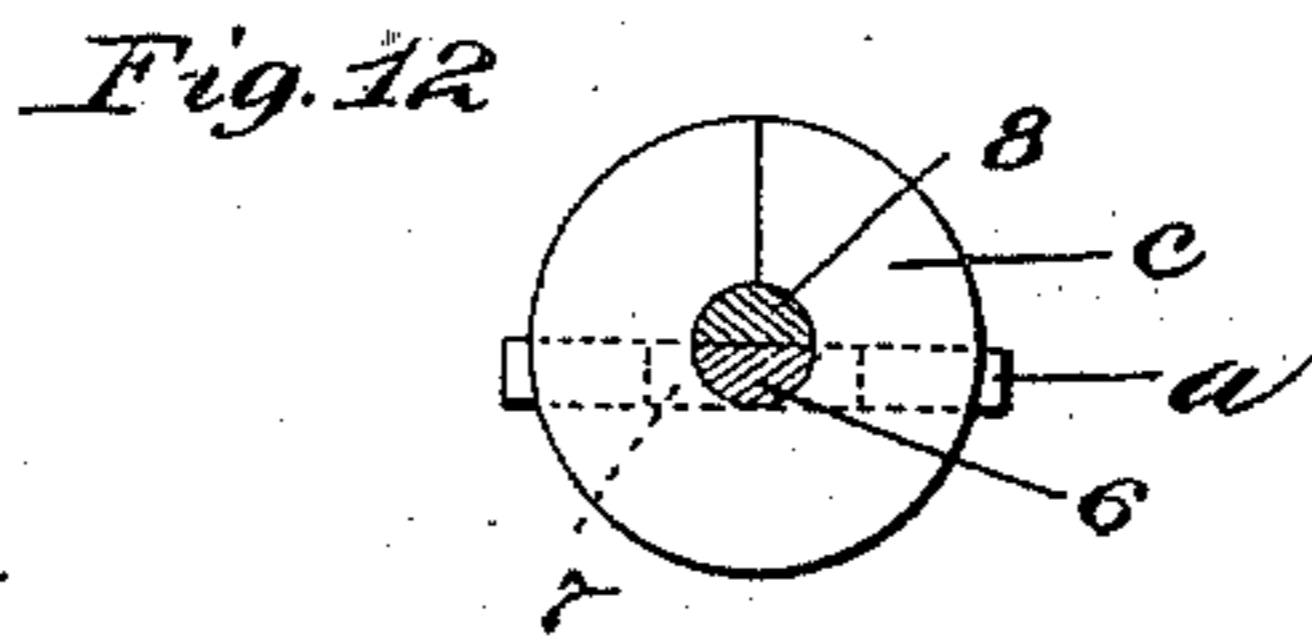
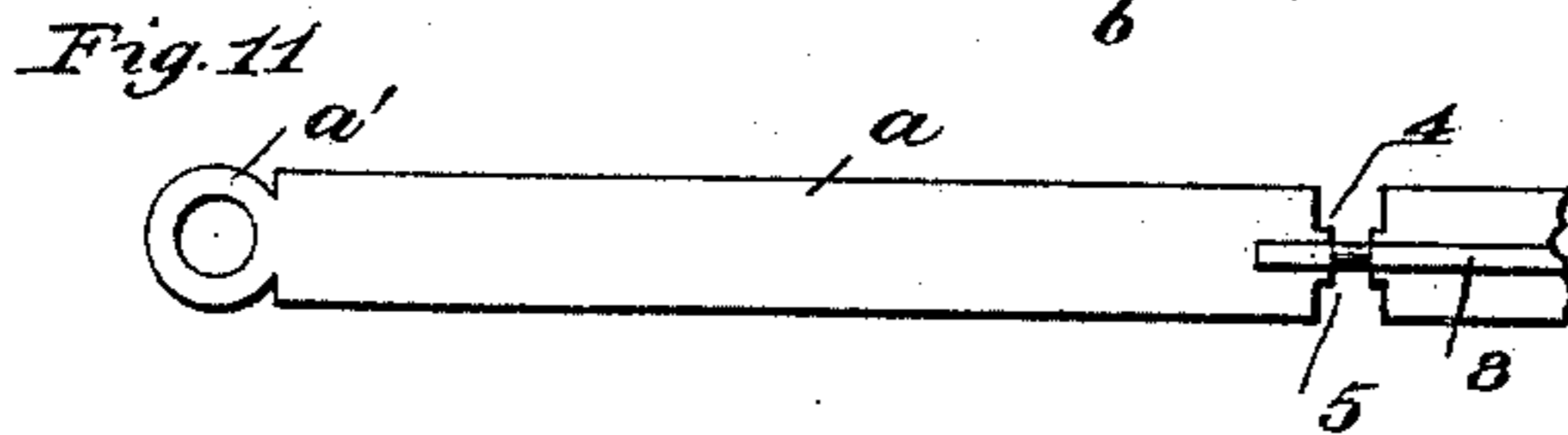
