

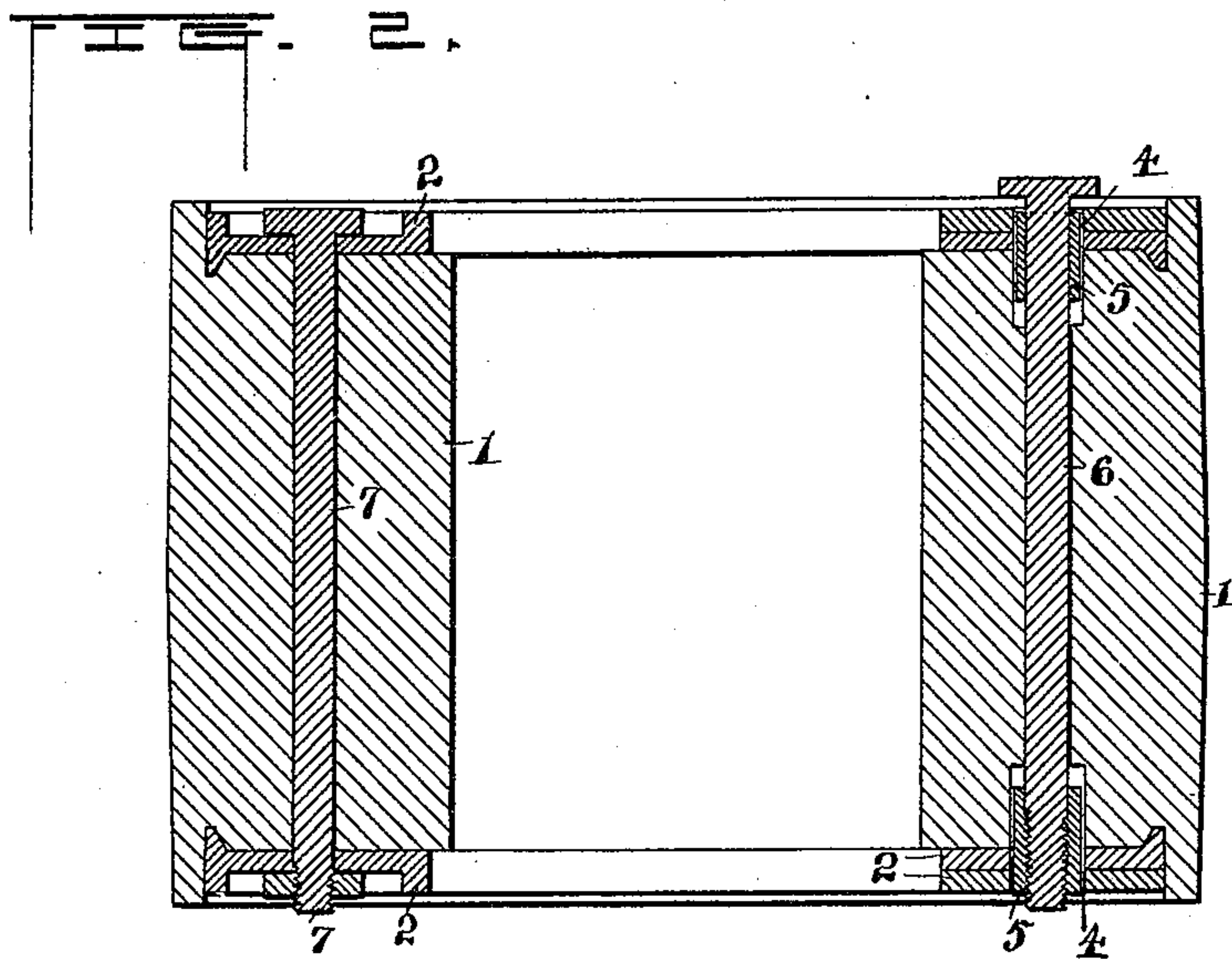
