

F. S. MANTON.

WINDLASS.

No. 188,925.

Patented March 27, 1877.

Fig. 2.

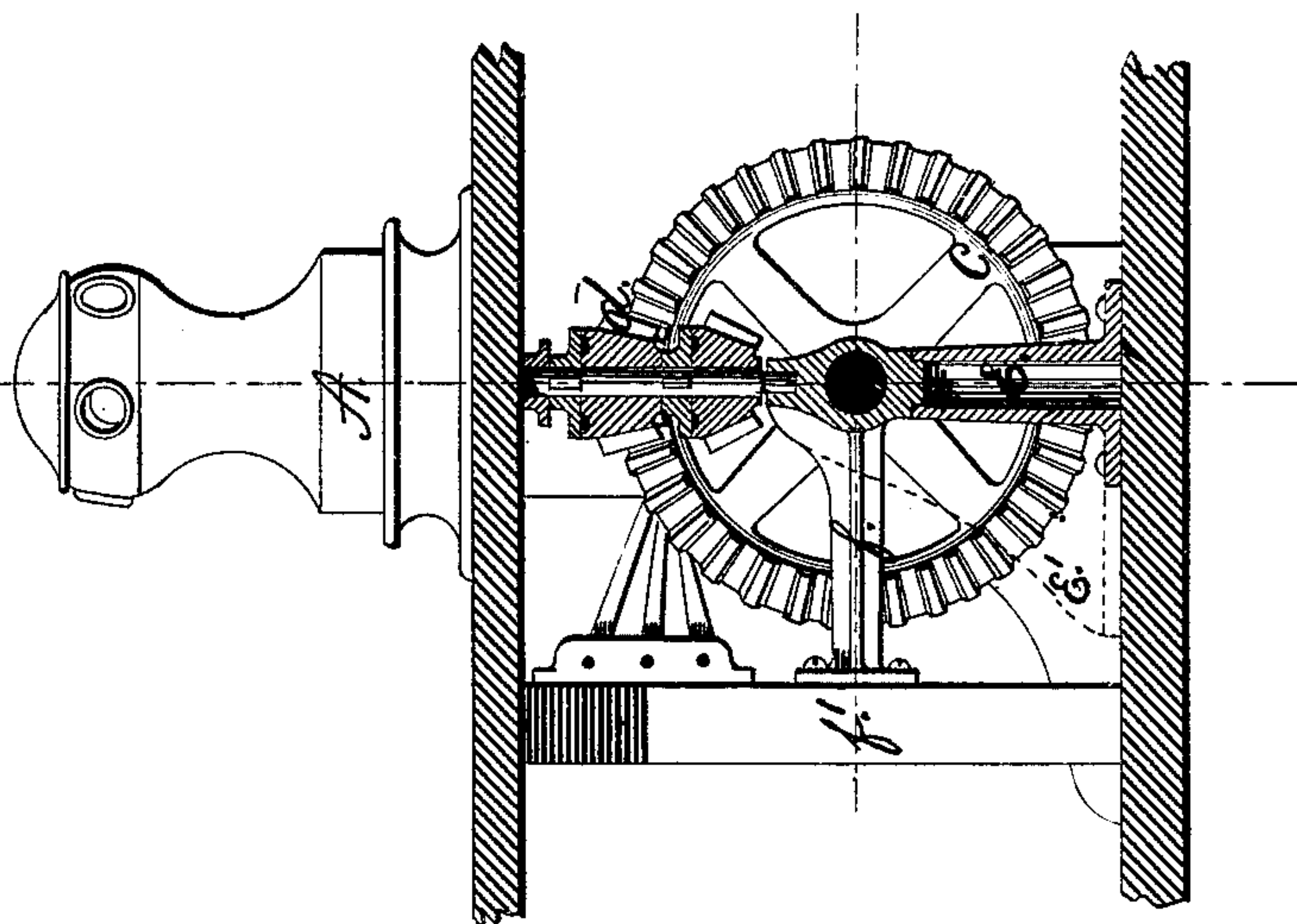
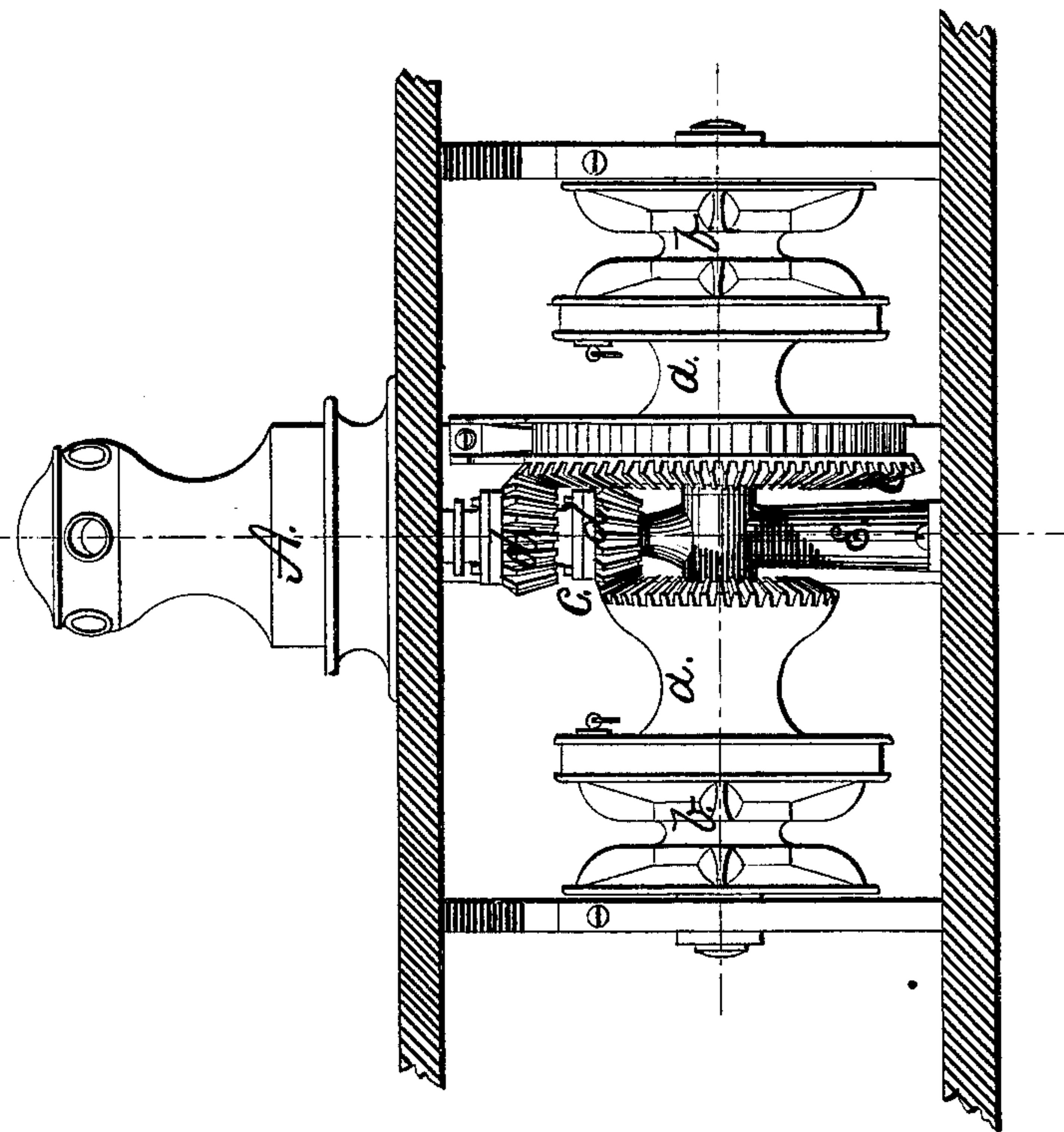