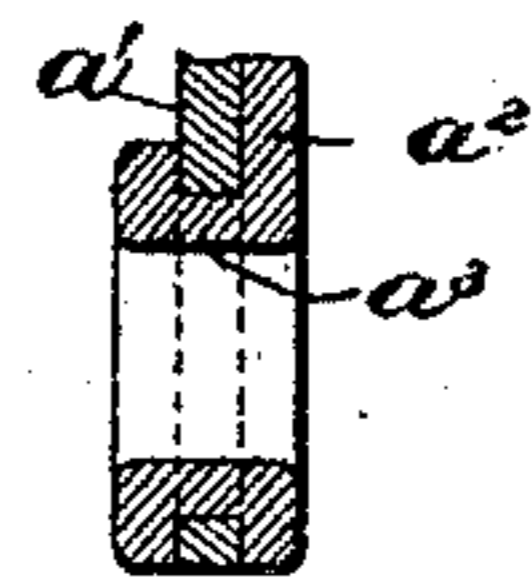
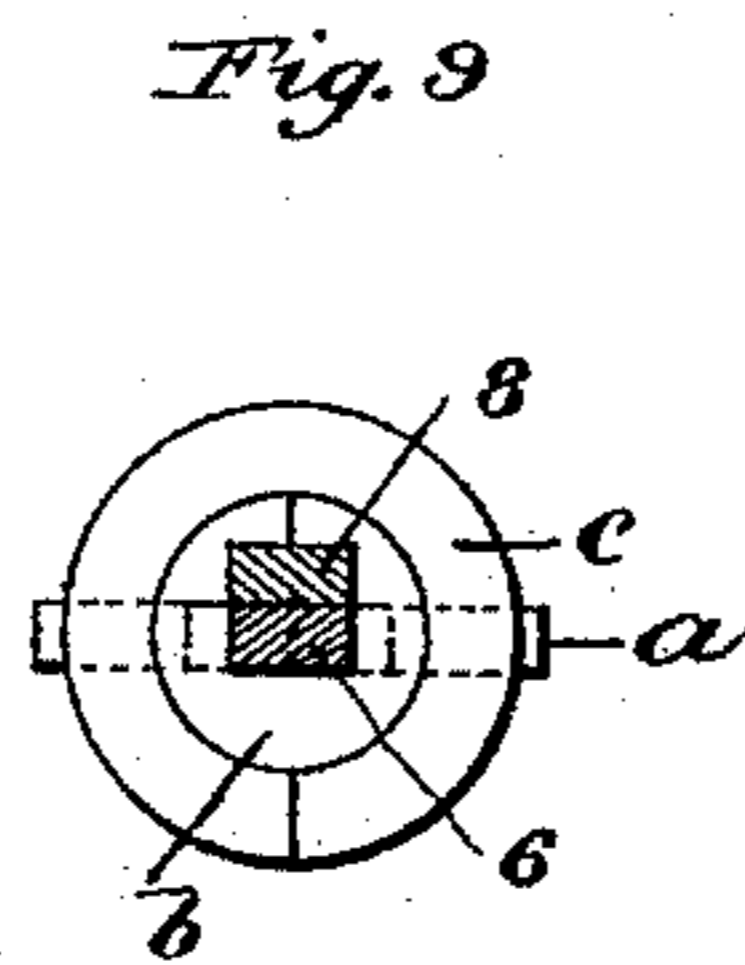
