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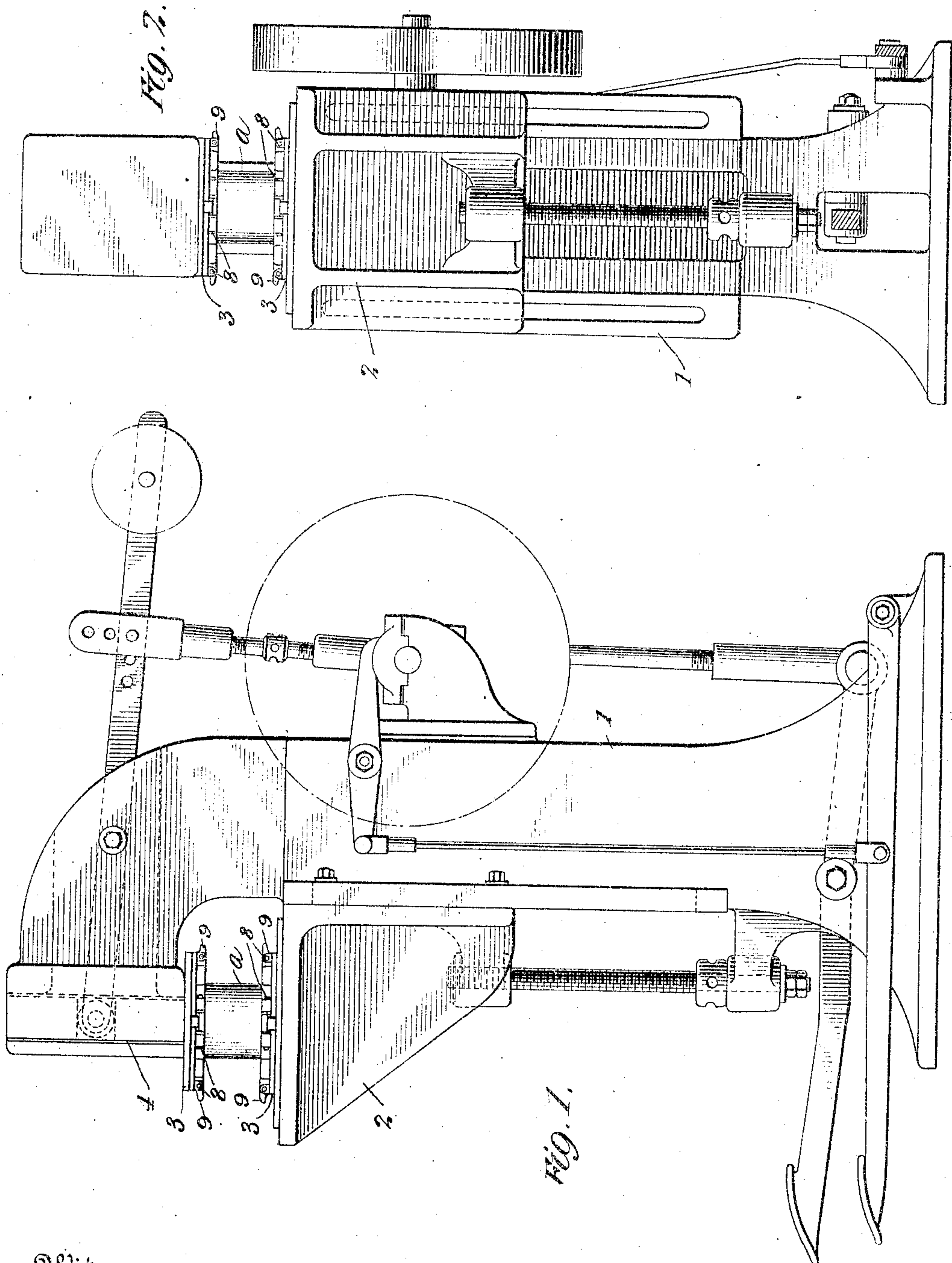
C. LEFFLER.

DIE.

APPLICATION FILED SEPT. 19, 1907.

Patented Dec. 1, 1908.

