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CYLINDER RING.

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928,294.

Patented July 20, 1909.

Fig. 1.

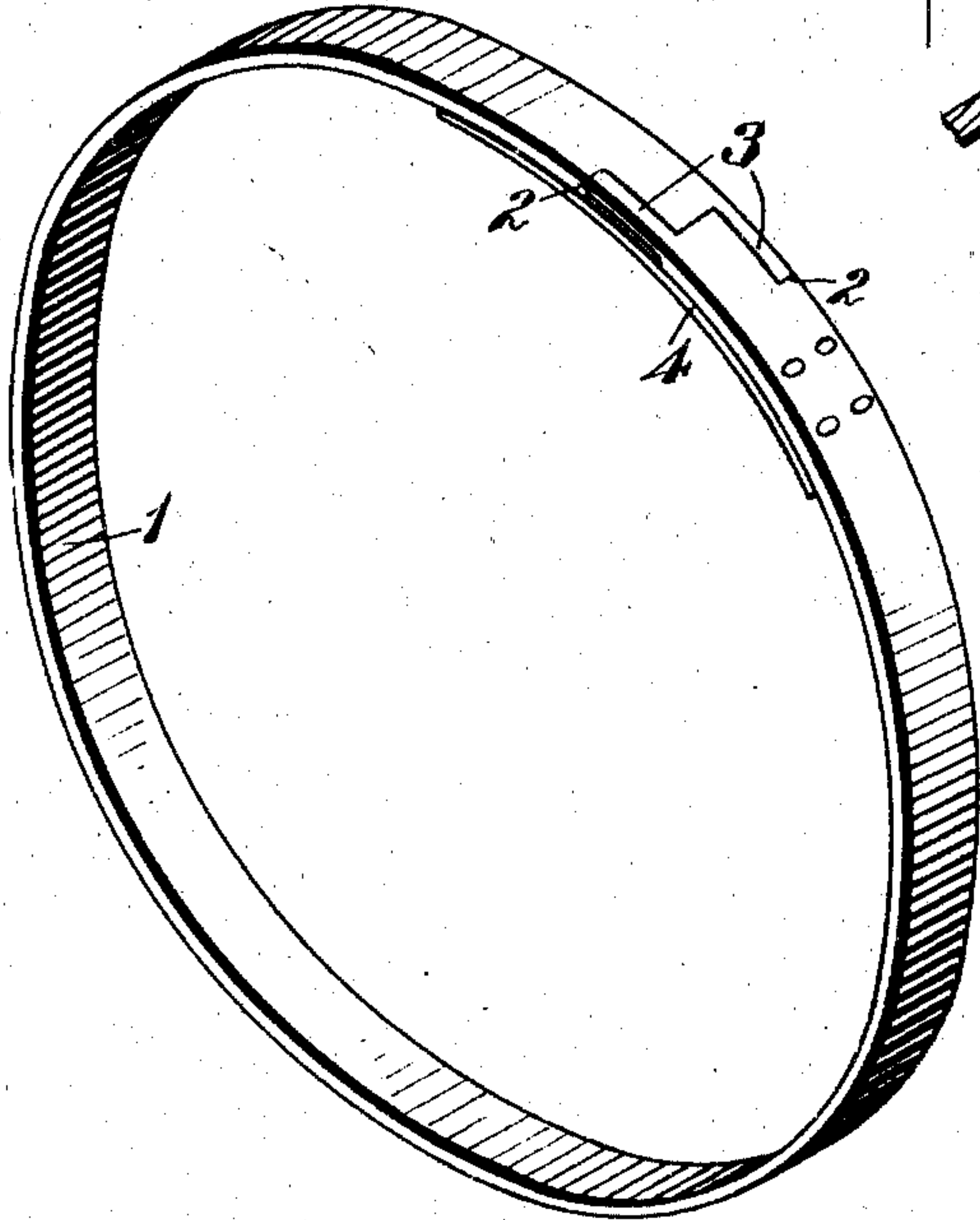


Fig. 2.

