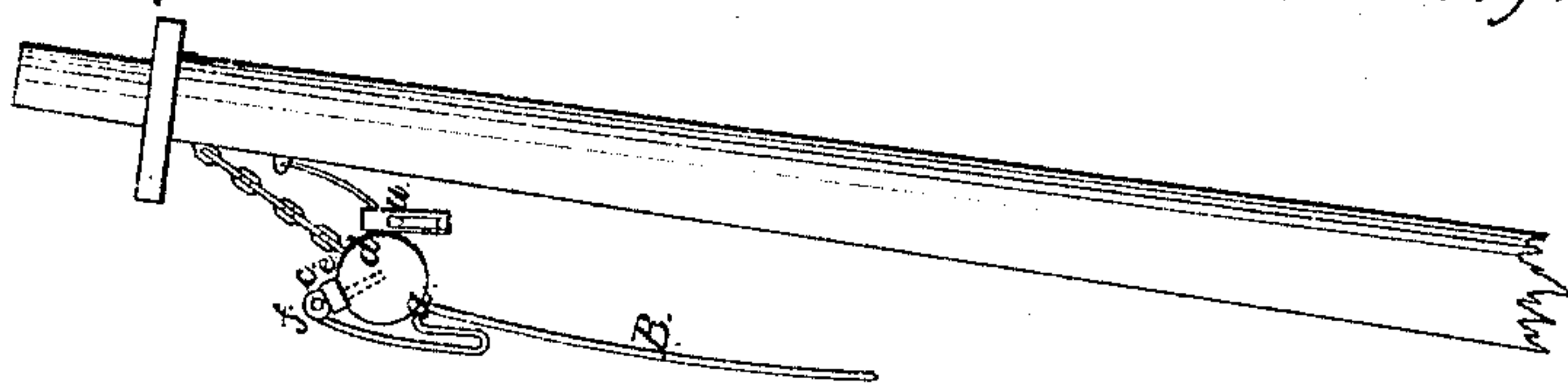


*A. R. Tiffin.*  
*Sails & Rigging.*

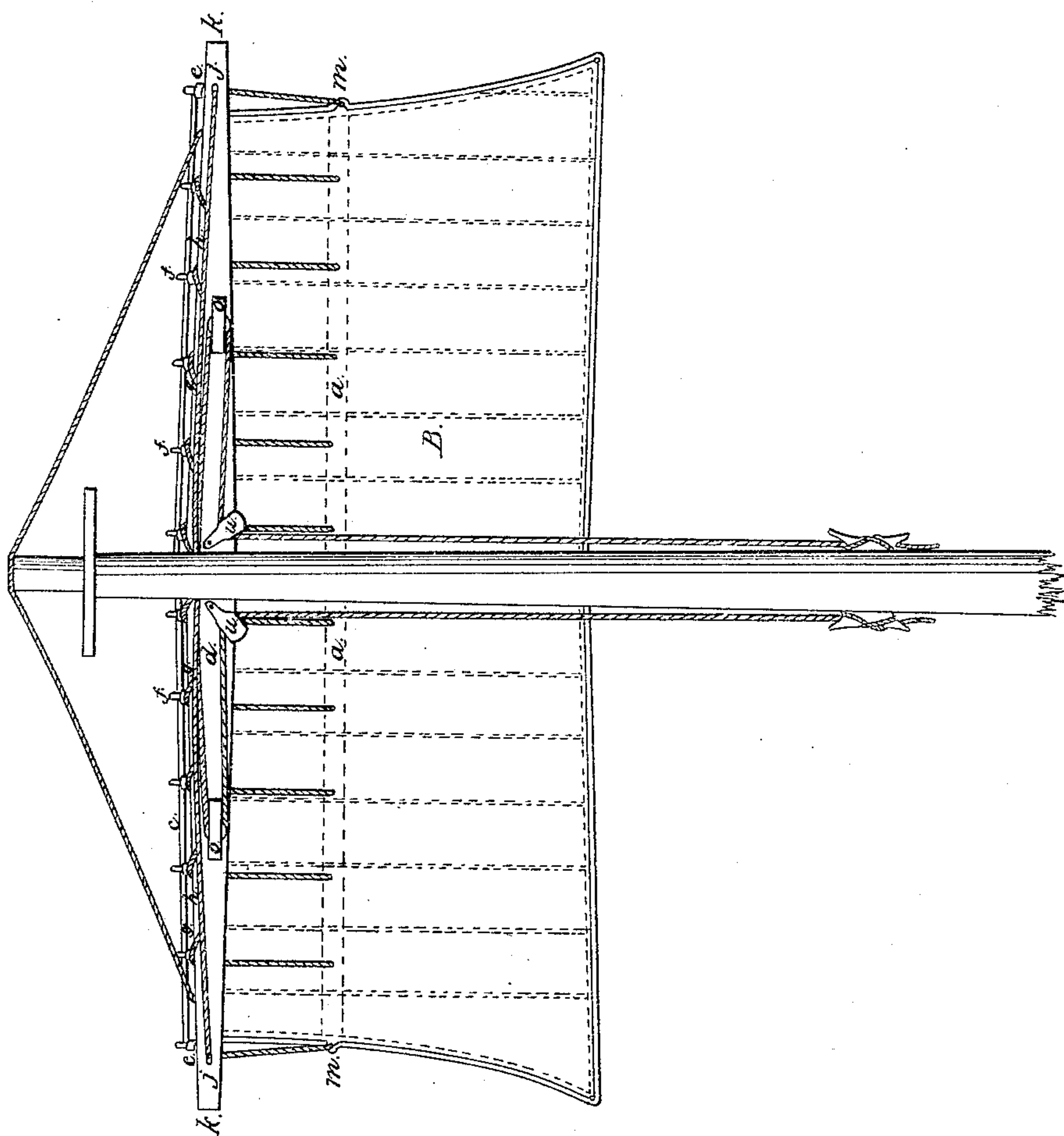
*N<sup>o</sup> 44,919.*

*Patented Nov. 1, 1864.*

*Fig. 2.*



*Fig. 1.*



*Witnesses,*  
*E. B. Bantlett*  
*N. Barlow*

*Inventor,*  
*Algermon Robert Tiffin*

# UNITED STATES PATENT OFFICE.

ALGERNON ROBERT TIFFIN, OF NEW HAVEN, CONNECTICUT, ASSIGNOR  
TO CHARLES ROUSHA, OF PROVIDENCE, RHODE ISLAND.

## IMPROVED REEFING APPARATUS.

Specification forming part of Letters Patent No. 44,919, dated November 1, 1864.

*To all whom it may concern:*

Be it known that I, ALGERNON ROBERT TIFFIN, of the city of New Haven, county of New Haven, and State of Connecticut, have invented a new and Improved Method of Reefing Ships' Sails; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, in which—

Figure 1 represents a rear view, and Fig. 2 a vertical longitudinal section, of my improvement.

My invention consists of an improvement in the manner of arranging and connecting the reef-points of the sail with a rope or pennant extending to the deck, so as to enable a person to reef the sail without going aloft, as can be readily seen by inspection of the drawings accompanying this specification.

To enable others skilled in the art to which my invention appertains to make and use the same, I will proceed to describe its construction and operation.

I construct the sail in the usual form and of the usual material, and the yard, blocks, &c., are those usually employed on vessels using square sails; but in order to effect and perform the operation of reefing without going aloft, as above stated, I attach or connect the ends of the reef-points permanently to a reef-band, as shown at *a* in Figs. 1 and 2 of the annexed drawings, corresponding letters of reference representing corresponding parts. I then pass the said reef-points abaft the sail B. between the jack-stay *c* and yard *d*, across rollers *e*, connected with the eyebolts *f* of the jack-stay, forming the axes of said rollers. I then attach or connect said reef-points by splicing or otherwise, as shown at *g*, to a reef-pennant, *h*, which I pass through a roller, *j*,

