

C. E. S. GEDERÉN.  
Reefing and Furling Sails.  
No. 205,629. Patented July 2, 1878.

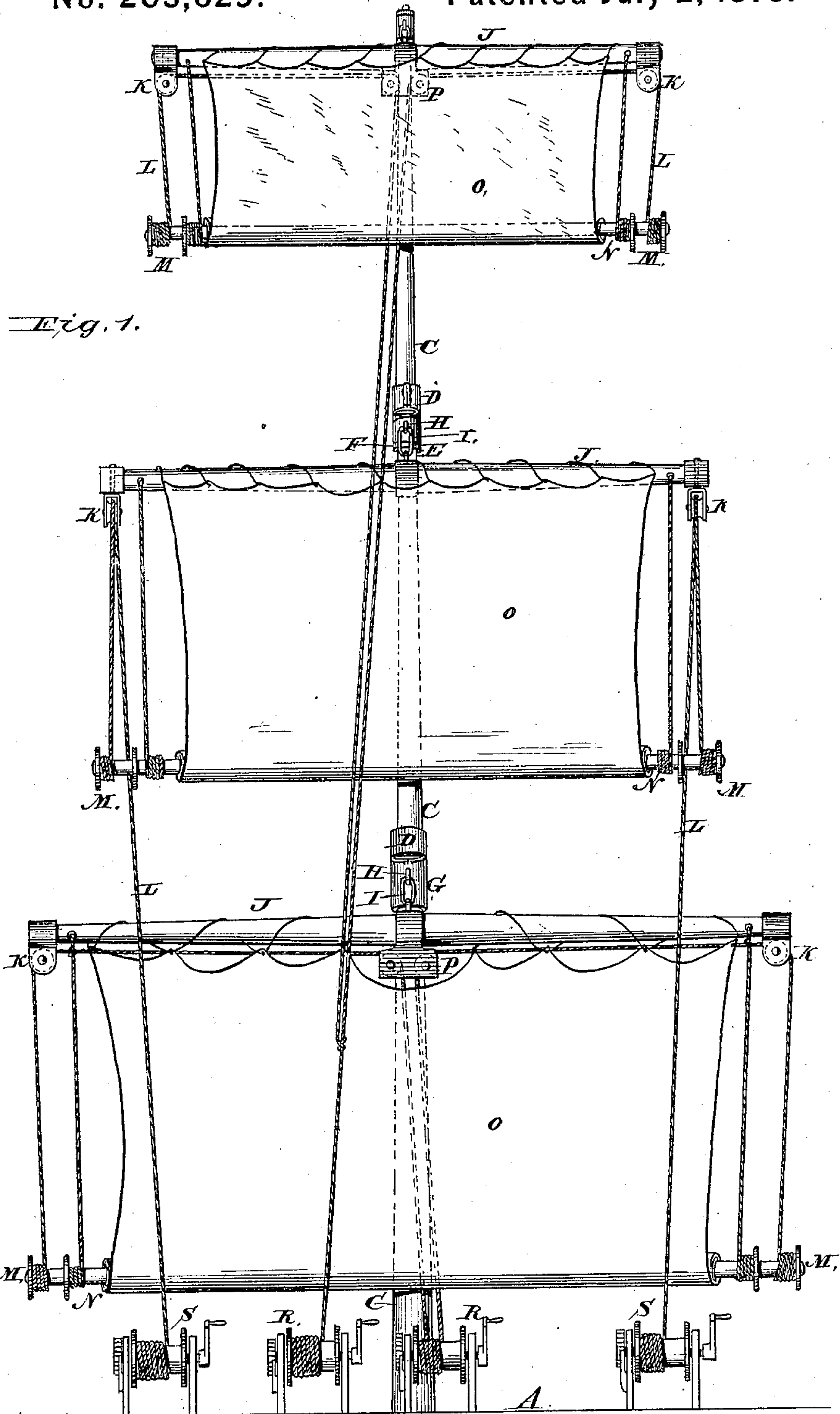


Fig. 1.

