

(No Model.)

2 Sheets—Sheet 1.

D. D. BROWN.
BALING OR BUNDLING MACHINE.

No. 411,422.

Patented Sept. 24, 1889.

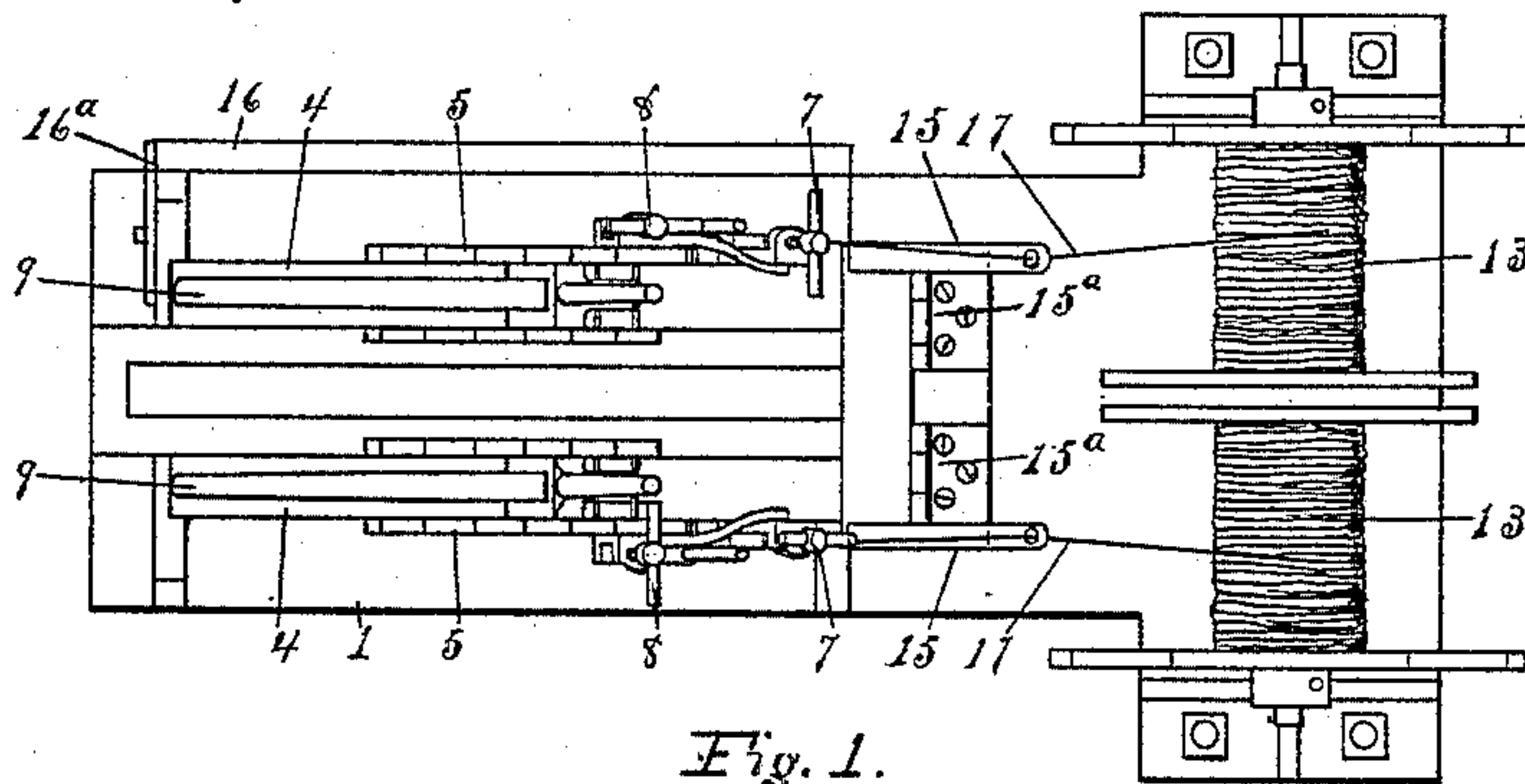


Fig. 1.