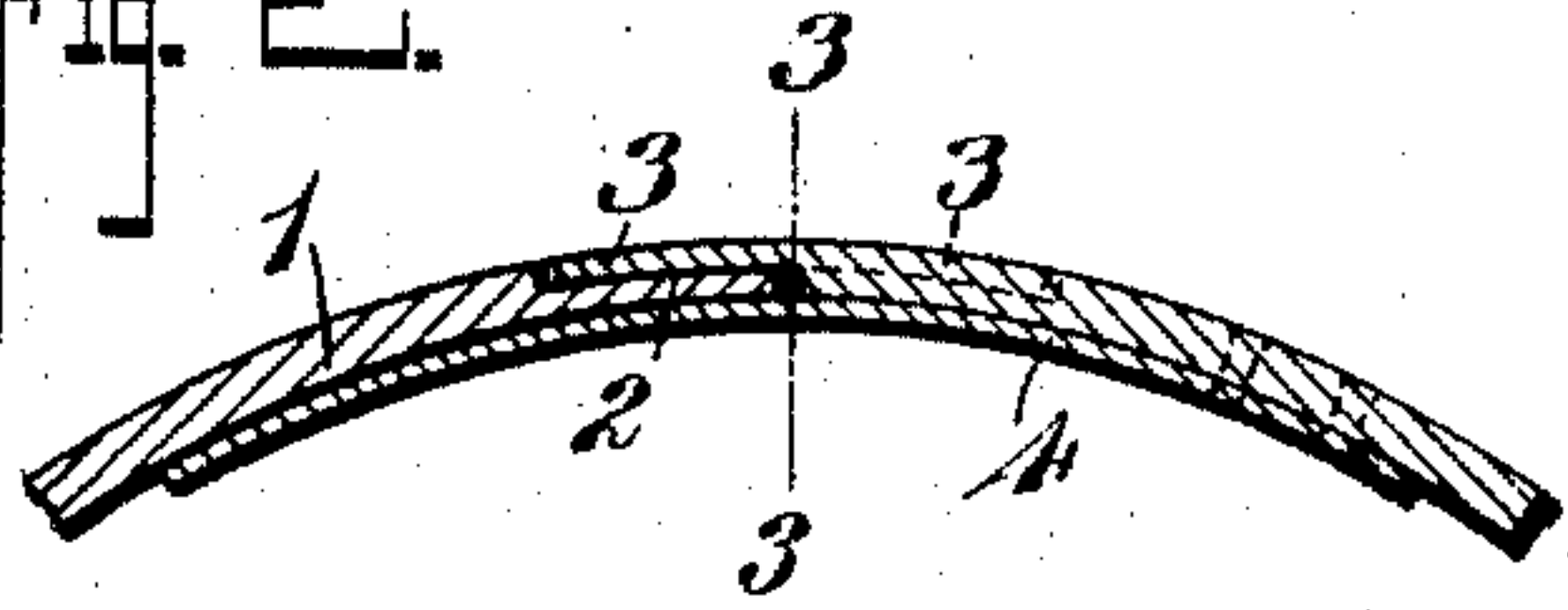


Fig. 3.

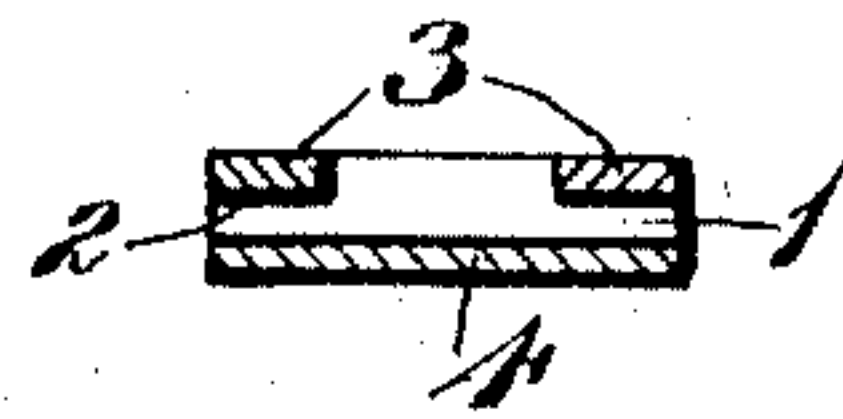


Fig. 4.

