

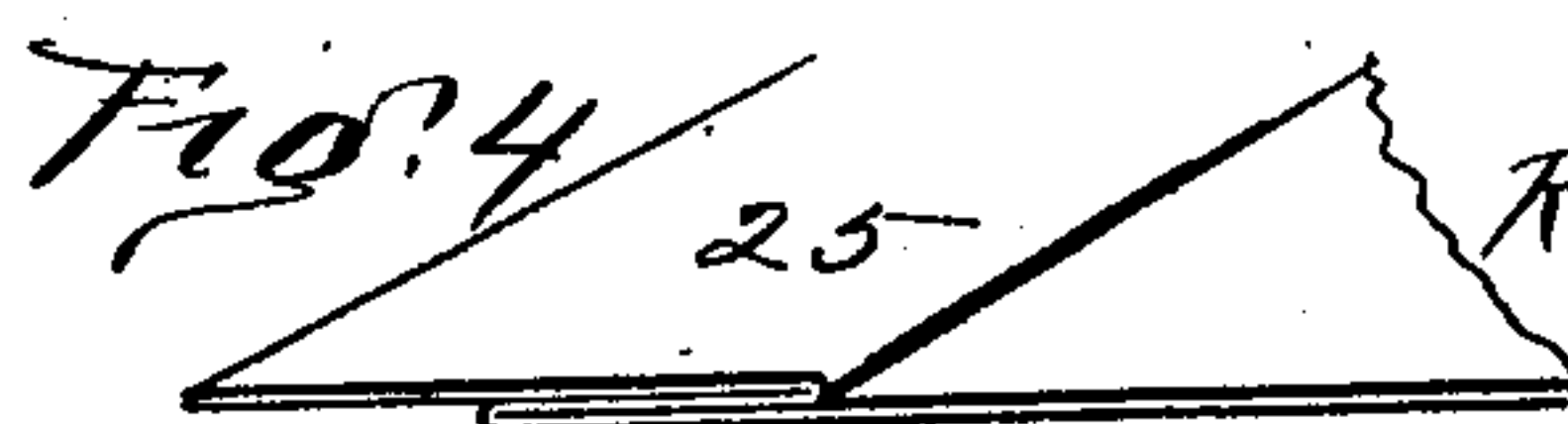
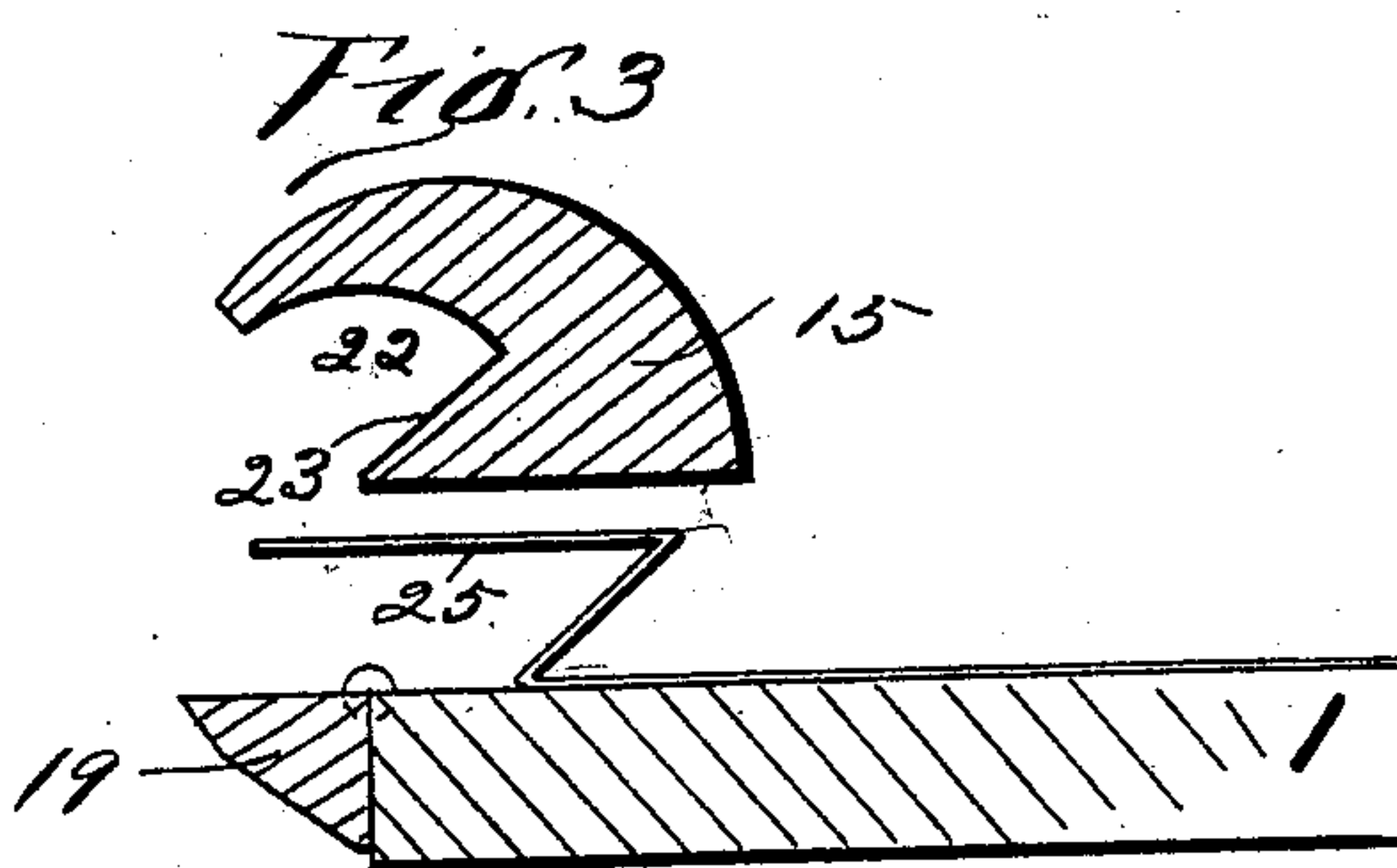