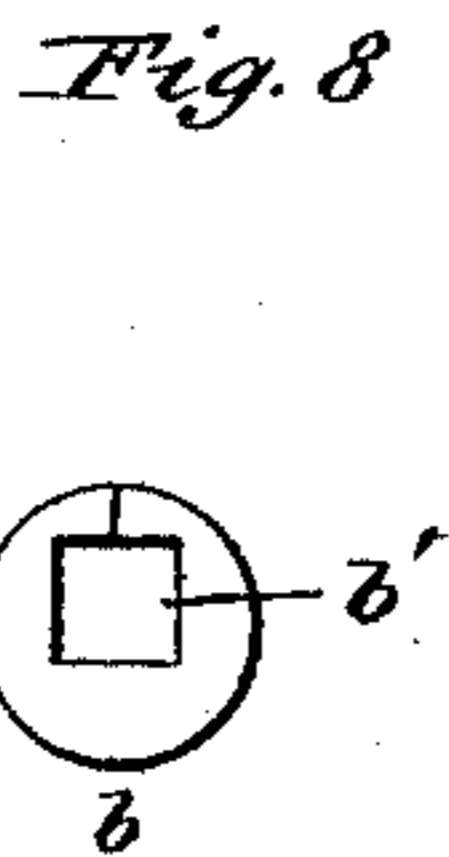
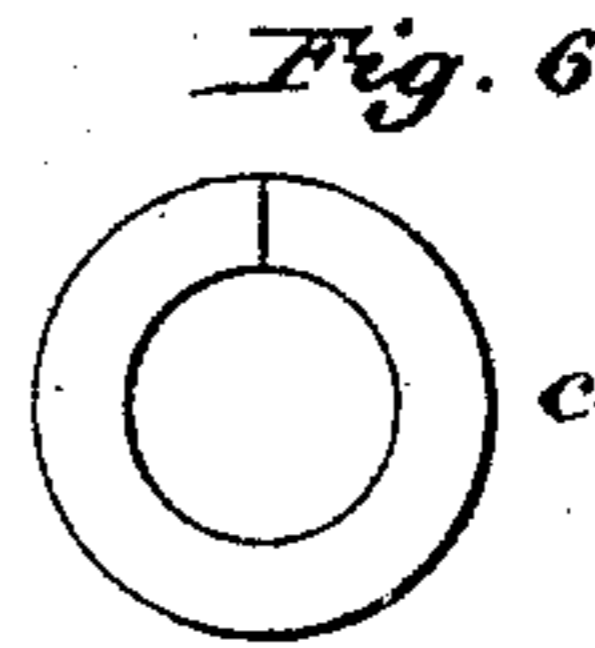
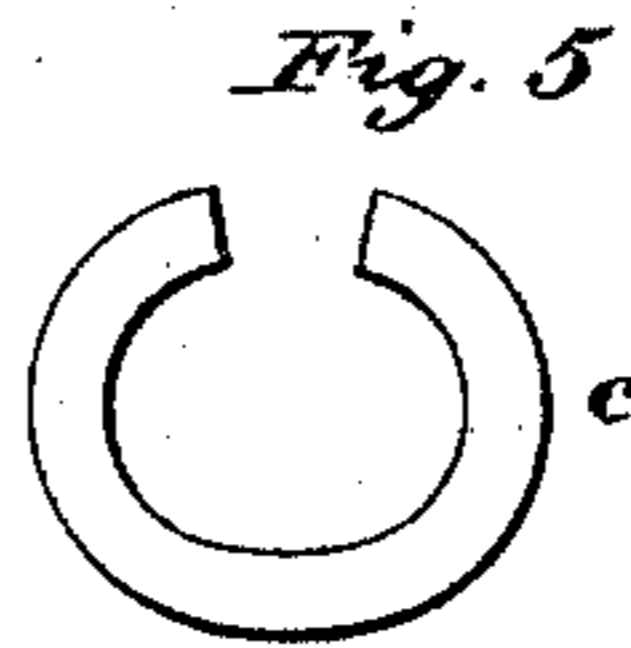