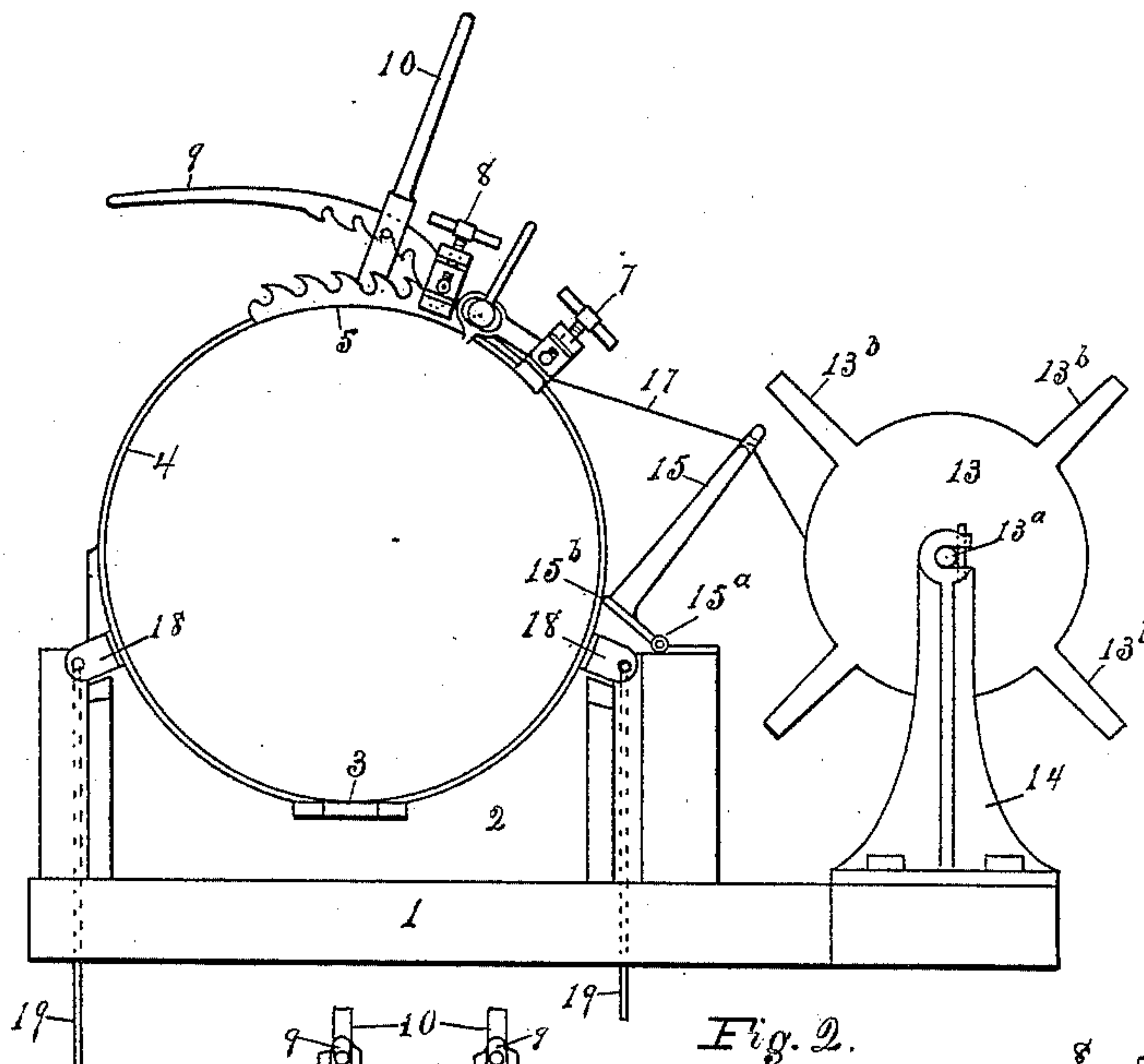


Fig. 2.

