(No Model.)

F. P. SANDS.

DEVICE FOR ATTACHING SAILS TO SPARS.

No. 601,282. Patented Mar. 29, 1898.

Fig. 1.

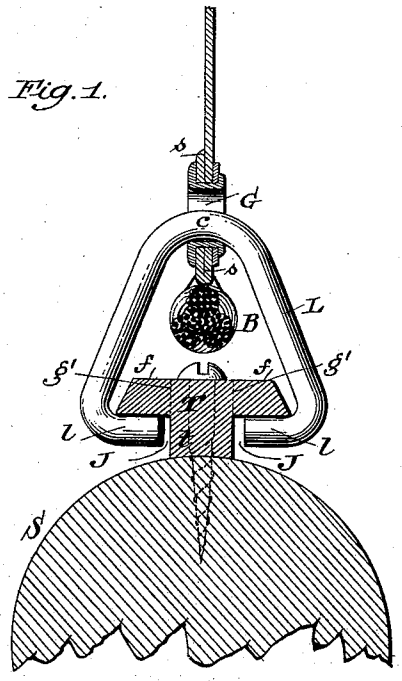
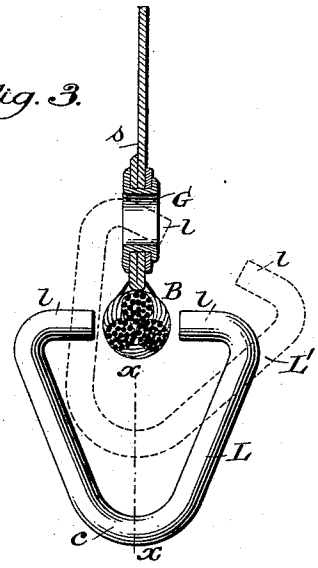


Fig. 3.



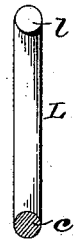
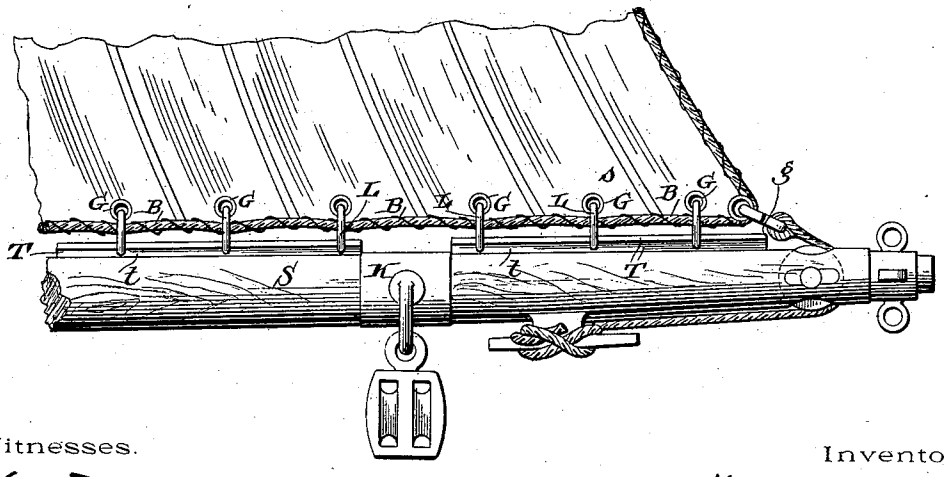


Fig. 4.

Fig. 2.



Witnesses.

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DEVICE FOR ATTACHING SAILS TO SPARS.

SPECIFICATION forming part of Letters Patent No. 601,282, dated March 29, 1898.

Application filed April 3, 1897. Renewed February 25, 1898. Serial No. 671,694. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK P. SANDS, a citizen of the United States of America, residing in the city and county of Newport, in the State of Rhode Island, have invented a certain new and useful Improvement in Devices for Attaching Sails to Spars, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to that class of sails which are distended by spars or masts as distinguished from those set flying or on stays.

The object of my invention is to provide a new and improved device which, in combination with certain existing means or devices, simplifies the method, as well as saves time and labor in the act of attaching or "bending" sails to their spars.