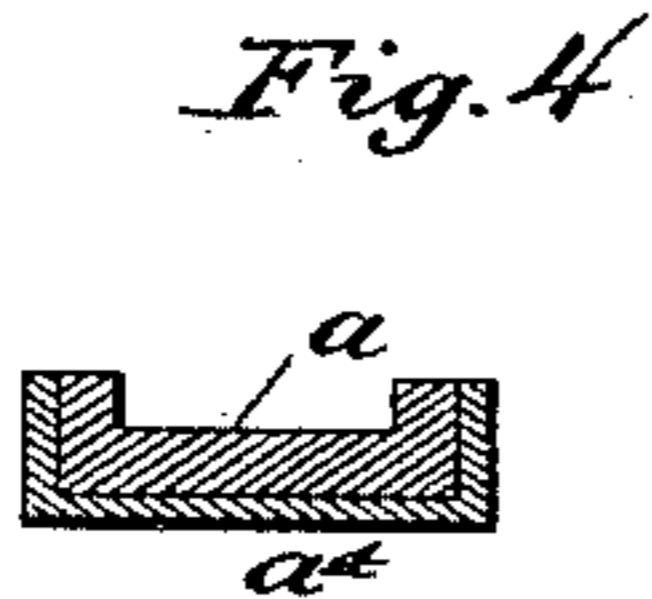
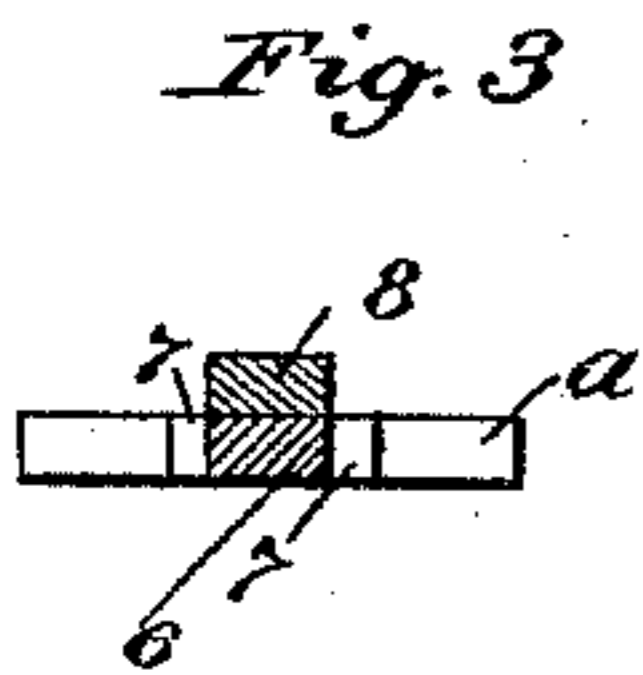