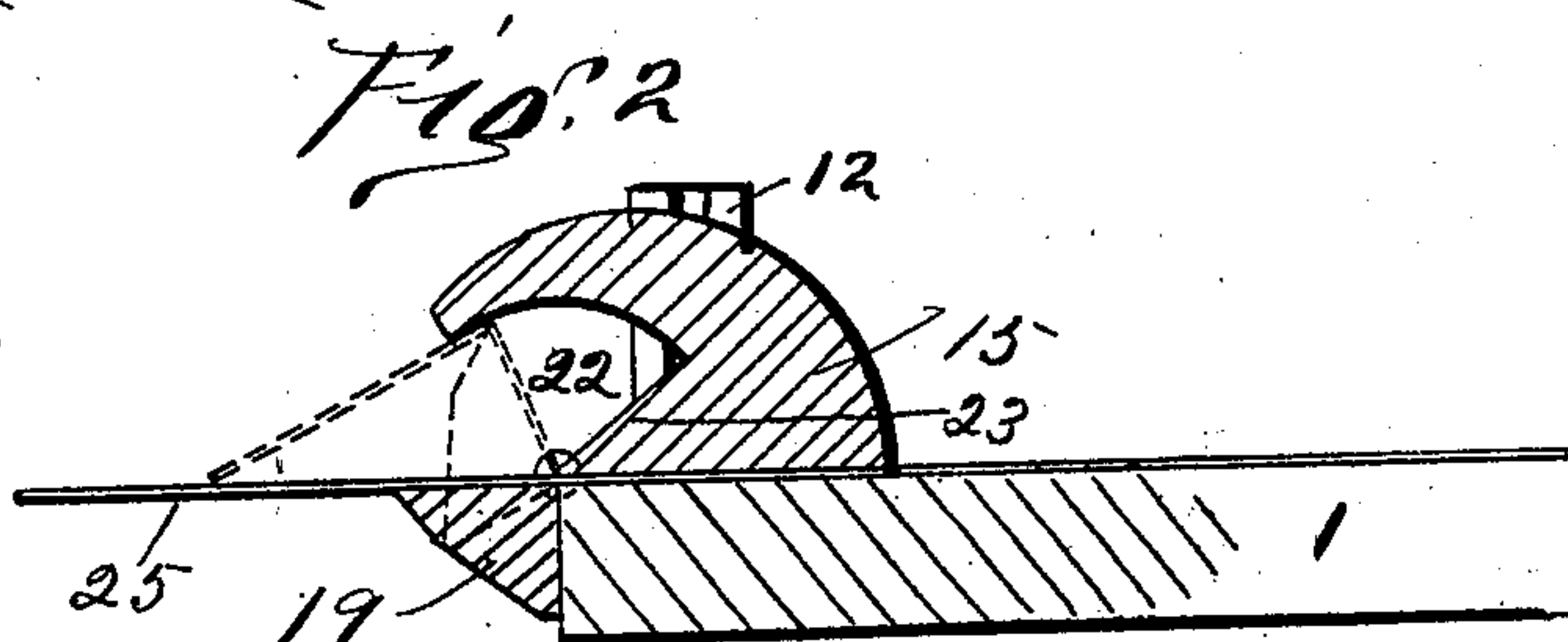
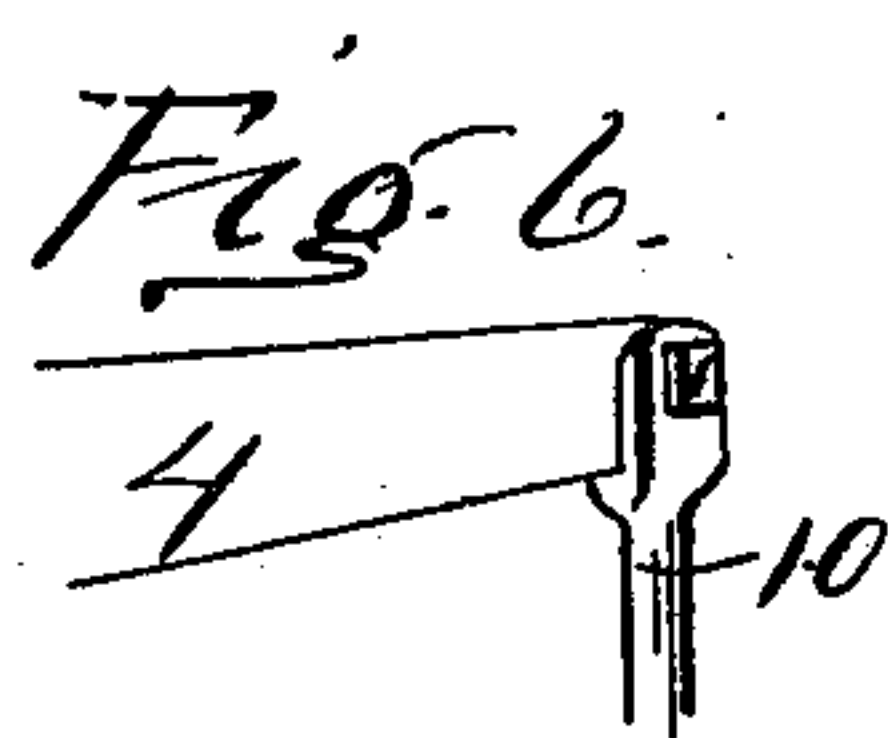
