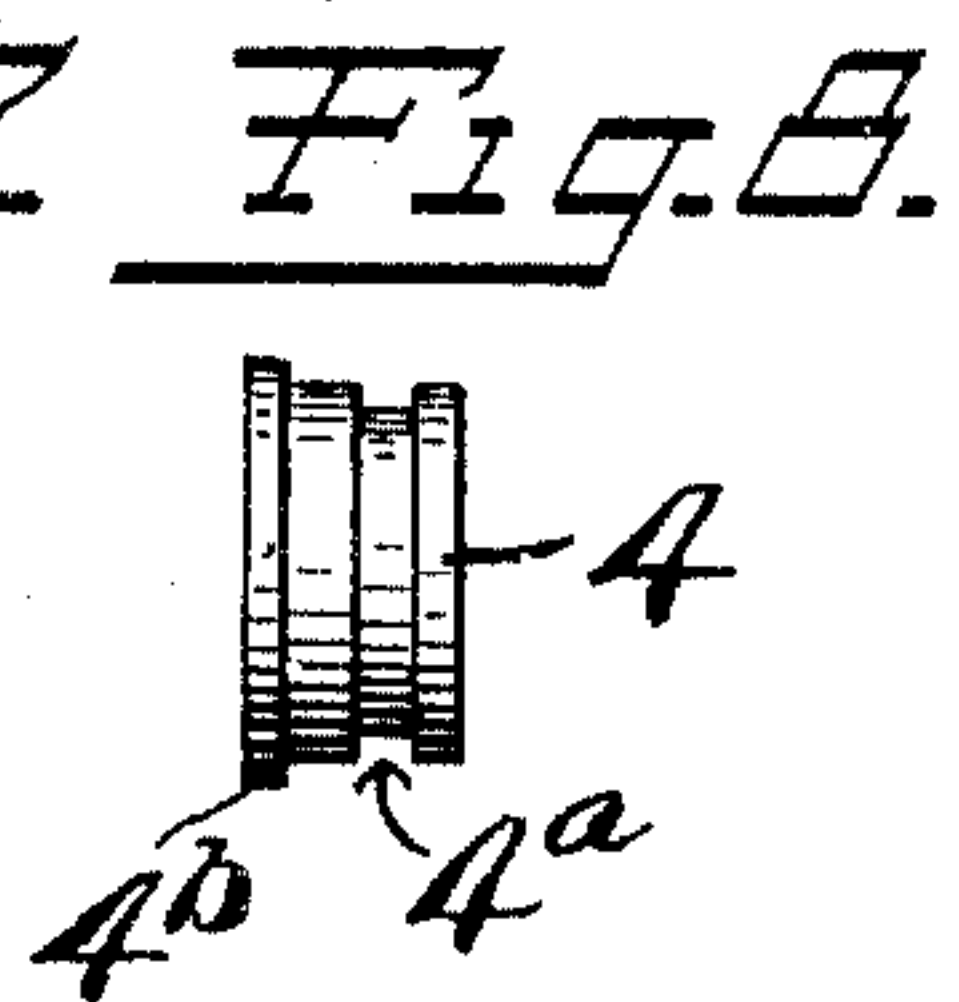
