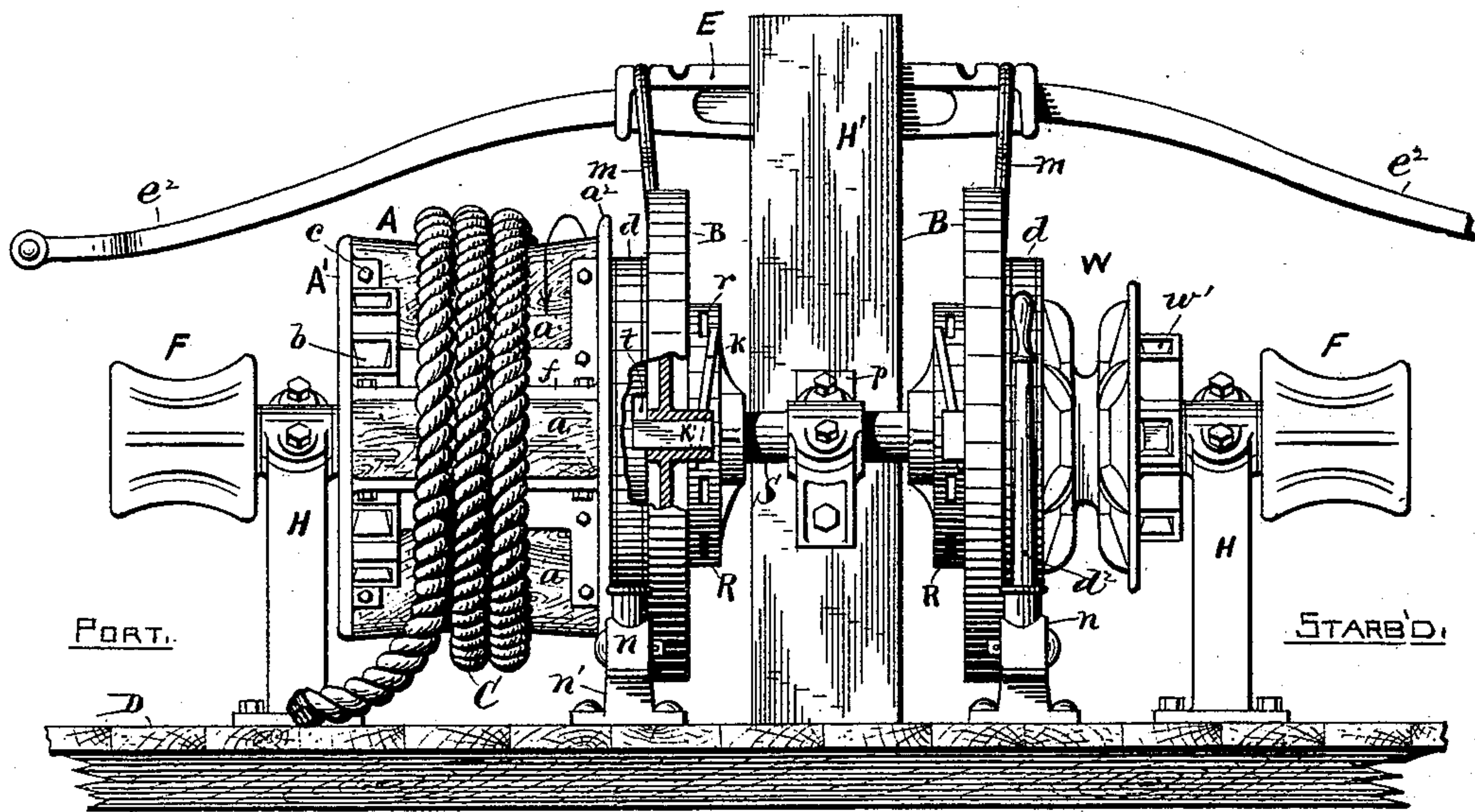


FIG. 2.

