

No. 894,500.

PATENTED JULY 28, 1908.

A. HITCHON.
SHAFT COUPLING.
APPLICATION FILED MAY 10, 1907.

Fig. 1

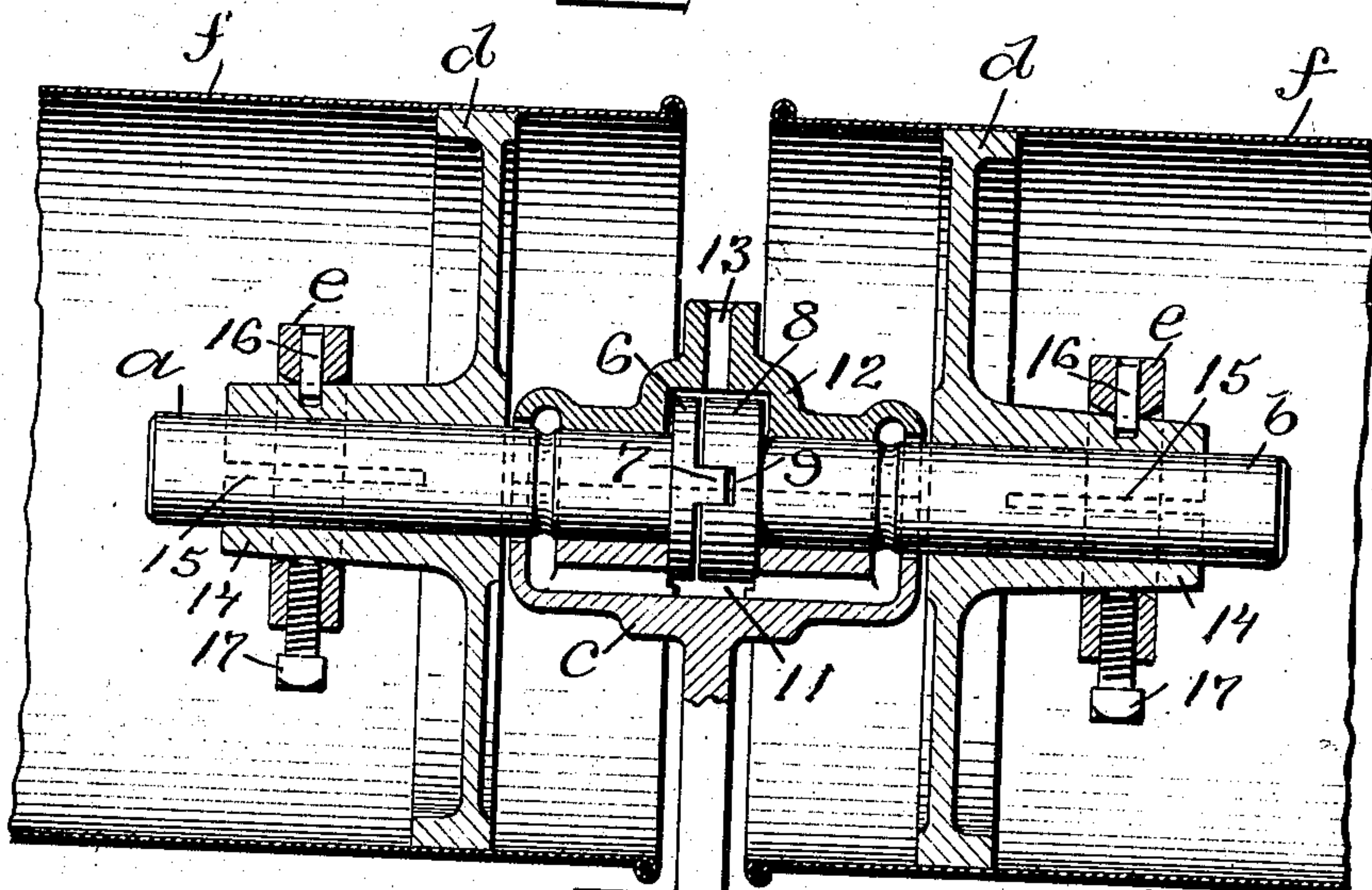


Fig. 2.

