F. S. MANTON.
Windlass-Bitts.

No. 197,040. Patented Nov. 13, 1877.

Fig. 2.

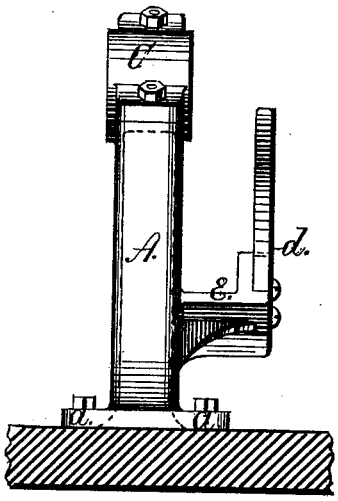


Fig. 1.

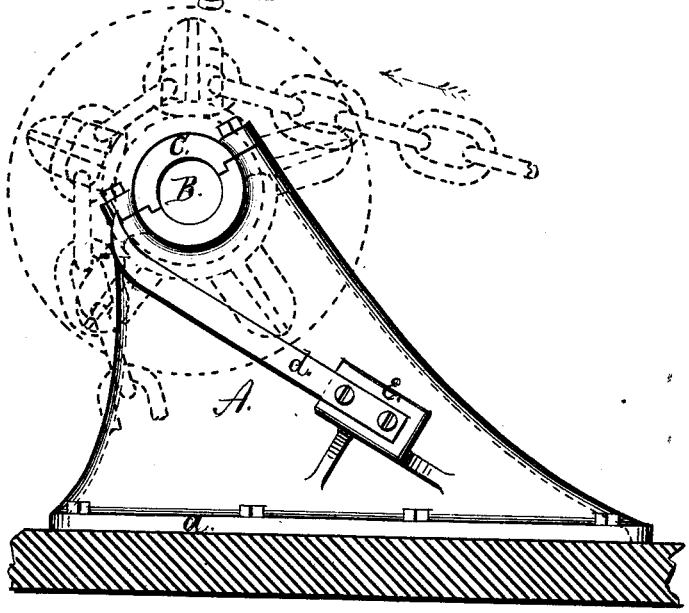


Fig. 3.

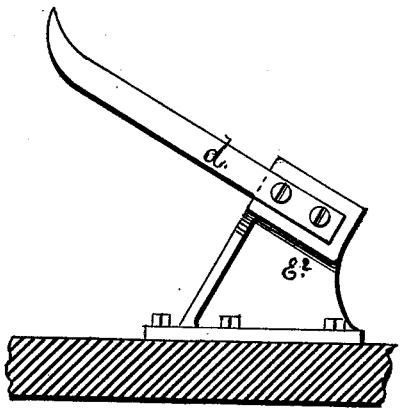
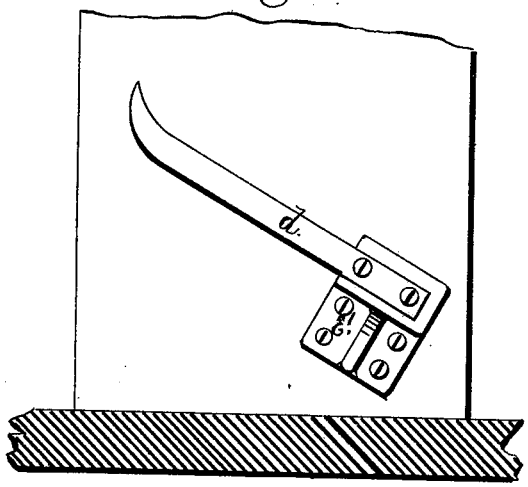


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

FRANK S. MANTON, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN WINDLASS-BITTS.

Specification forming part of Letters Patent No. **197,040**, dated November 13, 1877; application filed September 17, 1877.

To all whom it may concern:

Be it known that I, FRANK S. MANTON, of the city and county of Providence, State of Rhode Island, have invented new and useful Improvements in Windlass-Bitts; 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.

Figure 1 is an elevation of my improved cast-metal windlass-bitt, with the clearing-guard secured to the same, and their connection with the chain and wild-cat, which are shown in broken lines. Fig. 2 is an end view of the cast-metal windlass-bitt, showing the clearing-guard and manner of securing the same so that a straight clearing-guard can be used. Fig. 3 is a view of a clearing-guard and metal bracket adapted to be secured to a wooden or other windlass-bitt. Fig. 4 is a view of a clearing-guard and bracket adapted to be secured to the deck so that a straight clearing-guard may be used.

The invention consists in the peculiar and novel construction of a cast-metal windlass-bitt and a straight clearing-guard, as also the manner of securing the same, as will be more fully set forth hereinafter, and pointed out in the claims.

In the drawings, A is the end bitt or bearing for a ship-windlass. It is provided with the bearing B and cap C. This end bitt is cast of metal, hollow, and provided with the flanges *a a*.

The object is to combine the greatest possible strength, lateral thrust, and rigidity with the least weight, and also present an even surface on the outside, free from projections, ribs, and flanges.

The bitt of a ship's windlass must be able to resist great strain, and on board a ship all dead-weight possible be avoided. A wooden bitt for a windlass is liable to continuous changes and injury, and it is difficult to permanently secure the same to the deck. An iron bitt of the usual construction, having a central web and projecting flanges, requires more weight of metal, has less lateral strength, as the bottom flanges by which it is secured to the deck are connected only to the central web, whereas my bottom flanges are connected to each side, and, with the same width of the flanges, form a wider base, placing the bolts farther apart.

The exterior of my bitt is smooth, free from ribs and projections, more durable, and being cast hollow, the inner as well as the outer surfaces, being cast on the mold, are chilled, forming a tough crust, which increases the strength of the cast metal more than a slight addition to its thickness.

My improved bitt is, therefore, not only superior in form, but stronger, lighter, more firmly braced, and cheaper.

d in all the figures represents an improved clearing-guard; and E, E^1, and E^2, the different brackets by which it is secured either to the side bitt or to the deck.

Clearing-guards, as heretofore used, were bent so as to bring the rear end against the side of the windlass-bitt. Such clearing-guards were weak and difficult to fit. They were liable to give way under severe strain and bind in the wild-cat. My improved clearing-guard, being straight and firmly secured in the bracket E, will withstand the severest strain, which, being in a straight line throughout, cannot bend or injure the same. It is cheaper in first cost, and more readily and firmly secured.

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

1. A hollow cast-metal windlass-bitt provided with the bearings B and laterally-projecting flanges *a a*, constructed and arranged substantially as and for the purpose described.

2. The combination, with the bracket E, of the clearing-guard *d*, the blade of which is straight, substantially as and for the purpose described.

FRANK S. MANTON.

Witnesses:

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