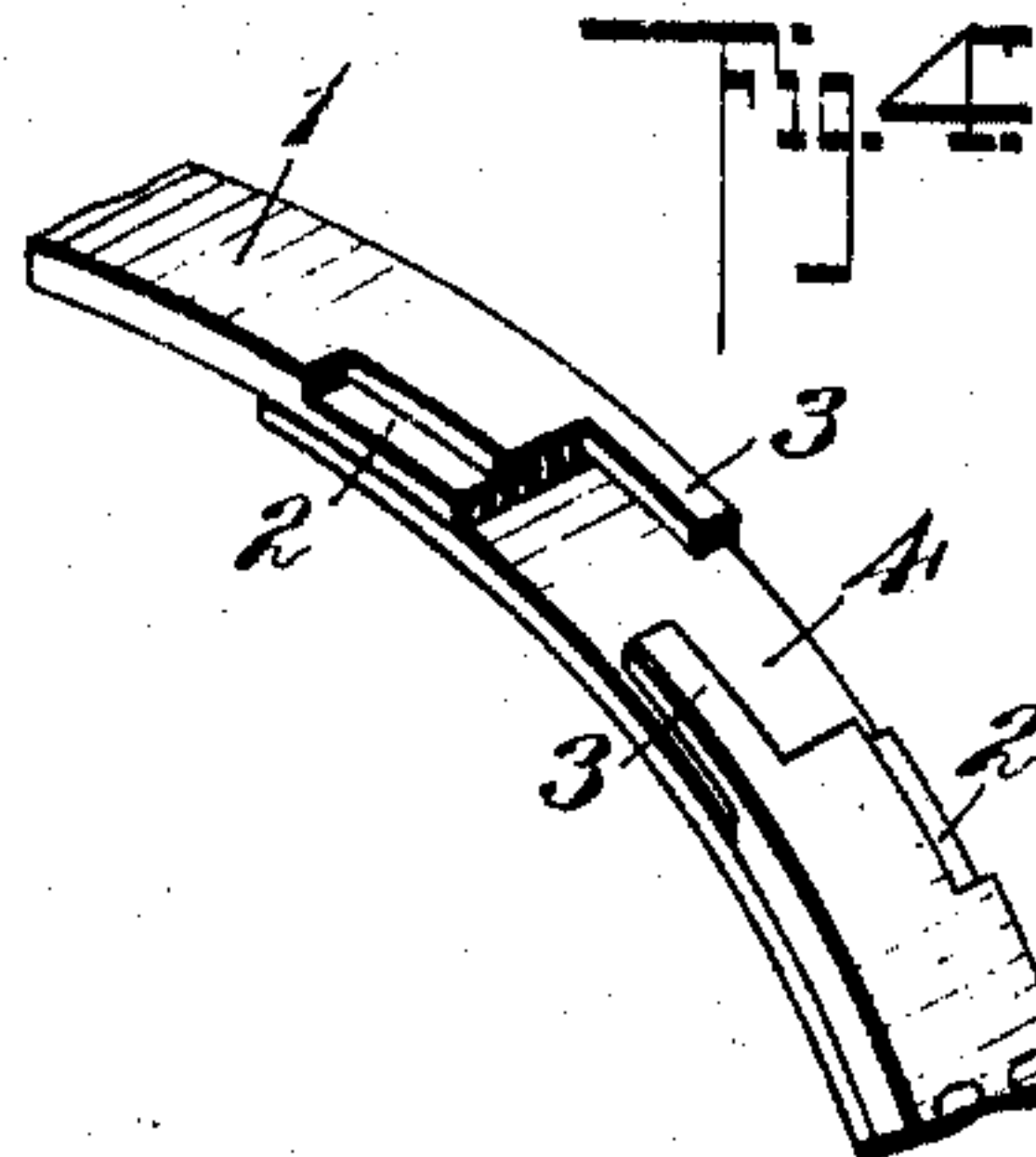


Fig. 5.

