

No. 657,583.

Patented Sept. 11, 1900.

J. H. BAKER.

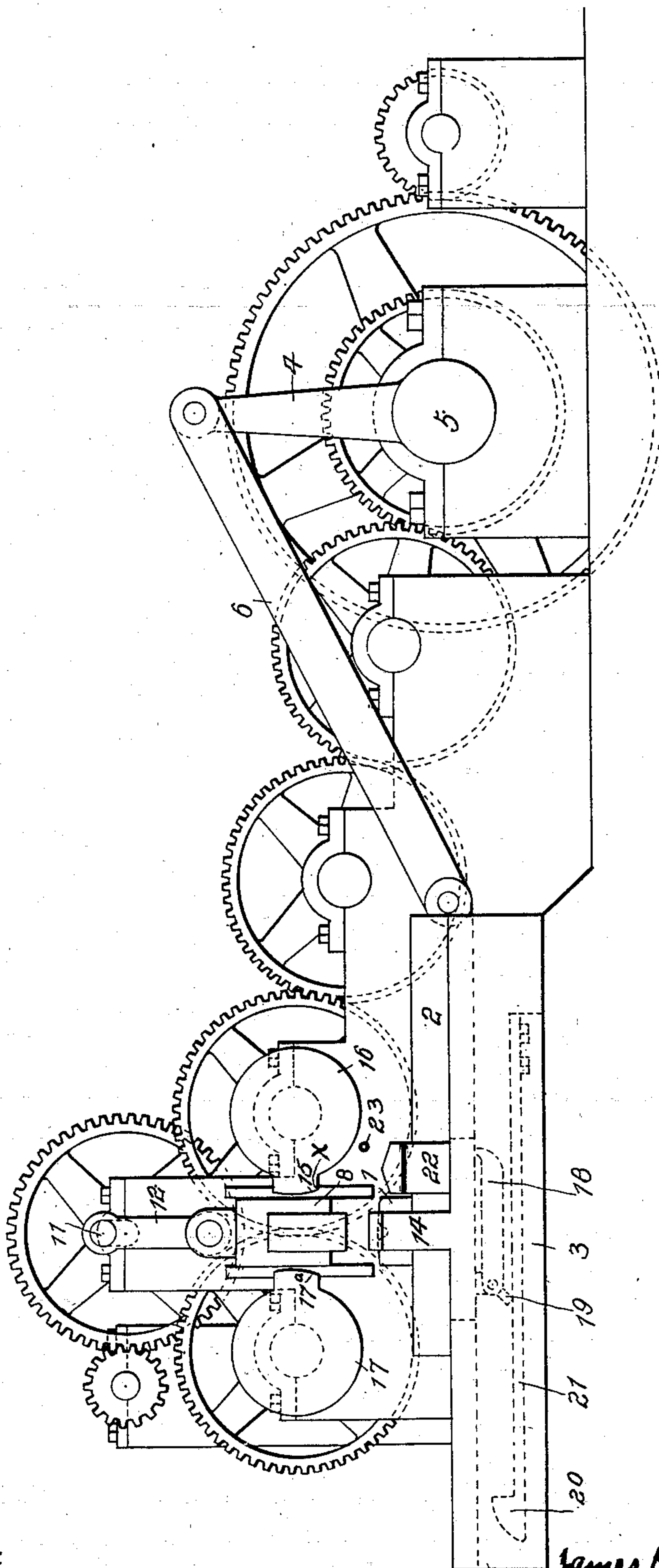
MACHINE FOR MANUFACTURING CLIPS FOR WAGONS.

(Application filed June 18, 1900.)

(No Model.)

3 Sheets—Sheet 1.

FIG. 1.



