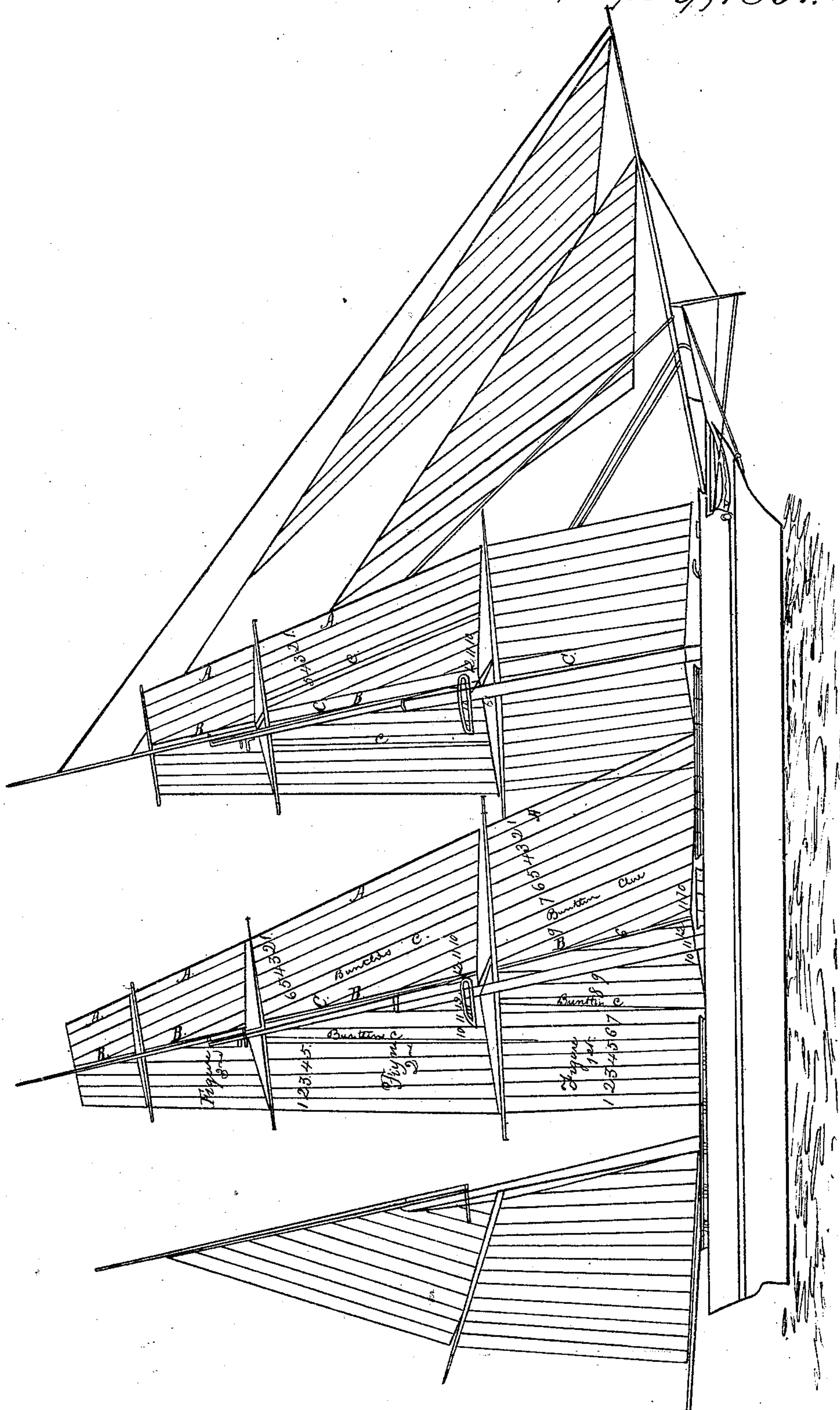


*E. F. Southward.*  
*Sails & Rigging.*  
*No. 8,343.*  
*Patented Sept. 9, 1851.*



# UNITED STATES PATENT OFFICE.

ELI F. SOUTHWARD, OF WELLFLEET, MASSACHUSETTS.

## METHOD OF MAKING SAILS.

Specification of Letters Patent No. 8,343, dated September 9, 1851.

*To all whom it may concern:*

Be it known that I, ELI F. SOUTHWARD, of Wellfleet, in the county of Barnstable and Commonwealth of Massachusetts, have  
5 invented a new and Improved Method of Making the Square Sails of Ships and other Square-Rigged Vessels; and I do hereby declare that the following is a full, clear, and exact description of my invention.

10 The nature of my invention consists in so arranging the cloths of the square sails that the whole cloths are at the leeches and run parallel with the leeches, and the goring cloths all meet in the bunt of the sail, arranging  
15 the straight cloths as in Plate 1, Figures 2 and 3, numbered 1, 2, 3, 4, 5, 6, &c., and the goring cloths as in same plate and figure numbered 10, 11, 12.

20 To enable others skilled in the art of sail making to use my invention I here describe its construction.

25 As in a ships mainsail, Plate 1, Fig. 1, I bring the cloth in a straight line with the leech as shown at letter A, and in the center of the sail I bring the short goring cloths together as shown at letter B, and line them with a whole cloth or less as shown at letter C, from the head to the foot of the sail in the bunt.

Figs. 2 and 3 in Plate 1 represent the same 30 arrangement of cloths and mode of construction in topsails, and top gallant sails.

[Plate 2 represents the ordinary mode of arranging the goring cloths at the leeches.]

The advantages of my invention are that 35 the greatest strain upon the leeches is brought upon the cloths best able to bear it, and upon the thread of the cloth. That the bunt lines and clue lines run nearly parallel with the cloths and chafe fewer cloths in 40 the sail. That the sail will keep its shape better, and lay flatter to the wind and that the cloth in all the sails running in the same line adds greatly to the beauty and symmetry of the vessel's appearance. 45

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

The bringing straight cloths upon the leeches and making all the head cloths parallel therewith, and uniting the goring cloths 50 in the bunt of the sail as described above.

ELI F. SOUTHWARD.

Witnesses:

TIMOTHY SPARROW,  
JNO. W. DAVIS.