

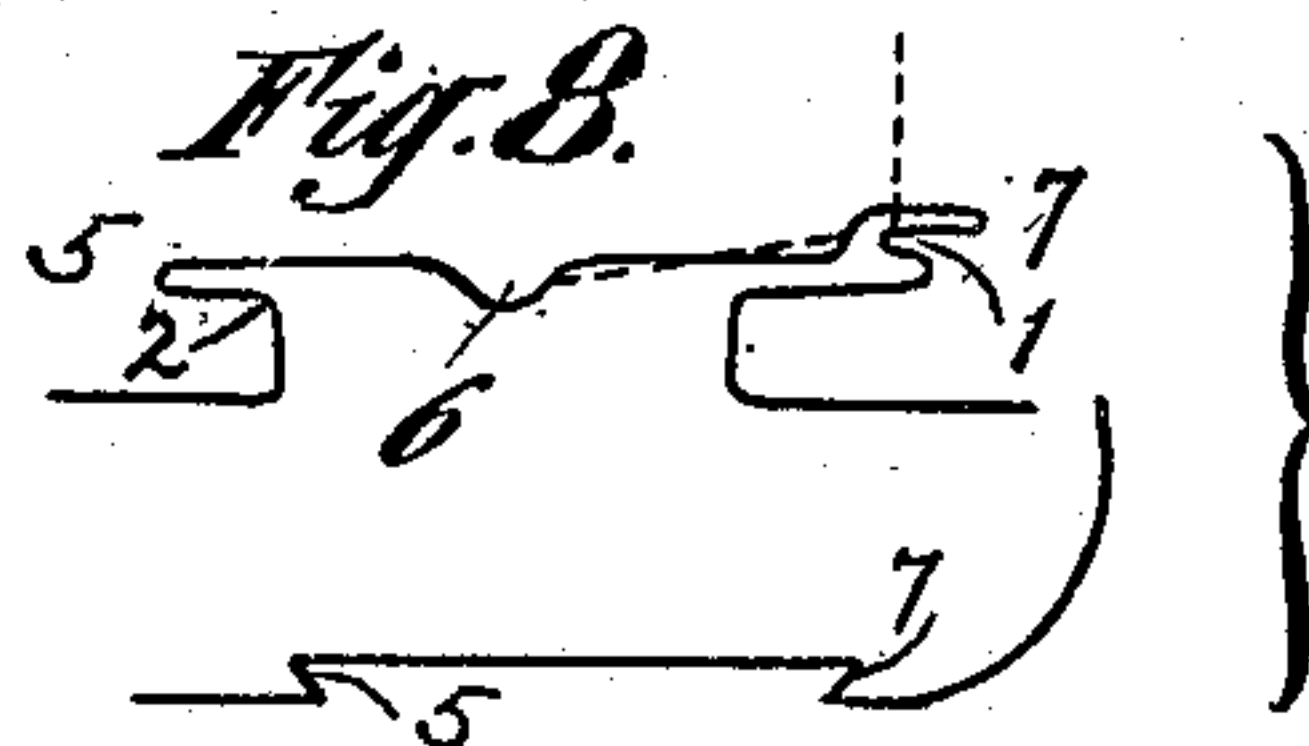
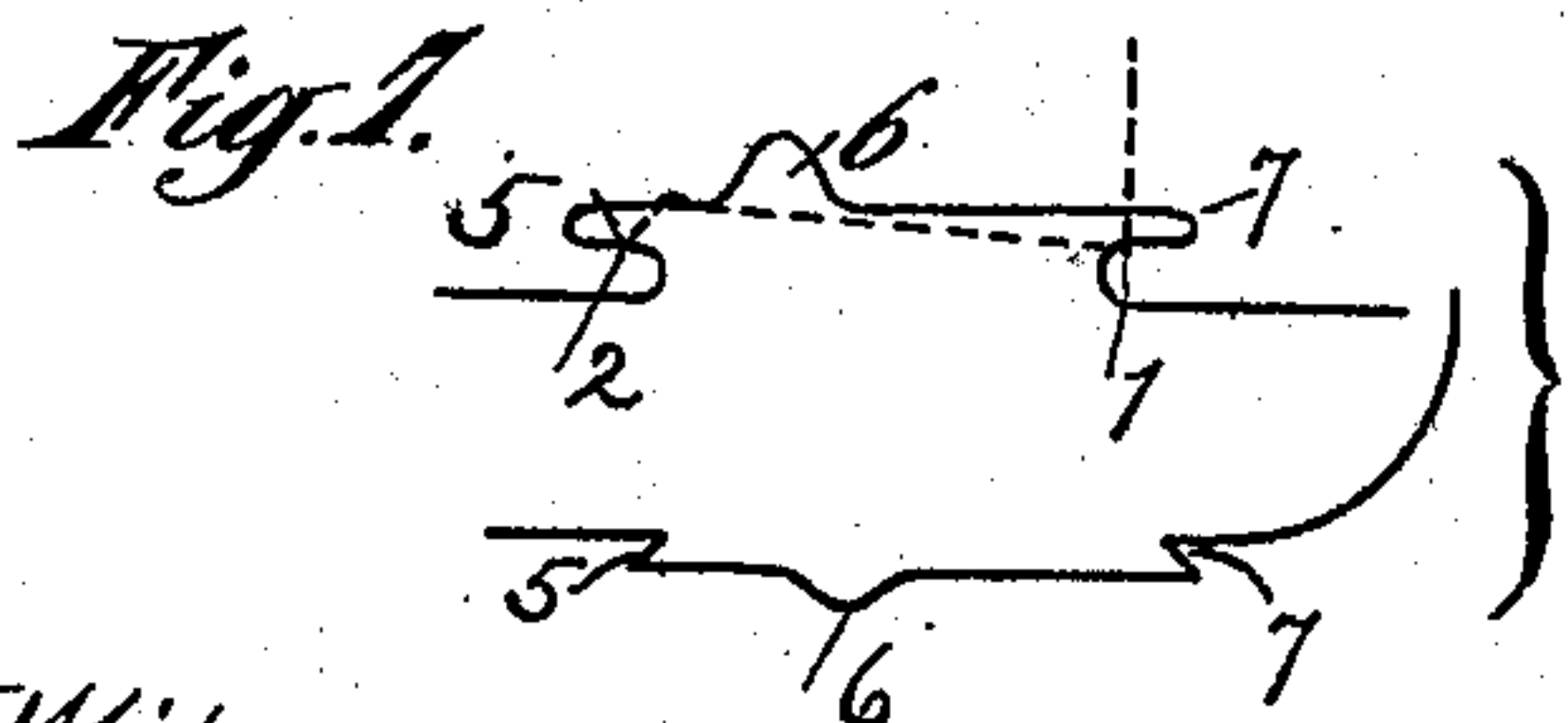