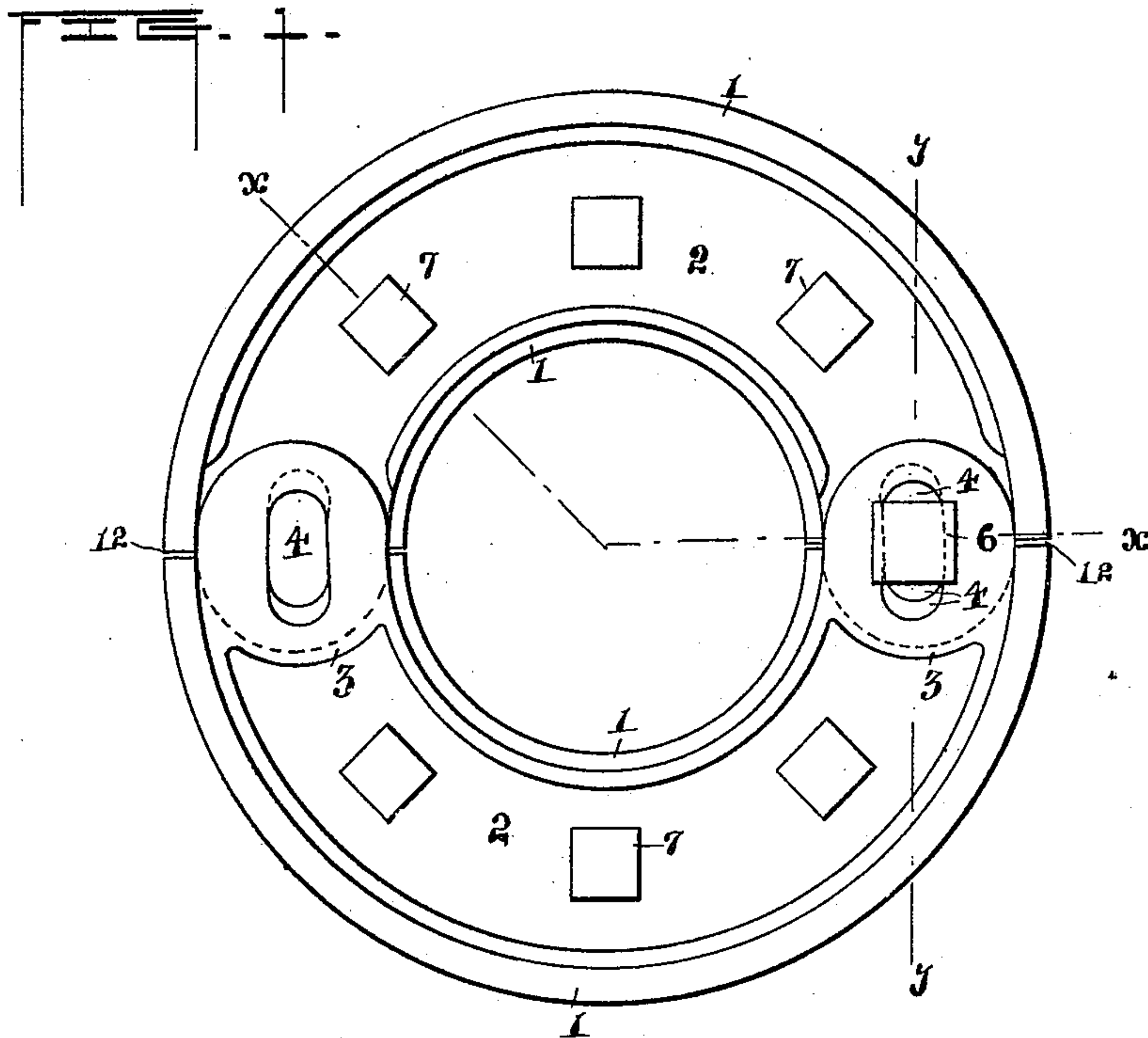
(No Model.)

