

W. T. GRIFFENBERG.  
Improvement in Masts for Vessels.

No. 130,035.

Patented July 30, 1872.

FIG. 1.

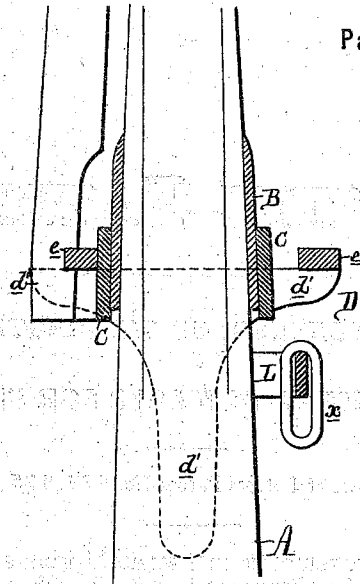


FIG. 2.

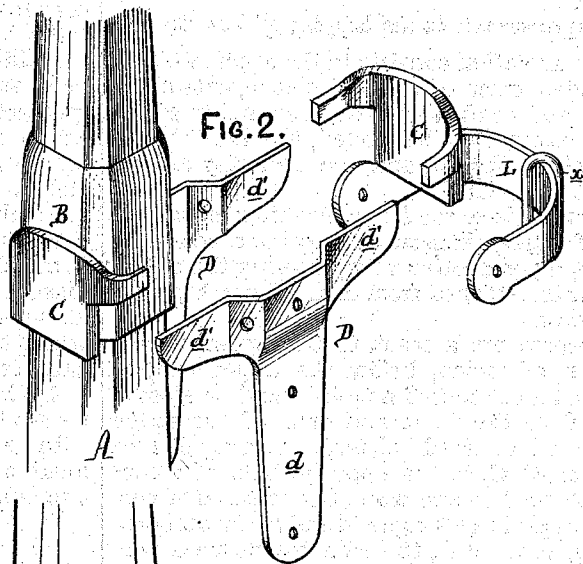
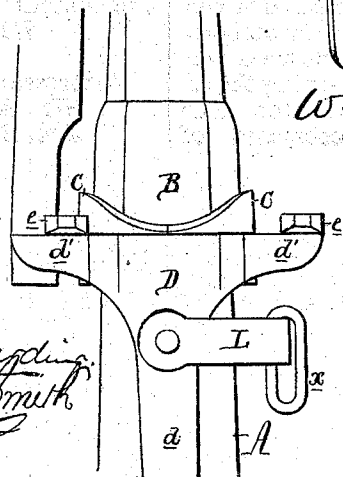


FIG. 3.



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WITNESSES

*Geo. B. Harding*  
*Harry Smith*

# UNITED STATES PATENT OFFICE.

WILLIAM T. GRIFFENBERG, OF WILMINGTON, DELAWARE.

## IMPROVEMENT IN MASTS FOR VESSELS.

Specification forming part of Letters Patent No. 130,035, dated July 30, 1872.

Specification describing Improvements in the Rigging of Vessels, invented by WILLIAM THATCHER GRIFFENBERG, of Wilmington, county of New Castle, State of Delaware.

### *Improvements in the Rigging of Vessels.*

Our invention consists in the application to a wooden mast of a metal sleeve, extending above and below the cross-trees, and to which the trestles may be bolted, the mast being thus strengthened, and the necessity of cutting it avoided.

Figure 1 is a sectional elevation of a portion of a schooner-mast with my improvements; Fig. 2, a perspective view, showing the different parts detached from each other; Fig. 3, a side view.

A represents a mast, to the upper square portion of which, below the upper end, is adapted and secured a metal band or sleeve, B, and to the front and rear of the latter is secured a curved bolster, consisting of two sections, C C, to the opposite side of which are attached trestle-trees, D, composed of vertical brackets or tongues *d* and horizontal projecting arms *d'*, the said trestle-trees performing the double duty of supporting the ordinary cross-trees *e e* and the bolster. The above-described parts are composed of

wrought-iron, and are secured by rivets or bolts to each other, and, if necessary, to the mast, which is thus strengthened instead of being weakened, as usual, at the point adjacent to the cross-trees, where it is most liable to be broken. The band B, independent of the additional strength which it imparts to the mast at the point where it is subjected to the greatest strain, also protects it from the chafing action of the shrouds, which pass around the band B, and are supported by the curved bolster C.

I claim as my invention—

1. The combination, with a wooden mast, of a metal band or sleeve, B, surrounding the mast below its upper end, and extending above and below the cross-trees at the point where the shrouds are connected to the mast, substantially as and for the purpose described.

2. The combination, with the said band, of trestle-trees, riveted to the band, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM T. GRIFFENBERG.

Witnesses:

WM. A. STEEL,  
JNO. B. HARDING.