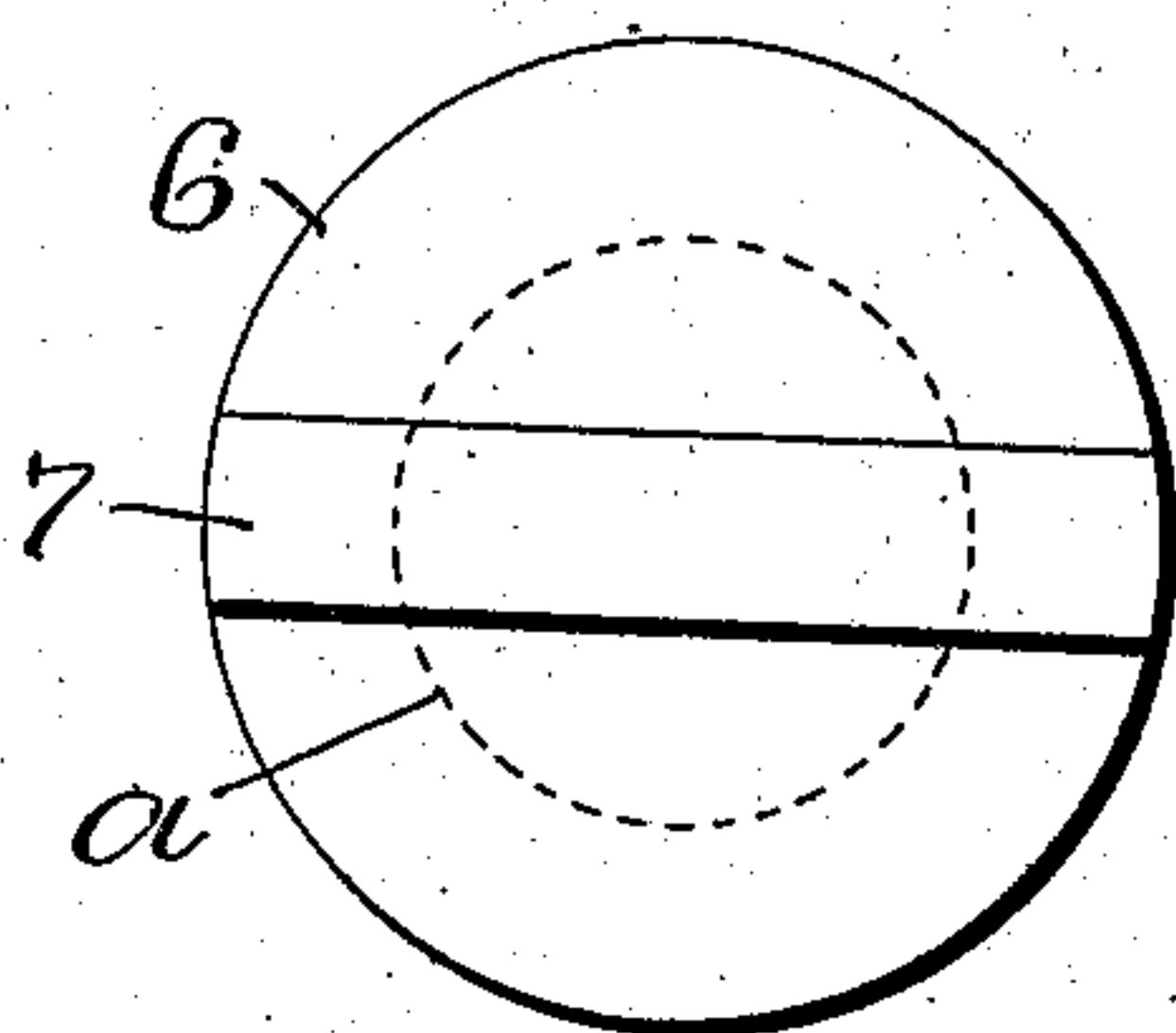


Fig. 3.