2 SHEETS—SHEET 1.



Witnesses:
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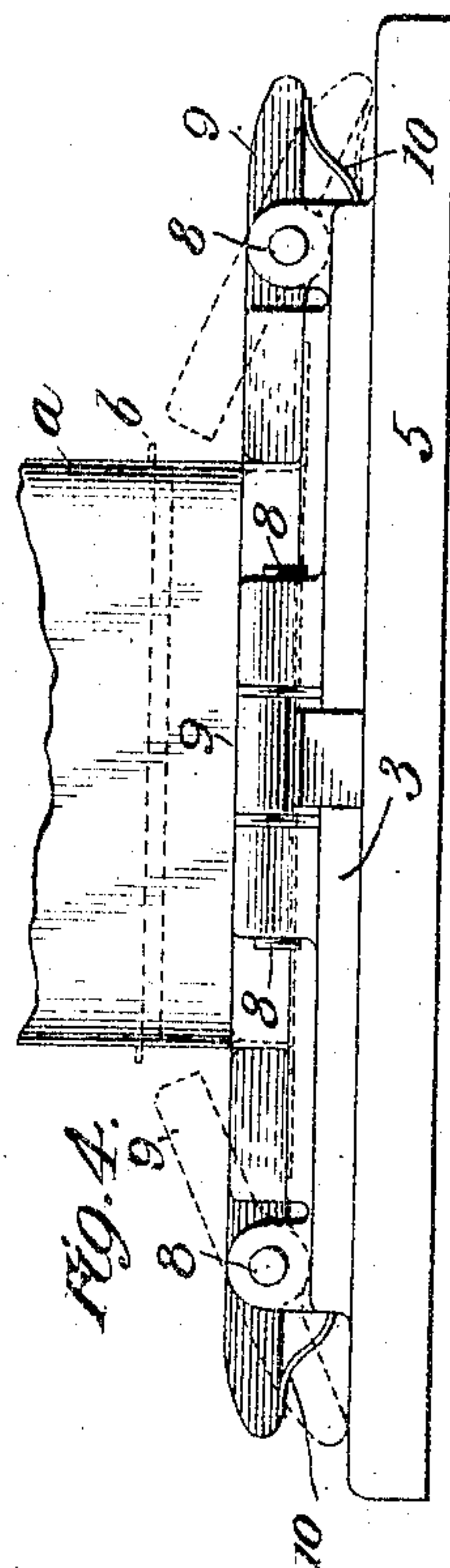
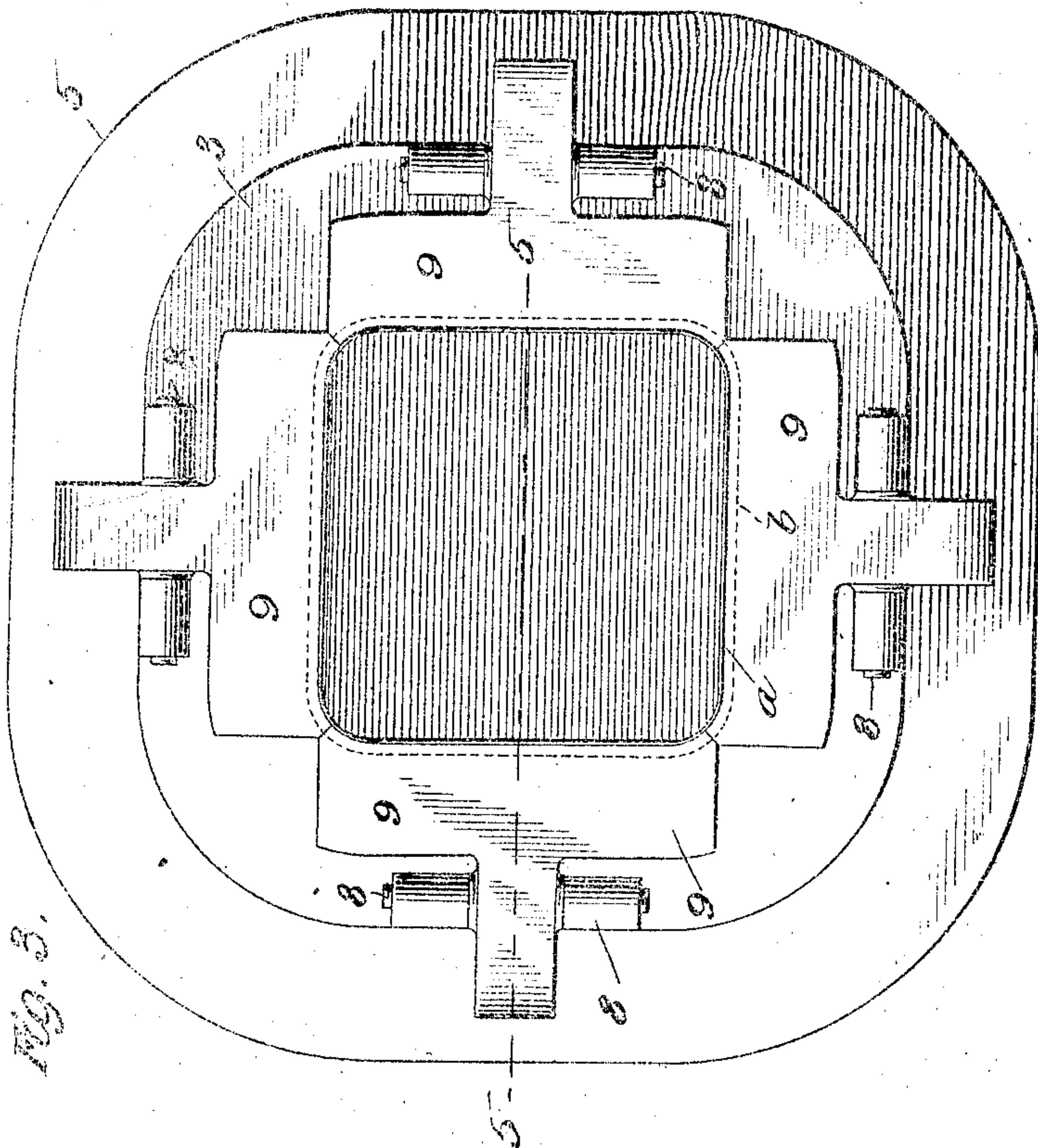