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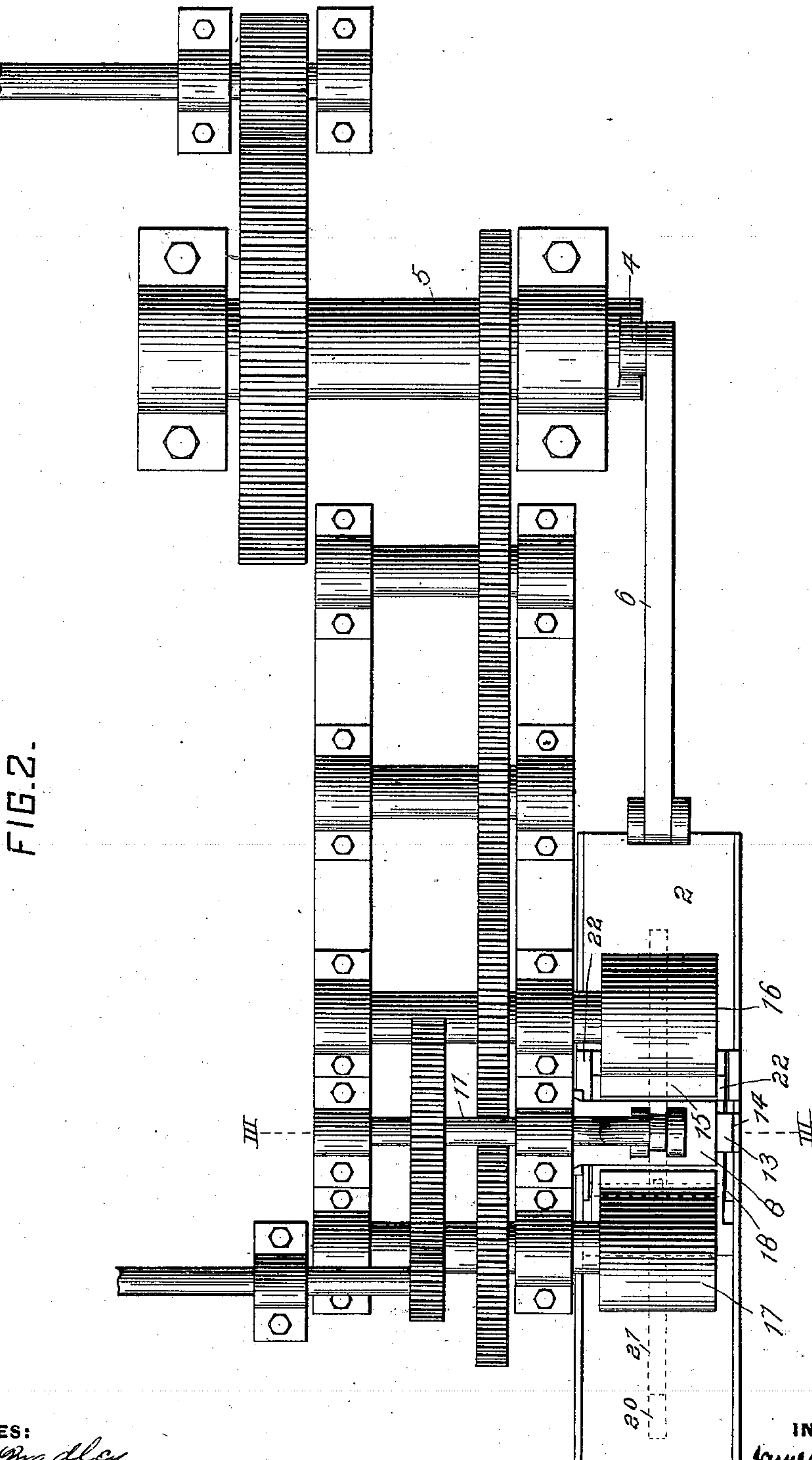
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MACHINE FOR MANUFACTURING CLIPS FOR WAGONS.

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(No Model.)

