

No. 639,916.

Patented Dec. 26, 1899.

**G. ACHTERBERG.
SAIL REEFING DEVICE.**

(Application filed Mar. 4, 1899.)

(No Model.)

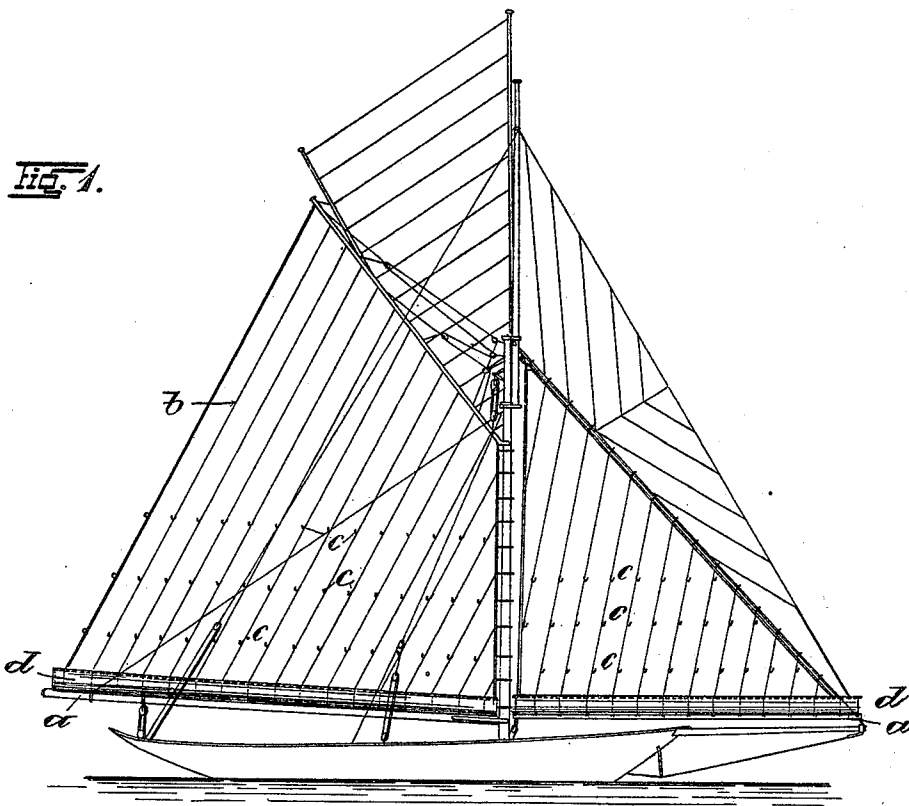
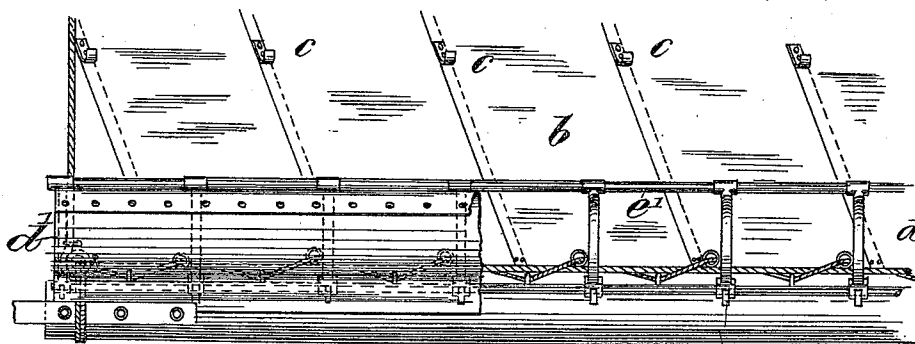
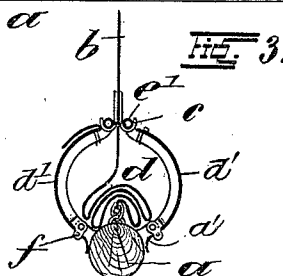


FIG. 2.



WITNESSES:

W. Henry Stutzel
James Cowden Meyer

INVENTOR

Gustav Achterberg
BY *Leuep Ragner*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

GUSTAV ACHTERBERG, OF PORT MONMOUTH, NEW JERSEY.

SAIL-REEFING DEVICE.

SPECIFICATION forming part of Letters Patent No. 639,916, dated December 26, 1899.

Application filed March 4, 1899. Serial No. 707,698. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV ACHTERBERG, a citizen of the United States, residing at Port Monmouth, New Jersey, have invented certain new and useful Improvements in the Reefing of Sails, of which the following is a specification.

This invention relates to the reefing of the sails of boats; and the object is to enable quick and easy manipulation, so as to form the reef. Heretofore the reefing-lines used required considerable time and caused much trouble, particularly in bad weather. These disadvantages are overcome by the present invention.

The invention consists of certain features of construction and combinations of parts to be hereinafter described and then claimed.

In the accompanying drawings, Figure 1 is a side elevation of a boat provided with my improvements. Fig. 2 is an enlarged broken side elevation of a sail and boom, showing my improvements; and Fig. 3 is a cross-section.

Similar letters of reference indicate corresponding parts.

The boom *a* and the sail *b* may be of the usual size and shape. To the boom *a* there is applied a basket or pocket *d*, which is shown in the drawings as consisting of two sections *d'*, each composed of a skeleton of tinned gas-pipe covered with canvas. These sections are hinged to ears or lugs *a'*, fixed on the boom so that they may be moved toward or from each other. When the sections are moved apart, the desired reef may be gathered into the basket or pocket, as shown in Fig. 3. The sections are then closed, as shown, so as to protect the reef. When it is desired

to raise the sail, the sections are simply moved apart and the hoisting done with little trouble. To more surely hold the sections of the basket together, pins *f* are passed through holes in the lugs or ears *a'* on the boom and the hinged ends of the sections *d'*. It is evident that the basket may have any desired form.

A further improvement consists in arranging a number of open hooks *c* at intervals on both sides of the sail *b*, which when the reef has been taken are caused to engage with the free outer edges or pipes *e'* of the basket *d*, so that hoisting of the sail is prevented. These hooks take the place of the usual reefing-lines.

Over the usual appliances my invention possesses the advantage that the metal parts require no attendance, like reefing-lines. The reefing may be performed in a far quicker and more convenient manner than heretofore, and this is of special importance in bad weather.

What I claim is—

1. The combination with the sail and boom, of hooks arranged on the sail, and means supported by the boom with which said hooks are engaged, substantially as set forth.

2. The combination with the sail and boom, of a basket or pocket on the boom, and hooks arranged on the sail and adapted to engage with said basket or pocket, substantially as set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

GUSTAV ACHTERBERG.

Witnesses:

WALDEMAR HAUPT,
HENRY HASPER.