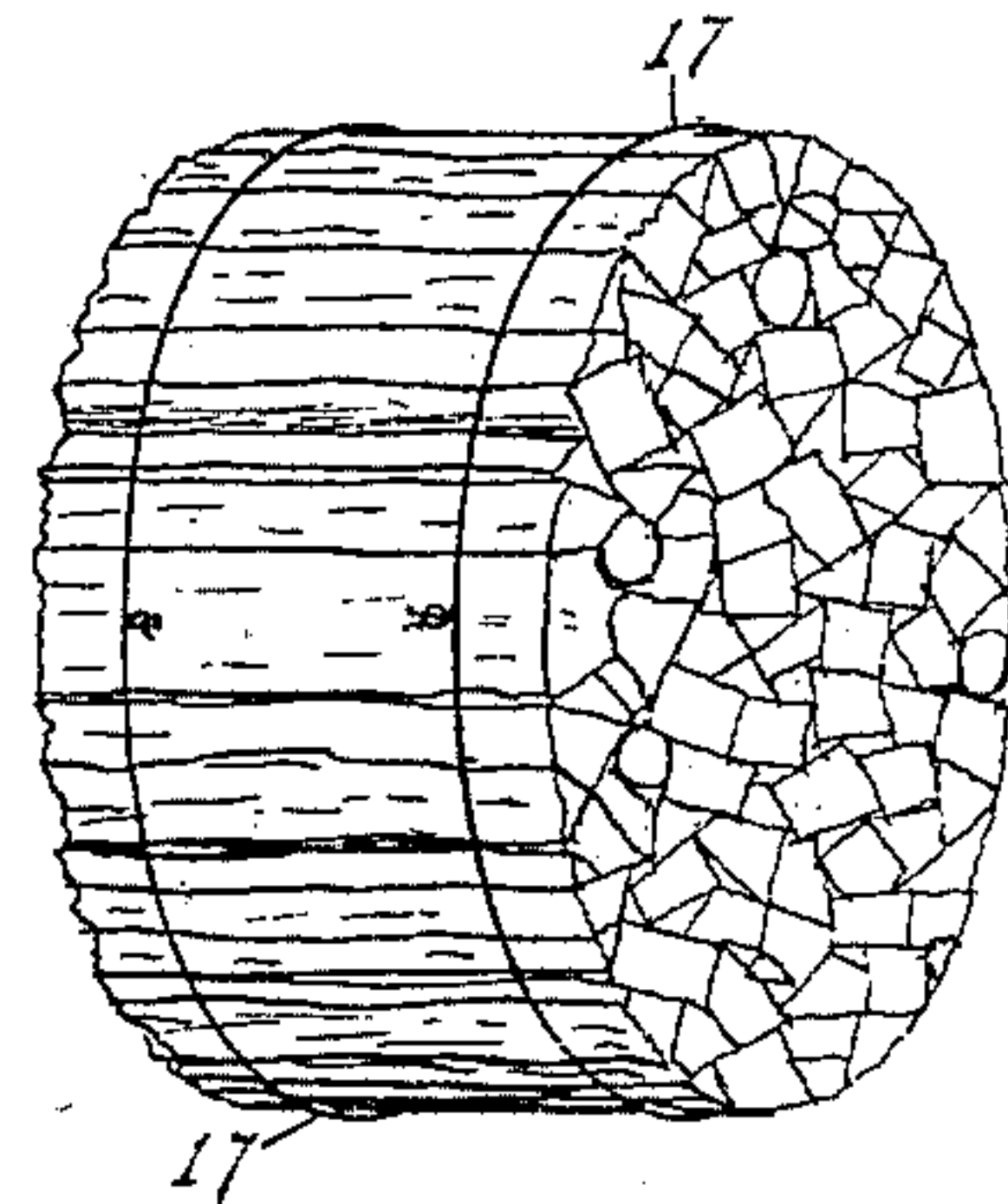


Fig. 5.