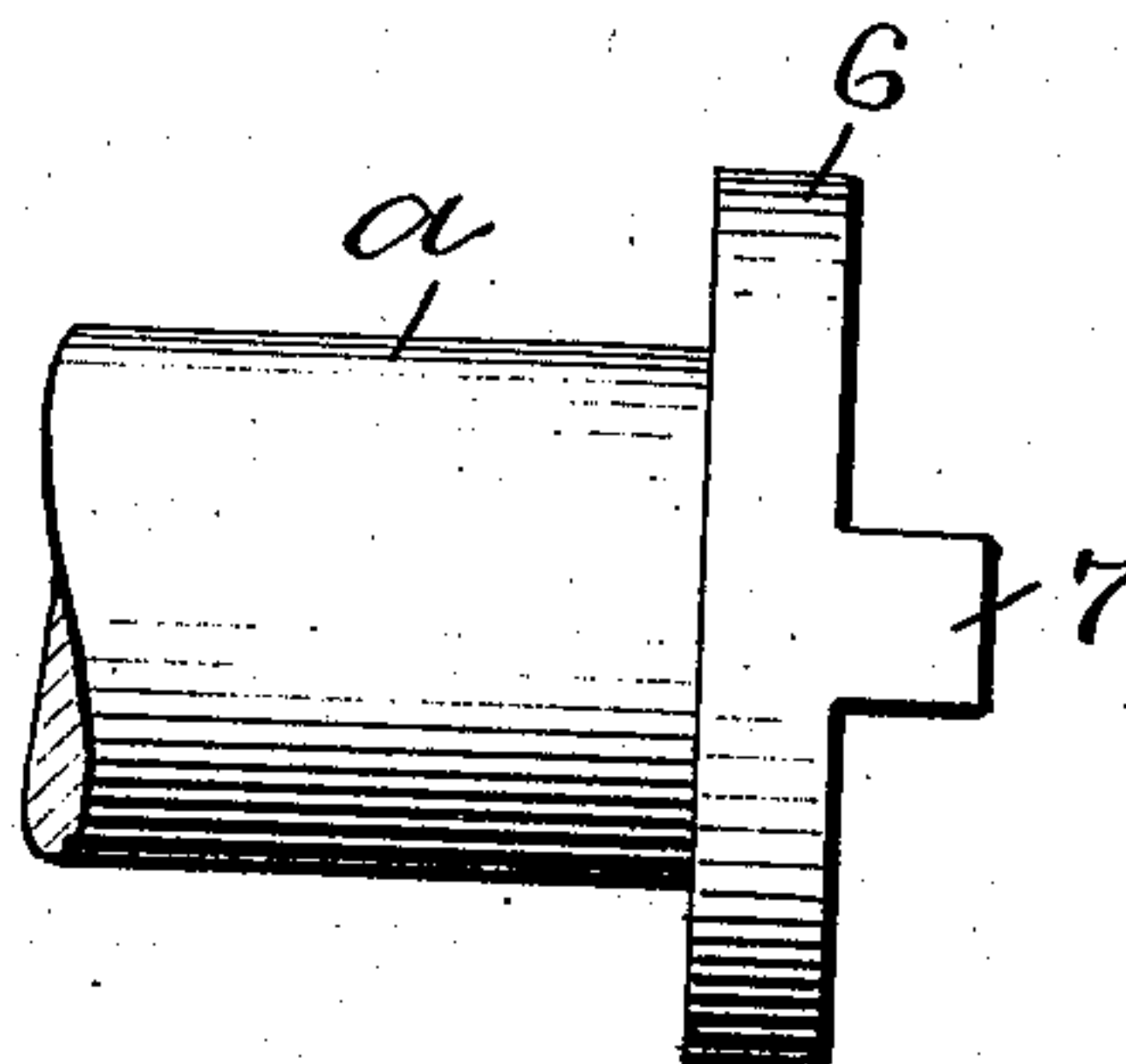


Fig. 4.