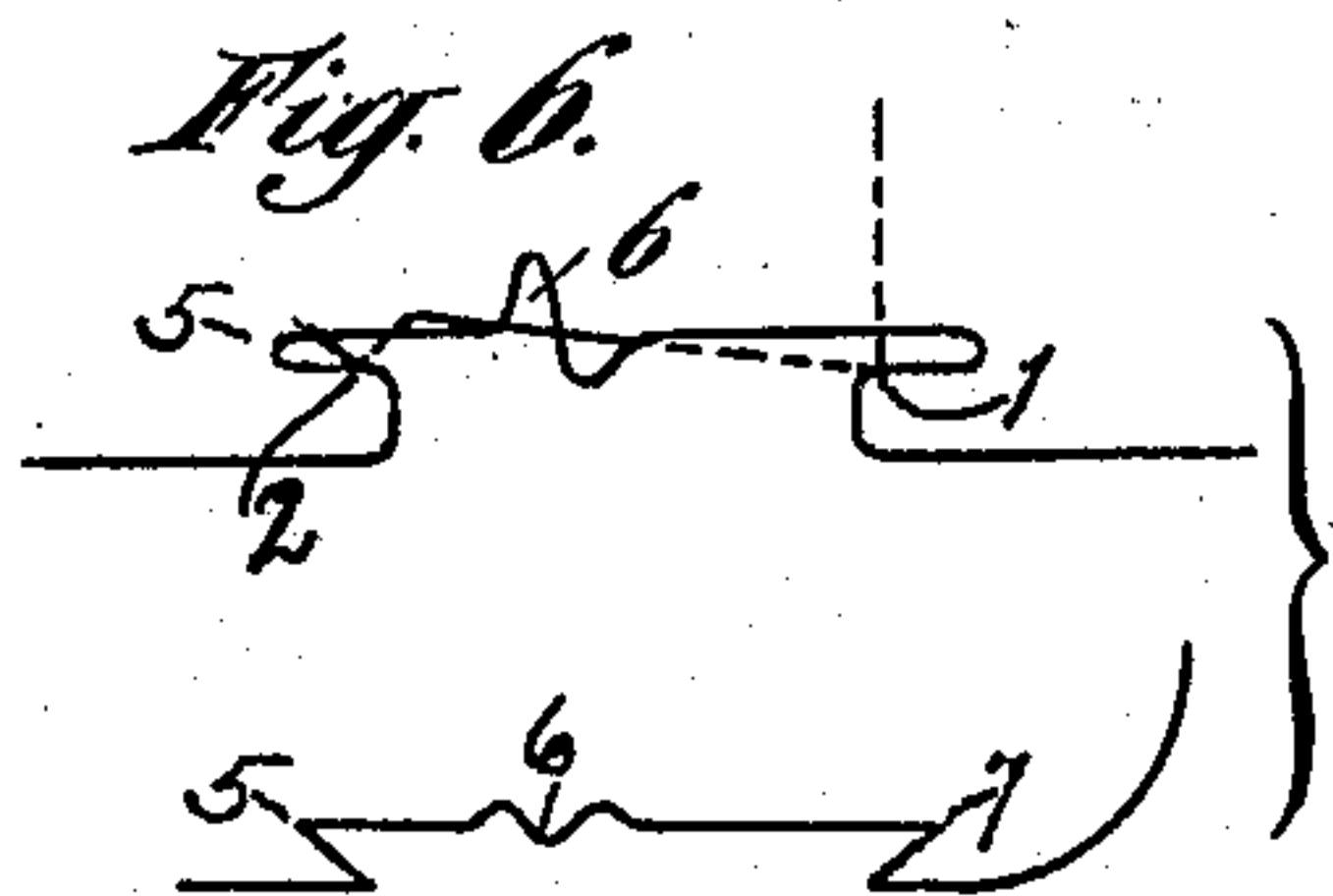
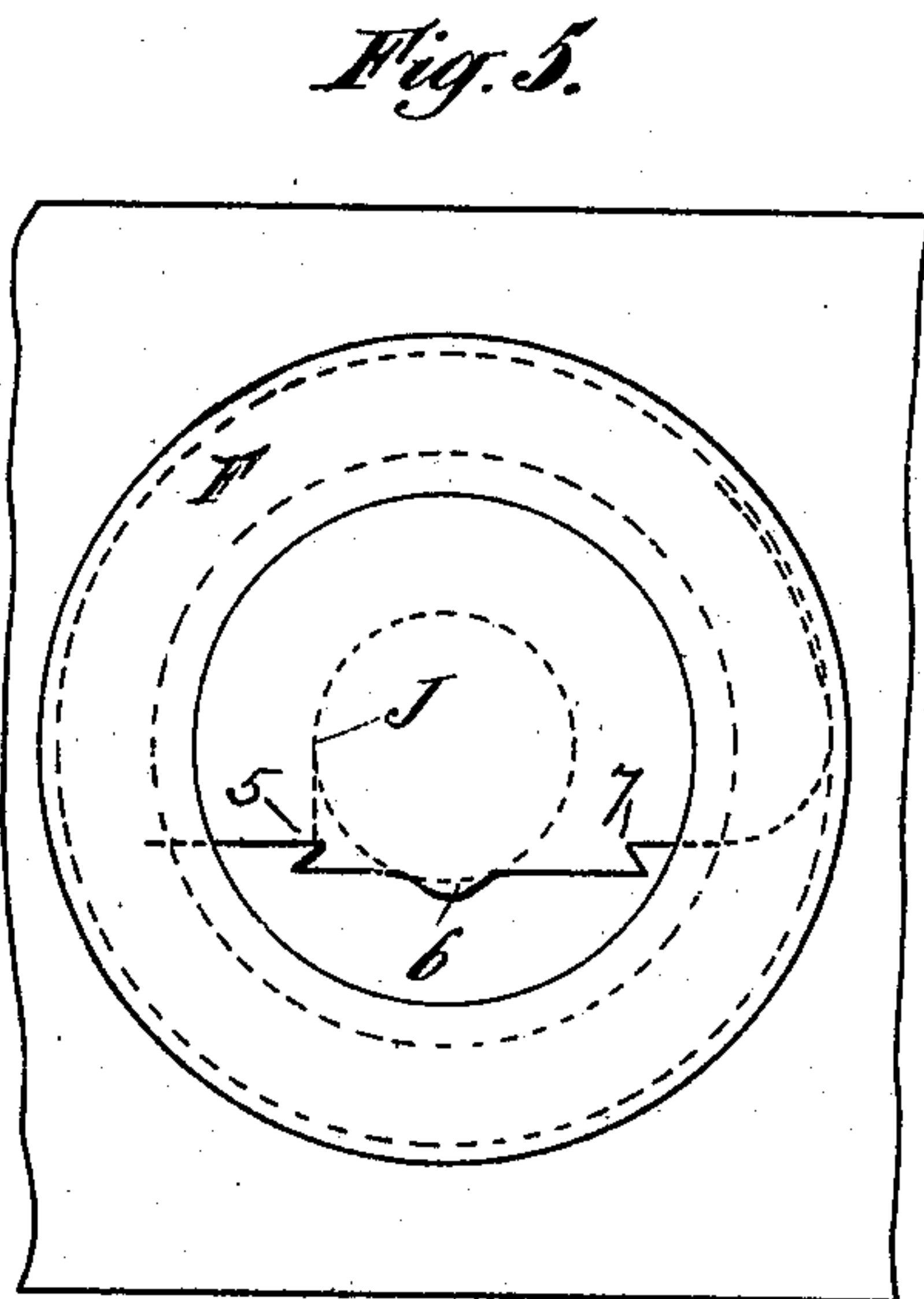
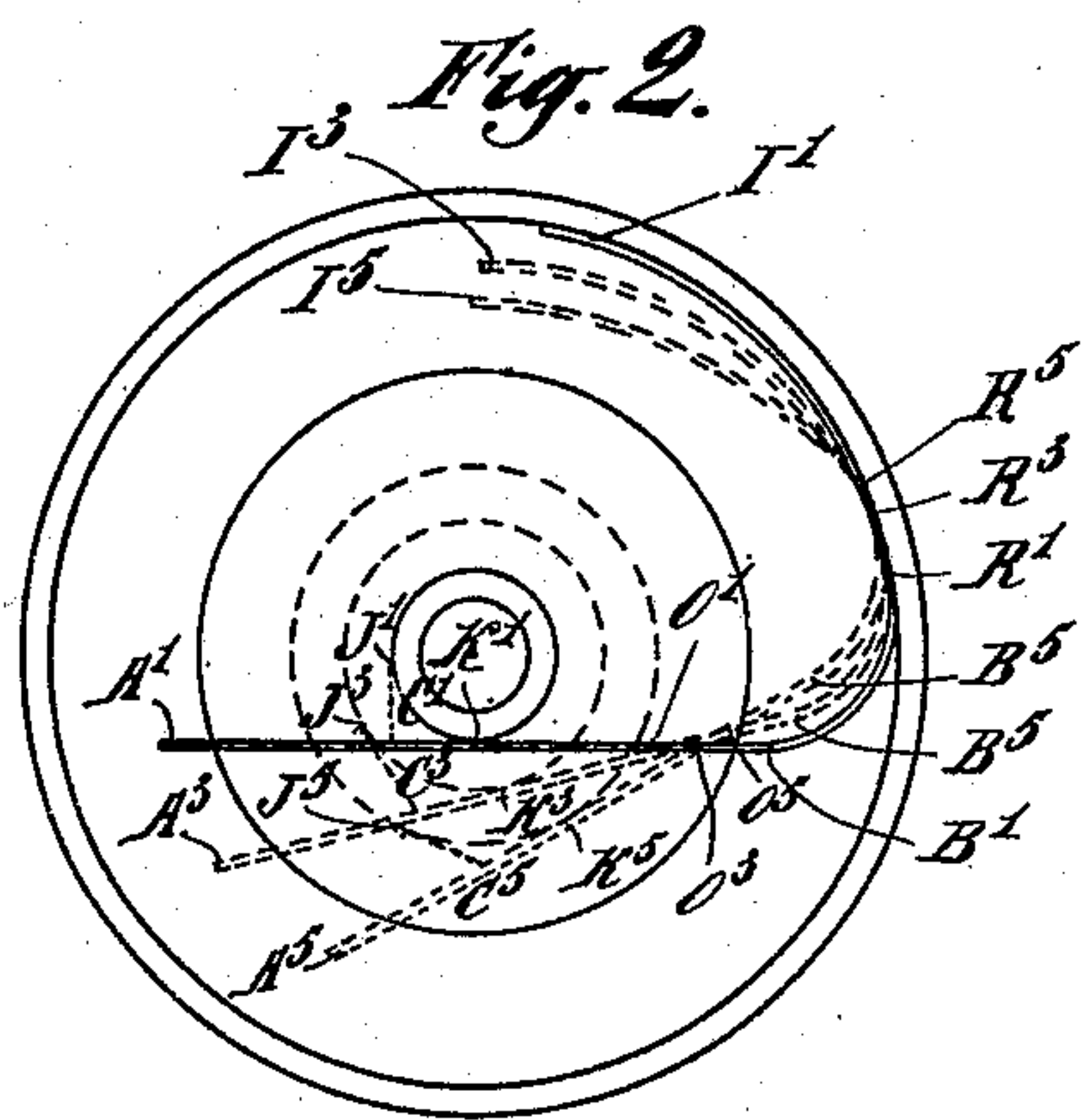