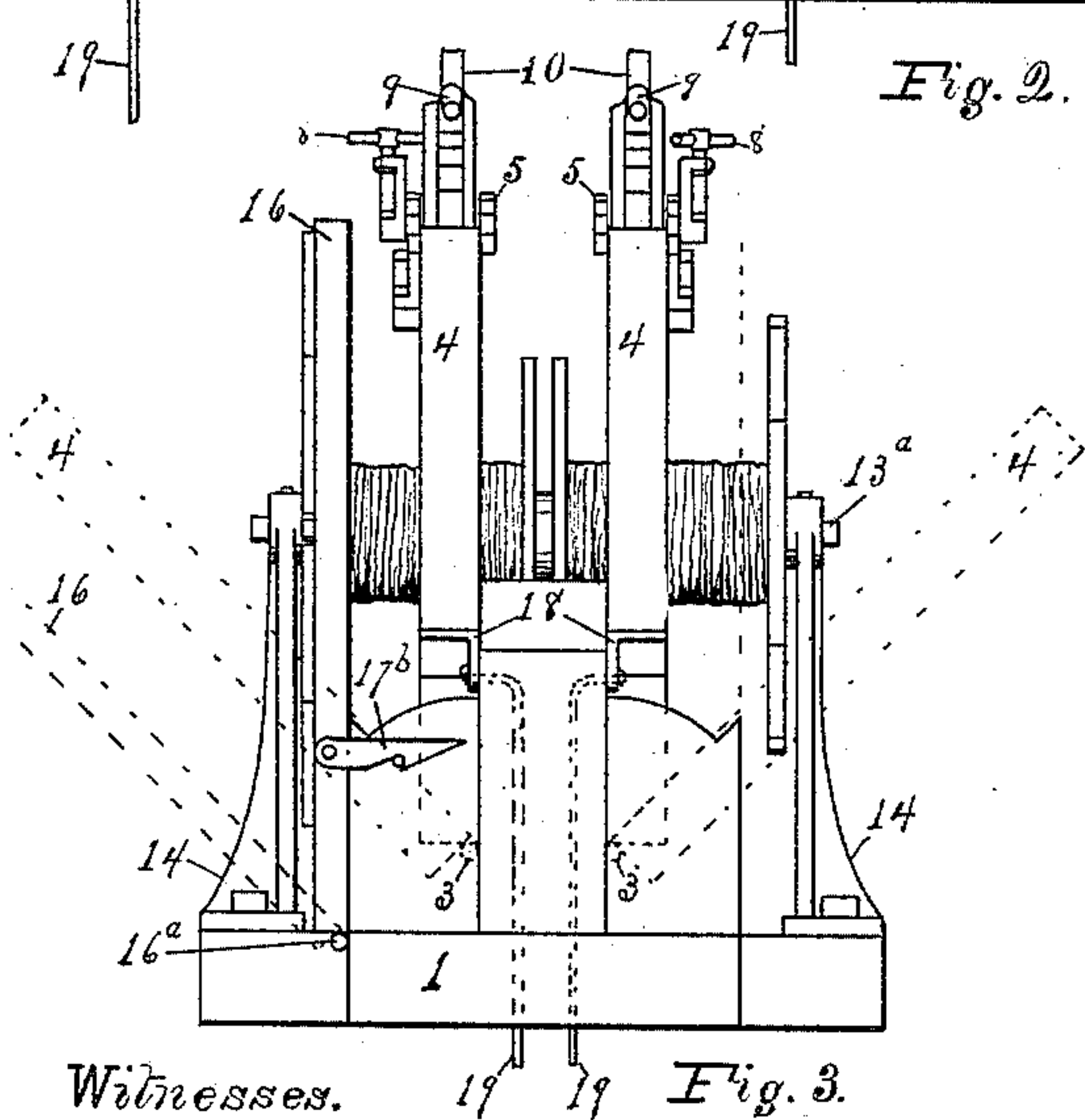


Fig. 3.