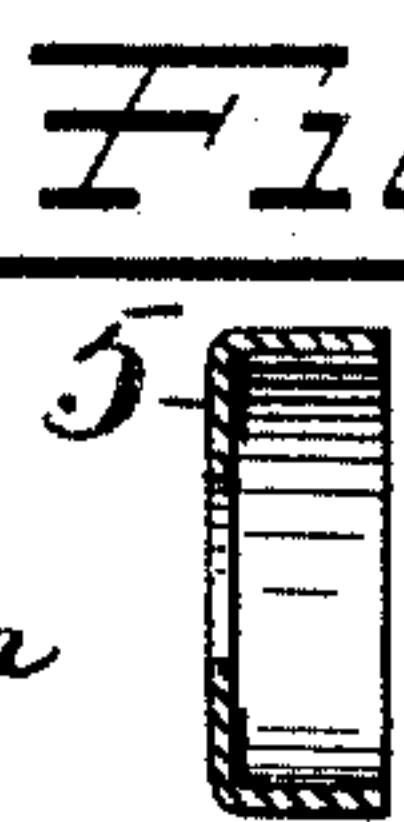
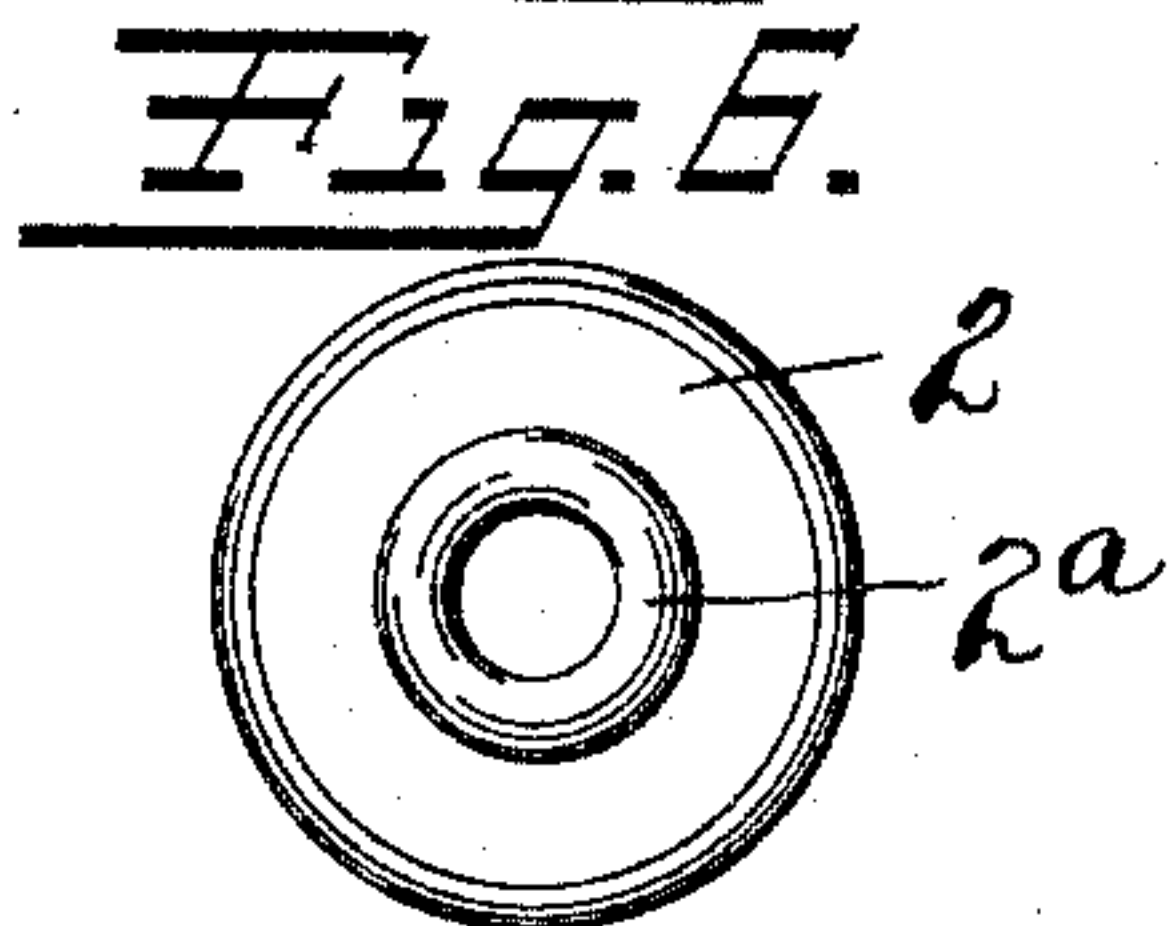