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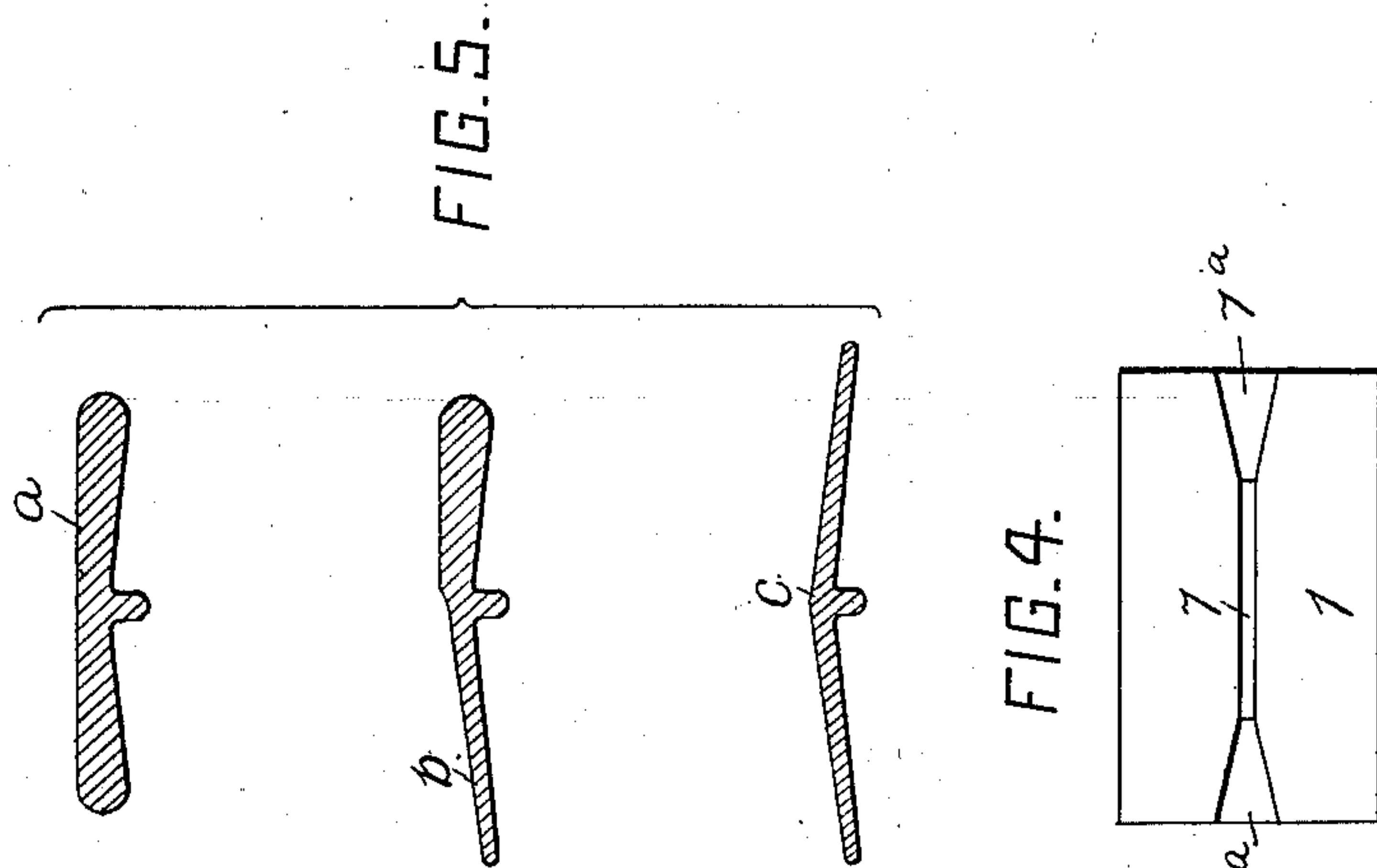
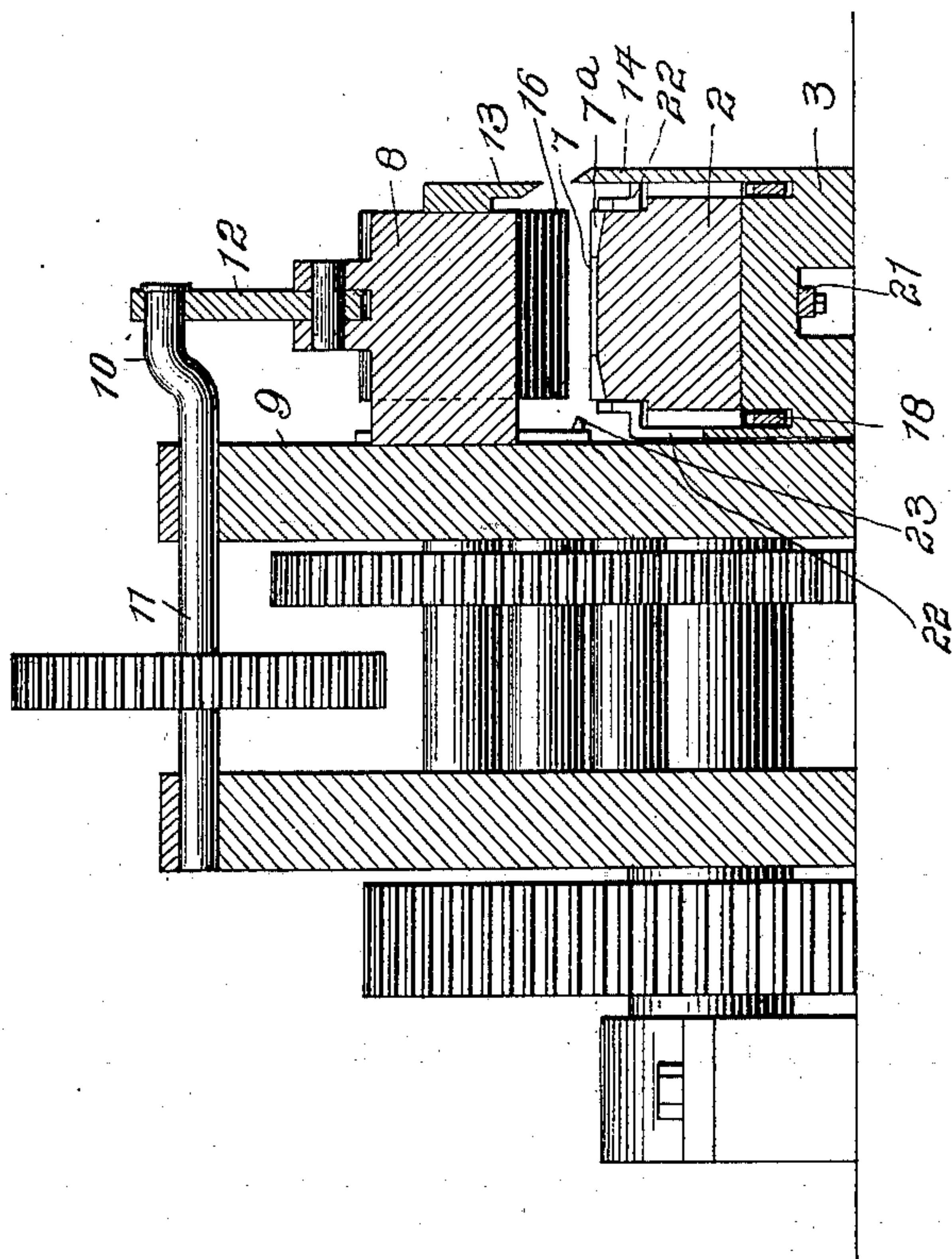


