M. STEVENS.

PEAK-BOLTS FOR MASTS.

No. 192,302. Patented June 19, 1877.

Fig. 1.

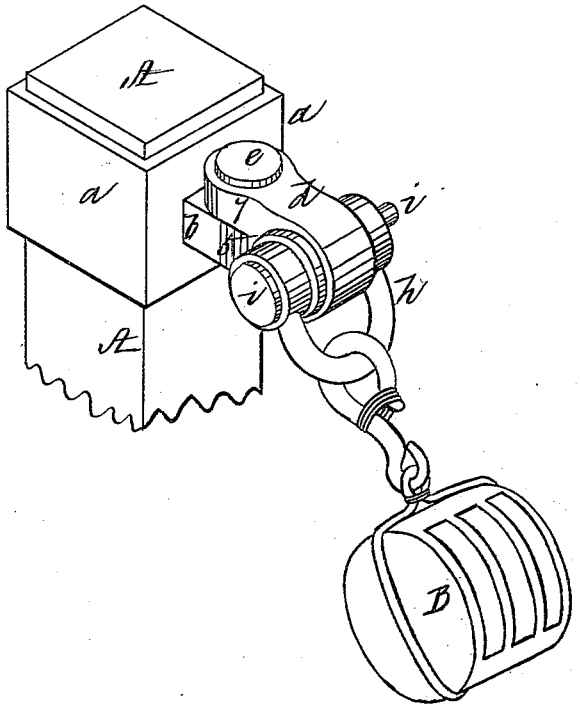


Fig. 2.

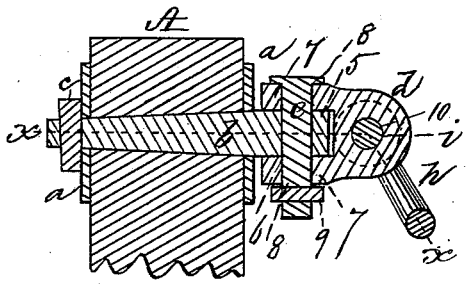
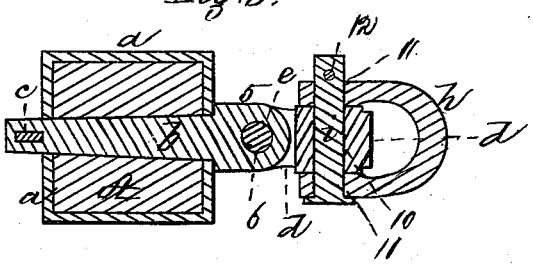


Fig. 3.



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UNITED STATES PATENT OFFICE.

MELVILLE STEVENS, OF EAST GLOUCESTER, MASSACHUSETTS.

IMPROVEMENT IN PEAK-BOLTS FOR MASTS.

Specification forming part of Letters Patent No. **192,302**, dated June 19, 1877; application filed March 26, 1877.

To all whom it may concern:

Be it known that I, MELVILLE STEVENS, of East Gloucester, in the county of Essex and State of Massachusetts, have invented certain Improvements in Peak-Bolts for Masts of Vessels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved device secured to the mast-head of a vessel. Fig. 2 is a vertical section through the center of the same. Fig. 3 is a section on the line *x x* of Fig. 2.

The halyards for hoisting the peak of the gaff of fore-and-aft sails are rove through a block or pulley, which is hooked to a device usually denominated a "peak-bolt," secured to the mast-head. This peak-bolt is either provided with a ring or with a swivel, to which the block is hooked. Both of these devices are objectionable for the following reasons: Where the ring is employed it is only free to move up and down on the head of the bolt as a pivot, and the friction of the parts produced by the movement of the gaff causes the ring, the hook, and the eye of the bolt to become worn, and new parts are required to be substituted therefor. Where the swivel is employed it passes vertically down through the head of the bolt, and is provided at its lower end with an eye, which, although free to turn around in a vertical plane, has not also a movement similar to that made by the ring, and consequently the direction of the strain is such that the eye is twisted and frequently broken off.

To overcome the above-mentioned objections is the purpose of my invention, which consists in a shackle composed of links, so connected together and with the peak-bolt and metal band secured to the mast-head that the parts are free to yield and move in the required directions to conform to the movements of the gaff and the peak pulley or block, whereby the strain, friction, and consequent wear of the parts, are very materially reduced, as desired.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents the mast-head of a fore-and-aft vessel, over which is shrunk a metal band or span, *a*, the front and rear of which are provided with holes in line with each other, for the passage of a bolt, *b*, which thus extends through the mast, the head 5 of this bolt being in front, and provided with a circular opening, 6, formed vertically therein, the opposite end of this bolt being provided with a slit for the reception of a key, *c*, by which it is kept in position, this bolt being known in sea parlance as the "peak-bolt." *d* is an inner link, each of the opposite bifurcations of which is provided with a central vertical opening, 8, similar to that, 6, in the head of the bolt, this link, when applied in such manner as to bring the three openings 8 6 8 in line with each other, being secured thereto by a vertical pin, *e*, held in place by a key, 9, passing through a slit formed near its lower end. The outer end of this link is provided with a circular hole, 10, extending horizontally through it, and each of the ends of an outer link, *h*, is also provided with a central horizontal hole, 11, the object of the holes 11 10 11 being for the passage of a horizontal pin, *i*, by which the inner and outer links *d h* are coupled together to form a shackle, the motion of the inner link *d* on its pin *e* being laterally in a horizontal plane, while that of the outer link *h* on its pin *i* is in a direction vertically up and down. The pin *i* is prevented from being accidentally displaced by a key, 12, passing through a slit formed in or near the end opposite its head. B is a block or pulley provided with three sheaves, 13, the hook of this block being caught over the outer link *h*, and is prevented from being disengaged therefrom by a mousing. The halyards leading from the peak or portion of the gaff near its outer end are led or rove through the sheaves of this block, and when it is pulled or tipped from side to side by the frequent movements of the gaff the two links of the shackle immediately yield and move in the direction of the strain, which is thus considerably diminished, the consequence of which is to reduce very mate-

rially the friction and wear of the parts, thus avoiding the necessity of their frequent removal incident to peak-bolts as heretofore constructed.

It is evident that I may employ a single link with a ring passing through its outer end; but I prefer the construction first described, as in case of need the pins may be withdrawn and the parts removed and replaced with great facility.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with the shackle composed of the two parts or links *d h*, of the peak-bolt *b* and metal band *a*, the several parts constructed and relatively secured together and to the mast-head of a vessel, substantially as herein shown and described.

Witness my hand this 22d day of March, 1877.

MELVILLE STEVENS.

In presence of—
N. W. STEARNS,
W. J. CAMBRIDGE.