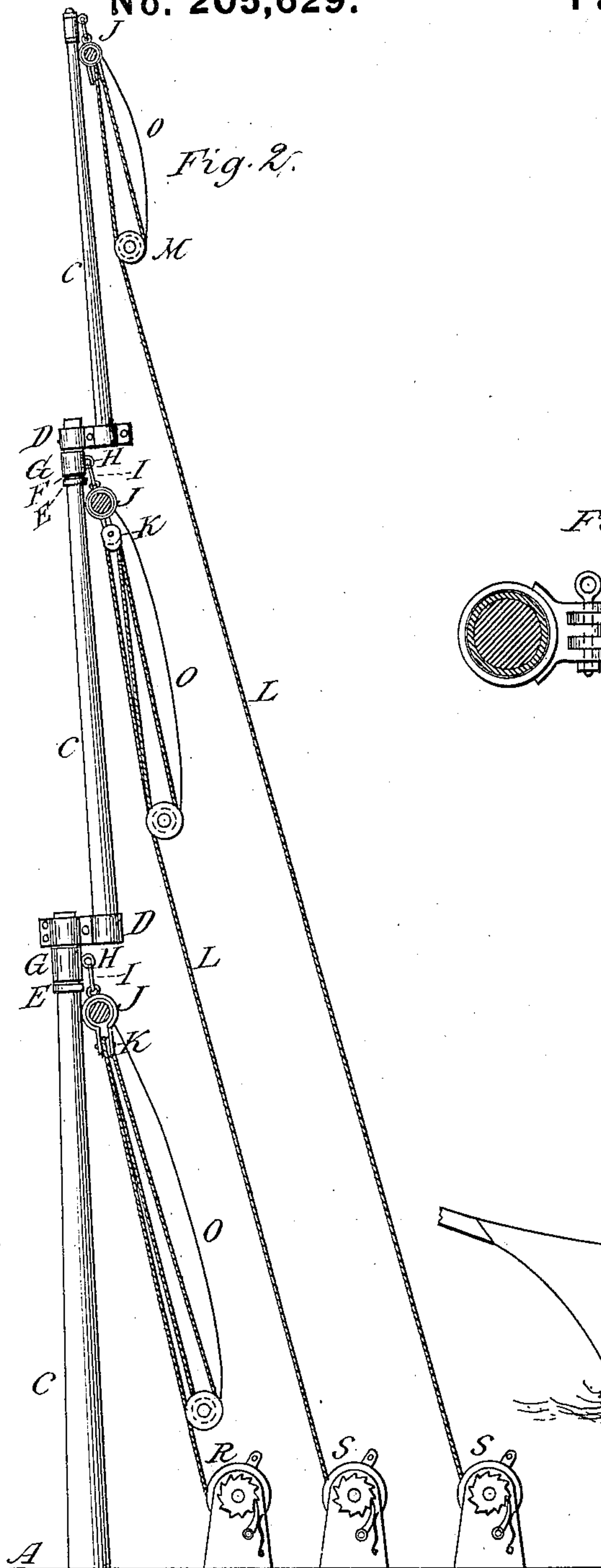
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Inventor  
Carl E. S. Gederén.  
By James L. Norris, Atty.