2 Sheets—Sheet 1.

J. OLD.
SPLIT PULLEY.

No. 459,763.

Patented Sept. 22, 1891.



Witnesses
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Henry Chellis.

Inventor
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by
Bert. R. Catlin Attorney

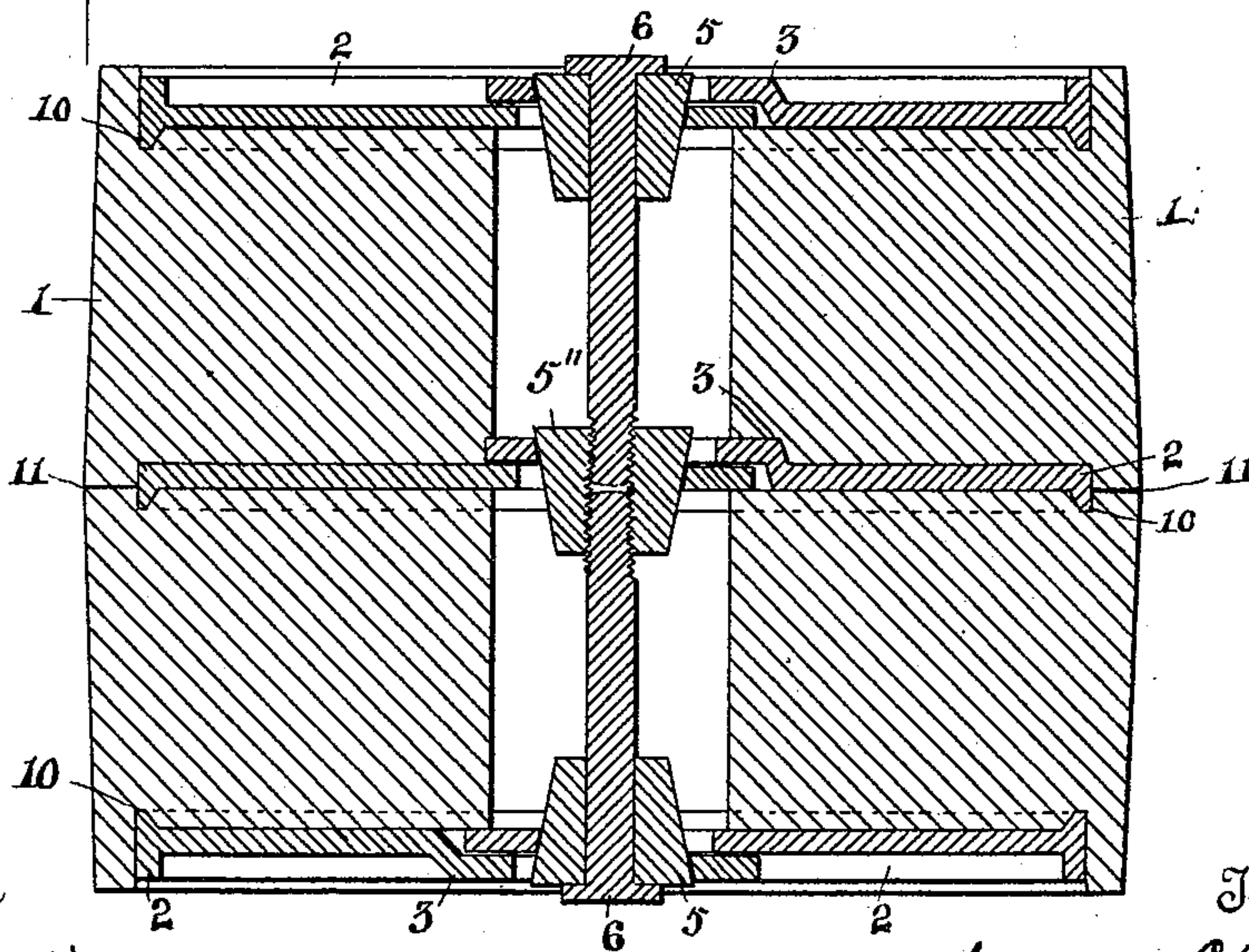
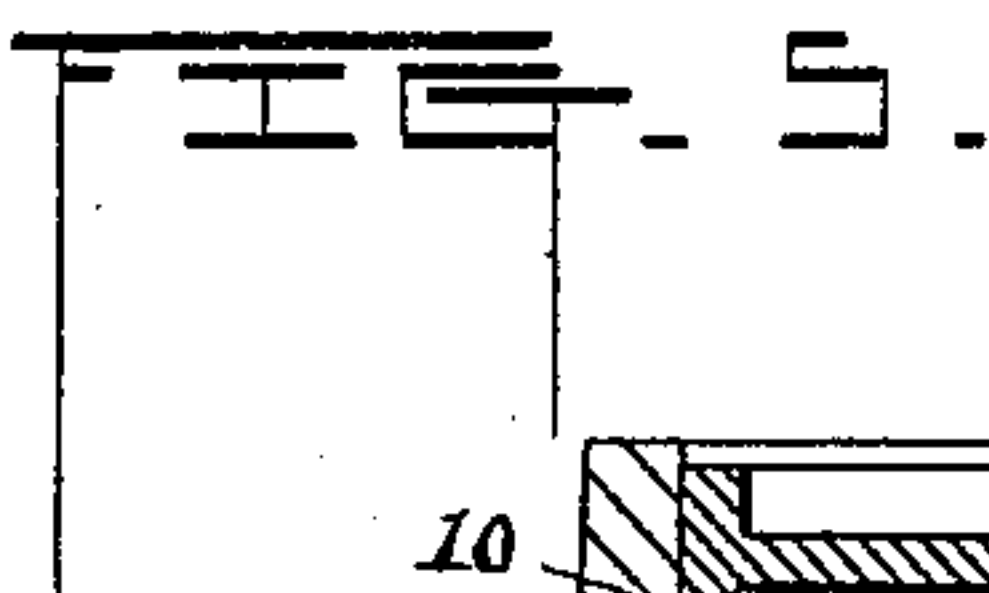
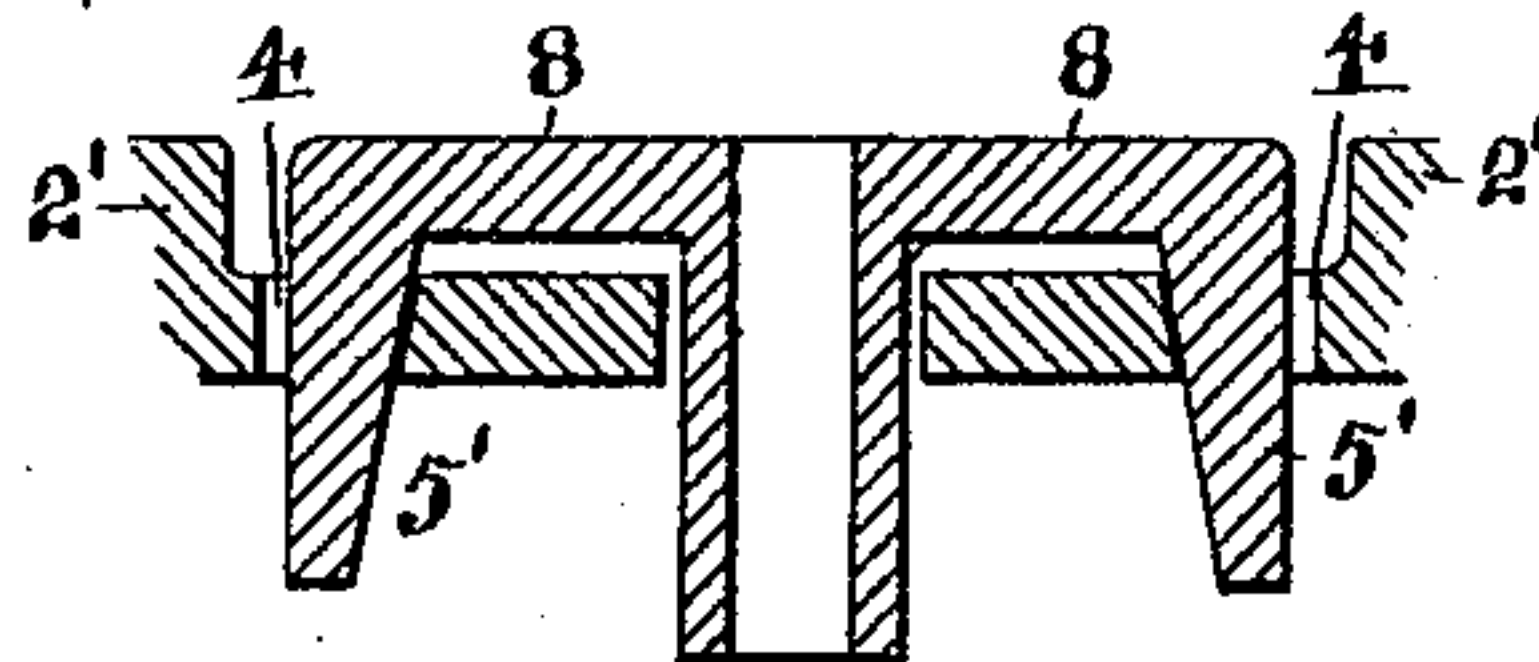
