

E. A. Sawyer,
Attaching Clew Blocks to Clews.
N^o 41,096. *Patented Jan. 5, 1864.*

Fig. 1.

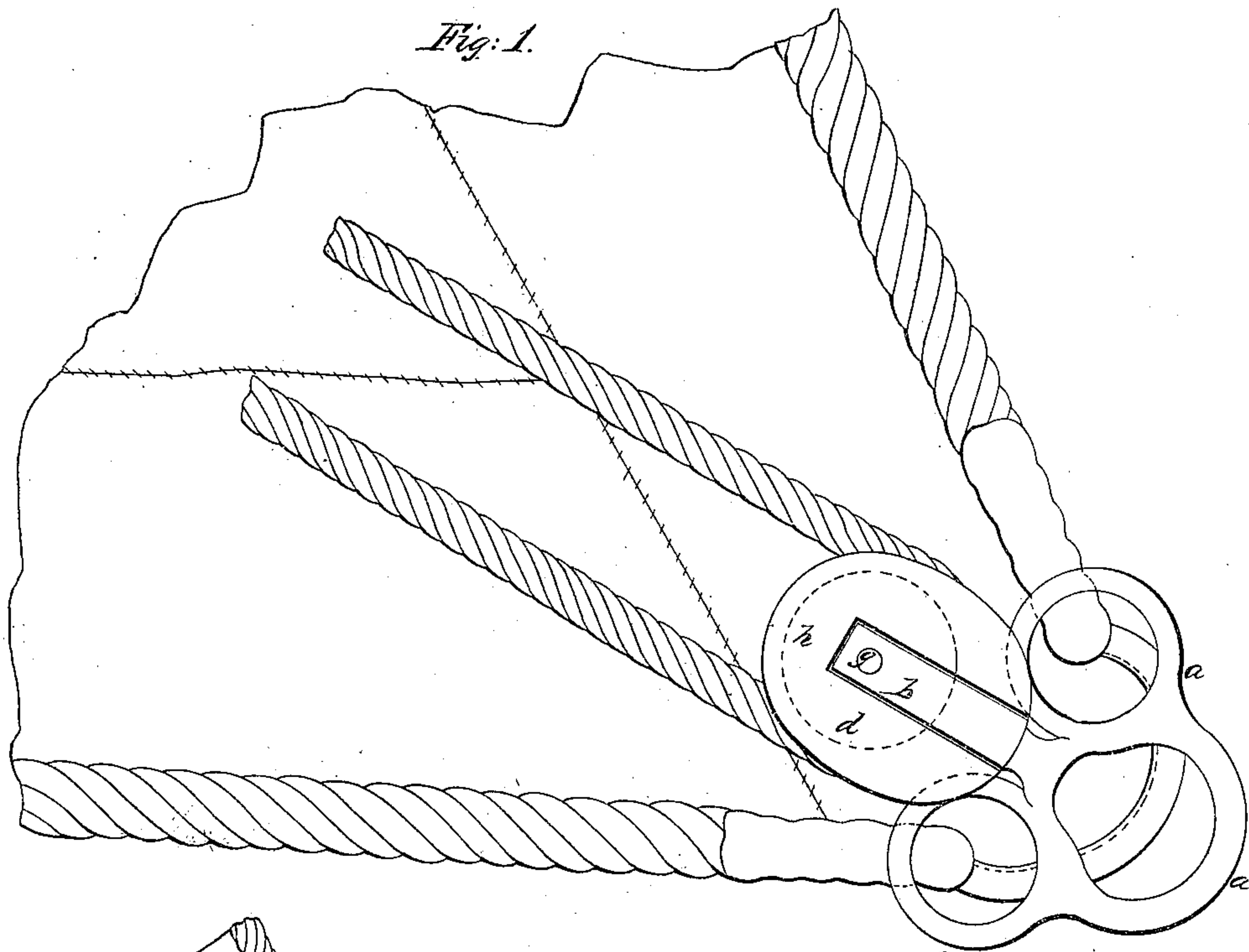


Fig. 2.