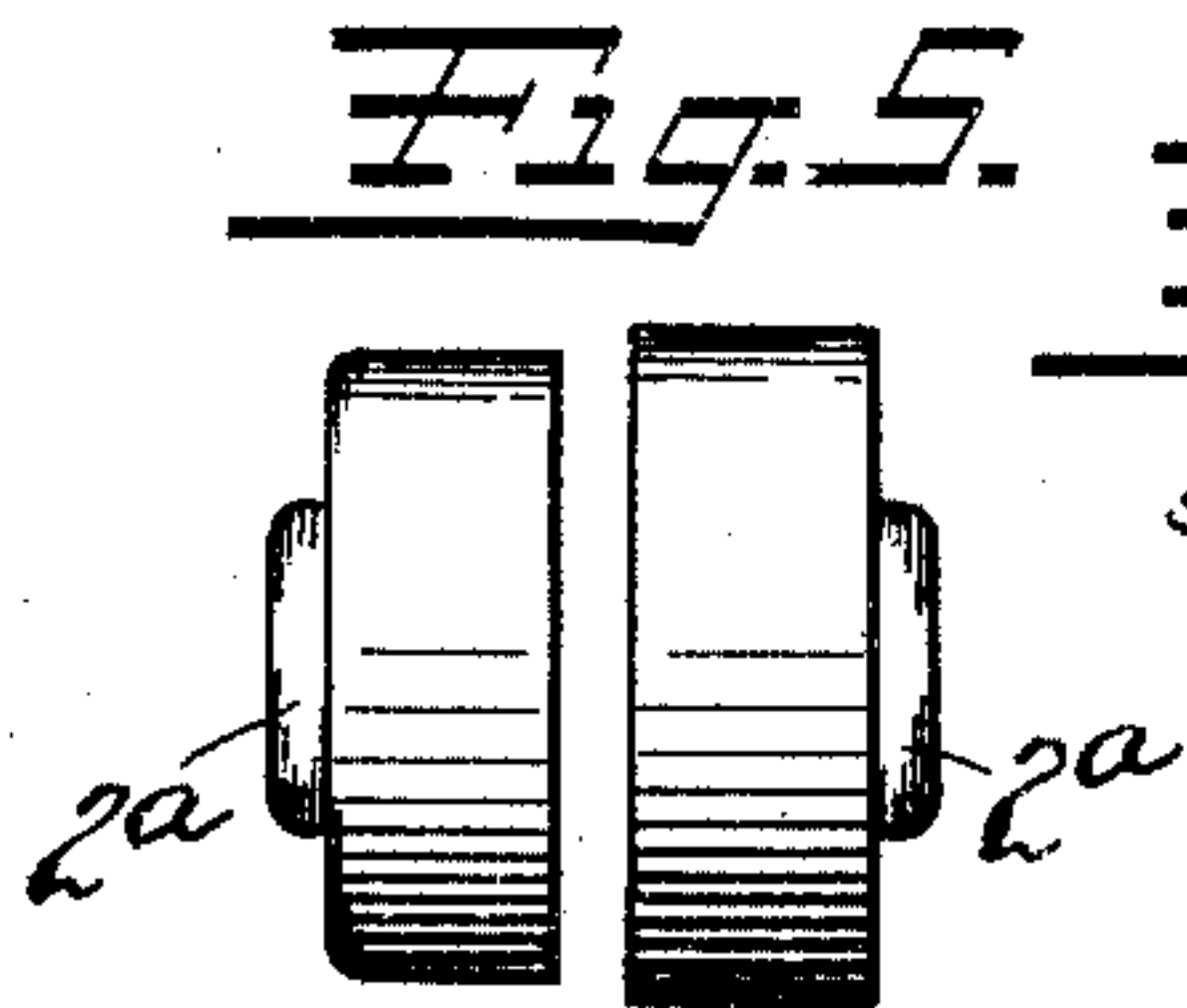