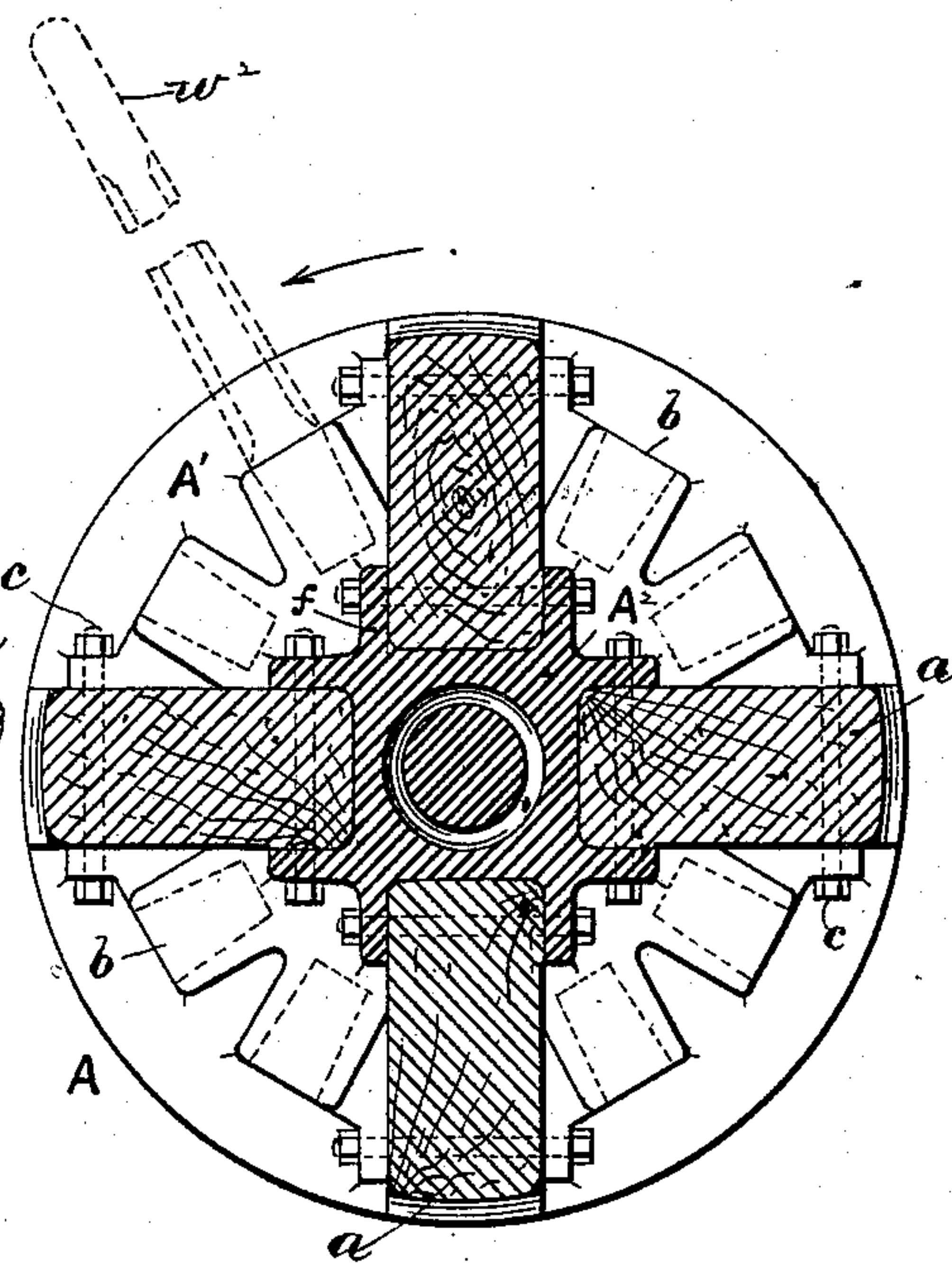


FIG. 3.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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SHIP-WINDLASS.

SPECIFICATION forming part of Letters Patent No. 350,464, dated October 5, 1886.

Application filed January 8, 1886. Serial No. 187,942. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. MANTON, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Ship-Windlasses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates more particularly to windlasses adapted to be employed on board fishing-vessels or dredging-boats; and it consists, essentially, in the novel construction of the hoisting drum, in combination with means for operating and controlling the same.

The object of my present invention is to provide a windlass with means whereby the hawser or cable is readily adapted to be used in "letting go" or "taking in" the anchor, said cable passing round a drum loosely mounted on the windlass-shaft. The drum is composed of a metallic hub or center having end flanges extending therefrom, between which are fitted a series of, preferably, wooden sections, forming longitudinal ribs round which the cable passes. The drum is further provided with means whereby it is adapted to be locked to the driving-head and disengaged therefrom. A series of sockets are cast or formed in the drum, (near one end,) for the purpose of receiving a "handspike," all as will be more fully hereinafter set forth and claimed.

This invention, as before stated, resides, mainly, in the peculiar construction and arrangement of the cable-drum, and in order to illustrate the same I have prepared the accompanying sheet of drawings, in which—

Figure 1 represents, in elevation, a pump-brake windlass provided with a drum embodying my improvements, the windlass as drawn being viewed from the after side. Fig. 2 is an enlarged longitudinal central sectional view through the drum and the driving-head; and Fig. 3 is a transverse sectional view taken on line *x x* of Fig. 2.

The following is a detailed description of the invention, including the manner of its operation.

H H designate the side bitts, and H' the pawl-bitt carrying the windlass-shaft S, the latter having driving-heads B and warping ends F secured thereto, as common. To the pawl or center bitt, H', is pivoted the beam E, which is fitted with brakes *e*² and working links or connections *m*, the latter being adapted to connect with the heads B, to operate the windlass in the arrow-direction, as usual.