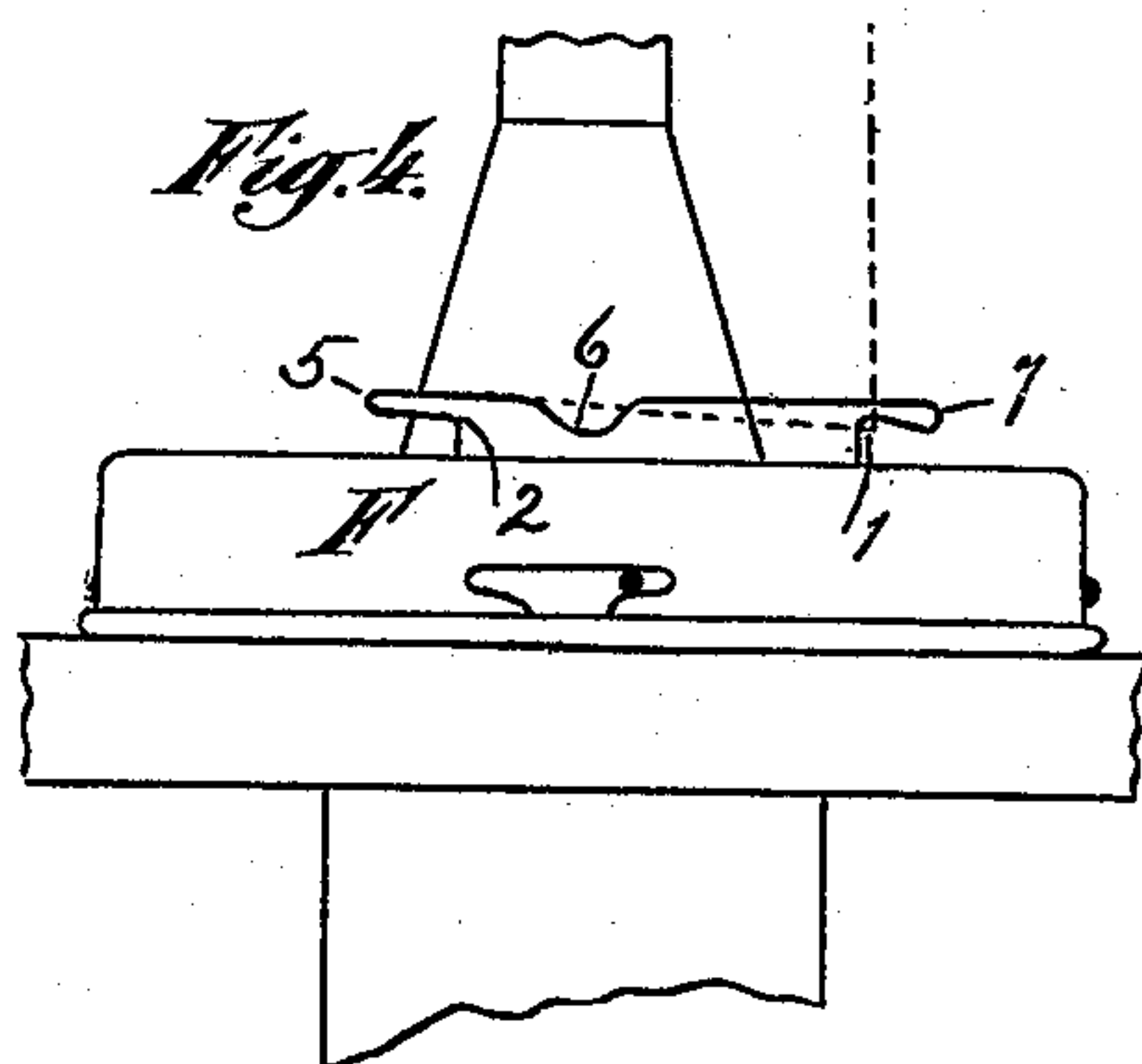
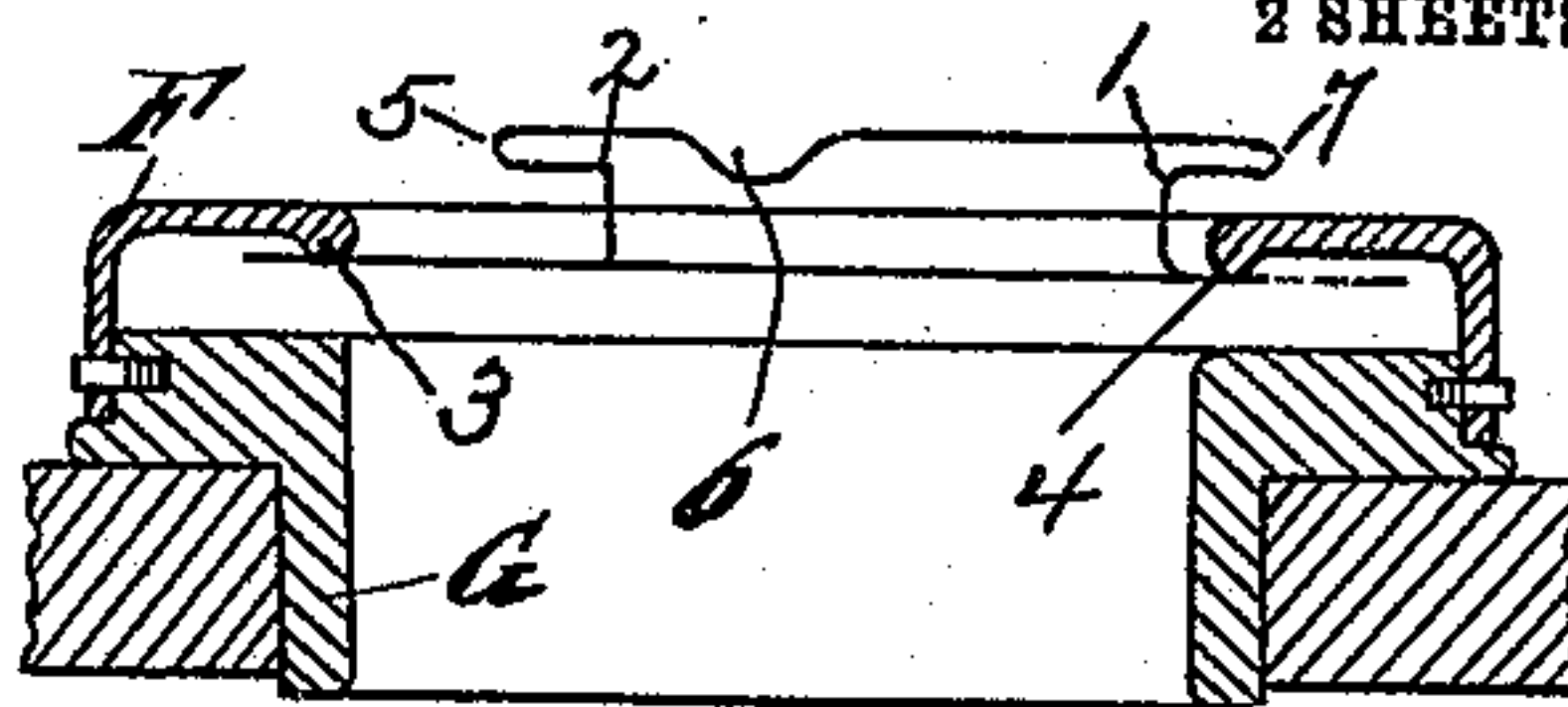
