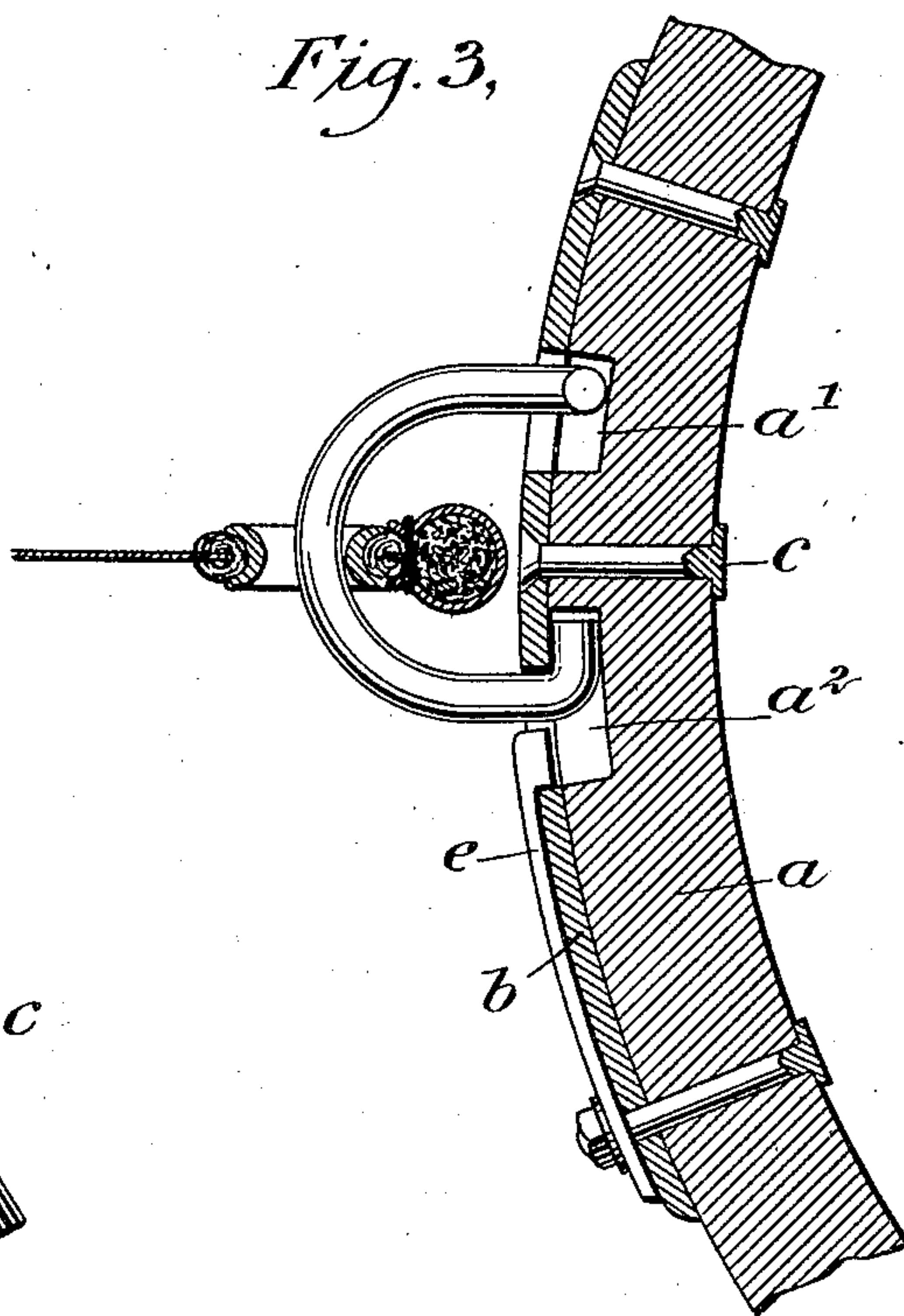
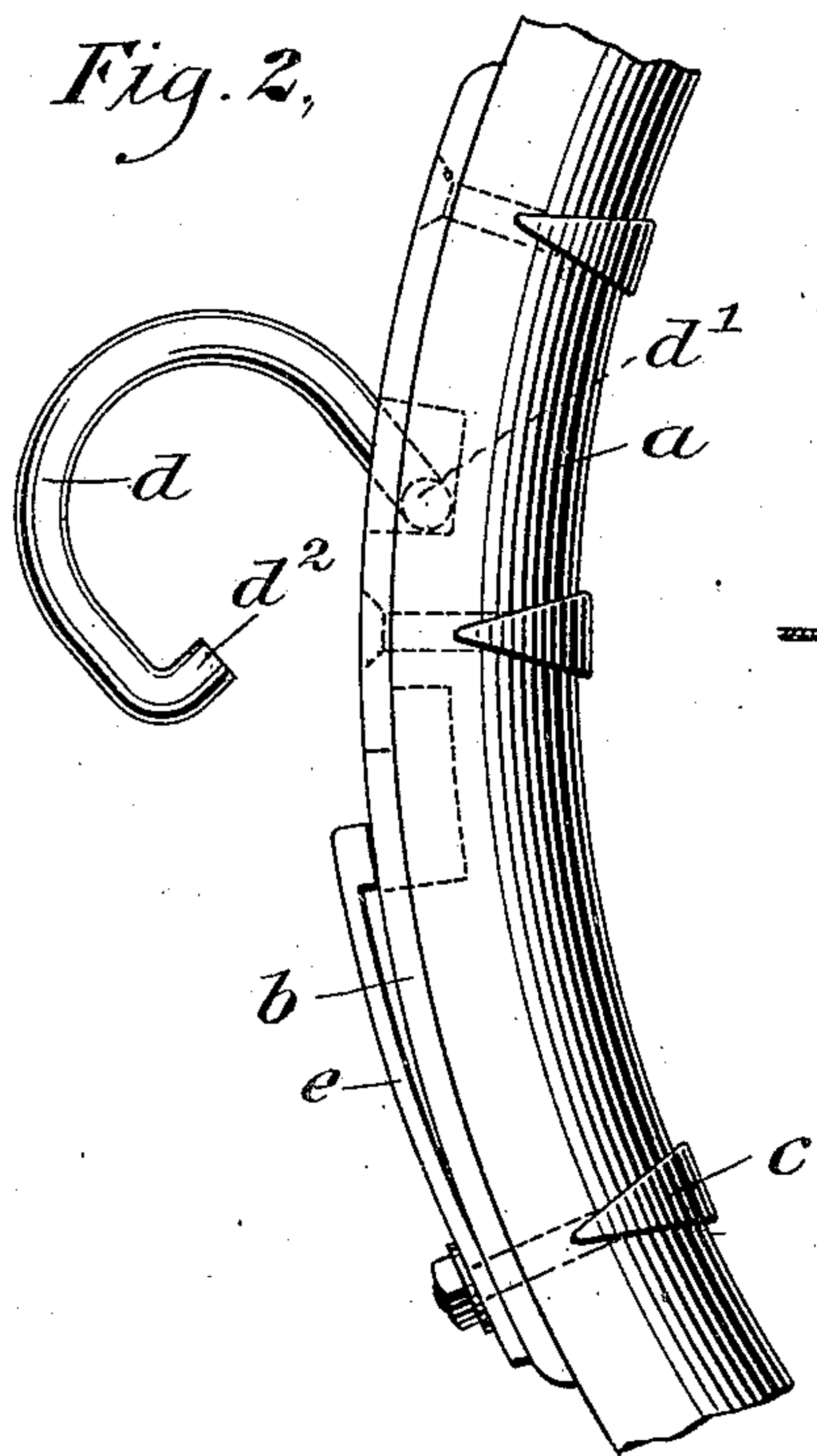