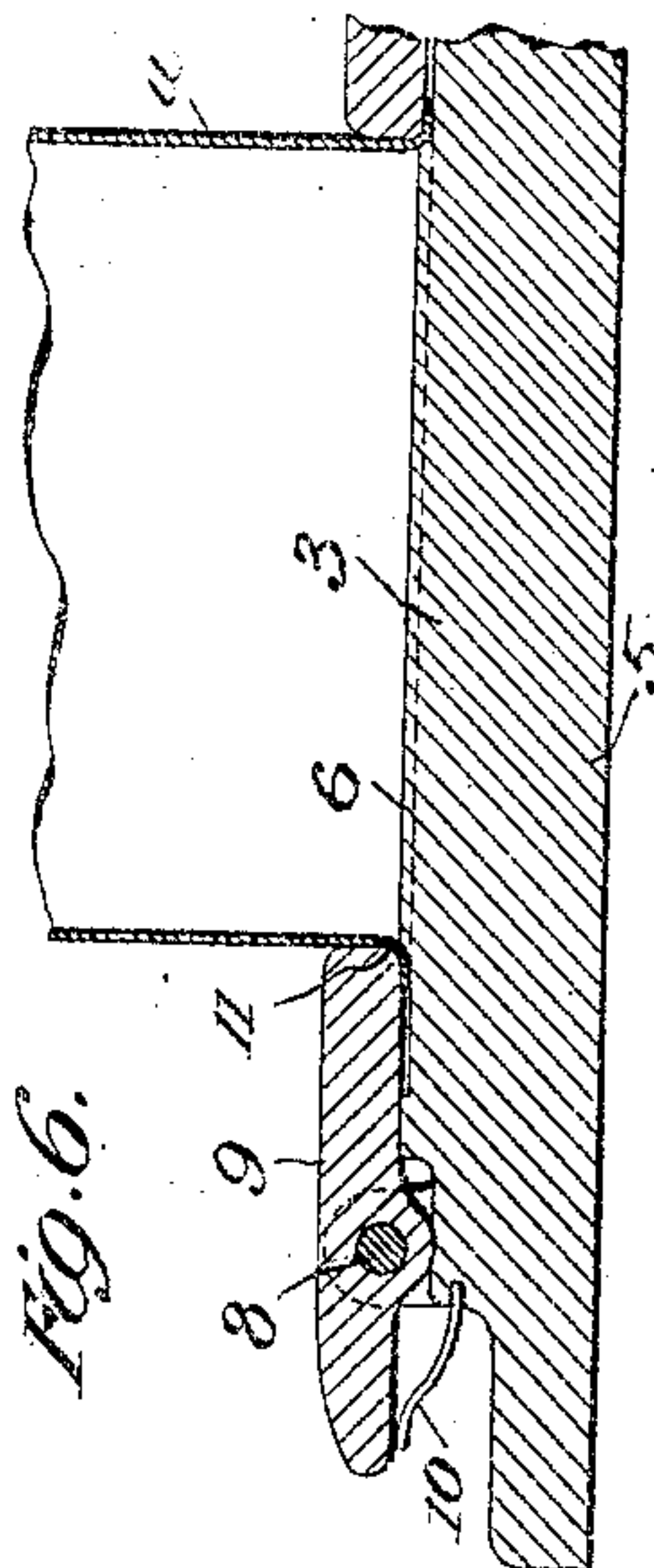
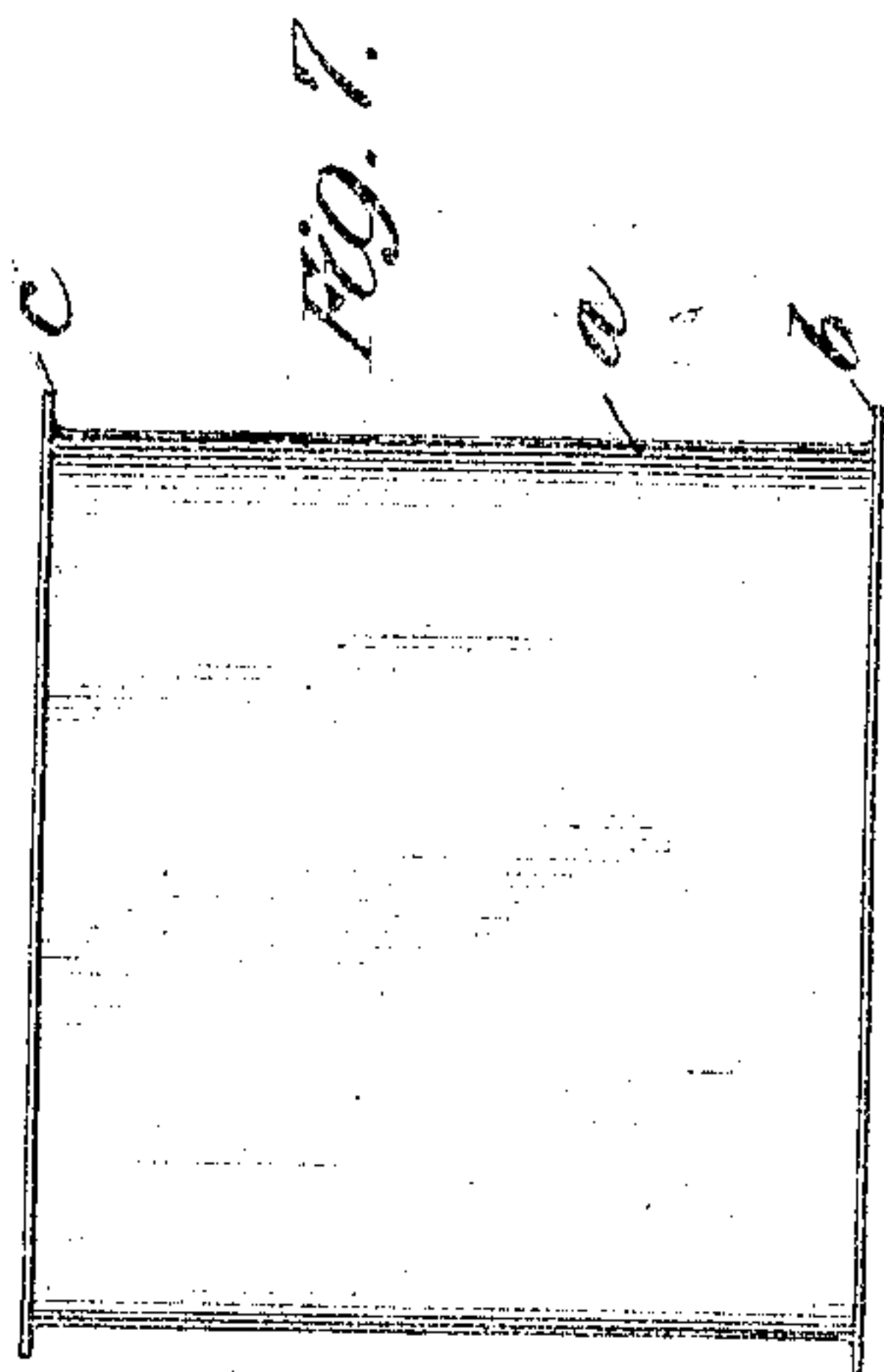
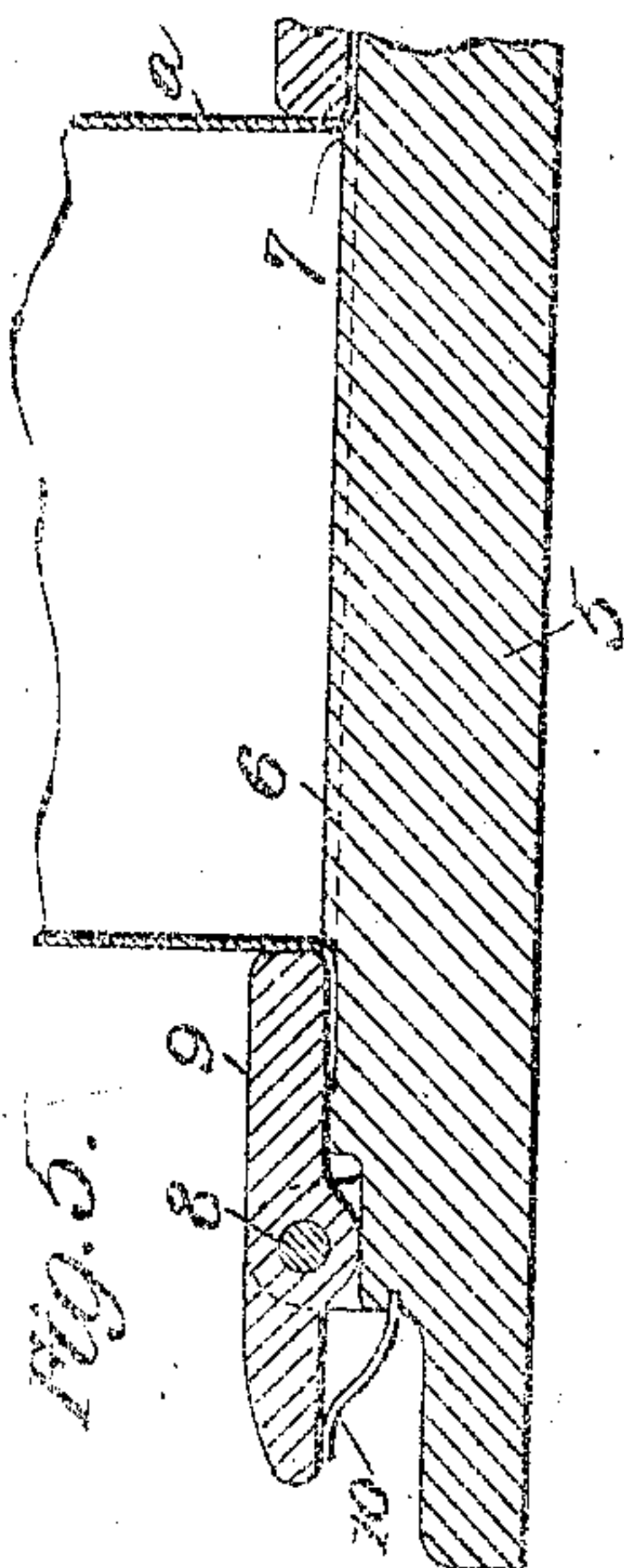
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2 SHEETS—SHEET 2.