at the extremity of the yard-arm *k*, and permanently attach to the outer edge of the sail, forming a reef-point, as shown at *m*. I then extend the opposite end of said rope or pennant along the yard to the opposite quarter of said yard through a cheek-block, *o*, abaft the yard, and through a block, *u*, connecting with the amidship-band, thence leading to the deck.

I have only described one of the pennants, but the whole of them are connected in precisely the same manner. In practice I prefer to pass them both through one block with double rollers, instead of two separate blocks, as shown in the drawings.

The advantages of my invention are obvious to those skilled in naval matters. The sail can be immediately reefed in a most perfect manner by hauling the pennants from the deck, and the sail is evenly drawn up to its place, which obviates the danger of rending the same, as the pressure of the wind is alike on every part, and also the sail is entirely and perfectly fitted to the yard. The loss of life which often occurs while seamen are engaged in reefing a sail in the usual way is prevented.

My invention will also do away with the labor and number of men required to reef the sail in a high wind, as a very few men can by the aid of a powerful windlass easily reef the sail in the most severe gale.

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

The jack-stay *c*, the reef-points *g*, and the pennants *h*, arranged in relation to each other and to the yard *d* and sail B substantially in the manner described, for the purpose specified.

ALGERNON ROBERT TIFFIN.

Witnesses:

ED. BARTLETT,  
L. I. WILLARD.