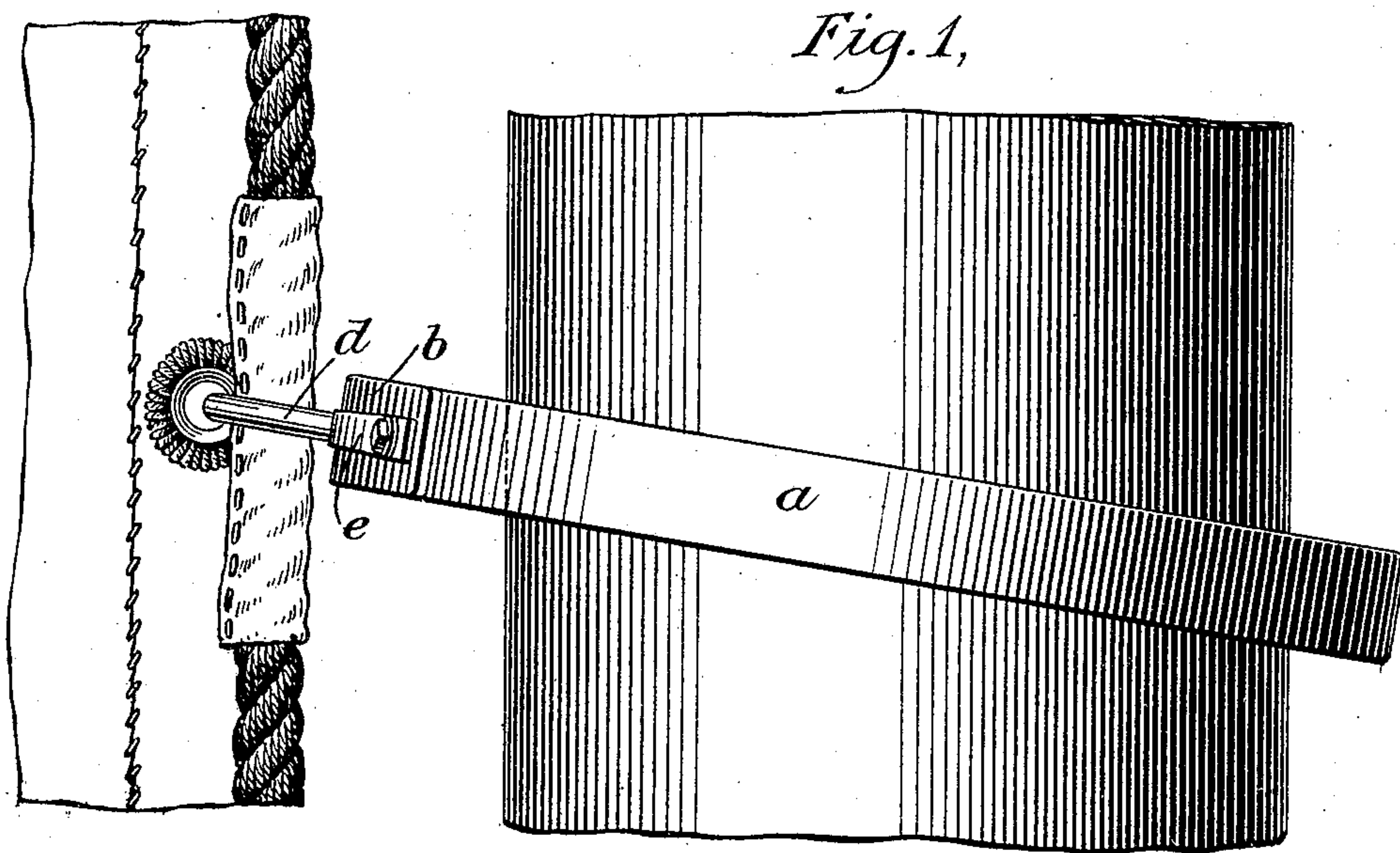