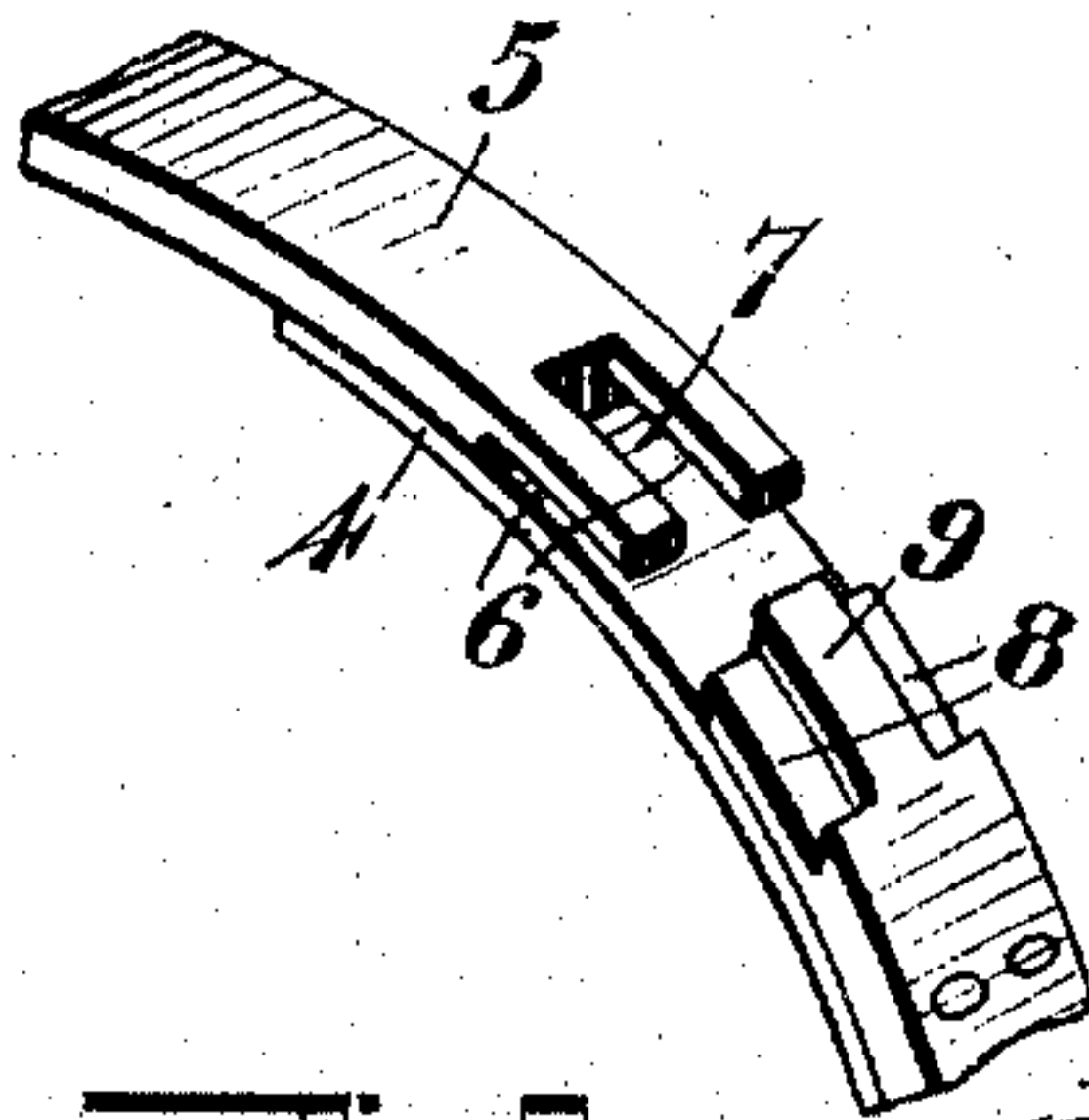


Fig. 6.