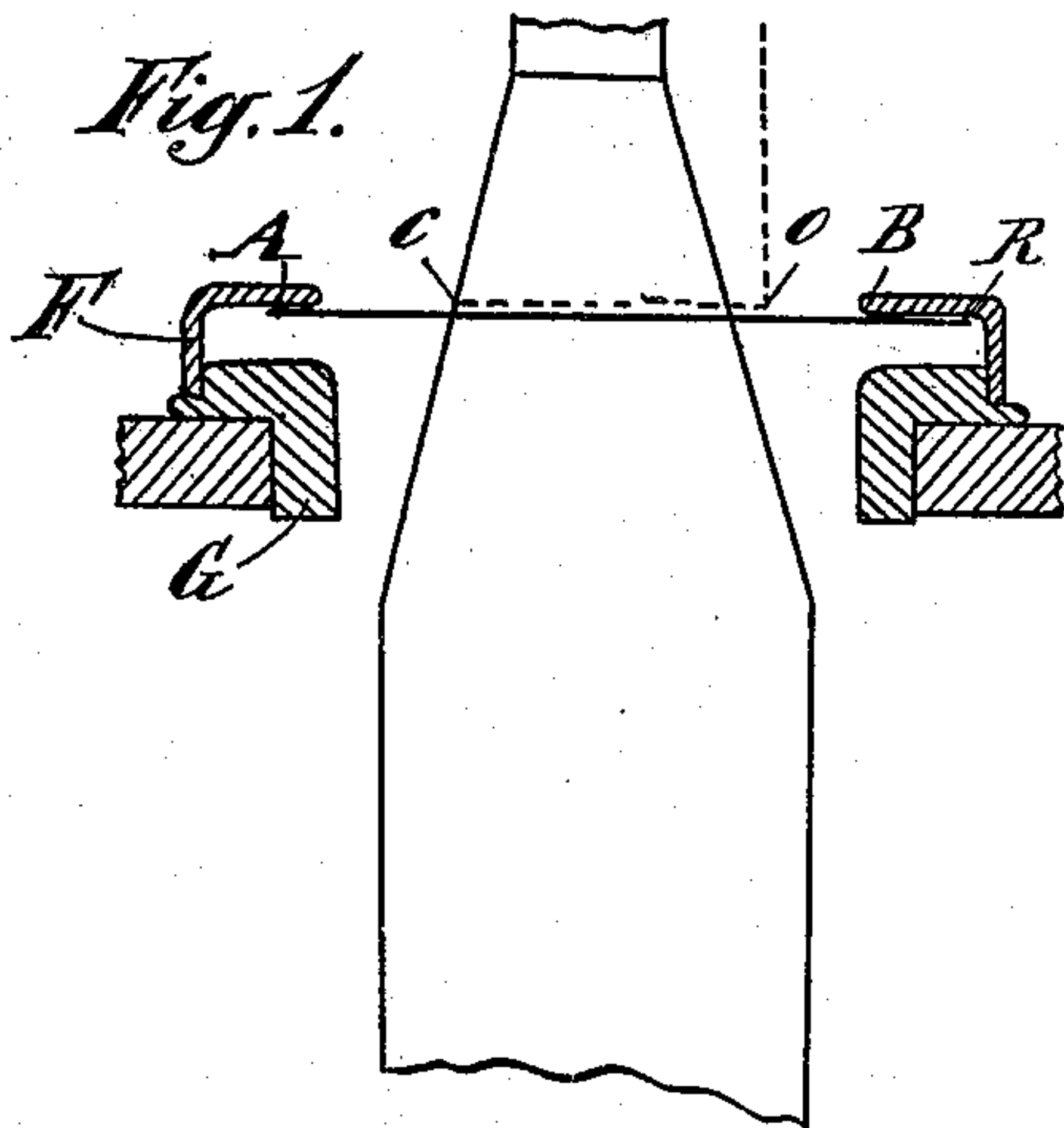
V. D'AOUST & N. DECK.  
TRAVELER FOR RING SPINNING MACHINES.