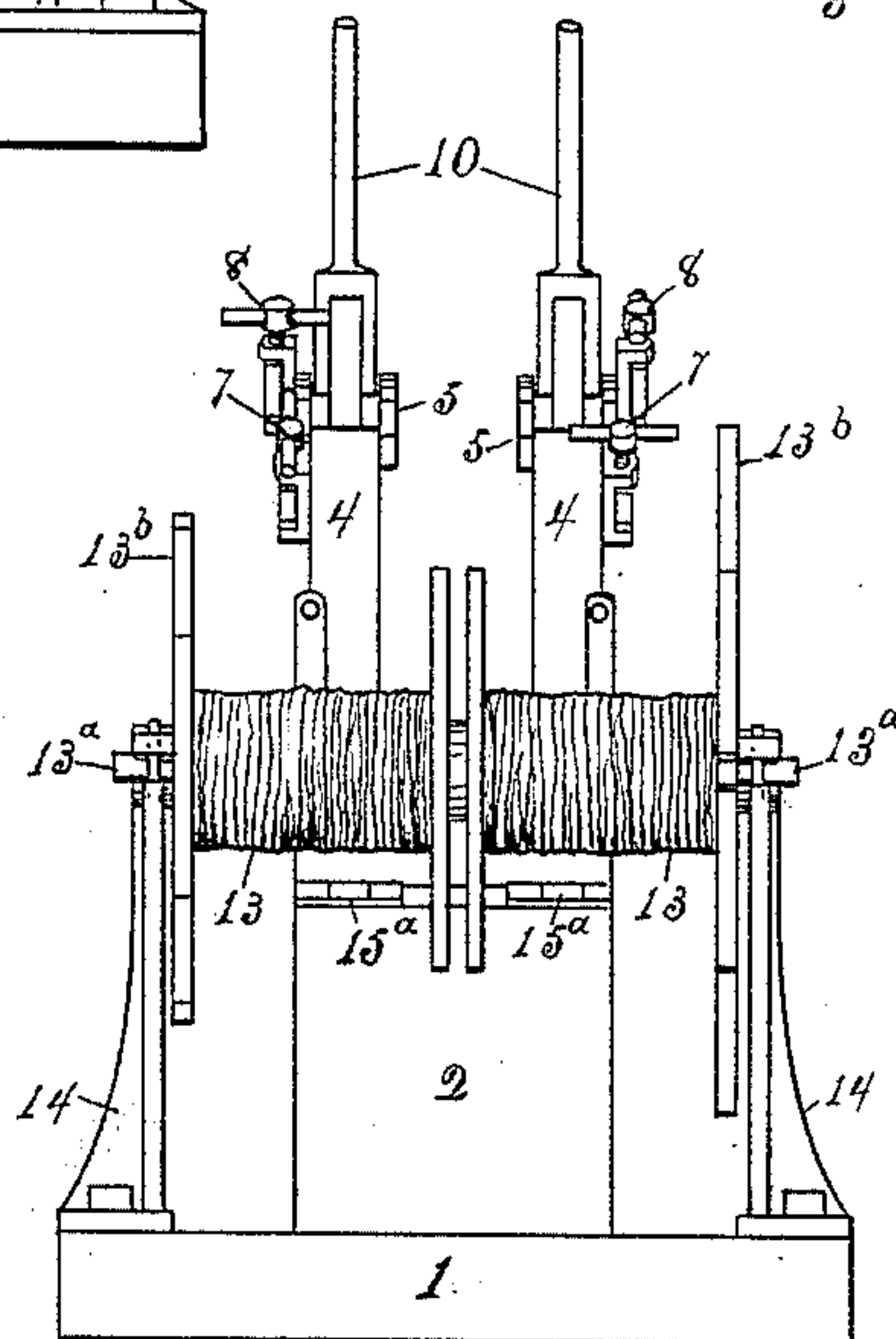


Fig. 4.

Witnesses.
Addimus
E. H. Riley

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2 Sheets—Sheet 2.

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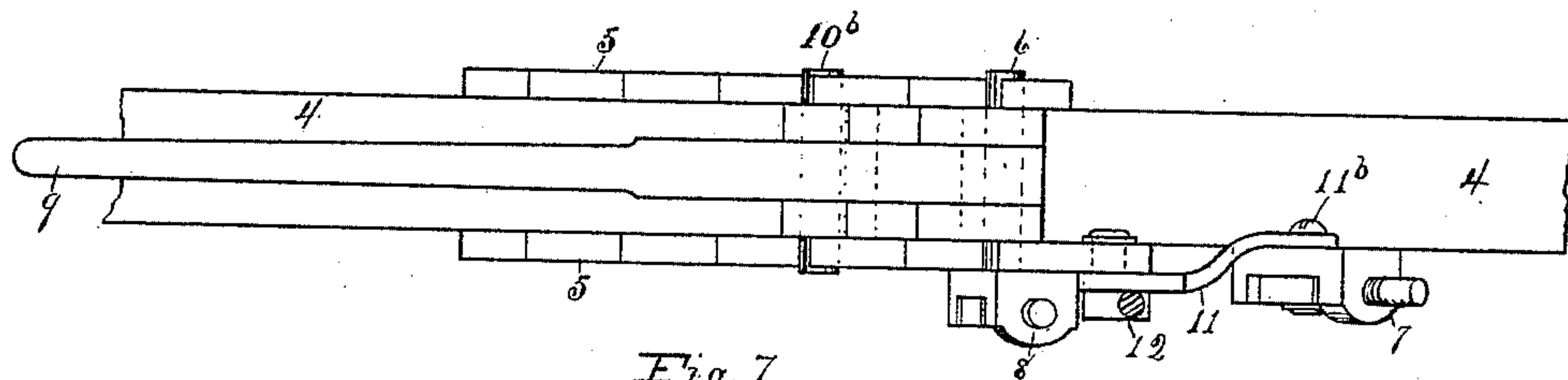


Fig. 7.

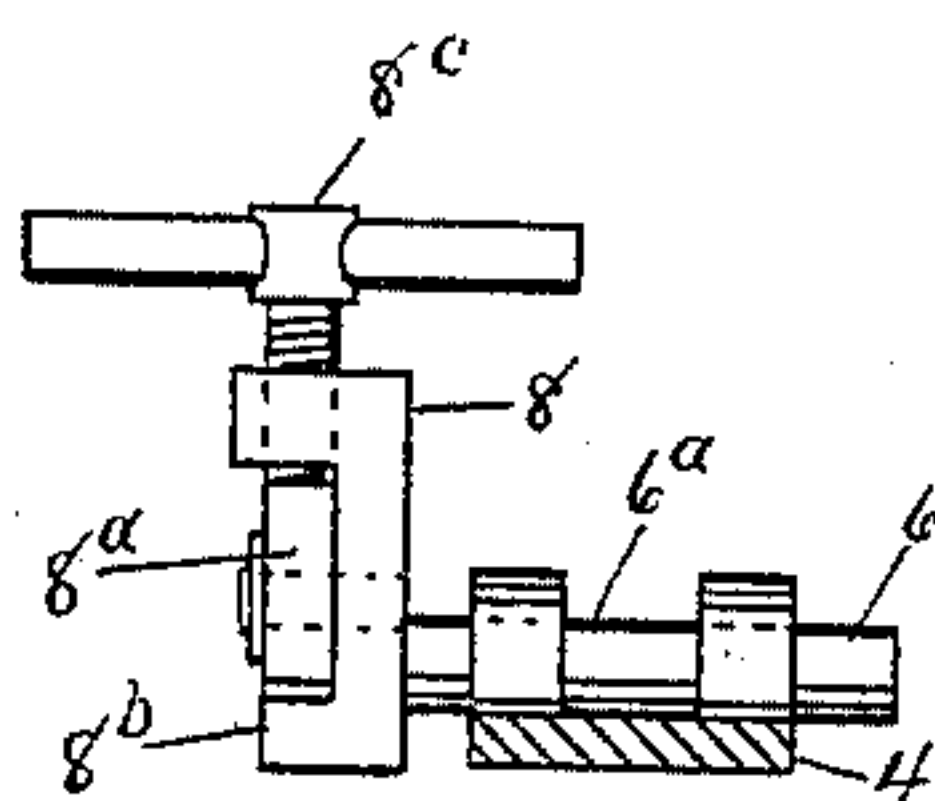


Fig. 8.