W designates a wild-cat or chain-wheel of ordinary construction, except that it is provided with a series of sockets, *w*', adapted to receive the end of a bar or handspike, said wild-cat being loosely mounted on the shaft S, and adapted to revolve in unison therewith by means of a suitable locking device, the latter, however, forming no part of this present invention.

A indicates the ribbed drum loosely mounted on the port side of the windlass-shaft, said drum consisting of the metallic center or hub portion A², provided with the longitudinal ribs *f* and circular end flanges, *a*² A', the former, *a*², having a narrow cylindrical flange extending therefrom adapted to receive a brake-band, *d*, which connects with stands *n*', secured to the deck D.

t indicates one or more recesses or pockets formed in the face of flange *a*², for the purpose of receiving locking-keys K, mounted in and carried by the head B, said keys being moved endwise by means of the partial rotation of a loosely-mounted ring, R, having inclines *k* thereon, which engage said keys. Between the ends *a*² A' are fitted the wooden blocks *a*, which serve as longitudinal ribs upon which the hawser is wound, said ribs being hollowed out slightly and retained in position by means of bolts *c*, as shown. The drum is further provided with a series of circularly-arranged sockets, *b*, the same being formed adjacent to one of the end flanges and alternating with the ribs *a*, all as clearly shown in the drawings. By means of this construction of the drum A the ribs *a* thereof present a polygonal surface to the hawser, thereby preventing the latter from slipping. When the ribs become worn and the drum consequently

reduced in diameter, the old ribs may be easily removed and new ones substituted, thereby saving much time and expense as compared with windlasses heretofore in general use, which require the removal of the windlass from the bitts in order to secure a new drum upon the shaft.

As hereinbefore intimated, this class of vessels anchor in quite deep water, and experience has demonstrated that hawsers or rope cables are preferable to chain cables in riding at anchor.

The operation may be described as follows: Upon arriving at the anchorage the keys K are withdrawn from the drum, thus leaving it free to revolve on the shaft. A man is stationed at the brake d , which, in connection with the lever d^2 , is adapted to control the speed of the drum in running out the cable. The anchor is now tripped or "uncatted," the cable at the same time running out over the drum, the man before referred to keeping it under control. In taking the anchor the drum is first locked to the head. The brakes e^2 are then manned and worked as usual, which causes the windlass to revolve in the arrow-direction. In "breaking" anchor auxiliary power may be employed by means of men working bars w^2 , inserted in the sockets b . The raised flange a^2 of the drum serves as a guide to prevent the hawser from running off, both in paying out and taking in.

The vessel may ride at anchor by means of the windlass by simply passing the after end of the hawser under the drum and securing it (the hawser) to the forward portion thereof, the drum then being unlocked from the head B.

It is obvious that my improvements may be readily adapted to be used in the capstan class of windlasses without departing from the spirit of the invention. It is also evident that the drum may be detachably secured to the driving-head of the windlass by other means than the one shown without affecting its efficiency or novelty.

In lieu of the wooden blocks or ribs a , as shown, the metallic frame or skeleton may be provided with removable metallic ribs, although I prefer the former, as they produce less wear on the cable.

I do not claim, broadly, herewith the mechanism employed in locking and unlocking the loosely-mounted drum, as represented in the

drawings; neither do I claim the friction-band and its connections, &c., for controlling the movement of the drum in running out the cable, as my invention; but

What I do claim, and desire to secure by Letters Patent of the United States, is--

1. In a ship's windlass, the combination, with the loosely-mounted drum having longitudinally-arranged projecting ribs removably secured thereto, adapted to receive the cable, and means for controlling the cable in running out, of a driving-head firmly secured to the windlass-shaft, and means, substantially as shown and described, for locking the drum to the driving-head, for the purpose set forth.

2. The improved drum hereinbefore described, consisting of the end flanges connected or integrally united by means of the center hub and its ribs, and a series of projecting wooden ribs fitted radially around said hub to form longitudinal welts, which are retained in position by means of bolts, substantially as shown, the whole arranged and adapted for use as and for the purpose set forth.

3. In a ship's windlass, the drum A, hereinbefore described, loosely mounted on the driving-shaft, having the metallic hub A^2 , end flanges, $A' a^2$, sockets b , and wooden ribs a , fitted and secured longitudinally of the drum, in combination with the rigidly-secured driving-head provided with means for locking it to the drum, substantially as described, and for the purpose set forth.

4. The windlass hereinbefore described, consisting of the main shaft S, driving-heads B, secured to said shaft, a wild-cat, W, having sockets formed therein, loosely mounted on the shaft, and means for locking the wild-cat to its driving-head, the drum A, provided with longitudinal ribs a , and sockets b , loosely mounted on said shaft, means for locking the drum to its driving-head, and means for imparting a rotary motion to the windlass, the whole combined, arranged, and mounted in bearings secured to the bitts, all substantially as shown and set forth.

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

JOSEPH P. MANTON.

Witnesses:

GEO. H. REMINGTON,
CHARLES HANNIGAN.