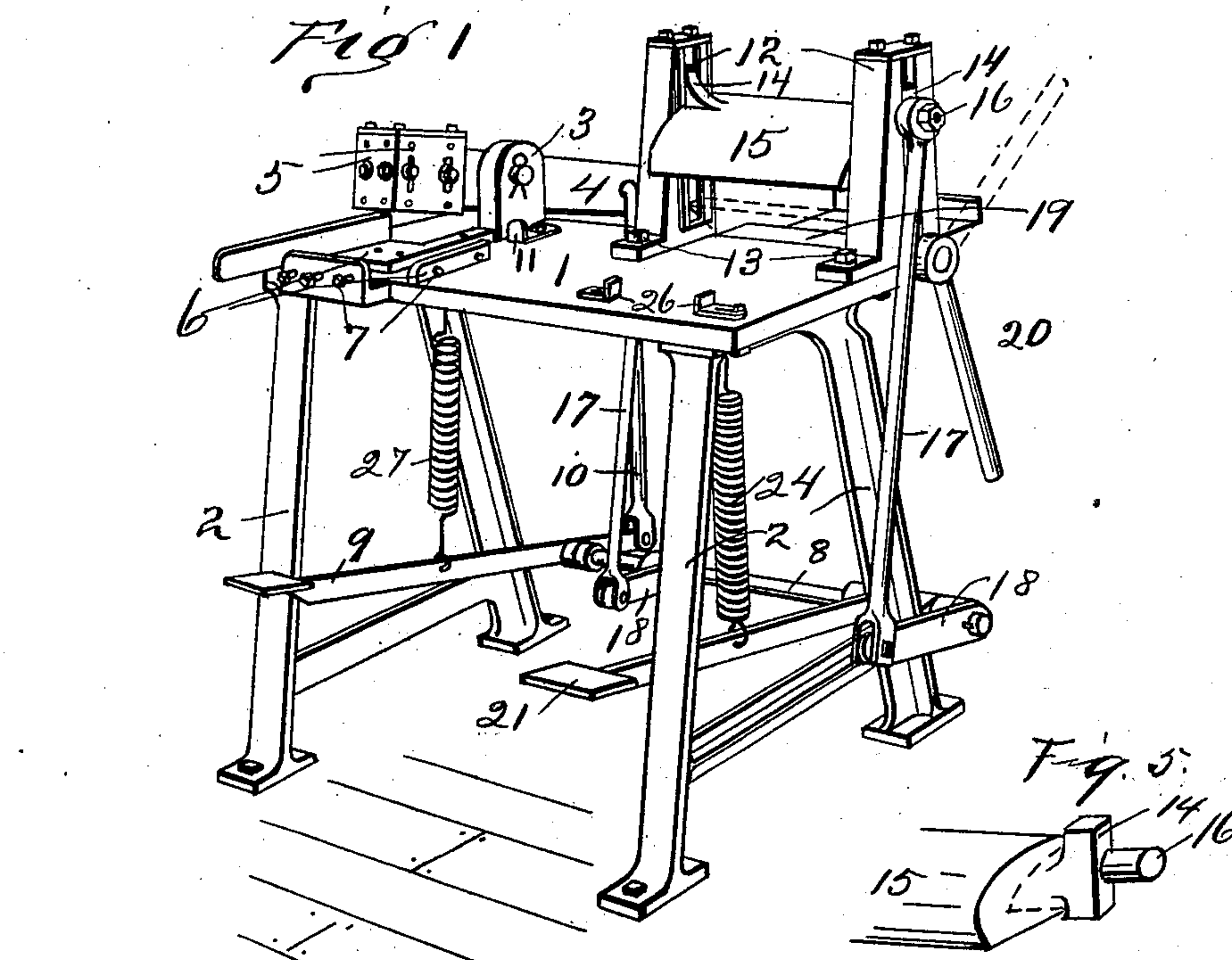
(No Model.)