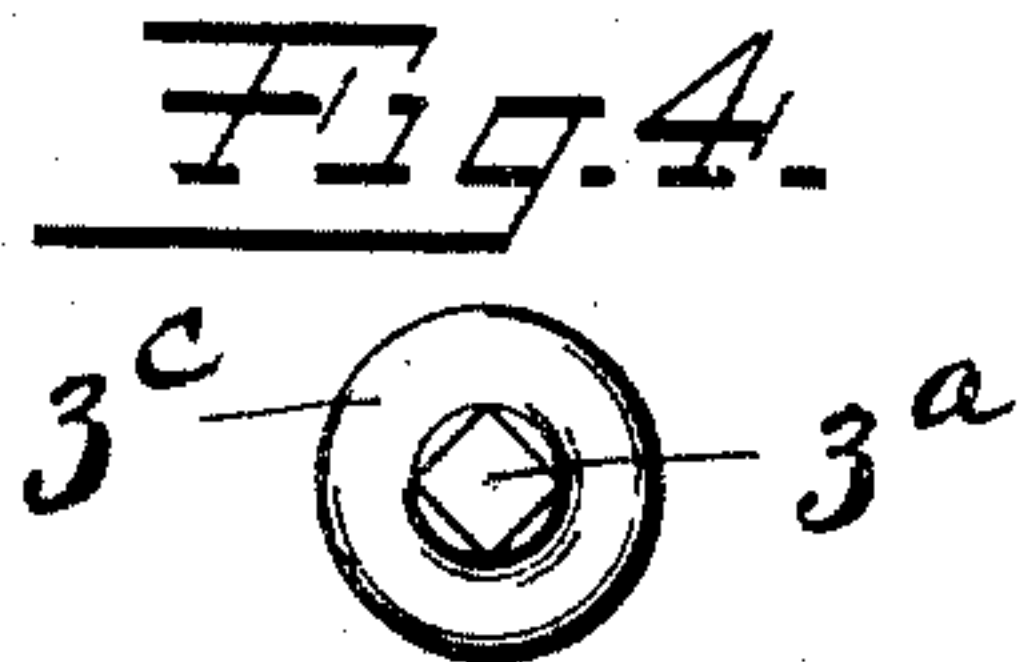