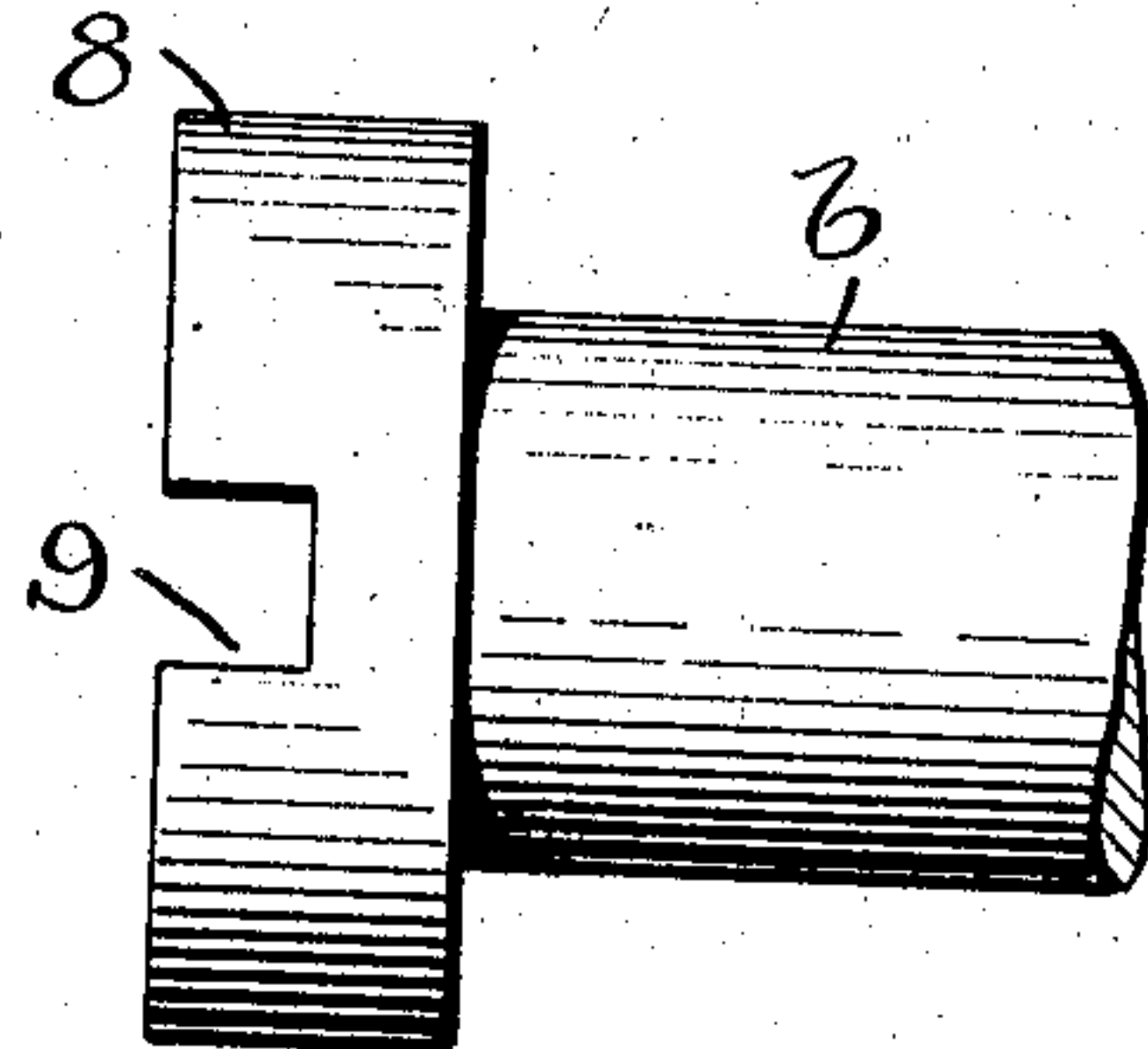
