(No Model.)

# F. KRAEGER.

## SAIL FOR VESSELS.

No. 288,819. Patented Nov. 20, 1883.

Fig 1.

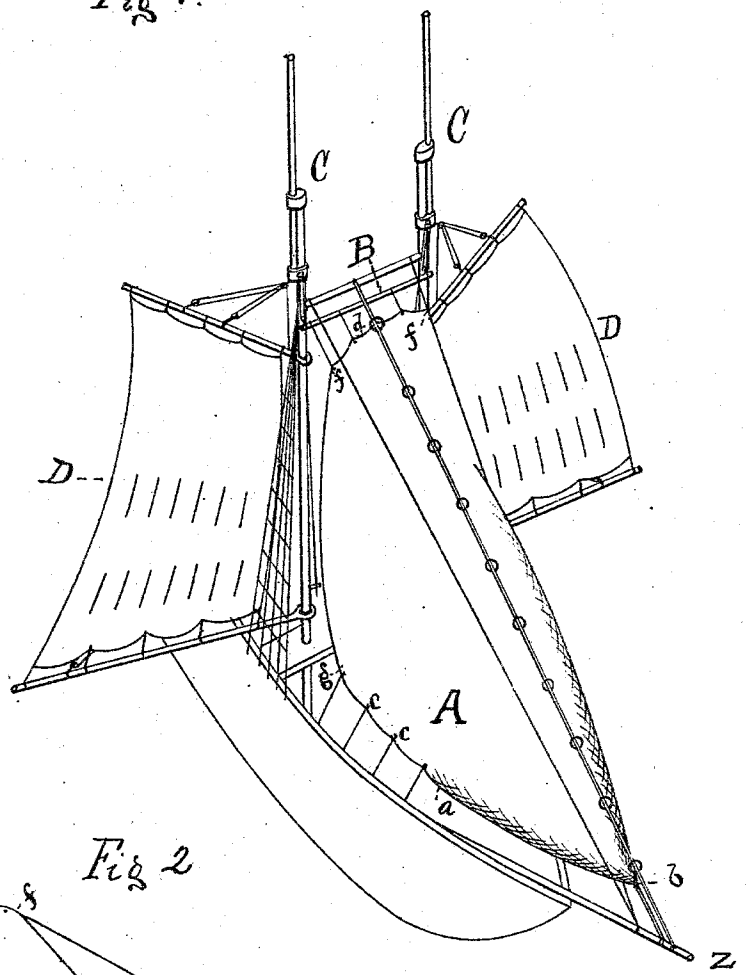
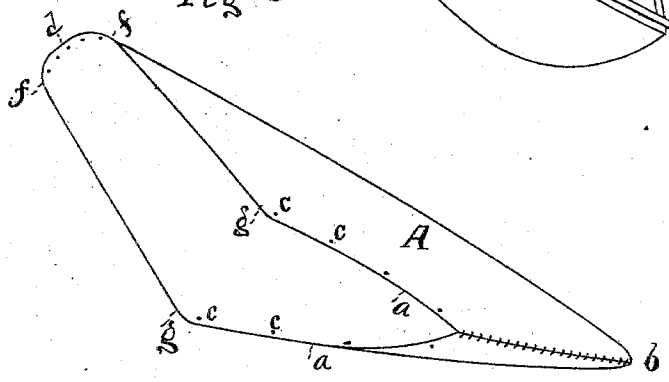



Fig 2




Witnesses
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# UNITED STATES PATENT OFFICE.

FREDERICK KRAEGER, OF BROOKLYN, NEW YORK.

## SAIL FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 288,819, dated November 20, 1883.

Application filed September 7, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK KRAEGER, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Sails for Vessels, of which the following is a specification.

The object of my invention is to provide a jib and sails for a vessel which can be used effectively in almost all kinds of weather, and which, when acted upon by the wind, will impart to the vessel a greater speed than is obtained by the use of the ordinary jib and sails now in use.

My invention relates more particularly to that class of vessels which have two sets of masts, one or more arranged on each side, and it will be found that it is well adapted for use in that style of vessel which has twin hulls; and to this end my invention consists in a peculiar-formed jib, arranged and constructed with reference to the rest of the rigging of a vessel substantially as is hereinafter described.

In the accompanying drawings, Figure 1 represents a view in perspective from the front of a vessel rigged with sails embodying my invention. Fig. 2 represents a similar view of my improved jib inverted.

Similar letters of reference designate corresponding parts in all figures.

A designates a jib-sail made from ordinary canvas, embodying my improvement. It is of semi-conical form. The lower edges, *a*, of this jib, for a distance from the apex or point *b*, are secured together by stitching, lacing, or other suitable means, and form, as it were, a bag at the point *b*. The jib A is secured to the bowsprit Z in the ordinary way. The edges *a* are then secured to the deck of the vessel by any suitable means, such as a series of rings arranged and extending along rods on the deck, or, preferably, by securing the sail at different points, *c c*, by eyelets and ropes.

B designates a spar to which the top end, *d*, of the jib is secured by rings or eyelets and ropes. This spar, with the jib attached, can be easily lowered or raised upon the masts C C. The spar B may, however, be dispensed with and the jib lowered or raised by use of the ordinary halyard-ropes.

D D designate two mainsails, arranged and secured to the masts C C in the customary way.

The jib A and the mainsails D D may be reefed or furled in the same manner as is at present practiced. When it is desired to sail before the wind, the jib A is set by being raised upon the masts by halyards and securing the edges *a* to the deck, as herein described. The wind, passing between the masts, fills the bag-like jib and imparts a great speed to the vessel. In sailing on the wind, if the mainsail on the leeward side is allowed to remain set, the wind will always inflate and keep the jib full.

In that style of vessel which has twin hulks and masts arranged side by side, and carrying a mainsail so arranged that it can be shifted from one mast to the other as desired, this jib will be found to be well suited.

This jib can also be used in the same way as and in the place and stead of the ordinary jib by drawing the ends *f f* of the top end, *d*, of the jib together and shifting and securing the corners *g* of the lower edges, *a*, of the sail together, so that the jib will present a flat surface to the wind.

This arrangement of masts and style of sails can be used with good advantage on almost all kinds of vessels.

I am aware that vessels provided with twin hulls and vessels provided with masts located side by side and on opposite sides, and having a connecting-spar between the mast-heads, have been made before, and such construction I do not claim, broadly.

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

As a new article of manufacture, a jib-sail made from canvas or other suitable textile material, constructed and arranged in such a manner that by securing its lower edges on its under side for a distance from the apex or point the jib will be of semi-conical shape and form a bag on the inside thereof for some distance from the point or apex, and having the edges of the sides of the same provided with eyelets for devices for securing the jib to a vessel, substantially in the manner herein described, and as and for the purposes specified.

FREDERICK KRAEGER.

Witnesses:
DAVID PROVOST,
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