

(No Model.)

R. R. SMITH.
SAIL.

No. 587,046.

Patented July 27, 1897.

Fig. 1

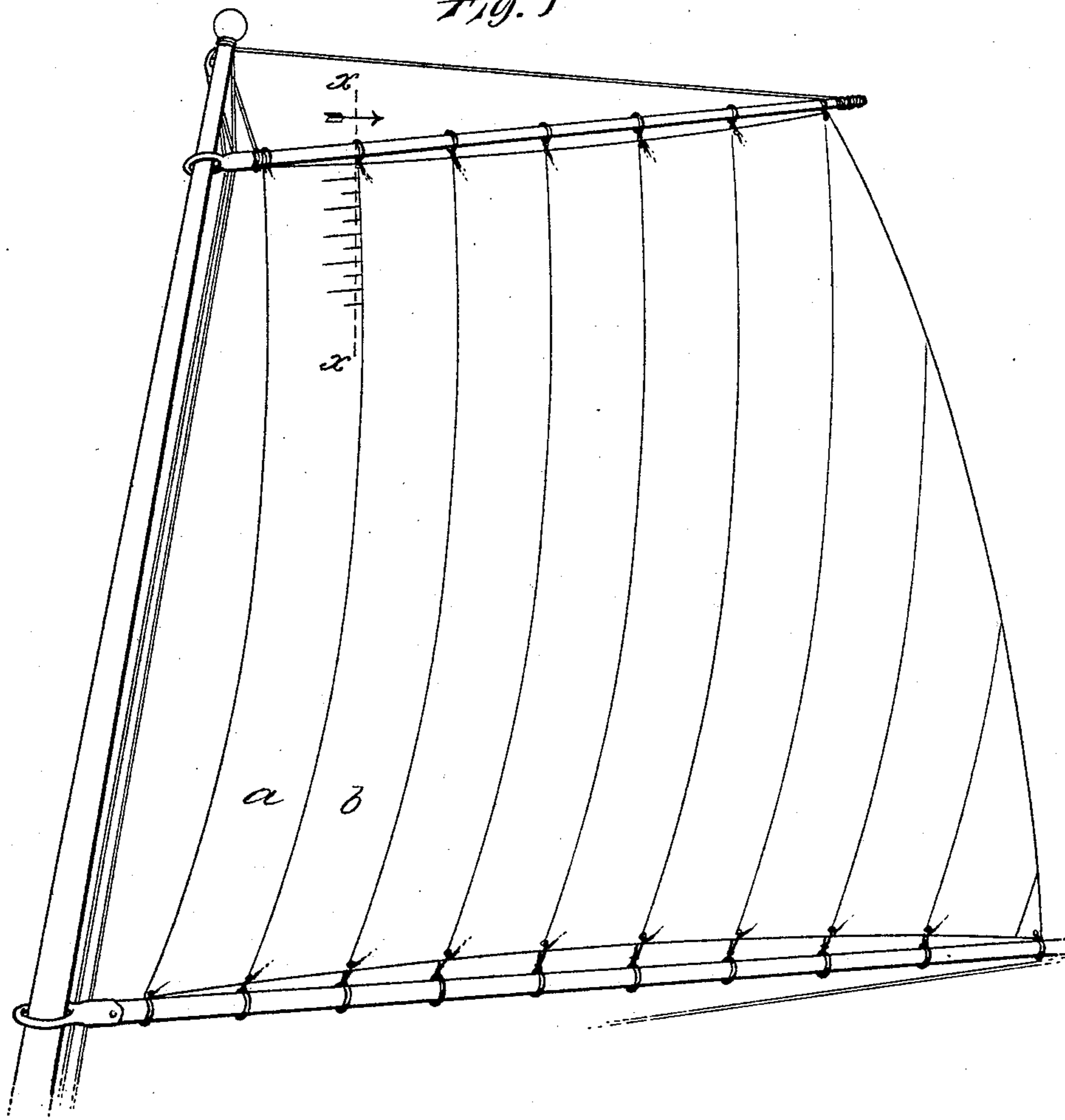
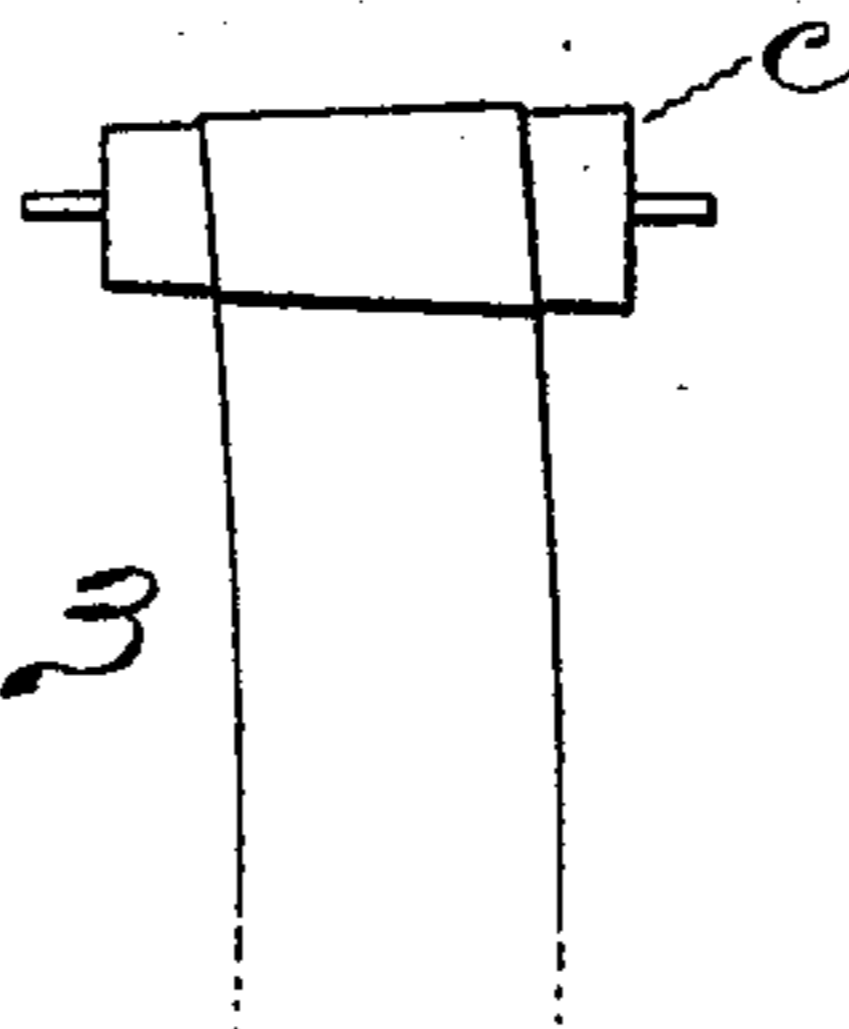