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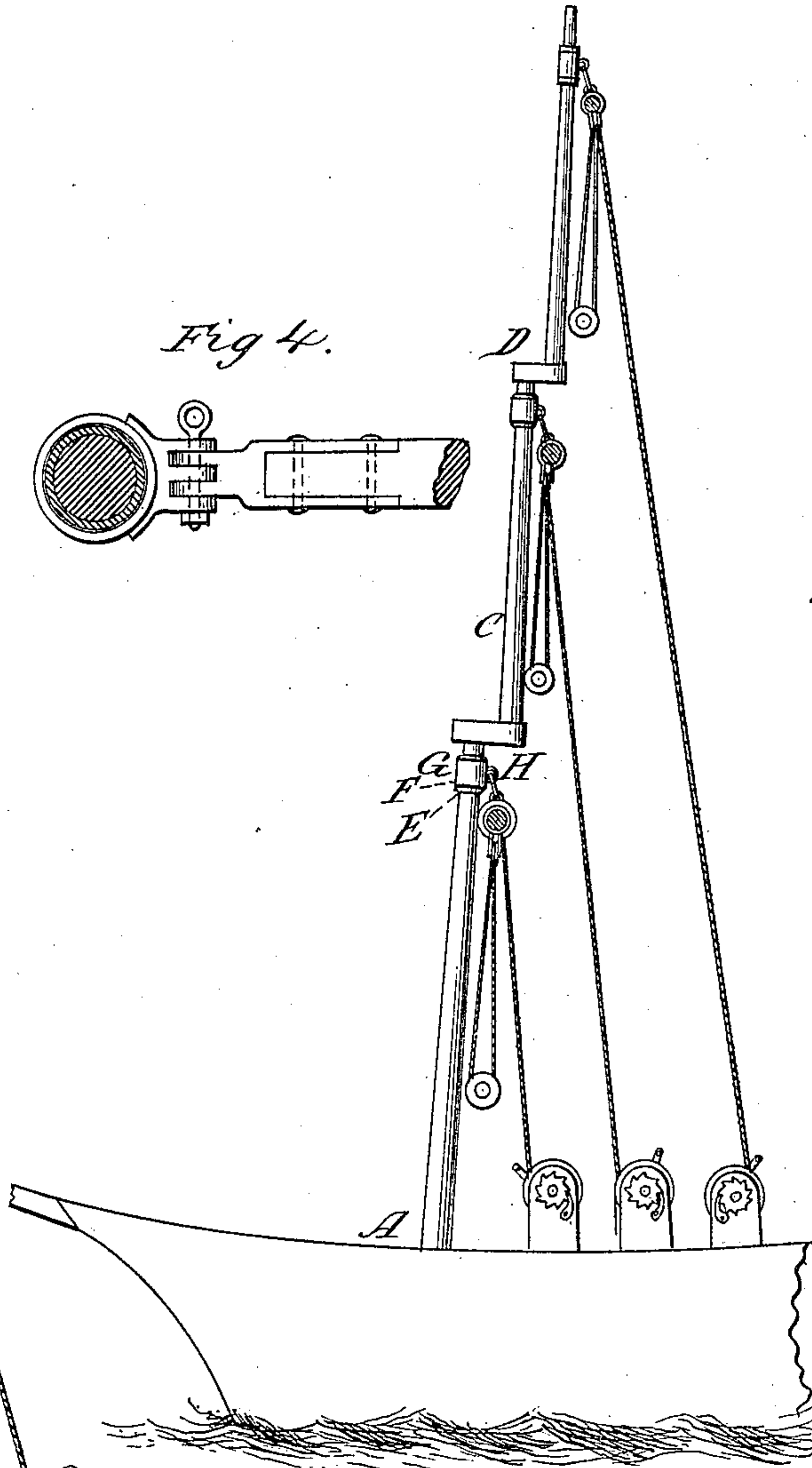
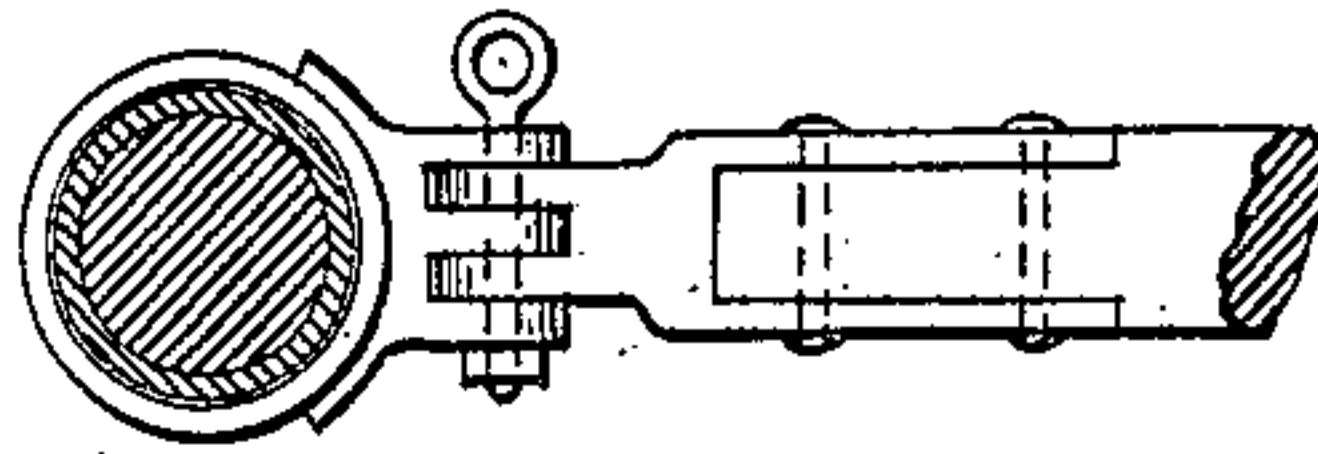
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Fig. 3.