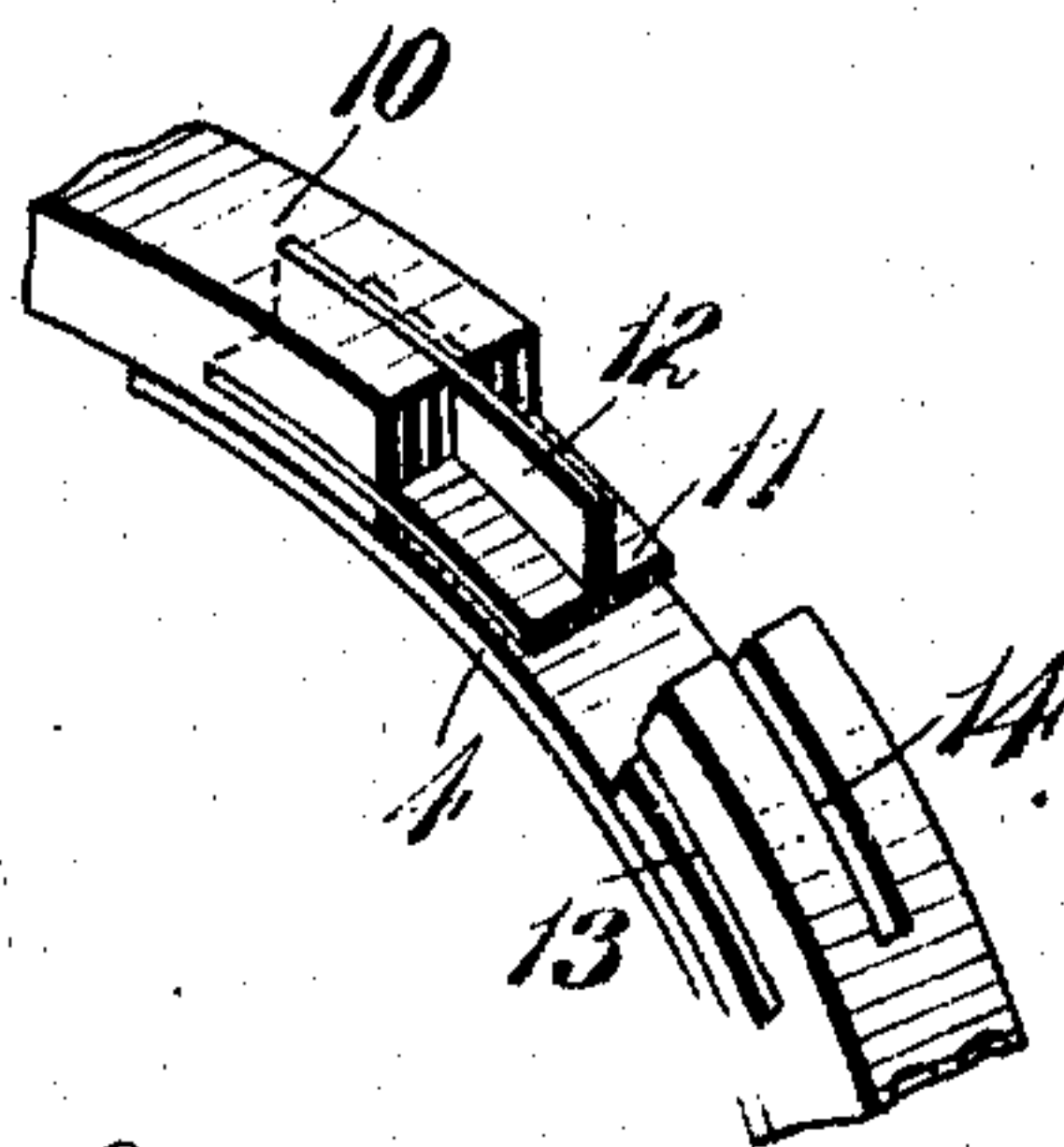


Fig. 7.