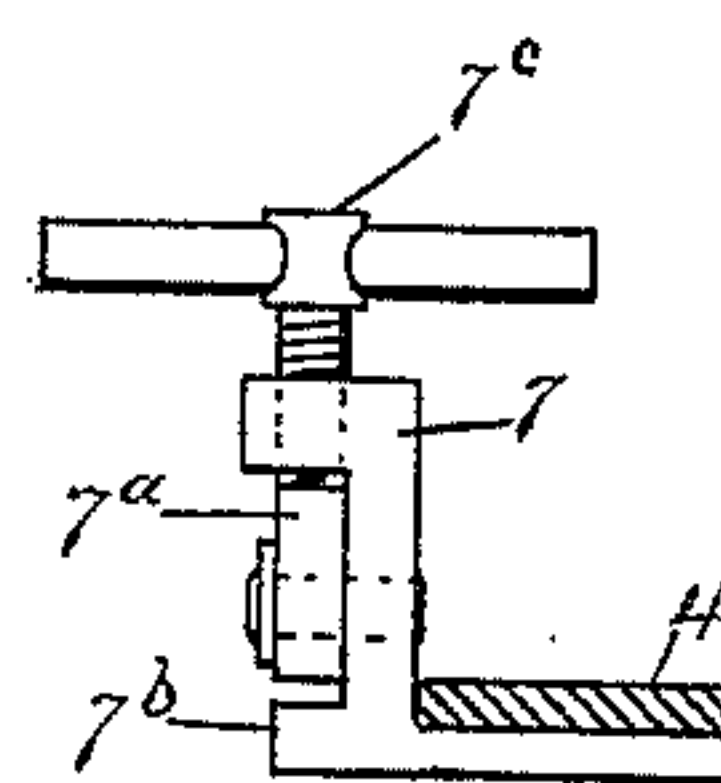


Fig. 9.