R. F. FOWLER.

MACHINE FOR FOLDING SLIP JOINTS FOR EAVES TROUGHS.

No. 601,774.

Patented Apr. 5, 1898.



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MACHINE FOR FOLDING SLIP-JOINTS FOR EAVES-TROUGHS.

SPECIFICATION forming part of Letters Patent No. 601,774, dated April 5, 1898.

Application filed March 25, 1897. Serial No. 629,184. (No model.)

To all whom it may concern:

Be it known that I, ROBERT F. FOWLER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Machines for Folding Slip-Joints for Eaves-Troughs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a perspective view. Fig. 2 is a sectional view of the bed, showing the hammer brought down on the top of the bed, also showing a sheet of metal between the bed and hammer. Fig. 3 is a sectional view of the hammer, showing the same in an elevated position, showing a piece of metal bent to produce the fold, and a portion of the bed of the machine. Fig. 4 is a view showing a sheet properly folded. Fig. 5 is an end view of the hammer, showing the same detached from its housing. Fig. 6 is a view showing a portion of the die lever or bar and its operating-rod connected thereto.

The present invention has relation to a machine calculated in design for folding slip-joints for eaves-troughs; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claim.

Similar numbers of reference indicate corresponding parts in all the figures of the drawings.

The object of the present invention is to form the ends of eaves-troughs so that a groove will be provided to receive the adjacent section, or, in other words, the ends are joined together by slipping the sections together, the operation being performed before the sheets of metal are bent to form troughs.

In the accompanying drawings, 1 represents the bed of the machine, which is formed of a size to correspond with the size of the machine designed to be constructed, and is supported at the required height by means of suitable standards 2, which standards may be firmly connected at their bottom or lower ends to the floor or other foundation, although this is not

absolutely necessary to carry out the object and purposes of the present invention.