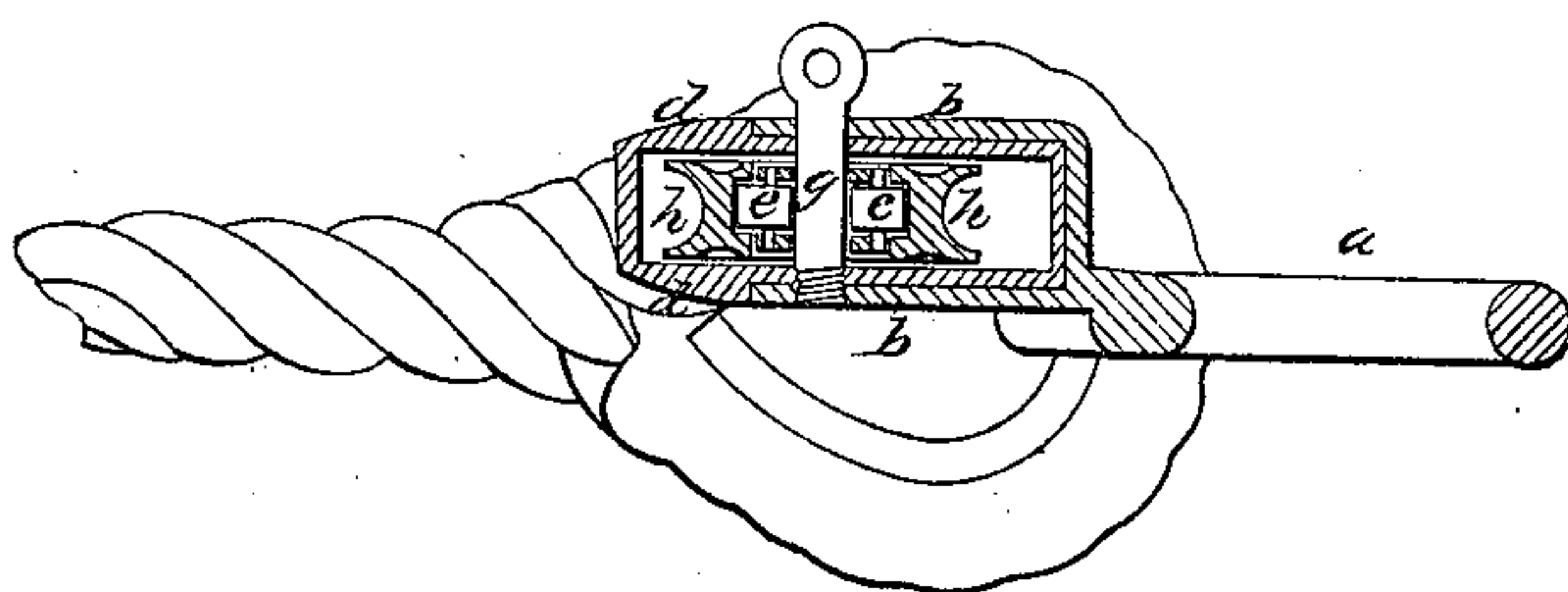
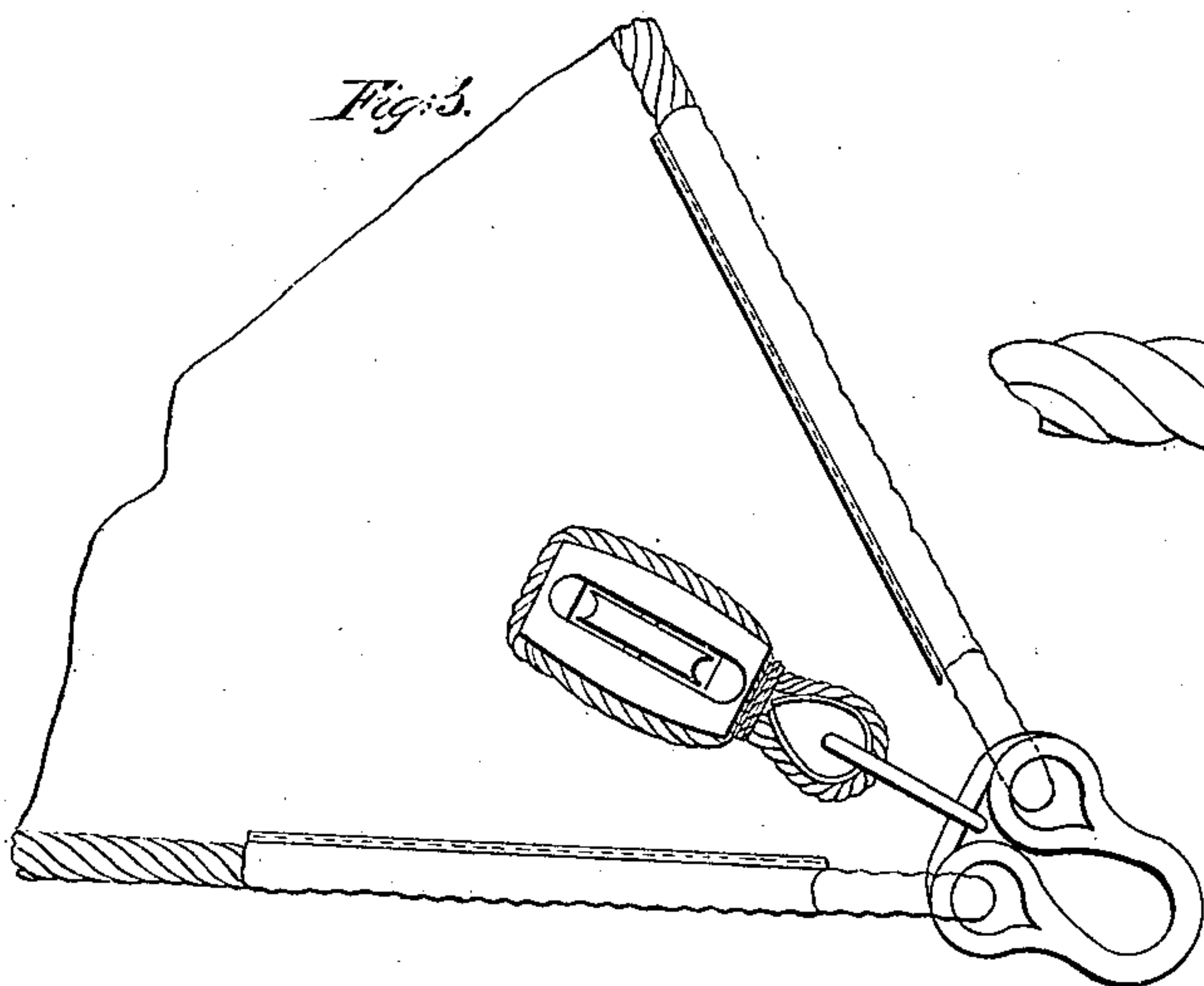