Fig. 4.



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# UNITED STATES PATENT OFFICE.

CARL E. S. GEDERÉN, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN REEFING AND FURLING SAILS.

Specification forming part of Letters Patent No. 205,629, dated July 2, 1878; application filed April 29, 1878.

*To all whom it may concern:*

Be it known that I, CARL ERICK SVANSON GEDERÉN, of Philadelphia, in the county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Rigging Vessels, of which the following is a specification:

My invention has for its object to provide a means for reefing and furling the sail from the deck, to avoid the necessity of going aloft for the purpose, which involves great danger, especially in stormy weather.

To this end my invention consists in the combination, with the stationary yard of a vessel having pulley-blocks at its opposite ends, of a sail having its upper edge secured to said yard, a loose boom or roller attached to the lower edge of said sail, and having drums at its opposite ends, two ropes, each having one end attached to one of said drums and passing over the respective pulleys on the yard, and thence to the deck, said ropes and the sail being so relatively arranged that the unrolling of the sail winds portions of the ropes upon the drums, and vice versa, as hereinafter fully described and explained.

In the drawings, Figure 1 represents a front elevation of a made mast and sail with my invention applied thereto; Fig. 2, a side elevation of the same. Fig. 3 is a side view of a vessel having a foremast square-rigged; Fig. 4, a detail view of a modified form of thimble provided with three eyes or staples adapted to receive between them two eyes attached and projecting from the inner end of a boom or gaff.

The letter A represents the deck of a vessel. C represents the mast, which may be either a single-tree mast or a made mast, and which is secured to the vessel in any approved method. The letter D represents the combined trestle-tree and cap to be employed in joining the sections of a made mast, and which consists of a section of metal provided with two sockets, one to be secured to the upper end of the lower section and the other to the lower end of the next above section of a made mast.

Near the upper end of the mast or mast-section is formed a shoulder, E, above which is secured a metallic collar, F, and to the con-

tracted portion of the mast or section immediately above the collar or shoulder is secured a thimble, G, which is provided with a staple, H, to which a link, I, is secured to a staple attached to the yard J midway between the ends of the yard. This, it will be seen, allows the yard and the sail thereunto secured to be carried around the mast, so as to present the sail to the wind from whatever quarter it may come.

To each end of the yards is secured the tackle-block K, over the pulleys or sheaves of which are passed the cords or lines L. The upper ends of said lines are secured to the drums M formed on each end of the booms N, to which the lower edges of the square-sails O are attached. The said cords or lines may be passed toward the center of the yard and run through a tackle-block, P, and carried thence downwardly to the deck and secured to a common windlass, R; or they may be passed directly downward to the deck and secured to separate windlasses S S. Their upper ends are so secured to the drums on the boom that as the boom is lowered and the sail set the drums will wind said ropes thereon, and as the sails are furled the cords or lines will unwind therefrom, rotating the boom in proper direction to wrap the sail thereon and gradually furl it.

The thimble may be constructed precisely like the before-mentioned thimble or with the link removed, and the gaff or boom provided with a single eye and attached directly thereto; but I prefer to construct the thimble, as shown in Fig. 4, with three eyes or staples, the gaff or boom being constructed with two eyes or staples, which are received and held between the eyes or staples of the thimble by means of a screw-bolt.

The shrouds of the vessel are constructed of metal ropes secured to the mast and vessel, respectively, in the usual manner. The rat-lines thereof consist of transverse iron bolts of proper length, which are passed between the shrouds of the ropes at suitable intervals, and through nuts which have a vertical passage for the ropes and transverse passages for the bolts, whereby the two are securely held together and the greatest possible strength obtained.

What I claim is—

The combination, with the stationary yard of a vessel having pulley-blocks at its opposite ends, of a sail having its upper edge secured to said yard, a loose boom or roller attached to the lower edge of said sail and having drums at its opposite ends, two ropes, each having one end attached to one of said drums and passing over the respective pulleys on the yard and thence to the deck, said ropes and the sail being so relatively arranged that

the unrolling of the sail winds portions of the ropes upon the drums, and vice versa, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

CARL ERICK SVANSON GEDERÉN.

Witnesses:

JAMES L. NORRIS,

JAMES A. RUTHERFORD.