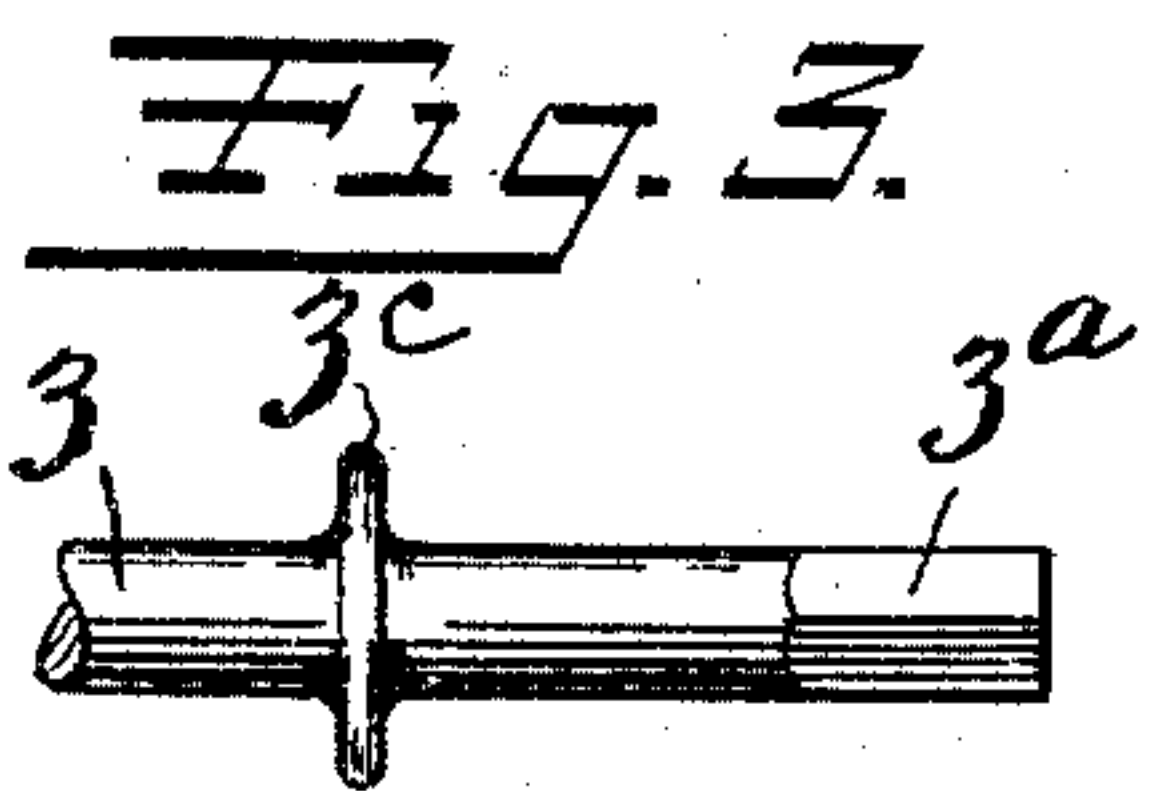
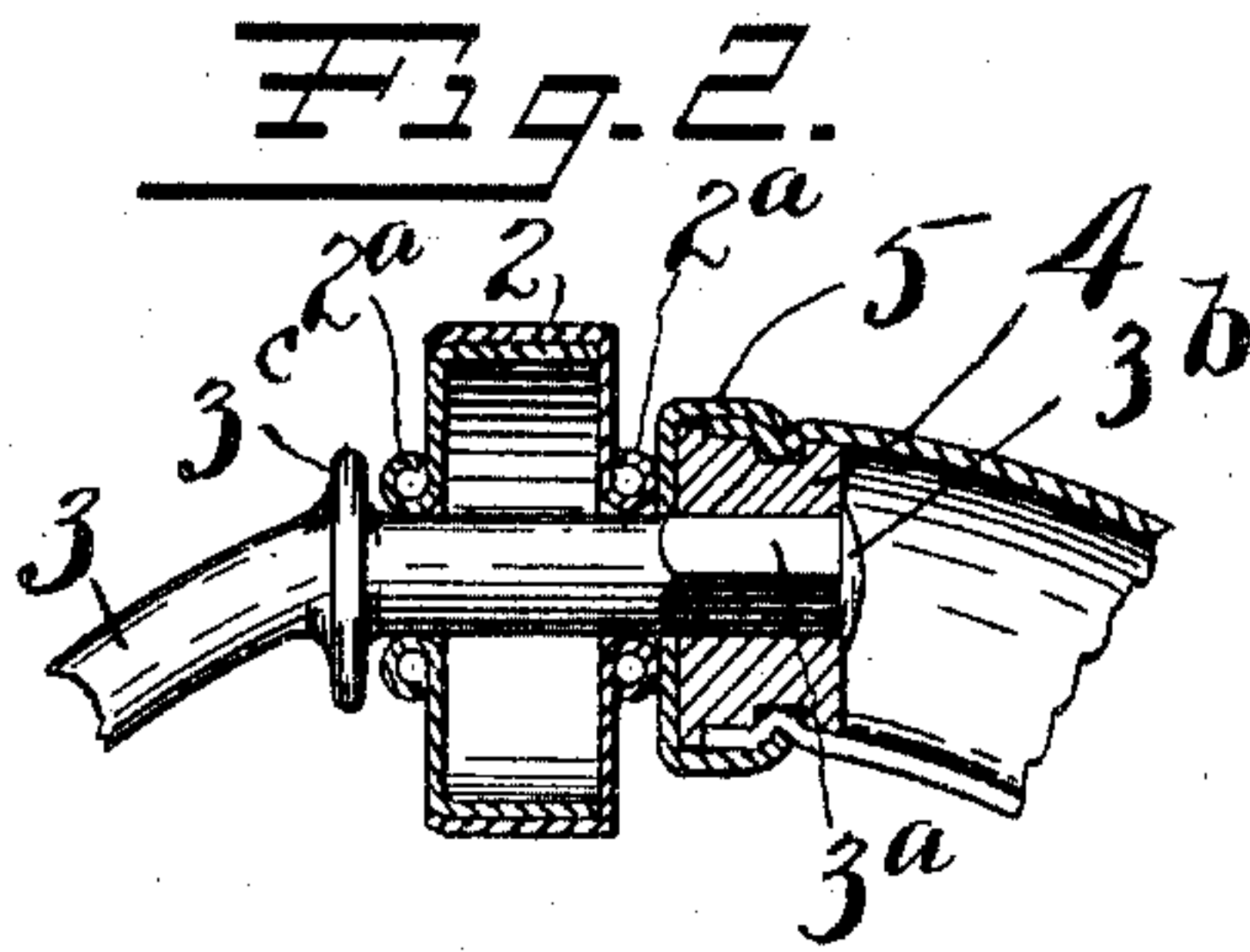
