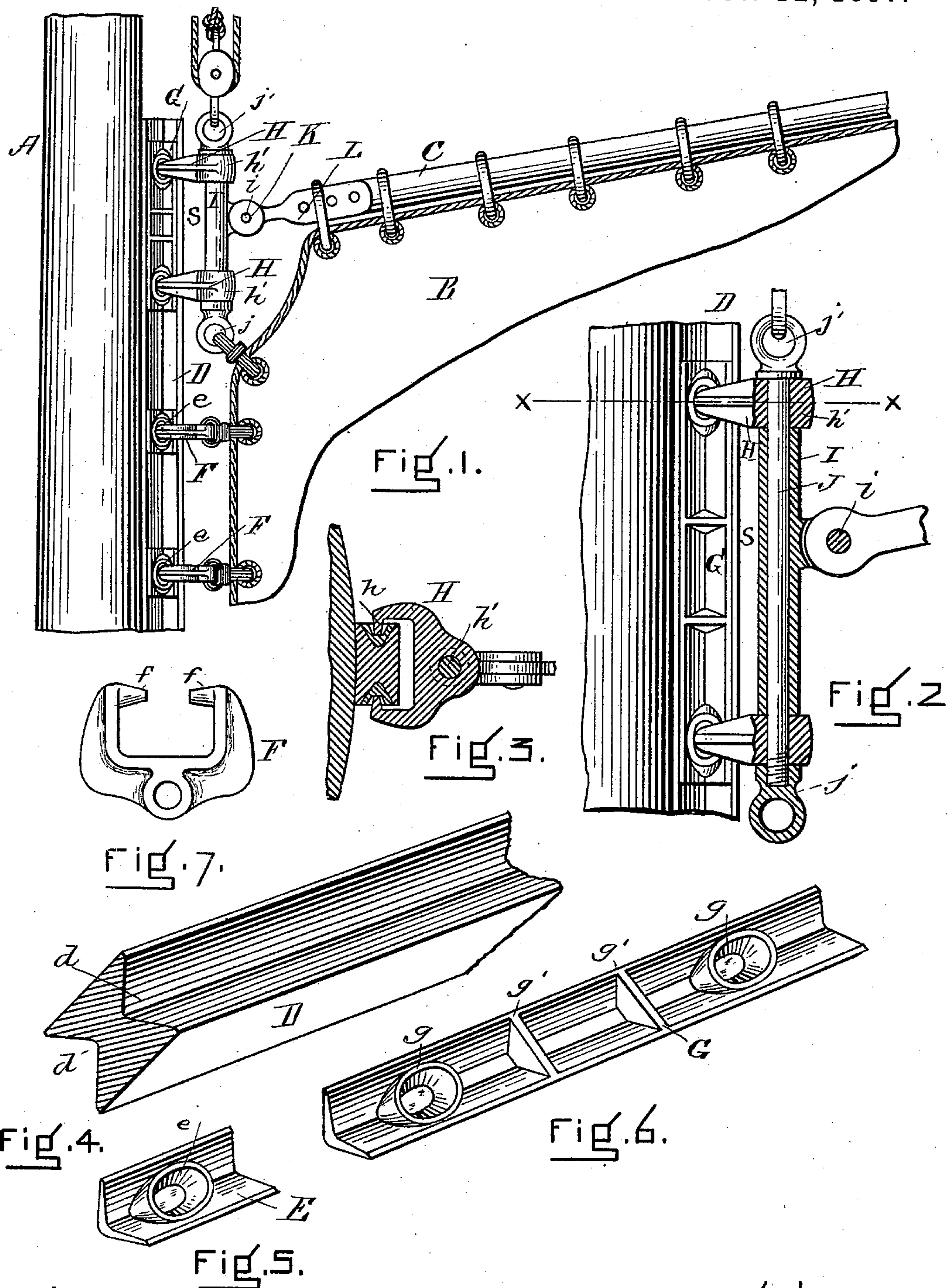


(No Model.)

C. H. WORTHEN.  
SAIL SLIDE.

No. 591,446.

Patented Oct. 12, 1897.



WITNESSES

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# UNITED STATES PATENT OFFICE.

CHARLES H. WORTHEN, OF TAUNTON, MASSACHUSETTS.

## SAIL-SLIDE.

SPECIFICATION forming part of Letters Patent No. 591,446, dated October 12, 1897.

Application filed November 29, 1895. Serial No. 570,378. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. WORTHEN, a citizen of the United States, residing at Taunton, in the county of Bristol and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Sail-Slides, of which the following is a full specification.