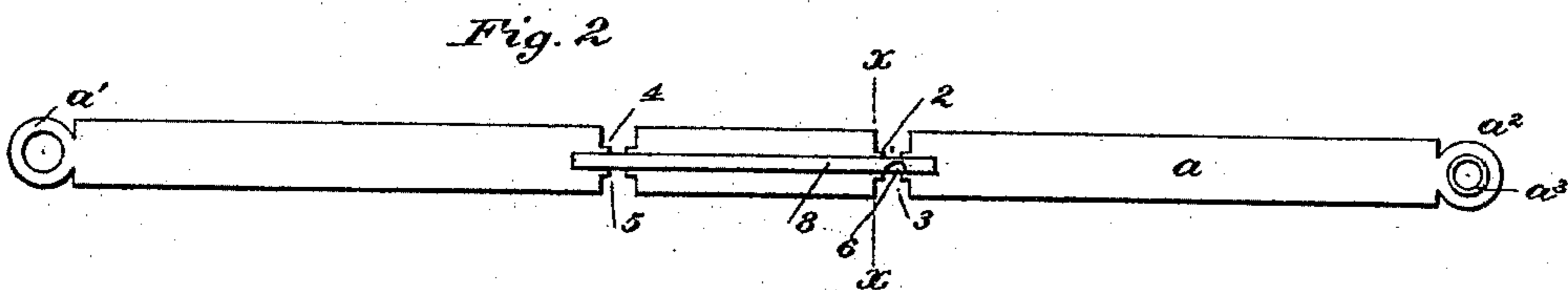
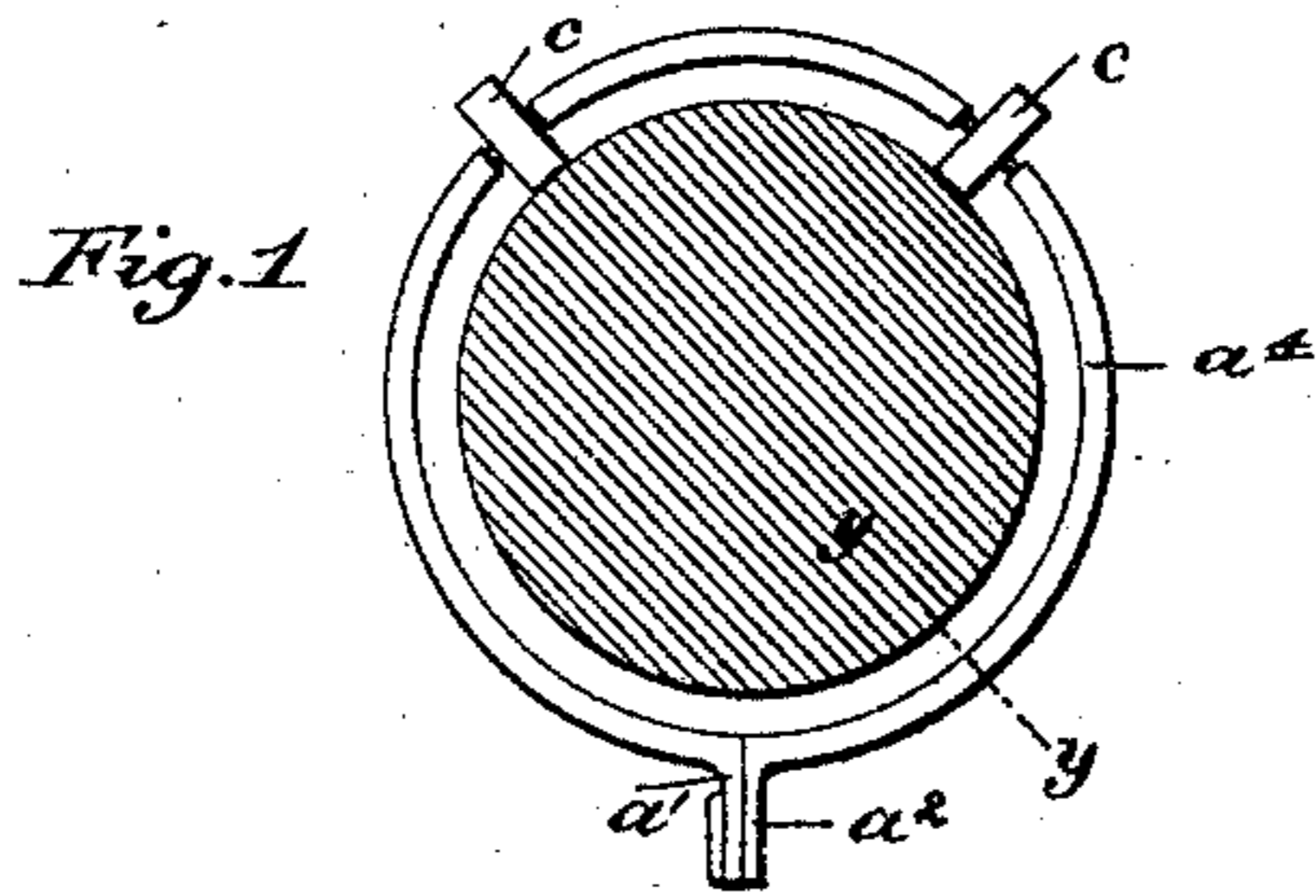