APPLICATION FILED SEPT. 27, 1907.

924,325.

Patented June 8, 1909.

2 SHEETS—SHEET 1.



Witnesses  
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Fig. 9.

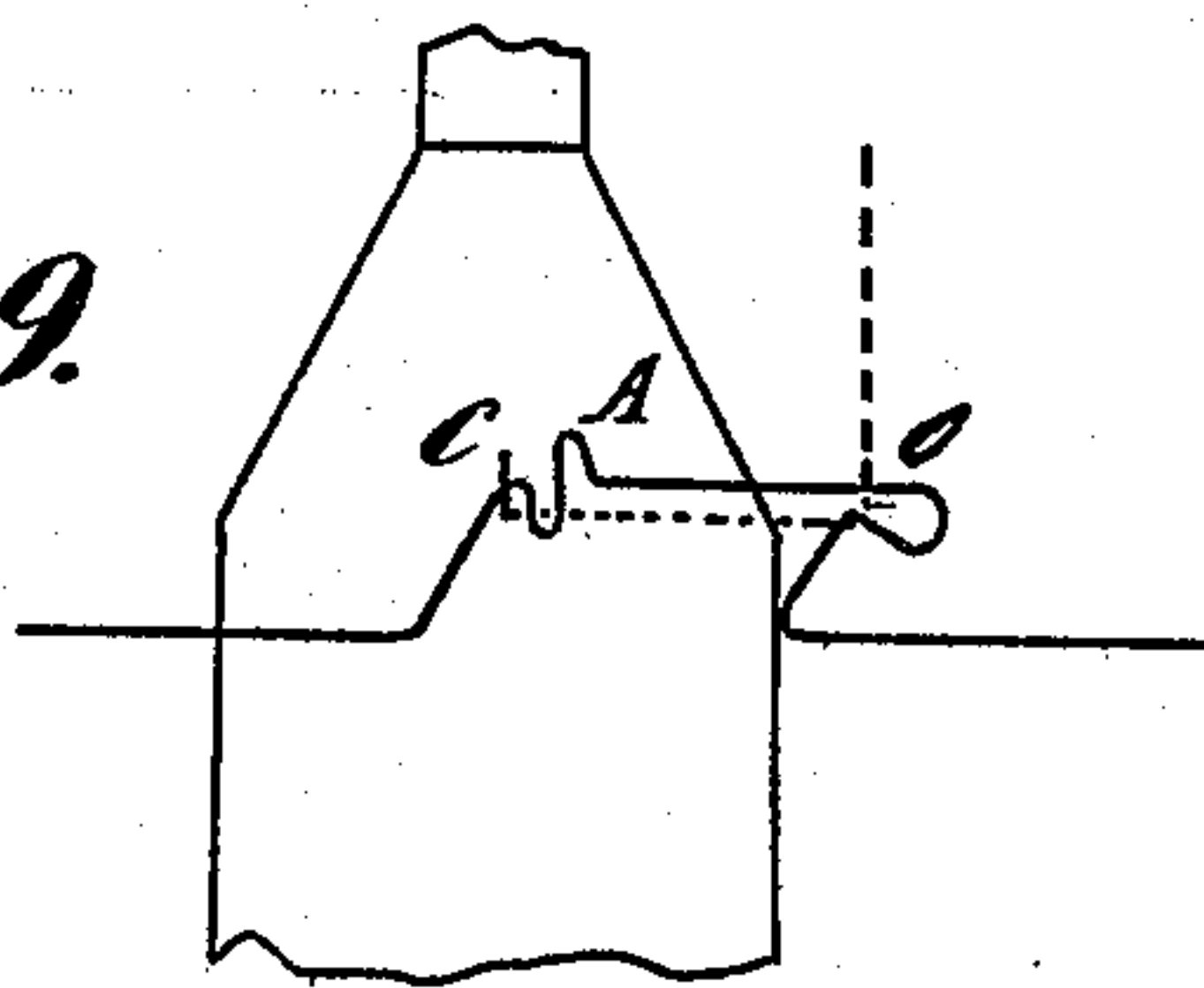


Fig. 10.



Fig. 11.

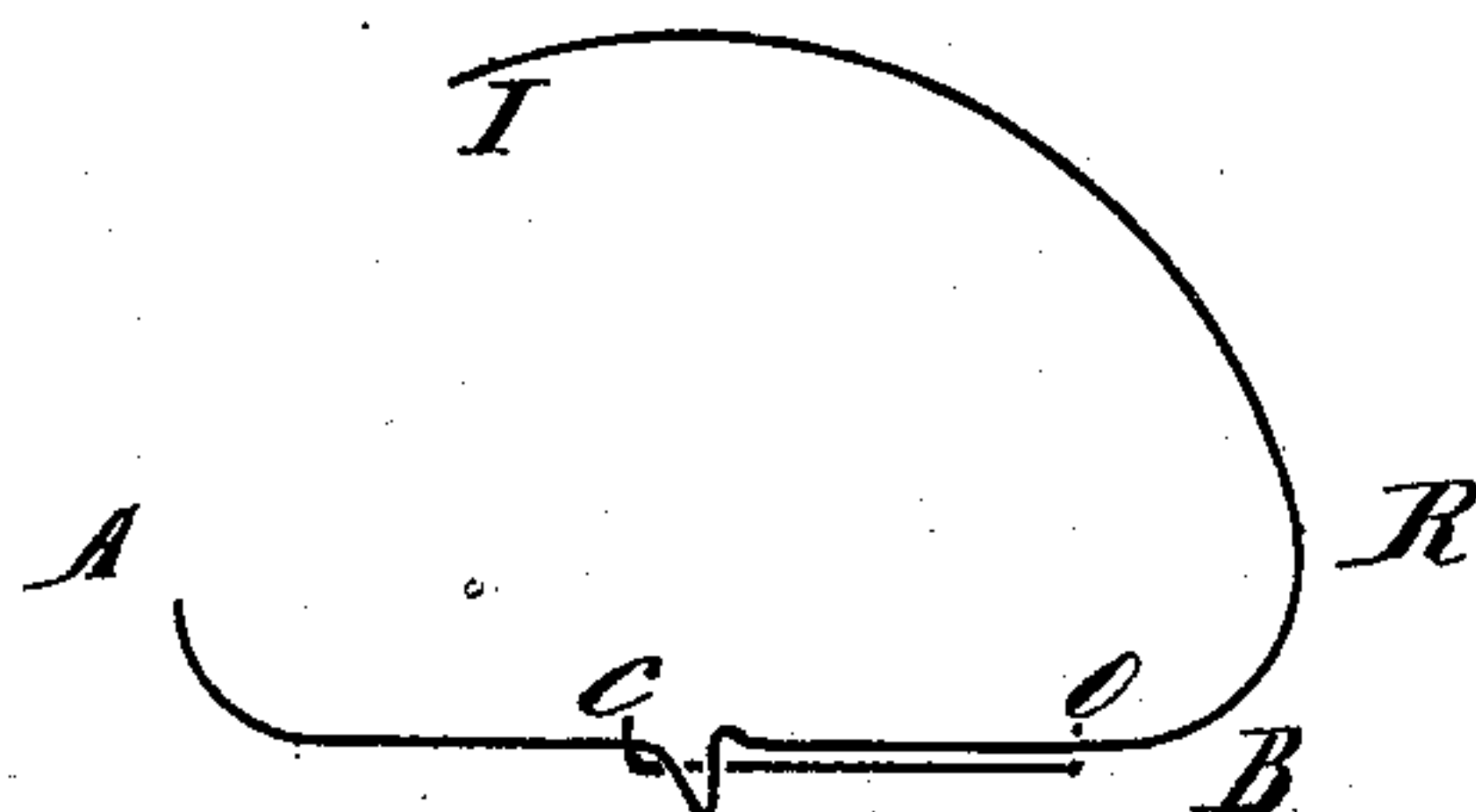
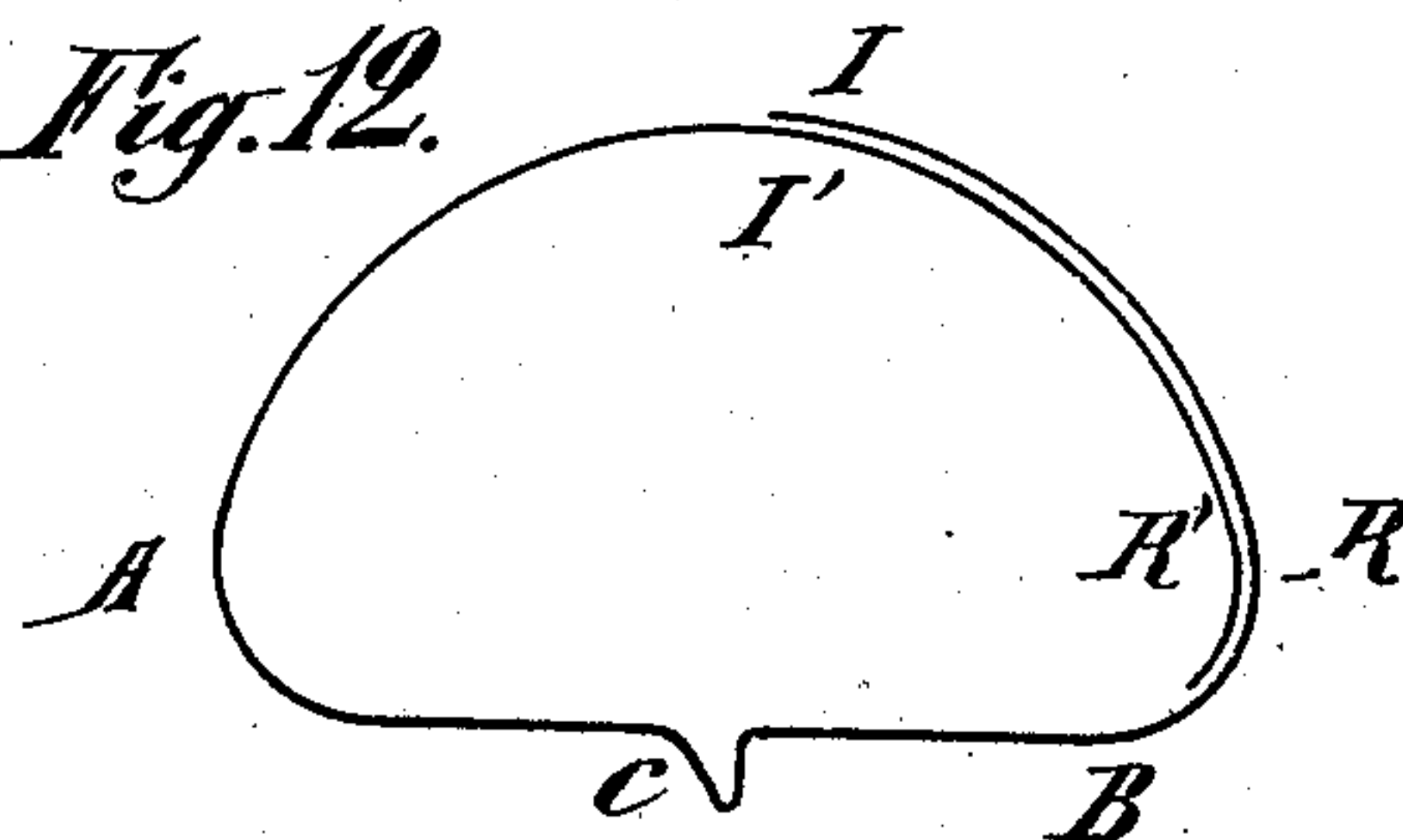