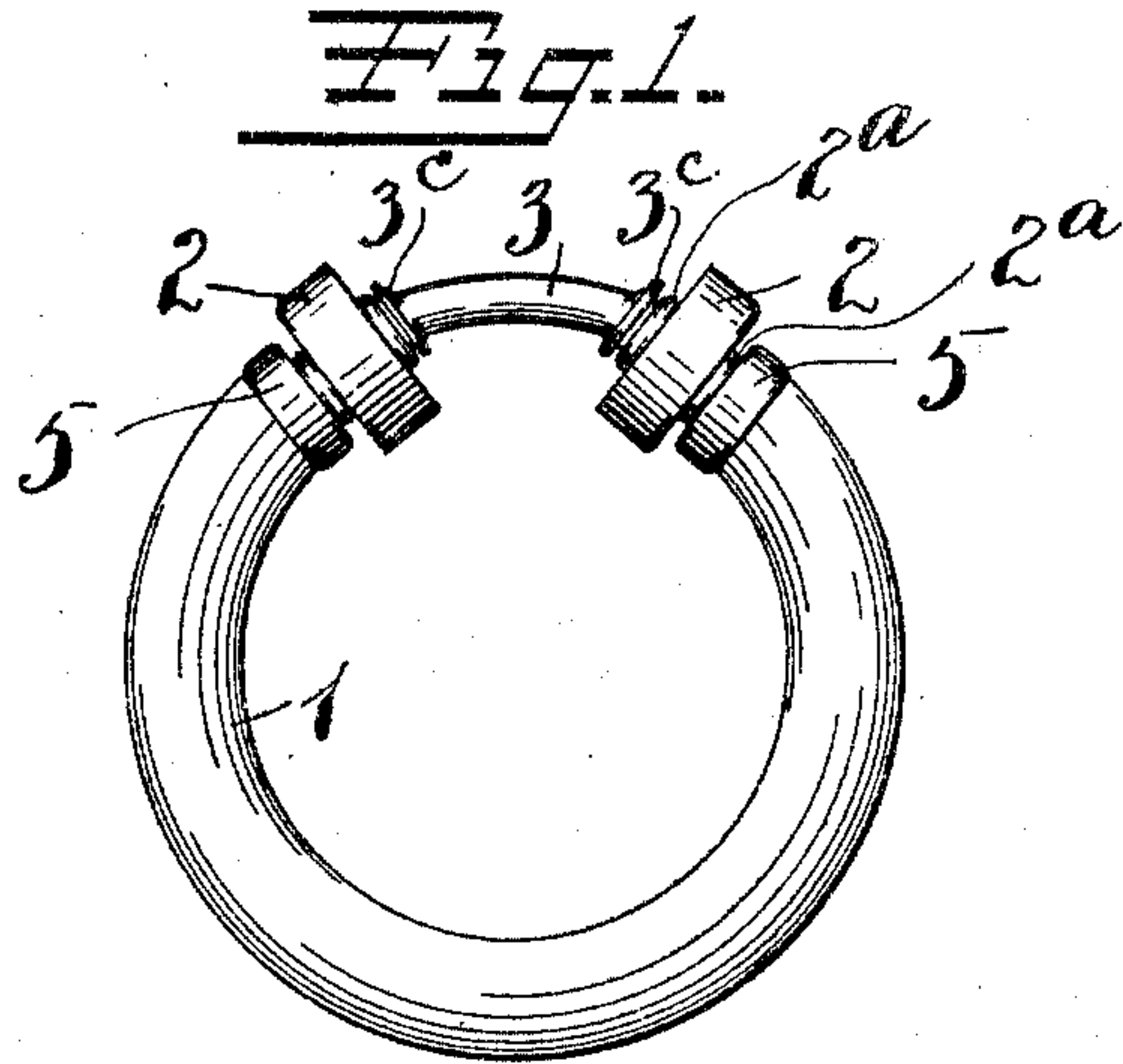