(No Model.)

C. W. RUGG.  
TRAVERSE RING.

No. 497,076.

Patented May 9, 1893.



Witnesses:  
Chas. D. Blocker.  
Lucy F. Graves.

Inventor  
Charles W. Rugg.  
by R. J. Taylor.

Atty

# UNITED STATES PATENT OFFICE.

CHARLES W. RUGG, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE LESLIE MANUFACTURING COMPANY, OF SAME PLACE.

## TRAVERSE-RING.

SPECIFICATION forming part of Letters Patent No. 497,076, dated May 9, 1893.

Application filed February 24, 1892. Serial No. 422,636. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. RUGG, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Traverse-Rings, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object to construct a traverse ring which may be cheaply manufactured, is serviceable and sightly.

The invention consists of a traverse ring composed of a circular band reduced in width at suitable points to present as many shouldered connecting bars, which serve as bearings for split friction rolls applied to them in the manner and for the purpose hereinafter particularly set forth and claimed.

Figure 1, shows in front elevation a traverse ring embodying this invention; Fig. 2, a plan view of the flat strip which is bent into circular shape to form the ring; Fig. 3, an enlarged cross sectional view of the strip shown in Fig. 2, taken on the dotted line  $x-x$ ; Fig. 4, an enlarged cross sectional view of the strip after its side edges have been upturned; Fig. 5, an enlarged detail of one of the split or slitted friction rolls, opened to receive its bearing; Fig. 6, a similar view showing the roll as it will appear after it has been placed on its bearing, and the slit closed; Fig. 7, a front view of a bushing which may be placed on the bearings of the friction rolls. Fig. 8, is a view showing the bushing as it will appear after it has been placed on the bearings and the slit closed. Fig. 9 is a cross-section at one side of one of the friction rolls, showing a strip having the reinforcing bar and the bushing and roll applied; and Fig. 10, an enlarged sectional detail of the eye. Fig. 11 is a plan view similar in scale to Fig. 2, of a modification, and Fig. 12, is a sectional elevation similar in scale to Fig. 9, these last two figures (11 and 12) showing the split friction roll applied without a bushing.

The ring shown in Fig. 1, is composed of a flat strip  $a$ , see Fig. 2, of suitable length and width, bent into circular shape. The strip  $a$ , has at each end an eye as  $a'$ ,  $a^2$ , the eye  $a^2$ ,

being surrounded by an annular projection  $a^3$ , and the eye  $a'$ , being of sufficient size to receive the said annular projection  $a^3$ , so that when the strip is bent into circular shape, the ends thereof, may be turned outwardly or downwardly, and brought together as shown in Figs. 1 and 10, with the annular projection  $a^3$ , passing through the eye  $a'$ . The annular projection  $a^3$ , is made longer than the thickness of the strip, or that end of it containing the eye  $a'$ , so that it projects through said eye sufficiently to enable it to be upset or turned over upon the opposite side of the end of the strip. This annular projection thereby serves as a means for securing the ends of the strip together, and also gives to the eye a smooth finished interior. The strip  $a$ , is cut away at each side as at 2, 3, and 4, 5, to thereby form a short narrow connecting bar 6, and shoulders 7, 7; or said strip may be otherwise formed to provide bearings for the friction rolls to be described. As the strip  $a$  is quite thin I have secured to it by solder or otherwise a reinforcing bar 8, of a width equal to the width of the connecting bar 6, and of suitable thickness to form in conjunction with said connecting bar a quadrangular bearing. A split or slitted bushing  $b$ , see Figs. 7 to, 9, having a quadrangular hole through it, is placed on said quadrangular bearing 6, 8, to thereby give it cylindrical shape. This bushing is opened at the slit as shown in Fig. 7, that it may be placed on the quadrangular bearing 6, 8, and is thereafter closed as shown in Fig. 8. The bushing is made of suitable length to fit snugly upon the quadrangular bearing 6, 8, between the shoulders 7, 7.

The friction rolls  $c$ , are provided with circular central holes of suitable size to turn freely on the bushing  $b$ , and said rolls are slitted radially like the bushings, that they may be opened at such slit, as shown in Fig. 5, to receive the bushings, after which they will be closed as shown in Fig. 6.

When the strip  $a$ , is made of thin material, the side edges thereof will be overturned as shown in Figs. 1 and 4, or otherwise, to stiffen it, and likewise improve its appearance. If the strip  $a$  should be made of quite thick ma-

terial, the said side edges may or may not be overturned, and furthermore in such event the connecting bar 6, may be large enough to thereby obviate the necessity of employing a reinforcing strip or bar 8.

The strip or band  $\alpha$  may and preferably will be made of thin sheet iron or some other cheap material, and then a layer or coating of brass as  $\alpha^4$ , afterward applied, thereby presenting a core of a cheap yet strong, durable material, covered or coated with a thin finishing material.

I do not desire to limit my invention to the employment of split bushings to furnish the cylindrical bearings for the friction rolls, as it is obvious that said bearings may be made cylindrical in different ways.

I claim—

1. In a traverse ring, a circular band, reduced in width at suitable points to present one or more connecting bars 6, and shoulders 7, 7, and split friction rolls having central holes through them to receive and be thereby

supported on said connecting bars 6, between the shoulders, substantially as described.

2. In a traverse ring, a circular band, reduced in width at suitable points to present one or more connecting bars 6, a reinforcing strip 8, for said connecting bars 6, and split friction rolls having central holes through them to receive and be thereby supported on the reinforced bearings thus provided, substantially as described.

3. In a traverse ring, a circular band reduced in width at suitable points to present bearings 6, integral with the band, split bushings placed on said bearings 6, and split friction rolls on said bushings, substantially as described.

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

CHARLES W. RUGG.

Witnesses:

BERNICE J. NOYES,  
LUCY F. GRAVES.