Fig. 2



Fig. 3



Witnesses

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SPECIFICATION forming part of Letters Patent No. 587,046, dated July 27, 1897.

Application filed July 13, 1896. Serial No. 598,978. (No model.)

To all whom it may concern:

Be it known that I, ROBERT R. SMITH, a citizen of the United States of America, residing at New Hartford, in the county of Litchfield and State of Connecticut, have invented a certain new and useful Improvement in Sails, of which the following is a description, reference being had to the accompanying drawings, wherein—

10 Figure 1 is a view of a sail embodying said improvement. The improvement is fully shown only in a part thereof. Fig. 2 is a detail sectional view of the sail shown in Fig. 1 on the plane xx and looking in the direction indicated by the overlying arrow. Fig. 15 3 is a detail view in the nature of a diagram intended to illustrate the mode of weaving this peculiar sail-cloth.

20 The object of the improvement is the production of a sail for vessels which shall utilize the wind-pressure which strikes it and at the same time provide for the lateral escape through the sail of the cushion of dead-air which in practice forms upon the surface of 25 sails.

30 The improved sail as a whole is shown in flatwise view in Fig. 1. It is made up of sections of woven cloth $a b$, wherein the space between two weft-threads, which are separated by any considerable interval, embrace or comprehend edges, one of which is regu-

larly longer than the other. The mode of weaving is illustrated in part in Fig. 3. The warp-threads are (regularly) slightly longer as, in position, they approach what may be for 35 convenience sake termed the "longer" edge, and a conical take-up roll c is used to properly distribute the strain on these warps of unequal lengths. This peculiar structure of the cloth is for the purpose of permitting 40 crimps to be made in the said longer edge.

The crimped edge is attached to the uncrimped edge of the next section, as illustrated in Fig. 2, and it results from this construction of the cloth and of the sail that the 45 wind-pressure coming against the face of the sail is thoroughly utilized, and then the air which has been a factor in that wind-pressure is allowed to escape, at least in large part, through the lateral openings in the sail formed 50 by these crimps at the union of the sections.

I claim as my improvement—

A sail wherein the united sections of cloth are uncrimped on one edge and crimped on the other and adapted to form lateral open- 55 ings through the sail, all substantially as described and for the purposes set forth.

ROBERT R. SMITH.

Witnesses:

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