Fig. 12.



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# UNITED STATES PATENT OFFICE.

VICTORIEN D'Aoust AND NICOLAS DECK, OF BRUSSELS, BELGIUM.

## TRAVELER FOR RING-SPINNING MACHINES.

No. 924,325.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed September 27, 1907. Serial No. 394,864.

*To all whom it may concern:*

Be it known that we, VICTORIEN D'Aoust, a subject of the Kingdom of Belgium, residing in Brussels, Rue Bollineka 15, and  
5 NICOLAS DECK, a subject of the Kingdom of Belgium, residing in Brussels, Rue Veewyde 76, have invented certain new and useful Improvements in Travelers for Ring-Spinning Frames; and we do hereby  
10 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 appertains to make and use the same, reference being had to the accompanying  
15 drawings, and to letters or figures of reference marked therein, which form a part of this specification.

This invention relates to travelers of the needle or transverse wire type for ring spinning frames and consists in the hereinafter  
20 described improved formation of said travelers, the object of which is to keep the length of thread between the traveler and the cop or bobbin and the tension of the  
25 same practically uniform and small for the varying diameters of the cop; in order to allow very fine and soft yarns to be spun on ring frames.

On the drawings appended hereunto, Figures 1 and 2 represent in vertical section and  
30 plan a diagrammatic view of the improved needle traveler; Figs. 3 to 12 represent several forms of construction of travelers embodying the above arrangement.

The traveler forming the subject of this invention is diagrammatically represented and consists essentially of a straight part  
35 between the points A B Fig. 1 containing at the points C and at O two cranks or bends having the effect of causing the thread to pass to and from the travelers  
40 ways at the same place, and of a curved part shown in full lines Fig. 2 at B<sup>1</sup> R<sup>1</sup> I<sup>1</sup> in which the straight part terminates. The  
45 yarn delivered by the front drawing roller passes first into the bend at the point O, then into the bend at the point C and finally on to the bobbin.

The traveler works in the groove formed  
50 by the ring G and the cap F fixed thereon. As the bobbin drags the traveler around,

the centrifugal force of the heavier end forces it against the outer circumference of the groove and the point of contact of the  
curved part with said circumference forms  
55 a fulcrum, round which the centrifugal force of the end R I turns the straight part A B against the cop. As the ring rail descends and the diameter of the part against  
60 which the straight part A B rests increases the point of contact of the curve B R moves from R toward B and the straight part undergoes a lateral displacement.