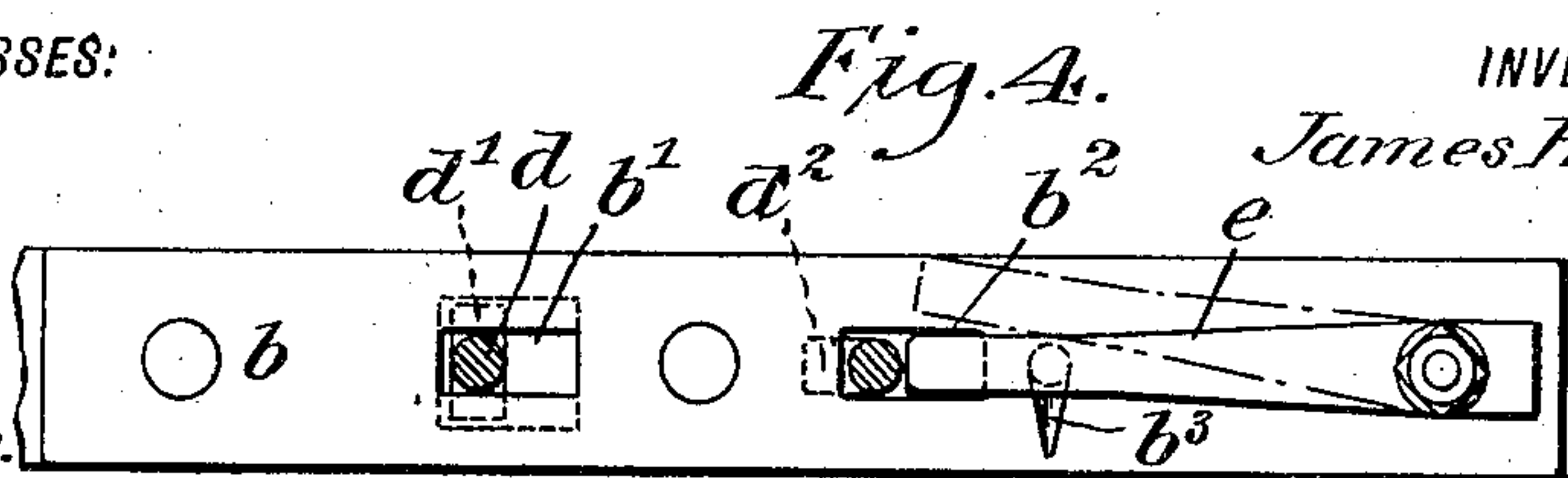
No. 810,787.