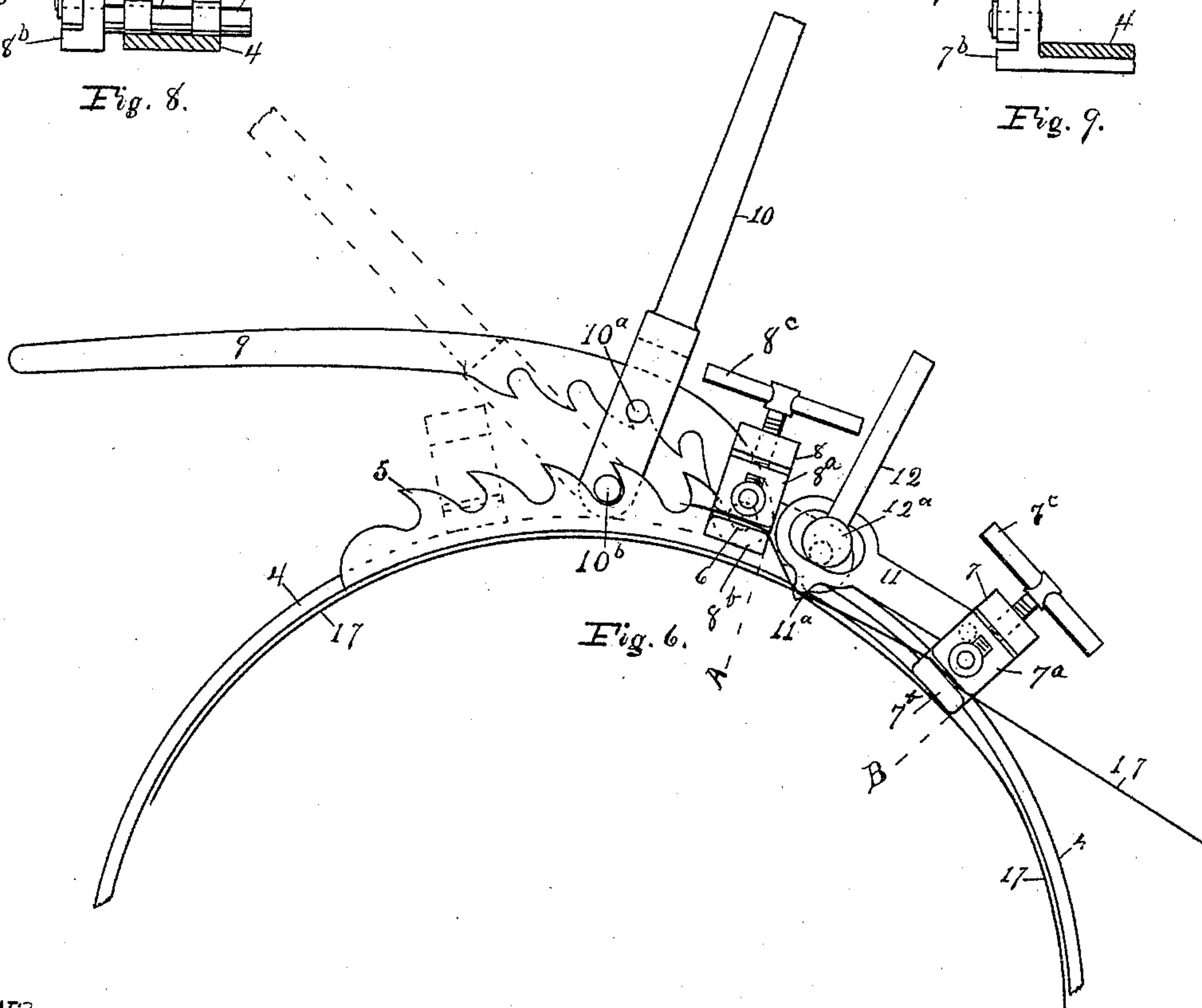


Fig. 6.

Witnesses.

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UNITED STATES PATENT OFFICE.

DOMINIC D. BROWN, OF UTICA, NEW YORK, ASSIGNOR TO MARY E. BROWN,
OF SAME PLACE.

BALING OR BUNDLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 411,422, dated September 24, 1889.

Application filed April 4, 1889. Serial No. 305,966. (No model.)

To all whom it may concern:

Be it known that I, DOMINIC D. BROWN, of the city of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Baling or Bundling Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to a machine for baling or bundling wood or other articles and securing in bundles.

In the drawings which accompany and form a part of this specification, Figure 1 shows a top view of my device. Fig. 2 shows a side view. Fig. 3 shows a front end view. Fig. 4 shows a rear end view. Fig. 5 shows a bundle of wood as bundled by the machine. Fig. 6 shows a side view of a section of the machine on an enlarged scale. Fig. 7 shows a top view of Fig. 6. Figs. 8 and 9 show details of construction.

Like figures and letters of reference refer to like parts in the several figures of the drawings.

In constructing my machine, upon a suitable base 1 is mounted a support 2, to which are hinged clamping-rings or binders 4 4 by hinges 3 3, so as to open apart, as shown in dotted lines in Fig. 3. Rings 4 4 are cut, and upon one of the ends is attached a double-hooked toothed rack 5, Figs. 2, 6, and 7. Upon the other of the ends is attached pin 6, adapted to be engaged in toothed rack 5. Rack 5 has a projecting end which carries vise 7, which vise has a movable clamping-jaw 7^a, which acts against stationary jaw 7^b and is operated by screw 7^c. (See Fig. 9.) Upon pin 6 is mounted vise 8, which is similarly constructed to 7, having movable jaw 8^a, stationary jaw 8^b, and screw 8^c. (See Fig. 8.) Pin 6 is engaged by or has mounted upon it at the point marked 6^a a toothed racked lever 9. Lever 9 passes through slotted lever 10, which is provided with a pin 10^a, spanning the slot and adapted to be engaged by the rack of lever 9, and a cross-pin 10^b near the

end adapted to engage in rack 5. An arm 11, pivoted at 11^b to the back of vise 7, carrying a downwardly-projecting edge 11^a, is operated by cam 12^a and lever 12, pivoted on a projection on rack 5 and working in a slotted opening in arm 11.

A pair of reels 13 13 are provided for carrying the wire to be used on the machine. The reels are mounted on the shaft 13^a in standards or posts 14. The reels are also provided with handles 13^b, for purposes hereinafter stated. A guide or guides 15 for the wires are provided, hinged at 15^a to a standard on the base, and having an elbow or angle, as shown at 15^b, which is adapted to be brought against 4 4 when the guide is brought forward.

Parallel to one of the rings 4, and at a little distance therefrom, is a stop 16, which is hinged at 16^a to the base. The stop 16 is held in a vertical position and substantially parallel with the rings 4 by catch 17^b.

18 18 are lugs secured to the rings 4, and having cords 19 attached thereto carrying weights (not shown) for holding the rings 4 in upright position and for steadying the rings while drawing the wire and operating the levers by being in contact with standards 2.

17 indicates the wire used for binding.