On Fig. 2 this traveler is represented in three positions A<sup>1</sup>, B<sup>1</sup>, R<sup>1</sup> I<sup>1</sup>; A<sup>3</sup>, B<sup>3</sup>, R<sup>3</sup>, I<sup>3</sup>; and A<sup>5</sup>, B<sup>5</sup>, R<sup>5</sup>, I<sup>5</sup>; corresponding with three  
65 thicknesses of yarn wound on to the bobbin or cop. For each of these positions the letters O<sup>1</sup>, O<sup>3</sup>, O<sup>5</sup>, represent the points at which the thread from the front roller arrives  
70 at the traveler, the letters C<sup>1</sup>, C<sup>3</sup>, C<sup>5</sup>, the points where the thread leaves the traveler, the letters J<sup>1</sup>, J<sup>3</sup>, J<sup>5</sup>, the points where it arrives at the bobbin; the letters K<sup>1</sup>, K<sup>3</sup>, K<sup>5</sup>, the points of contact of the traveler with  
75 the bobbin and the letters R<sup>1</sup>, R<sup>3</sup>, R<sup>5</sup>, the points of contact of the traveler with the cap F.

As will be seen from the drawing, the traveler in consequence of the curvature  
80 B R displaces itself laterally as the diameter of the cop increases so that with a suitable curvature the distances J<sup>1</sup> C<sup>1</sup>, G<sup>3</sup>, and J<sup>5</sup> C<sup>5</sup>, remain practically constant, and the  
85 length of thread between the cop and traveler remains the same and short, while the distances C<sup>1</sup> K<sup>1</sup>, C<sup>3</sup> K<sup>3</sup> and C<sup>5</sup> K<sup>5</sup>, likewise remain practically constant so that the  
90 drag of the traveler on the length thread likewise remains uniform, thus allowing very soft and fine yarns to be spun from cotton wool or silk of short length of fiber.

Eccentrically weighted travelers have been proposed before, but these were made  
95 with a projection on the same bearing against the inner edge of the cap F, in consequence they could not displace themselves laterally, and the above advantage was not obtained.

Several forms of construction of travelers  
100 embodying the above arrangement are represented on Figs. 3 to 12.



The wires forming the travelers as shown in Figs. 3 to 8 are bent inward at the points 5 and 7 and then bent outward as shown forming two cranks the corners 1 and 2 of which correspond to the points O and C of the diagram Figs. 1 and 2, the lower ends of the wire bearing against the beads 3 and 4 of the cap F. In order to localize the tension required for obtaining a firm and hard bobbin in the end of the thread between the point C or corner 2 and the point J where it is wound on to the bobbin the thread may be lapped in the known manner around the straight upper part of the traveler between the bends 1 and 2 to produce a braking action and confine the tension of the thread to the short end J C and reduce tension of the length of thread between the traveler and the front roller to a small amount. Preferably however the travelers are formed with a further bend or loop 6 through which the thread is passed to produce this braking action, this arrangement facilitating the threading of the traveler when piecing the yarn. In order to facilitate the sliding of the yarn along the bend of the traveler and to impart to it greater stability, it is advantageous not to have its cranks 5 and 7 in the same vertical plane.

The part A B (3 to 4) of the traveler may be curved in a horizontal plane in the known manner in order to reduce the space required for its free rotation between the ring and bobbin.

The form of execution shown in Figs. 9 to 12 has the following characteristics. The arrangement of bend at the point C by which the yarn starts toward the bobbin makes the playing of the yarn easier together with a greater friction of the thread on the traveler. The point O where the yarn arrives is remote from the center of the bobbin which increases the eccentricity of strains produced by the tension of yarn.

The Fig. 12 shows a modified form in which the rear projection A joins to the bend R I characterizing the invention. Said arrangement increases the result of eccentricity of the device, and the traveler so arranged is more rigid and less liable to be deformed.

#### Claims:—

1. The combination with a spindle and a ring surrounding the same having an annular recess; of a traveler mounted in the latter comprising a straight portion extending across the ring orifice and having a thread-guide formed therein and an end portion extending into the groove in contact with the wall thereof and adapted to rock on said end portion against the vertical wall of the ring as a fulcrum for the traveler.

2. The combination with a spindle and a ring surrounding the same having an annu-

lar recess; of a traveler mounted in the latter, comprising a straight portion extending across the ring orifice and having a thread guide formed therein and a curved end portion extending around the groove in a direction opposite to the direction of rotation, whereby said traveler will rock on said curved end portion as a variable fulcrum against the wall of the ring.

3. The combination with a spindle and a ring surrounding the same having an annular recess; of a traveler mounted in the latter, extending across the ring orifice and having two thread guides formed therein in different longitudinal vertical planes, one end of the traveler having contact with the vertical wall of the ring.

4. The combination with a spindle and a ring surrounding the same having an annular recess; of a traveler having a straight portion extending across the ring orifice and having two thread guides formed therein in different longitudinal vertical planes, and an end portion curving from the orifice in a direction opposite to the direction of rotation into contact with the wall of the recess, to form a variable fulcrum against the ring.

5. The combination with a spindle and a ring surrounding the same having an annular recess; of a traveler having a straight and a curved end portion, and a straight portion extending across the ring orifice and having a running on and a running off thread guide formed therein lying in different horizontal and vertical planes from said end portions, and a bend in the traveler between the guides engaging the thread to increase the friction thereof on the traveler between said guides.

6. The combination with a spinning ring having an annular recess; of a traveler extending across the orifice of the ring and having at one end a comparatively long curved portion conforming to the curvature of the ring and a curved portion of less radius between the ends of the traveler and adjacent the aforementioned curved portion, the portion of greater radius capable of frictionally engaging a wall of the groove in the ring and the curvature of less radius acting as a variable fulcrum for the traveler.

7. The combination with a grooved spinning ring; of a traveler having a substantially straight portion having a thread guide and extending across the orifice of the ring and a curved portion intermediate its ends acting as a variable or shifting fulcrum against a wall of the groove to shift the position of the traveler and guide.

8. The combination with a grooved spinning ring and a spindle; of a traveler having a substantially straight portion and thread guide, said straight portion extending across the orifice of the ring, and on one side of the

spindle, a curved portion terminating opposite the straight portion on the opposite side of the spindle, said curved portion acting as a variable or shifting fulcrum against the  
5 wall of the groove to shift the position of the traveler and guide.

In testimony that we claim the foregoing

as our invention, we have signed our names in presence of two subscribing witnesses.

VICTORIEN D'AOUST.  
NICOLAS DECK.

Witnesses:

GEORGES VANDER HAEGHEN,  
JULES GHILAIN.