PATENTED JAN. 23, 1906.

J. H. MITCHELL.
DEVICE FOR BENDING FORE AND AFT SAILS.
APPLICATION FILED MAY 17, 1905.



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UNITED STATES PATENT OFFICE.

JAMES HANNAY MITCHELL, OF WESTERLY, RHODE ISLAND.

DEVICE FOR BENDING FORE-AND-AFT SAILS.

No. 810,787.

Specification of Letters Patent.

Patented Jan. 23, 1906.

Application filed May 17, 1905. Serial No. 260,860.

To all whom it may concern:

Be it known that I, JAMES HANNAY MITCHELL, a citizen of the United States, and a resident of Westerly, in the county of Washington and State of Rhode Island, have invented a new and Improved Device for Bending Fore-and-Aft Sails, of which the following is a full, clear, and exact description.

The object of this invention is to provide means by which fore-and-aft sails may be bent to the mast-hoops more securely and easily than by the practice heretofore commonly followed. It has been previously the custom to bind the luff of a fore-and-aft sail to the mast-hoop by spun yarn or marline. This method is tedious and insecure. Further, the luff of the sail sags away from the mast and interferes with the set of the former. My invention seeks to overcome this objectionable condition, and in so doing I provide the mast-hoop with a peculiarly-arranged shackle which is arranged to engage directly in the eyelet-hole of the sail, thus not only securely holding the sail in proper position, but enabling it to be very quickly bent and unbent.

My invention consists of certain novel features of construction and arrangement, which will be fully set forth hereinafter, and particularly pointed out in the claims.

Reference is had to the accompanying drawings, which illustrate the preferred embodiment of my invention, in which drawings like characters of reference indicate like parts in the several views, and in which—

Figure 1 is a side elevation showing a mast-hoop in position and illustrating the shackle for connecting the sail therewith. Fig. 2 is an enlarged detail view of a part of the hoop with the shackle in open position. Fig. 3 is a section with the shackle in closed position, and Fig. 4 is a plan view showing the shackle-plate and the dog for holding the shackle.