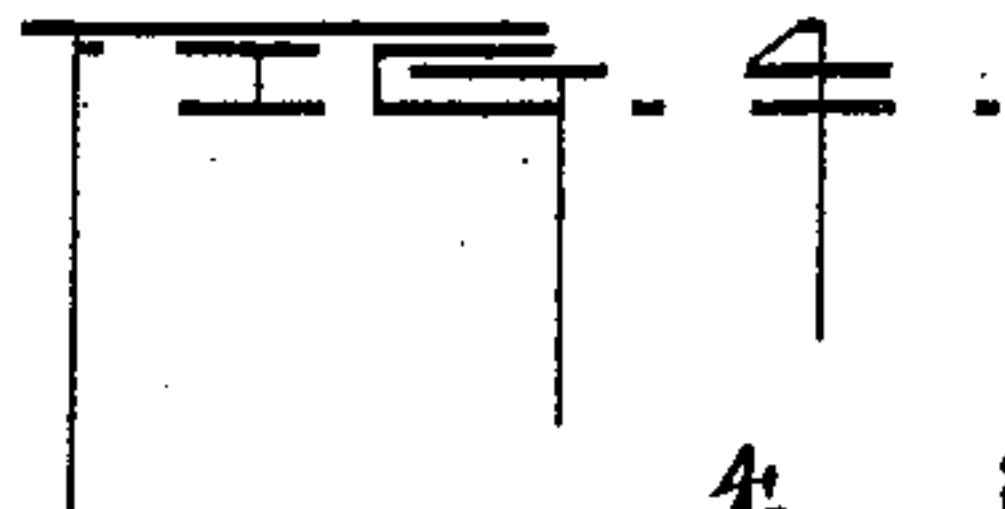
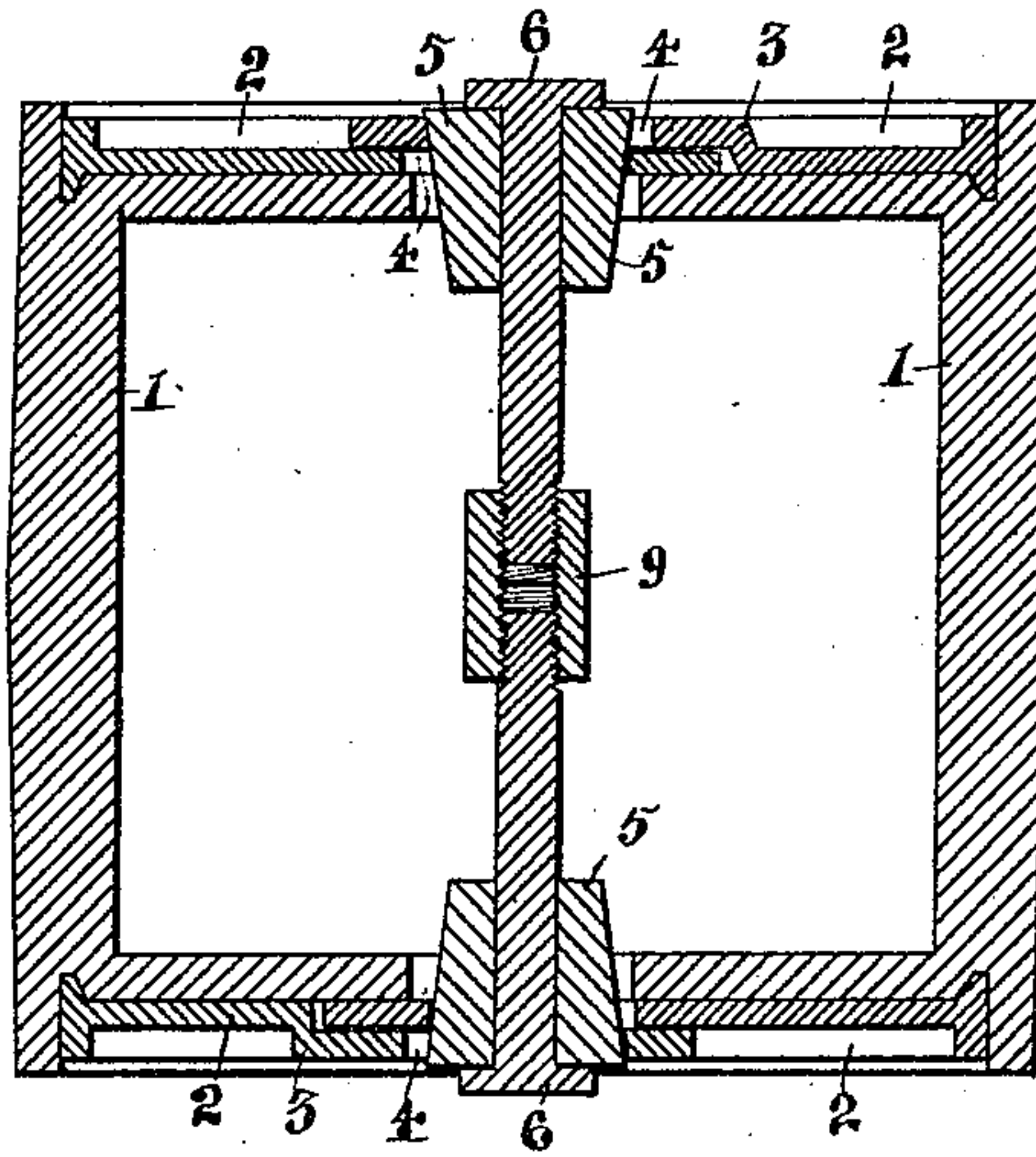
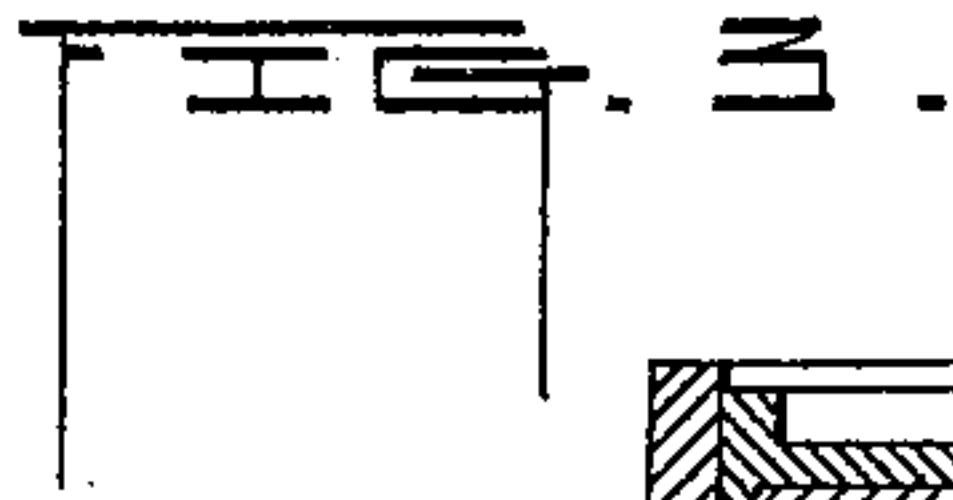
(No Model.)