To the bed-plate 1 is attached in any convenient and well-known manner the short post 3, to which post is pivotally attached the die-lever 4, to the front or forward end of which are attached in any convenient and well-known manner the dies 5, which dies are for the purpose of cutting the metal from which a slip-joint eaves-trough is to be formed, said dies being used in connection with the bed-plate die or dies 6, which dies are located directly beneath the dies 5 and are held in proper position by means of suitable lug-bolts or set-screws 7. To the standards 2 or their equivalents is journaled the cross-shaft 8, which cross-shaft is preferably located as illustrated in Fig. 1. Upon the shaft 8 is loosely mounted the die-operating treadle or foot-lever 9, which foot-lever extends a short distance rearward from its pivotal point and to the rear end of which is pivotally attached the bar 10, which bar 10 extends upward, and its upper end is pivotally connected to the rear end of the die-lever 4.

In use the metal is placed under the dies 5 and on top of the dies 6 and is stopped at the desired point by means of the gage 11, after which the foot-lever 9 is pressed downward, which movement elevates the rear end of said foot-lever, carrying with it the bar 10, thereby elevating the rear end of the die-lever 4, which in turn lowers the dies 5, bringing them into operative position upon the metal located between the dies 5 and 6.

The object of the dies 5 and 6 is for the purpose of giving to the end of the metal the desired formation or configuration, which of course varies in form owing to the different kind of dies used.

To the bed-plate 1 are attached the housings or uprights 12, which are held in proper upright position by means of suitable clamping-bolts 13. Within the housings 12 are located the sliding blocks 14, which sliding blocks are preferably formed integral with the combined hammer and gage 15. From the sliding blocks 14 extend the bearings 16, to which bearings are pivotally connected the downward-extending bars 17, which bars are

connected at their bottom or lower ends to the short arms 18 at the free ends of said arms. To the bed 1 or its equivalent is journaled the folding-bar 19, which folding-bar is
 5 located substantially as shown in Fig. 1 and at one end of which is connected the operating-lever 20, which operating-lever is formed of such a length that it can be easily moved to fold the metal, as hereinafter described.

10 In use the sheet of metal after it has been properly cut by the dies is placed under the hammer 15 and over the folding-bar 19. The foot-lever 21 is pressed downward until the hammer 15 rests upon the sheet of metal, as
 15 illustrated in Fig. 2, after which the folding-bar 19 is turned upon its pivotal point, as illustrated in dotted lines, Fig. 2, which causes the metal to be folded into the position illustrated in Fig. 3, or substantially so.

20 The hammer 15 is provided with the recess 22, the upper portion of which is the arc of a circle, and the pivotal point of the folding-bar 19 is to be the center of a circle of which the curved portion of the recess forms
 25 a segmental portion. The lever 20 is turned until the metal on the face of the bar 19 strikes against the shoulder or ledge 23, after which the foot-lever 21 is released and the hammer 15 moved upward by means of the
 30 spring 24. The sheet of metal is then moved so as to bring the vertically-folded portion of the metal or sheet 25 directly under the hammer 15, after which the foot-lever 21 is pressed downward and released for a sufficient
 35 number of times to properly press or

fold the sheet 25 into the position shown in Fig. 4. For the purpose of properly gaging the sheet designed to be operated upon gages, such as 26, are provided, which gages are located substantially as shown in Fig. 1. 40

It will be understood that the spring 27 is for the purpose of pulling the foot-lever 9 upward after it has been released, which in turn elevates the dies 5. The upper ends of the springs 24 and 27 should be attached to the
 45 bottom or under side of the bed-plate 1 or its equivalent, said springs being preferably arranged as illustrated in Fig. 1.

Having fully described my invention, what I claim as new, and desire to secure by Letters
 50 Patent, is—

The combination of the bed-plate 1 supported upon standards, the housings 12 secured to the bed-plate 1, the combined hammer and gage 15 movable vertically and provided with the recess 22, the folding-bar 19
 55 journaled to the bed-plate and provided with the operating-lever 20, the bars 17, connected at their upper ends to the bearings 16, and at their lower ends to the arms 18, the shaft 8 provided with the foot-lever 21, and the spring
 60 24 connected to the foot-lever, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence
 65 of two witnesses.

ROBERT F. FOWLER.

Witnesses:

J. A. JEFFERS,
 F. W. BOND.