Fig. 3.



Witnesses:

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Inventor.

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by his atty's
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EBEN A. SAWYER, OF PORTLAND, MAINE.

IMPROVED MEANS OF ATTACHING CLEW-BLOCKS TO CLEWS.

Specification forming part of Letters Patent No. 41,096, dated January 5, 1864.

To all whom it may concern:

Be it known that I, EBEN A. SAWYER, of Portland, county of Cumberland, State of Maine, have invented a new and useful Improvement in Attaching Clew-Blocks to Clews; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 shows my improvement applied to a sail. Fig. 2 is a longitudinal section through the clew-line block and clew. Fig. 3 shows the old mode of attaching a clew-line block to a clew.

Similar letters of reference indicate corresponding parts in the several figures.

The object of my invention is to prevent ships' clew-line blocks from chafing and wearing out the sail-ropes and sails near the clews, by forming a rigid connection of the blocks to the clews, so that the motions of the ship will not affect the blocks, as will be hereinafter described.

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

In Fig. 3 I have represented the old mode of attaching clew-line blocks to clews. This mode consists in attaching a single-sheave wooden block to an iron link by means of a rope strap. The link, which is several inches long, is attached to the clew or to a bar which is welded across the two eyes of the clew, as clearly shown in the figure above referred to. The objection to this mode of attachment is that the loose-hanging block is always chafing the rope and the sail, for when the sail is extended the clew-lines which pass through the block are always left slack, so that the block drops down on the sail and rope; hence the motions of the ship keep a continual chafing, and to partially prevent the ropes from being worn out from this cause they are covered with canvas or leather—a troublesome and expensive operation.

The clew *a* which I use consists of three eyes, two of which receive the thimbles of the sail-ropes, as indicated in red, Figs. 1 and 2. Between these two thimble-receiving eyes I weld or otherwise rigidly affix to the clew *a* two metal plates, *b b*, which form a fork for receiving between them the clew-line block *d*, as shown in Fig. 2. The forks or plates *b b*, extend nearly the entire length of the block

d, and are let into recesses formed in the block, so that their surfaces will be flush with those of the block. The block *d* is secured to the forks *b b* by means of a single screw-bolt, *g*, which serves also the purpose of a center-pin for the sheave *h*, as shown in Fig. 2. The bolt *g* passes loosely through the upper plate of the fork and screws into the lower plate.

The sheave, as well as the shell *d*, may be made of metal, and when made of metal the sheave may be provided with anti-friction rollers *e e*, as shown in Fig. 2.

By constructing the block of metal, which my mode of attachment admits of, it can be made very much smaller than the wooden blocks hitherto used, and at the same time possess greater strength and durability.

The clew *a*, with triple eyes, and the forked block-holder may be wrought of one piece of metal, or these two parts may be united in any other convenient manner, either by rivets or welding.

The advantage of using a metal block is incidental to my improved mode of attaching it to the clew, and, if desired, a wooden block may still be used secured to the forks of the clew, as above described, or in any other like substantial manner.

From the above description it will be seen that a permanent and rigid attachment of the block to the clew is effected in a very simple and cheap manner, and that the block cannot chafe or injure the sail-ropes or the sail. The sail-ropes need not, therefore, be covered to protect them from wearing out. The block is always in its proper place, and it can neither get to the sail nor the sail get to it.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. Attaching clew-line blocks to their clews by means of a metal fork formed on said clews, or other rigid connection, substantially as and for the purposes described.

2. Uniting blocks to their clews by means of a single bolt, which also forms the pivot-fastening of the sheave, substantially as described.

3. The clew *a*, having a block-receiving fork, *b b*, formed on it, substantially as and for the purposes described.

EBEN A. SAWYER.

Witnesses:

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