The mast-hoop a has a shackle-plate b secured to its outer side by anchor-rivets c , which serve the double function of holding the shackle-plate in position and preventing the hoop from splitting. The shackle-plate is formed with two cavities b' and b^2 . These cavities are arranged, respectively, to receive the T-shaped end d' and the L-shaped end d^2 of the shackle d . The shackle is U-shaped, as shown, and is arranged to be passed through the eyelet-hole of the sail, as shown in Fig. 1. Opposite the openings b' and b^2 in the shackle-plate b the hoop a is formed with

cavities a' and a^2 , which receive the ends d' and d^2 of the shackle. e indicates a dog which is pivoted to the shackle-plate and arranged to lie in one end of the opening b^2 therein, so as to prevent movement of the shackle out of the position shown in Figs. 3 and 4. b^3 indicates an indentation which may be, if desired, formed in the shackle-plate b to permit the introduction of a marlinespike between the dog and shackle-plate, so as to move the dog into the position shown by broken lines in Fig. 4.

It will be seen that when the parts are adjusted as in Fig. 3, the shackle being engaged in the eyelet-hole of the sail, the sail is held securely to the hoop and close against the mast. This connection allows free movement of the sail and does not interfere with setting or lowering the same. In order to disconnect the shackle from the sail, the dog e should be moved sidewise to the position shown by broken lines in Fig. 2 and the shackle moved in the openings b' and b^2 , a' and a^2 until the L-shaped end d^2 of the shackle lies completely in the opening b^2 . The shackle may then be rocked to the open position, (shown in Fig. 2,) the T-shaped end d' of the shackle serving as a pivot on which the shackle may be rocked. If it is desired completely to remove the shackle, this may be done by giving the end d' a quarter-turn in the cavity a' , so as to place the T-shaped end in position for withdrawal in the opening b' in the shackle-plate b .

This device in addition to the advantages mentioned above has a further advantage of enabling the sails to be bent and unbent with great rapidity, which is important—for instance, in bending a new sail to replace a torn one in heavy weather, where it is frequently essential to the safety of the vessel and her crew that the sail be quickly bent.

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

1. The combination with a mast-hoop, of a shackle-plate secured thereto, said plate having openings therein, an essentially U-shaped shackle having at one end a T-shaped head and at the other end an L-shaped head, said heads being adapted to fit in the openings in the shackle-plate, and a removable dog for holding the L-shaped end of the shackle engaged with the inner side of the shackle-plate.

2. The combination with a mast-hoop, of a shackle-plate secured thereto, said plate hav-

ing openings therein, an essentially U-shaped shackle having at one end a T-shaped head and at the other end an L-shaped head, said heads being adapted to fit in the openings in the shackle-plate, and a removable dog for holding the L-shaped end of the shackle engaged with the inner side of the shackle-plate, said dog having a portion at its free end adapted to enter the opening in the shackle-plate receiving the L-shaped end of the shackle.

3. The combination with a mast-hoop having two cavities therein, of a shackle-plate secured to the mast-hoop and having openings registering respectively with the cavities in the hoop, an essentially U-shaped shackle having at one end an enlargement adapted to be received in one opening in the hoop, and having at the other end a laterally-turned portion adapted to be received in the second opening in the hoop, and means for removably holding said second end in active position.

4. The combination with a mast-hoop having two cavities therein, of a shackle-plate secured to the mast-hoop and having openings registering respectively with the cavities in the hoop, an essentially U-shaped shackle having at one end an enlargement

adapted to be received in one opening in the hoop, and having at the other end a laterally-turned portion adapted to be received in the second opening in the hoop, and means for removably holding said second end in active position, said means comprising a dog mounted on the shackle-plate and having a portion adapted to enter the opening in the shackle-plate which receives the second-named end of the shackle.

5. The combination with a mast-hoop having two cavities therein, of a shackle-plate fastened to the hoop and having orifices respectively matching the cavities, the shackle-plate having portions overhanging the cavities in the hoop, an essentially U-shaped shackle having enlarged ends capable of passing the orifices in the shackle-plate and adapted to bear against the inner side of the said overhanging portion of said plate, and a dog adapted removably to hold the shackle in place.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES HANNAY MITCHELL.

Witnesses:

EUGENE F. BARNEY,
SYLVESTER H. SMITH.