Heretofore sails of the class to which my invention relates have been attached to their spars, masts, yards, booms, &c., either by means of hoops, which, encircling said spars, have been "seized" or lashed to the margins of the sails, or by means of T-headed rails or travelers secured to the spar and interlocking slippers, said slippers having a hollow or female counterpart of said traveler formed in them and also eyes or holes, by which latter, like the hoops, they have been lashed at suitable intervals along the margins of their respective sails. Both of these old devices permit the sails to which they are attached to be moved endwise of the spars as required in the acts of bending, setting, taking in, or unbending. In still other cases, and especially in the equipment of yachts, the foot or lower margin of "fore-and-aft" sails have been furnished with eyelets and laced to their booms by passing a lanyard; but in this case motion endwise of the spar, though desirable for the exact setting of the sail, has been practically prohibited, instead of which, while I retain the feature of an eyelet-provided margin on that side of the sail to be attached and also the feature of a traveler or T-rail fixed to the spar, I attach or bend, &c., the sail without lanyards or lashings and by means of combining with aforesaid eyelets and traveler an open slipper-link, as hereinafter described.

Reference now being had to the accompanying drawings, which form part of this specification, they will be found to illustrate my invention as follows:

Figure 1 is a cross-section of a spar and a portion of a sail equipped with my invention. Fig. 2 is a side view of the same, an outhaul, sheet-block, &c., being added for the sake of clearness. Fig. 3 is a diagrammatic view of one of my slipper-links in the act of assembling with a sail, the latter seen endwise and in section; and Fig. 4 is a sectional side view of the preferred form of my said slipper-link, the plane of section being the line x x of Fig. 3.

In carrying my invention into practice I provide, of hammered brass, galvanized wrought-iron, or other preferably non-corrosive, rigid, and tenacious material, a number of slipper-links L of the drawings. These links equal in number the eyelets in the margin of any sail to be attached according to my invention, and are formed with an opening or jaw J, Figs. 1 and 3, of sufficient width to pass easily over both the bolt-rope B and the neck t of the preferably T-headed rail T, which rail or traveler, as indicated by a wood-screw in Fig. 1, is fixed to the spar S.

Upon reference to Fig. 3 it will be seen that any one of the slipper-links L being inverted can be passed over the bolt-rope B and across margin of sail s until registering with an eyelet G a turning movement will cause one of lugs l to become inserted therein. Then completing a half-turn of the slipper-link L it can be brought from the intermediate position of enlinkment with the sail (indicated by the outline L′, Fig. 3) to its normal position for engagement with its proper traveler T—to wit, to the position of slipper-link L in Fig. 1, where the lugs l, embracing the under sides of the flanges f f, can be slid endwise in the grooves formed between said flanges in the neck of the T-rail t and the adjacent portions of spar S. A number of such links being enlinked with the eyelets of a sail, turned about, and passed in regular series over the ends of said T-rail fixed on a spar S serves to attach the sail thereto in a manner and way which will be readily understood by sailors and therefore need not be further described. To remove or unbend, the reverse manipulation of the links only is to be performed.

The form of the slipper-links L thus illustratively shown may be modified without departing from the spirit of my invention. It being obvious that provided one lug *l* thereof will pass through eyelet G and that the opening, as J, be sufficiently wide to pass over the bolt-rope B and enter into engagement with its proper traveler, as T, the main requisites of my invention in respect to slipper-links are met. The circular section of the slipper-links L at the point *c*, Fig. 1, where they enlink with the eyelets G is, however, of great advantage, giving a swiveling or free motion most desirable. I also consider the general triangular shape of the preferred form of the slipper-links L an advantage, for when used on the foot of a sail it tends to bring the links to a naturally even-riding or pendent position.

Should the ends *g* of the traveler or rail T near the ends of the spar S not be sufficient for attaching or disengaging with said links, one or more other gaps may be formed in said rail and so afford additional places of attachment. This is indicated by the interruption in rail T of Fig. 2 by sheet-block band K and the broken lines *g'*, Fig. 1.

A further striking advantage of my slipper-links is that being self-contained and not requiring lashing they may be removed without trouble from the sails when unbent and by their absence permit flat folding and save serious wear and tear incident to the ordinary lashed attaching devices, which it is too troublesome to remove and replace.

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

1. The combination with a sail having an eyelet-provided margin and a spar having a fixed traveler, of an open slipper link or links adapted to be inserted in said eyelet-provided margin and to engage with said traveler substantially as and for the purposes hereinbefore described.

2. As an article of manufacture, a slipper-link provided with an opening or jaw J and a lug *l*, said link being adapted to engage with the eyelet-provided margin of a sail and also with traveler-provided spars substantially as and for the purpose hereinbefore described.

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