F. L. LATHROP.
TRAVERSE RING.
APPLICATION FILED JUNE 8, 1908.

929,676.

Patented Aug. 3, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANK L. LATHROP, OF WALLINGFORD, CONNECTICUT, ASSIGNOR TO H. L. JUDD COMPANY,
OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

TRAVERSE-RING.

No. 929,676.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed June 6, 1908. Serial No. 437,076.

To all whom it may concern:

Be it known that I, FRANK L. LATHROP, a citizen of the United States, residing at Wallingford, New Haven county, State of Connecticut, have invented certain new and useful Improvements in Traverse-Rings, of which the following is a full, clear, and exact description.

My invention relates to improvements in traverse rings, the main object being to provide certain new and useful improvements whereby a ring of superior construction is produced and the cost of manufacture substantially reduced. These and other advantages will be well understood by one skilled in the art, from a reading of the following specification and an examination of the accompanying drawings, in which,

Figure 1 is an elevation of my improved ring complete and approximately full size; Fig. 2 is a relatively enlarged sectional view of a portion of said ring; Fig. 3 is a side elevation of a detail, partly broken away; Fig. 4 is an end elevation thereof; Fig. 5 is a view of the companion parts of another detail, before assembling; Fig. 6 is an end elevation of the parts shown in Fig. 5, assembled, and looking from left to right; Fig. 7 is a section of another detail; Fig. 8 is a side elevation of another detail.

1 is the main section of the ring. This is preferably hollow and, in this instance rolled up in tubular form, the seam being along the interior circumference. This ring section 1 is cut away on one side to permit of the introduction of antifriction bearings and a shaft therefor. In the form shown, these antifriction bearings are wheels 2—2, formed of two cupped sections as indicated in Fig. 5. These sections are placed one over the other, and the edge of the outer one is spun down to hold said parts assembled, as shown in Fig. 2.

2^a 2^a are hubs, one hub being formed on each section of the wheel, and each being spun outwardly to form a roll, as shown in Fig. 2. These rolls give an end bearing to each wheel, and substantially stiffen the same.

3 is a rod or shaft, arranged to connect the two ends of the section 1 and also to operate as a support for the wheels 2—2.

4 is an anchor-block having therein a recess, preferably in the form of an annular groove 4^a. This block also preferably has a

slight flange 4^b. The block 4 is adapted to be inserted into one end of the section 1, the abutment 4^b preventing said block 4 from entering too far.

5 is a cap adapted to overstand the block 4 and the adjacent end of the section 1, which surrounds said block, as best seen in Fig. 2. Each end of the rod 3 is preferably squared or made irregular, as at 3^a, and passes through a correspondingly shaped opening in the block 4, after which it is riveted, as at 3^b, or otherwise securely jambed, to hold the block 4 securely on the part 3.