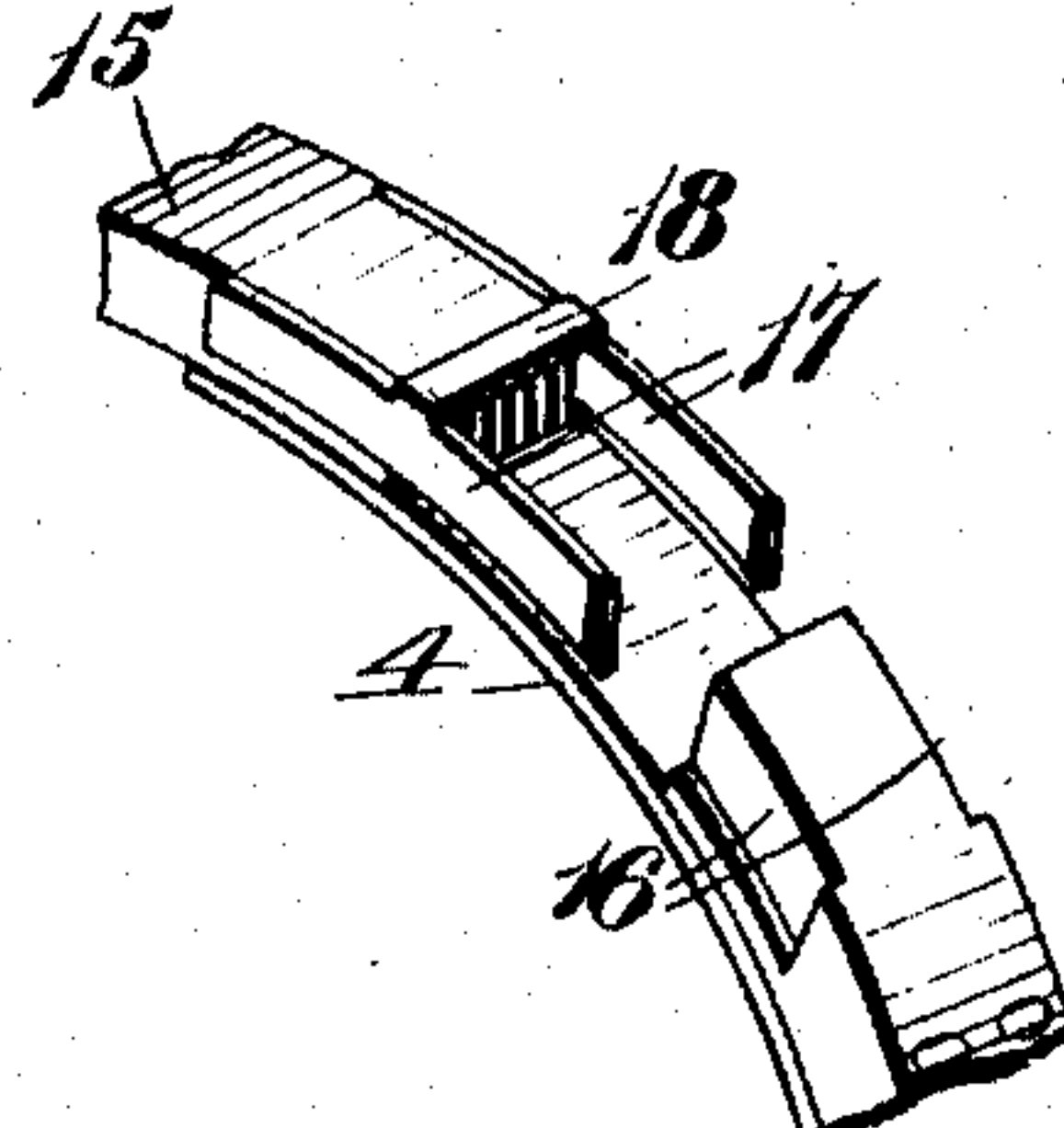