My invention relates to a device for securing sails to spars where it is desirable to have the sail slide along the spars, as on a mast or boom. It may be used to take the place of lacing upon a boom or hoops on a mast; and it consists of a wooden strip or jack extending along the side of the spar and having on each side a V-groove, in which run V-shaped shields or slides, each forming the seat or step of one of the prongs of a metallic hank which embraces the jack and to the outer end of which the sail is lashed.

Referring to the accompanying drawings, wherein like letters represent like parts, Figure 1 is an elevation of part of a mast and sail embodying my invention. Fig. 2 is a part elevation and part section showing connection of gaff with mast. Fig. 3 is a horizontal section on the line X X, Fig. 2. Fig. 4 is a perspective view of a section of the jack. Figs. 5 and 6 are perspective views of the shields for the sail-hanks and gaff connections, respectively. Fig. 7 is a plan view of one of the sail-hanks.

In the drawings I have shown the connection of a sail and gaff with a mast, but my invention could be used just as well to connect a sail to any other spar.

A represents a part of the mast, and B the sail.

C is the gaff, and D is the jack, which is secured by screws, bolts, or any suitable means to the after side of the mast or on the side of a spar to which the sail is to be attached. This jack, as shown in Fig. 4, is a strip, preferably of wood, having on each side a V-groove *d* and extending up the mast as far as the hoist of the sail necessitates. In the grooves *d* on each side of the jack run the preferably metallic shields E, Fig. 5, their convex side fitting the V-groove of the jack. On the concave side of these shields is a hollow step or seat *e*, in which rests loosely one of the inwardly-projecting fingers *f* of the sail-hanks

F, Fig. 7, which embrace the jack and shields, as shown in the section Fig. 3 and also in Fig.

1. To the outer end of the hanks the sail is lashed as it would be to a hoop. Thus a pair of shields and a hank take the place of a hoop ordinarily used and form a much more easily sliding and less cumbersome and lighter connection.

The gaff is connected with the jack by means of the yoke S. (Shown in Figs. 1 and 2.) The yoke S slides upon the jack by means of the long shields G, Fig. 6, which slide in the opposite grooves *d* of the jack D and have a seat *g* near each end, with which the fingers *h* of the hanks H loosely engage in the same way that each sail-hank embraces and slides with its pair of shields. These long shields G are preferably strengthened by transverse webs *g'*. The two hanks G are preferably somewhat larger than the sail-hanks and have their solid outer ends formed into a hollow vertical hub or cylinder *h'*.

Between the two hubs *h'* is placed the hollow shank or sleeve I, and through the hubs and sleeve is passed the ring-bolt J, on the bottom of which is screwed the ring-nut *j*, which binds the whole yoke firmly together.

The sleeve I has a projecting boss *i*, which forms a means of connection with the gaff, as shown, by means of the vertically-swinging hinge K, formed by the forging L, which on one end embraces the boss *i* of the sleeve I and is pivoted thereto, while on the outer end it flares into a socket for the end of the gaff, which is secured therein.

To the upper ring *j'* the throat-halyards are secured, while the throat of the sail is lashed to the lower ring-nut *j*. It will be seen that by means of this yoke, formed by two long shields, two hanks, and connecting-bolt, a rigid and strong but at the same time light and easily-sliding connection for the gaff is secured and which cannot bind on the jack on account of the length of the shields and the loose fit of the fingers *h* of the hanks in their seats *g* in the shields G. The gaff also swings easily upon this yoke. My shields have a bearing-surface of considerable length, so that they cannot twist or tip up in the groove of the jack, and so never bind or foul the sail while raising or lowering. On the other hand, if the hanks or their equivalents are made to

work in a groove without the interposition of a shield they are likely to become twisted and bind on the sides of the groove, so that when it is desirable to raise or lower the sail quickly  
5 they are very apt to foul.

As hereinbefore stated, my device can be used as well to connect the sail to a boom or any other spar.

10 Instead of having concave grooves or tracks on its edges, as shown, the jack could be made with convex V-shaped tracks on each side, in which case the shields would still be V-shaped, but their concave sides would slide upon the

track, while the seat for the bifurcated hanks would be on the convex side of the shields. 15

I claim—

In a sail-slide, a grooved jack in combination with a sliding yoke consisting of the shields G, hanks H, sleeve I and connecting-bolt J, substantially as described. 20

In witness whereof I have hereunto set my hand.

CHARLES H. WORTIEN.

Witnesses:

WM. B. H. DOWSE,  
GEO. A. HOLMES.