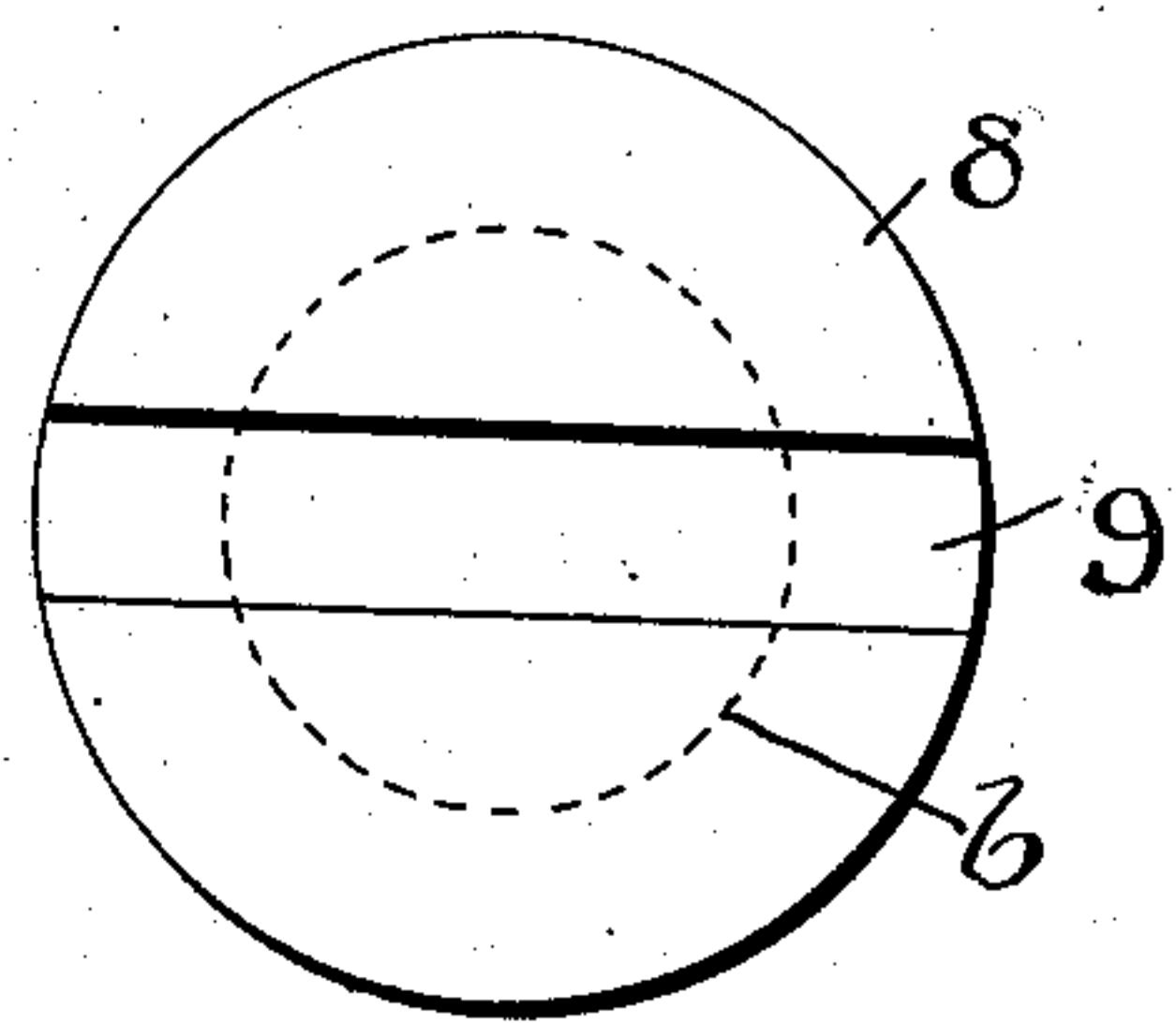