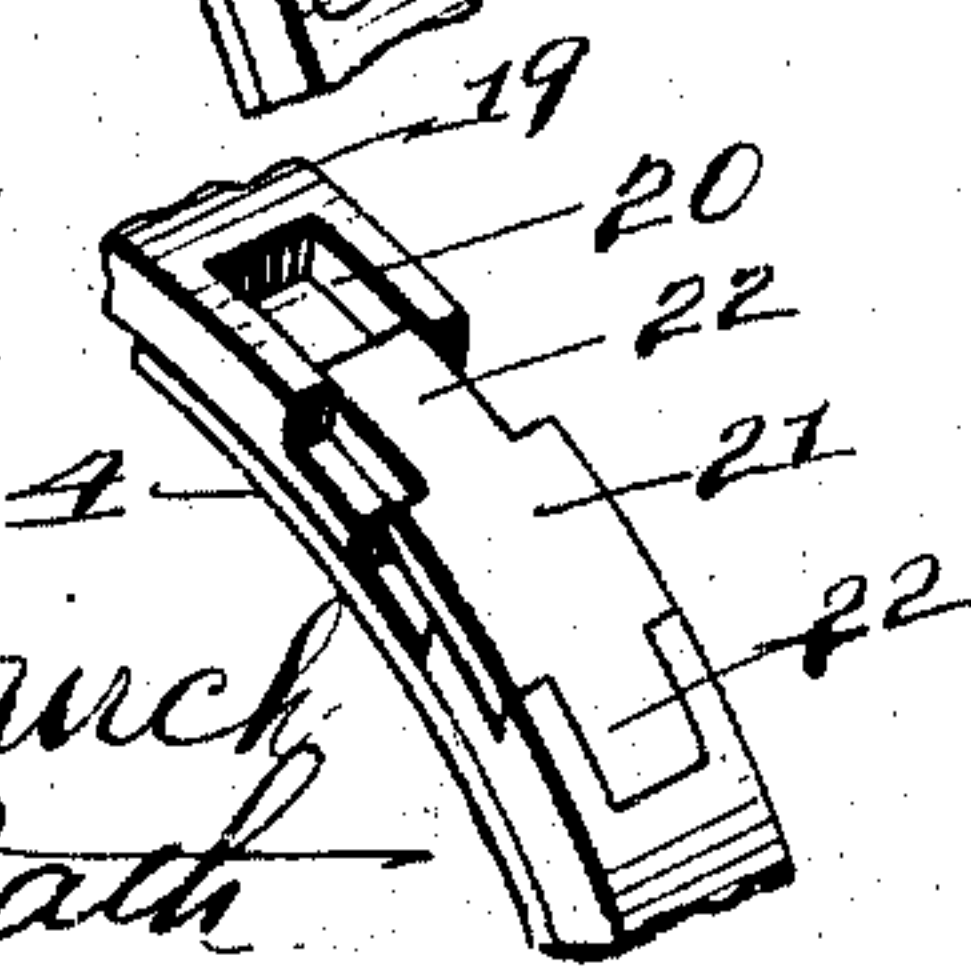