3^c is an abutment on the rod 3, spaced away from the end 3^a sufficiently to provide a suitable space for the wheel 2, as shown in Fig. 1. This abutment is preferably annular and formed by swaging the rod endwise. Two abutments 3^c are provided when two wheels are used. To assemble the parts a wheel 2 is first placed upon the end of the rod 3; the cap 5 is then put in place; the block 4 is then slipped over the end of the rod and riveted; the tubular end of the section 1 is then slipped over the block 4 so as to enter cap 5; and finally, the edge of the cap 5 is spun down, as shown in Fig. 2, to force a portion of the metal of the section 1 into the groove 4^a, the edge of the cap 5 following in so as to clamp it in place, as shown in Fig. 2.

As described, it will be seen that no solder need be employed and yet the parts, when assembled, are rigidly and permanently held. The part 3 is prevented from twisting in block 4, and the block 4 is prevented from twisting in the section 1 by reason of unique and extensive binding contact between the several members. Each wheel 2 takes an easy bearing upon the shaft 3, and by reason of the smooth contour of the rolled ends 2^a it takes an easy bearing endwise against the flange 3^c at one side, and the face of the cap 5 at the other side.

What I claim is:

1. A traverse ring composed of a tubular section, an anchor-block adapted to the interior of one end of said section, a cap adapted to the exterior of the said section, a bearing shaft rigidly secured to said anchor-block, said anchor-block having a recess in the wall thereof, a portion of the metal of the tubular section and a portion of the metal of said cap being forced down into said recess.

2. In a traverse ring, a tubular section, an anchor-block adapted to the interior thereof

and having a recess, a cap adapted to the exterior of said section, a portion of the metal of said tubular section being forced into said recess, and a portion of the metal of the cap being forced into the recess in the tubular section formed by indenting the latter to project it into said recess.

3. In a traverse ring, a tubular section, an anchor-block having an annular groove therein and adapted to the interior of one end of said tubular section, a cap overstanding said section, the metal of said cap and said traverse ring overlying said groove being forced into the latter, and a shaft for carrying an antifriction bearing projecting from said block through said cap and rigidly connected to both.

4. In a traverse ring, a tubular section, an anchor-block having an annular groove therein and adapted to the interior of one end of said tubular section, a cap overstanding said section, the metal of said cap and said traverse ring overlying said groove being forced into the latter, and a shaft for carrying an antifriction bearing projecting from said block through said cap, and rigidly connected to both said shaft having an irregular cross-section at its end, said anchor-block having a passage adapted to receive said shaft end and prevent it from turning.

5. In a traverse ring, a tubular section, an anchor-block having an annular groove therein and adapted to the interior of one end of said tubular section, a cap overstanding said section, the metal of said cap and said traverse ring overlying said groove being forced into the latter, and a shaft for carrying an antifriction bearing projecting from

said block through said cap, said shaft having an irregular cross-section at its end, said anchor-block having a passage adapted to receive said shaft end and prevent it from turning, the extreme end of said shaft being up-set or headed at that end of the block within said tubular section.

6. In a traverse ring, a tubular section, constituting part of a circle, a bearing rod or shaft arranged to complete said circle, connecting devices for said rod and said tubular section, one of said connecting devices comprising an anchor-block adapted to the interior of said tubular section and being rigidly connected to the end of the rod section, an annular groove in said block, the metal of said tubular section overstanding said groove being forced into the latter, and an antifriction device mounted to rotate on said shaft and a cap overstanding the end of the tubular section, a portion thereof being forced into the groove formed in the said tubular section to unite the latter to the block.

7. In a traverse ring, an antifriction device comprising a wheel composed of two cupped sections overstanding one another, the edge of the outer section being turned in to prevent separation of said section, a hub formed on each of said cupped sections, each hub comprising a struck-out portion, said struck-out portion being rolled up to form a smooth rounded shaft bearing, and a smooth and rounded end bearing.

FRANK L. LATHROP.

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