The operation of the device is substantially as follows: The rings 4 being, as shown in Figs. 1, 2, 3, and 4, in a vertical position and opened to a larger diameter than the bundle is to be, the stop 16 being in the position shown in full lines in Figs. 1 and 3, the material to be bound, which in this case may be wood, is placed in the rings 4, the ends being placed against stop 16, thereby making the ends even when rings 4 have been filled with the wood. The wires 17 are then drawn from the reel and passed around the wood in the rings and the end secured in vise 8. The wire is then passed through open jaws of vise 7. Then, by grasping handles 13^b, the reel is reversed in movement and rotated in the opposite direction as far as it can be done, which removes all "kinks" from the wire and draws it moderately tight around the bundle. Then the vise 7 is closed upon the wire, securing it. When this has been done on each end of the

bundle with each wire, the levers 9 and 10 are operated as follows: Starting with the levers in position shown in full lines in Fig. 6, the lever 10 is brought forward into the position shown in dotted lines in Fig. 6. This movement advances the pin 6 from its position behind a tooth of rack 5 to a position behind a preceding tooth. Then, by raising lever 9 pin 10^b may be advanced one or more teeth in rack 5, or pin 10^a may be advanced in the rack of lever 9, or both, when the operation of lever 10 may be repeated, thereby advancing the pin 6 into a position behind a preceding tooth of rack 5, where it again becomes secured. These operations can be continued until the desired tension is brought upon the bundle. As vise 7 moves with rack 5 and vise 8 with pin 6, it will be readily understood that the wires 17 will be also drawn tightly around the bundle. After the desired tension is brought upon the bundle, the lever-handle 12 is turned down and the action of the cam 12^a forces edges 11^a down onto the wire 17 against the wood in the bundle, thereby securing it while the wires are released from vises 7 and 8 and cut, crossed, and twisted together, as shown in Fig. 5. The catch 16^b is then released and stop 16 turned down into the position shown in dotted lines in Fig. 3. The rings 4 are released by drawing forward on lever 10 and forcing down lever-handle 9, which removes pin 6 out of rack 5 and allows the ring 4 to be opened into its most extended position. The rings 4 are then to be opened into the positions shown in dotted lines, when the completed bundle, Fig. 5, may be taken out of the machine through the top. The clamping-rings 4 and stop 16 may then be returned to their former positions, and the machine is ready for a repetition of the process.

It will be noticed that when the wire is drawn tight around the bundle by turning the reel backward the wire drawing downward through guide 15 will cause it to move toward the rings 4 and bring the elbow or angle 15^b in contact therewith and thus furnish a resistance. This may also be accomplished by a hook upon the opposite side from 15^b engaging the rings 4.

The rack upon lever 9 may be omitted, if found desirable, and replaced by a single-hooked tooth.

The parts 11 and 12 may be omitted and the wires secured by a staple driven into the bundle and spanning the wires while they are being bent and twisted.

Alteration and changes may be made from

and in the construction without departing from the spirit of my invention.

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

1. In a baling or bundling machine, a clamping-binder having a toothed rack secured to one of the free ends of the binder and a pin upon the other free end, two levers adapted to engage each other, and one of the levers engaging the pin secured to the binder and the other adapted to engage the rack.

2. In a baling or bundling machine, a clamping-binder having a toothed rack and the vise secured to one of the free ends thereof, and the pin adapted to be engaged in the rack and the vise secured to the other end thereof, in combination with the two levers engaging each other, and one of the levers engaging the pin and the other adapted to engage the rack, substantially as set forth.

3. In a baling or bundling machine, the combination, with a clamping-binder having the rack, pin, and vises mounted thereon, of the clamping-edge adapted to clamp the wire to the bundle, substantially as set forth.

4. In a baling or bundling machine, the combination, with a clamping-binder having the rack, pin, and vises mounted thereon, of the two levers engaging each other, and one of the levers engaging the pin and the other adapted to engage the rack, and the clamping-edge adapted to clamp the wire to the bundle, substantially as set forth.

5. In a baling or bundling machine, the combination of the clamping-binder having the rack, pin, and vises mounted thereon, substantially as set forth, and the levers, one of which engages the pin and the other adapted to engage the rack and engaging each other, and the reels adapted to supply wire to the machine.

6. The combination, in a baling or bundling machine, of two encircling clamping-binders concentric and parallelly hinged to a base to open apart, substantially as shown and described.

7. The combination, in a baling or bundling machine, of two encircling clamping-binders concentric and parallel and hinged to a base, so as to open apart, and a stop at the side of and parallel with one of the binders, substantially as shown and described.

In witness whereof I have affixed my signature in presence of two witnesses.

DOMINIC D. BROWN.

Witnesses:

JAMES BARNUM,

MILTON E. ROBINSON.