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UNITED STATES PATENT OFFICE.

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No. 905,719.

Specification of Letters Patent.

Patented Dec. 1, 1908.

Application filed September 19, 1907. Serial No. 393,606.

To all whom it may concern:

Be it known that I, CHARLES LEFFLER, a citizen of the United States, residing at New York city, in the borough of Brooklyn and State of New York, have invented certain new and useful Improvements in Dies, of which the following is a full, clear, and exact description.

My invention has for its object the production of an improved die for the bending of sheet metal and more particularly for the forming of a flange upon the extremity of a tubular blank, such as may be used to form the body of a can or receptacle, and my invention consists of the features which will be hereinafter set forth and claimed.

Reference is hereby made to the accompanying drawing, of which

Figure 1, is a side elevation of a die press to which a pair of dies constructed in accordance with my invention are applied, and showing a blank in position for being operated upon. Fig. 2, is a front elevation of the same; Fig. 3, is a plan of the improved die with a blank held therein; Fig. 4, is a side elevation of the same, the blank being partly broken away; Fig. 5, is a section on line 5—5 of Fig. 3, showing the blank in position before it has been operated upon; Fig. 6, is a similar view showing the blank after it has been operated upon, and Fig. 7, is a side elevation of the finished blank.

Corresponding parts in the several views are designated by the same reference numerals.

The die press 1 may be of any usual and approved form, and is provided with a vertically adjustable bed 2 for holding the lower die 3 and a vertically movable plunger 4 which acts upon the upper die 3, the blank *a* being held between the two dies. Each of the dies 3 comprises a body 5 in the form of a plate having a central raised portion 6, and a surface extending laterally therefrom. The margin of the raised portion forms a continuous or annular guide or shoulder 7, curved in the direction of movement of the material forming the blank *a*. Secured to the body 5 by horizontal hinges 8 are a number of plates 9, preferably four, when the blank to be operated upon is of the form shown, that is, a square with rounded corners. These plates are normally held in the positions shown in Figs. 5 and 6, by springs 10. When in this position their inner edges form a continuous guide adjacent to and cooperating with the

guide 7, and said inner edges as shown at 11 are rounded or curved in the direction of movement of the material forming the blank *a*. It will, therefore, be obvious that as the blank *a* is pressed down toward the body 5 of the die, its lower edge will be bent by the co-operation of the guides 7 and 11 into the form shown in Fig. 6 so as to form a flange *b*, Fig. 7 around the lower edge of the blank *a*, and when an upper die is used a similar flange will be formed around the upper edge of the said blank. After this operation has been effected, the blank *a* may be readily removed from the die 3 as the plates 9 turn upon their hinges 8 to the position shown in dotted lines in Fig. 4, thereby permitting the flange *b* to clear the edges of the said plates; the said flange being also indicated in dotted lines in Fig. 4.

Having now described my invention, what I claim, is:

1. A die comprising a body having a raised guide, a surface extending laterally from the guide, and a plurality of hinged plates opposed to and cooperating with the guide and laterally extending surface to flange a blank forced therebetween.

2. A die comprising a body having a raised guide, a surface extending laterally from the guide, and a plurality of horizontally hinged plates opposed to and cooperating with the guide and laterally extending surface to flange a blank forced therebetween.

3. A die comprising a body having a raised guide, a surface extending laterally from the guide, and a plurality of spring pressed hinged plates opposed to and cooperating with the guide and laterally extending surface to flange a blank forced therebetween.

4. A die comprising a body having a raised guide curving laterally downward, a surface extending laterally from the guide, and a plurality of hinged plates opposed to and cooperating with the guide and laterally extending surface to flange a blank forced therebetween, the edges of said plates being rounded in the direction of curvature of the guide.

5. A die comprising a body having a raised guide, a surface extending laterally from the guide, and a plurality of hinged plates opposed to and cooperating with the guide and laterally extending surface, the edges of said plates forming a continuous

guide to flange a blank forced between the same and the said raised guide.

6. A die comprising a body having a raised guide in the form of a square with rounded corners, a surface extending laterally from the guide, four plates carried on horizontal hinges and having edges forming a square with rounded corners, and cooperating with the guide and laterally extending surface to flange a blank forced therebetween.

7. A die comprising a centering guide and a laterally extending surface, and a hinged member cooperating therewith to flange a blank forced therebetween.

8. A die comprising a guide in the form of

an outwardly facing abutment and a laterally extending surface and a hinged outwardly yieldable member cooperating therewith to flange a blank forced therebetween.

9. A die comprising a guide in the form of an outwardly facing abutment and a laterally extending surface continuous therewith, and a hinged outwardly yieldable member cooperating therewith to flange a blank forced therebetween.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

CHAS. LEFFLER.

Witnesses:

LEO J. LEFFLER,

WALDO M. CHAPIN.