2 Sheets—Sheet 2.

J. OLD.
SPLIT PULLEY.

No. 459,763.

Patented Sept. 22, 1891.



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UNITED STATES PATENT OFFICE.

JAMES OLD, OF ALLEGHENY, PENNSYLVANIA.

SPLIT PULLEY.

SPECIFICATION forming part of Letters Patent No. 459,763, dated September 22, 1891.

Application filed March 6, 1891. Serial No. 384,053. (No model.)

To all whom it may concern:

Be it known that I, JAMES OLD, a resident of Allegheny city, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Split Pulleys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The object of the invention relates to split pulleys for shafting and the like and to means for securing them to shafts; and it consists in the construction hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an end view. Fig. 2 is a section on line $x x$ of Fig. 1. Fig. 3 is a section of a modification on a line corresponding to $y y$ of Fig. 1. Fig. 4 is a detail. Fig. 5 is a central section of a second modification.

My improvement is applicable to pulleys made in diametric or radial sections. In the drawings, 1 1 indicate such sections at 12, suitably formed for connection with a machine-shaft and recessed at the ends for the reception of securing devices. These consist of the circular arcs or plates 2 2. One of these at each end of the pulley preferably has offsets 3 in its ends, which offsets overlap the ends of the corresponding plate, the arcs being greater than a semicircle, when two arcs or plates only are used at each end of the pulley. These plates are provided near their extremities in the overlapping parts with oblong holes 4 for the entrance of wedge-shaped nuts or washers 5. These wedges or wedge-like washers, which are oblong in cross-section, are provided with central openings to receive screw-bolts 6, and one of each pair is interiorly screw-threaded to engage the screw-threaded end of a bolt. The exterior ends of the oblong openings are by preference inwardly inclined at about the angle of the wedges. These openings are of such dimensions and so arranged that opposite sides of the wedges bear upon the outer wall of said openings in the overlapping plates which overlap, whereby the latter are adapted to be forced in opposite directions by so tightening the screw-bolts as to draw the wedges toward each other. The curved plates

2 are secured to the pulley-sections in any suitable manner, as by bolts 7, passing through suitable holes in both the plates and the pulley-sections. The relative sizes of the plates and sections are such that the latter only can bear on the shaft to which they are applied. By the means above described the rings formed by the two arcs at each end of the split pulley can be caused to contract and force the pulley-sections upon the shaft.

In Fig. 4 is shown a modification in which two wedges 5' 5', attached to a common head 8, are employed. This head may be adapted to fit in depressions formed by offsetting adjacent ends of curved plates. Each offset is provided with an opening 4 to receive a wedge. It will be understood that two oppositely-placed heads connected by a bolt to draw them together and to render the wedges operative will be employed. In this form the plates 2' 2', as represented, do not overlap. They are shown as drawn nearly as close to each other as the bolt will permit. The operation of the modified devices is similar to that of those first above described and the constructions are equivalent.

Many of the features of the device may be varied without changing substantially its principles of construction and operation. Thus the invention is not limited to any particular material or number of pulley-sections or number of arcs or plates, nor is it of the gist of the improvement that the plates are curved nor that both the sides of parts 5 or 5' and the sides of the openings 4 are inclined, since if either is inclined to the other a wedge-like action will be produced. Neither is it essential how the plates are secured to the pulley-sections, nor that they be located in recesses in the same. All such particulars can be varied by mechanical skill without departing from the invention.

In Fig. 3 are shown two bolts 6, having each a loose wedge, substantially such as above described, and having their ends screwed into a nut or tube 9. Thus combined the two shaft-bolts can be used as one, and being suitably placed the wedges can be drawn together so as to bear upon the plates, as above described, by turning either end of the compound bolt. This figure is designed to indicate a metal pulley made in section and

adapted to be secured upon a shaft by the means described.

In Fig. 5 is shown a modification suitable for large wooden pulleys. In this form interior plates 2 are provided with overlapping ends, part of which by preference have offsets 3, and are employed to draw the wooden part of the pulley upon the shaft by means of wedges, one of which 5" has a screw-threaded opening to receive a fastening bolt or bolts. The pulleys are transversely divided, as indicated at 11, to provide for the introduction of the plates 2. 10 denotes a rim or flange formed, preferably, on the plates used with wooden pulleys and adapted to be drawn into the wood by the action of the fastening-bolts to more securely hold the wood and prevent its being split. These rims also will be found particularly useful for this purpose in the case of small pulleys, and in such I also contemplate the use of screws instead of the screw-bolts 6 and 7.

The offsets above described, if employed, may be formed on both ends of one of a pair that are mated, or on one end of each of the pair, or on all the ends, as found convenient. The wedges, as shown, are made wider in one

direction than the other—that is, oblong in cross-section—though wedges or nuts having the form of a frustum of a cone could be used with similar effect.

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

1. In a split pulley, the combination of the pulley-sections, the plates provided with openings near their ends and secured to the sections, the wedges, and the bolts, the latter being adapted to force the wedges into the openings and force the plates toward each other, substantially as set forth.

2. In a split pulley, the combination of pulley-sections, with clamping devices consisting of bolts and wedges applied to the ends of the sections, the bolts and wedges being parallel with the axis of the sections and adapted to force said sections tight to the shaft, substantially as set forth.

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

JAMES OLD.

Witnesses:

JAMES R. STERRETT,
HUGH S. CRAIG.