Fig. 8.



Witnesses

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# UNITED STATES PATENT OFFICE.

WANDER A. WEHRMAN AND JOEL C. TRUEBLOOD, OF BELLE PLAINE, IOWA.

## CYLINDER-RING.

No. 928,294.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed August 10, 1908. Serial No. 447,775.

*To all whom it may concern:*

Be it known that we, WANDER A. WEHRMAN and JOEL C. TRUEBLOOD, citizens of the United States, residing at Belle Plaine, in the county of Benton and State of Iowa, have invented a new and useful Improvement in Cylinder-Rings, of which the following is a specification.

This invention relates to a cylinder ring intended to prevent leakage of steam, or other expansive fluids at the ends of cylinders, and the object of the invention is a ring of this kind which will at all times present a slotted edge to the piston and to allow for wear and expansion of the cylinder ring.

The invention consists in the novel features of construction hereinafter described, pointed out in the claims and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the ring. Fig. 2 is a longitudinal section through the meeting end portions of the ring. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a detail perspective view showing the ends of the ring spread apart. Figs. 5, 6 and 7 are perspective detail views illustrating modified forms of the meeting end portions of the ring. Fig. 8 is a further modification.

In these drawings 1 represents a ring cut transversely and the end portions of the ring are recessed at one side as shown at 2 and are provided with projecting tongues 3 extending from the side opposite the recess 2. The end portions of the ring are oppositely formed so that when brought together the tongue 3 of one end will fit in the recess 2 of the other end. It will be obvious, therefore, that these tongues overlap and even if the body portion of the ring should be slightly spaced apart the tongues would close such space at the sides, and to cover any space formed by expanding the ring from the inside a flat spring 4 of the same width as the ring has one end secured to the inner face of one end portion of the ring, and the free end portion of said spring overlaps and slides upon the inner face of the other end portion of the ring. Expansion of the ring is therefore allowed for without forming any opening through which air, steam or other fluid could escape.

In Fig. 5 we have shown a ring 5 which is provided with the spring 4 but which is undercut as shown at 6 at one end and has its end portion longitudinally slotted as at 7. The other end of the ring 5 is recessed as

at 8 leaving a central rib 9, and when the end portions of the rib are brought together the rib 9 slides in the slot 7.

In Fig. 6 we have shown a ring 10 also provided with the spring 4 which ring has both ends transversely slotted as shown at 13 and are also provided with a longitudinal slot 14 which intersects the slots 13, both ends of the ring being formed alike. A plate 11 fits in the slots 13 of the ring ends and this plate carries a centrally arranged flange 12 which fits in the slots 14, thus closing the space between the ends of the ring when they are spaced apart.

In Fig. 7 we show a ring 15 and the side of each end portion is cut out to receive parallel side plates 17, the central top portions of which are connected by a cross brace 18. The plates 17 fit in the cut out portions of the ring ends, and when the ends are spaced apart cover such spaces at the sides. This ring is also provided with the spring 4 which is common to all of the forms.

In Fig. 8 we show a ring 19 the ends of which are bifurcated as shown at 20, and a plate 21 fits between the ends of the ring and is provided with tongues 22, which tongues fit in the bifurcations 20.

What we claim is:—

1. In a device of the kind described, a split ring, means carried by the ends of the ring to close at the side a space formed by spreading said ends slightly apart, and a flat spring carried by the inner face of the ring, said spring being secured to one end portion of the ring and lapping over the other end portion.

2. A device of the kind described comprising a split ring, means carried by one end of the ring for engaging the other end when the ends are spread slightly apart, and a flat spring of the same width as the ring, said spring being secured upon the inner face of one end portion of the ring and sliding upon the inner face of the other end portion when the ends of the ring are spaced apart.

3. A cylinder ring having overlapping end portions, and a flat spring of the same width as the ring, said ring being secured to the inner face of one end portion and overlapping upon the other and covering from the inner side the joints formed by the overlapping end portions.

4. A cylinder ring having its end portions oppositely recessed, tongues carried upon said end portions for the purpose of engag-



ing said recesses, and a flat spring having the same curvature throughout its length as the ring secured upon the inner face of one end portion and sliding upon the inner face  
5 of the other.

5. A split cylinder ring having an end portion formed with a longitudinally projecting finger upon one side and cut away adjacent the end on the other side, the other end of  
10 the ring having a projecting finger fitting in the cut out portion of the first mentioned end and cut out upon one side to receive the pro-

jecting finger first mentioned, and a flat spring secured upon the inner face of the second mentioned end portion of the ring and  
15 extending longitudinally along the inner face of the first mentioned end portion to a point beyond and distant from the inner end of the cut out portion of the first mentioned end.

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