Fig. 1.



WITNESSES.

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FRANK S. MANTON, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN WINDLASSES.

Specification forming part of Letters Patent No. **188,925**, dated March 27, 1877; application filed November 4, 1876.

To all whom it may concern:

Be it known that I, FRANK S. MANTON, of the city of Providence, county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Windlasses; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to the kind of windlasses used on board of ships, usually in connection with a capstan; and consists in the peculiar arrangement by which a firm and solid bearing is secured to the center of the windlass-shaft, so as to firmly brace the same against the lateral and downward strain of the anchor-chains, and also form a support to the shaft and pinions of the capstan by which the windlass is operated.

Figure 1 is a front elevation of the windlass and capstan, showing the ship's decks in section. Fig. 2 is a sectional view of the central support of the shaft and its connection with the windlass and capstan, an oblique brace being indicated in broken lines, which may be used when the horizontal brace is objectionable.

In the drawings, *a a* are the windlass-barrels. *b b* are the wildcats. *c c* are the gears, and *d d* the pinions. *E* is a column secured to the deck and arranged to form a bearing for the windlass-shaft between the two gears *c c*, and extending upward to form a step for the shaft of the pinion *d*. *E'* is a diagonal projecting brace, and *f* a horizontal brace, one end being secured to the stanchion *f'*. *A* is the capstan, by means of which the windlass is operated from the upper deck.

In windlasses, as heretofore constructed, any excessive strain on a rope secured to the barrel, or even any excessive strain on the wildcat, had a tendency to bend the windlass-shaft, which, in a double windlass, must necessarily be of considerable length. Heavy shafts have been resorted to to prevent the bending, but so sudden are at times the strains

brought on a windlass that even these are often seriously strained. In a windlass as shown in the drawings, where beveled pinions gear into beveled gears, the least strain on the center of the shaft will prevent the free working of the gears.

By supporting the shaft in the center of the windlass, as shown in the drawings, and bracing the same in the direction of the strains, a lighter shaft may be used, and any straining or bending of the same is avoided, the gears will at all times be in their proper relative position, and will work with great freedom and fit accurately.

The pinions *d d* have to resist considerable strain, and by supporting the end of their shaft in a permanent step they are more firmly supported than when the same is not so supported in a fixed bearing secured to the deck of the ship.

By this arrangement a much lighter windlass-shaft will sustain greater strain, and the windlass can be operated by the capstan with certainty, no matter what strain may be on the windlass-barrel or the wildcats, and the parts are not liable to injury, a matter of serious consideration in a ship-windlass, on whose prompt and efficient action the safety of the ship frequently depends.

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

1. The combination, with the vertical post *E*, arranged to support the center of the windlass-shaft, and extending upward to receive the shaft of the pinion *d*, of the horizontal brace *f*, substantially as and for the purpose specified.

2. In a double windlass, substantially as described, the central laterally or fore-and-aft braced bearing, arranged to support the shaft, and relieve the same from lateral or downward strains, substantially as described.

FRANK S. MANTON.

Witnesses:

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