Fig. 5.



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SHAFT-COUPLING.

No. 894,500.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed May 10, 1907. Serial No. 372,962.

To all whom it may concern:

Be it known that I, ALFRED HITCHON, a subject of the King of Great Britain, residing at Clayton Manor, Clayton-le-Dale, county of Lancaster, England, have invented a new and useful Improvement in Shaft-Couplings, of which the following is a specification.

This invention has reference to an improvement in shaft couplings and more particularly to an improvement in means for coupling the spindle driving drums of spinning, doubling and winding frames.

The object of my invention is to improve the construction of spinning machines whereby the coupling of the spindle driving drums is facilitated, and means are provided for giving the required flexibility for balancing, and for longitudinal adjustment of the drums.

A further object of my invention is to provide a spinning machine with drum couplings in which means are provided for self-lubrication, thereby obtaining a cushioning effect between the interlocking ends of the couplings and preventing wear on the same.

My invention consists in the peculiar and novel construction of a coupling for flexibly securing and rotatably supporting the ends of the spindle driving drums of a spinning machine, said coupling having details of construction, as will be more fully set forth hereinafter and claimed.

Figure 1 is a sectional elevation of the adjacent ends of two spindle driving drums provided with my improved shaft coupling and bearing. Fig. 2 is an enlarged face view of one of the coupling shafts, showing the transverse lug. Fig. 3 is an enlarged detail side view of the shaft end having the transverse lug. Fig. 4 is an enlarged detail side view of the opposite coupling shaft having the transverse slot, and Fig. 5 is a face view of the shaft, showing the transverse slot.

In the drawings, *a* and *b* indicate the coupling shafts, *c* the bearing, *d d* the drum end blocks, *e e* the clamping rings, and *f f* the spindle driving drums of a spinning machine.

The coupling shaft *a* has on its outer end a disk 6 on the face of which is a central transverse lug 7 and the coupling shaft *b* has on its outer end a corresponding disk 8 in the face of which is a central transverse slot 9 for the lug 7.

The bearing *c* has the supporting arm 10 by which the bearing is rigidly secured to the frame of the machine (not shown), a central oil chamber 11 adapted to receive and hold

the disks 6 and 8 on the coupling shafts *a* and *b*, and a cap 12 having an oil hole 13 and shaped to conform to the bearing *c* to which it is detachably secured.

The end blocks *d d* are each secured in the ends of the drums *f f* in the usual way. Each block *d* has a central boss 14 in which is a hole for the coupling shafts *a* or *b* and a longitudinal sawed slit 15, as shown in broken lines in Fig. 1.

The coupling collars *e e* are adapted to go over the bosses 14 14 to which they are attached by a pin 16 and the bosses contracted onto the coupling shafts *a* and *b* by turning a bolt 17 which is screw-threaded through the collars *e e* and bears on the bosses 14 14, as shown in Fig. 1.

When assembled the drums *f f* are rigidly secured to the coupling shafts *a* and *b* through the clamping rings *e e*, the disks 6 and 8 on the coupling shafts are interlocked through the lug 7 on the disk 6 entering the slot 9 in the disk 8, the drums are held from longitudinal movement by the disks 6 and 8 in the oil chamber 11 and the shafts *a* and *b* held in the bearing *c* by the cap 12. The drums *f f* may be adjusted longitudinally on the coupling shafts *a* and *b* through the clamping collars *e e* and by removing the bearing caps 12 12 any separate length of drum may be readily removed as required.

In the operation of my improved coupling for the spindle driving drums of spinning machines, the drums are detachably and flexibly secured together, greater accuracy is attained in the balancing of the drums, an oil cushion is formed between the faces of the coupling, and wear between the faces of the coupling is practically eliminated.

It is evident that one of the coupling shafts *a* or *b* could be rigidly secured to or form a part of a block *d* at one end of the drum, thereby providing for longitudinal adjustment of the drum at one end only, without materially affecting the spirit of my invention.

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

1. In combination with a pair of shafts, a shaft coupling composed of a disk on one shaft having a lug and a disk on the other shaft having a slot to receive said lug, a bearing having its ends engaging about said shafts and having an enlarged central part inclosing each of said disks and formed with

an oil well which surrounds said disks and which has its ends leading to said shafts, a cap secured to said bearing and formed with an oil hole, and a depending supporting arm
5 projecting from said bearing.

2. In combination with a pair of shafts, a disk on one shaft having a lug and a disk on the other shaft having a slot to receive such
10 lug, a bearing composed of a body through which said shafts pass, said bearing having an enlarged central part receiving said disks and having a central oil chamber into which portions of said disks project, said chamber

at its ends communicating with said shafts, and a cap for said bearing having an oil hole 15 in its top and formed with a chamber which communicates with said oil hole and into which portions of said disks project.

In testimony whereof I have signed my name to this specification in the presence of 20 two subscribing witnesses.

ALFRED HITCHON.

Witnesses:

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