FIG. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## MACHINE FOR MANUFACTURING CLIPS FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 657,583, dated September 11, 1900.

Application filed June 18, 1900. Serial No. 20,690. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES H. BAKER, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in the Manufacture of Clips for Wagons, &c., of which improvements the following is a specification.

The invention described herein relates to certain improvements in the manufacture of clips for wagons, &c., and has for its object the production of a clip by flattening an intermediate portion of a rod and then spreading the flattened portion successively in opposite directions by pressure applied by oppositely-moving surfaces.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of the mechanism employed in the practice of my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a transverse section, the plane of section being indicated by the line III III, Fig. 2. Fig. 4 is a top plan view of the anvil or lower die, and Fig. 5 illustrates diagrammatically the successive steps in the formation of the clip.

In the practice of my invention the anvil-block or lower die 1 is formed on or secured to a reciprocated bed 2, which is mounted between suitable guides on the foundation or bed plate 3. The back-and-forth movement of the bed 2 can be effected by any suitable means, as the crank-arm 4 on the power-shaft 5, connected to the bed by a pitman 6. A V-shaped groove 7 is formed in the face of the anvil to form a correspondingly-shaped rib on the back of the flattened portion of the clip. The end portions 7<sup>a</sup> of the groove are made sufficiently deep to receive the ends of the rod operated on, thereby preventing any shaping or distortion of such ends. A hammer or flattening-die 8 is arranged in suitable guides in the post or standard 9 and is reciprocated by any suitable means, such as the crank-arm 10 on the shaft 11, connected by the pitman 12 to the hammer.

In making clips the heated portion of a rod

is placed over the groove 7 in the anvil, its end resting against a stop, which in this case is formed by the post 9. As the hammer moves down a section of the rod is cut off by the blades 13 and 14, one of which is secured to the hammer and the other to the bed-plate 3. By one or more blows of the hammer, preferably one, the middle portion of the cut-off section is flattened, as shown at *a* in Fig. 5, and the end portions of the section are pressed down into the portions 7<sup>a</sup> of the groove 7 without any material distortion. The bed 2 is then moved to the right, and during such movement the flattened blank is under the operation of a shoulder or projection 15 on the roll 16, which is caused to rotate by a train of gearing from the power-shaft 5, so that the projection will move in the same direction as and with a speed equal to that of the anvil 1 at this time. The several parts are so adjusted with relation to each other that the front corner *x* of the projection will strike the flattened blank about in line with the groove in the anvil if a center clip is desired, a center clip having the flattened portions extending equally on opposite sides of a line passing through the axes of the ends of the section. As the anvil and the projection continue their movement to the right the portion of the blank lying to the left of the groove in the anvil will be flattened and spread out, as shown at *b* in Fig. 5. The movement of the bed is then reversed, and the partially-formed clip is carried under the roll 17, which is rotated in a direction the reverse of the roll 16. While the anvil is being moved under this roller, the front corner of the projection 17<sup>a</sup> thereon will strike the blank a little to the left of the groove in the anvil, and by the continued movements of the anvil and roll the remaining portion of the blank will be flattened and spread out, as shown at *c* in Fig. 5, completing the clip.

While it is preferred to employ a roll having a projection to flatten out the last portion of the blank, it will be understood by those skilled in the art that a roll of a radius equal to that of the projection 17<sup>a</sup> may be employed. In some cases such a roll would be preferable,



as it would by its smoothing action on the part flattened by the projection 15 prevent the formation of irregularities on the surface of the clip.

5 In order to remove the finished clip from the anvil, arms 18 are pivoted in recesses in the sides of the bed 2, so that the ends thereof will strike the projecting ends of the clip and throw it off the anvil when the arms are  
10 raised. The upward movement of the arms is effected by the striking of fingers 19 on the arms against shoulders 20 as the bed moves to the left. These shoulders are preferably formed on springs 21, secured to the bed-  
15 plate 3.

In order to make smooth forgings, all loose scale should be removed from between the blank and anvil after each shaping operation. To this end provision is made for slightly lift-  
20 ing the blank after the operation of the hammer and the projection on the roll 16. A convenient means for effecting this lifting of the blank consists in arranging standards 22 on the bed-plate to the right of the position of  
25 the anvil when the hammer operates. The upper edges of these standards are oppositely inclined, as shown in Fig. 1. As the bed moves to the right the projecting ends of the blank will ride upon one of the inclines, there-  
30 by lifting the blank, and a similar lifting of the blank will be effected as the bed moves to the left after the operation of the roll 16. A nozzle 23, connected to a source of air under pressure, is so supported that the blast  
35 therefrom will blow out the scale when the blank is raised.

It will be readily understood that by placing the rod on the anvil, with its axis in a plane more or less to one side of a plane pass-  
40 ing through the groove 7, the major part of the blank will be at one side of said groove and that the finished clip will have more or less of its flattened portion at one side of a line passing through the axes of its ends or  
45 stems, and, further, by properly timing the action of one of the rolls, as 16, only said roller need be employed in finishing a clip—as, for example, if said roll be so adjusted that its operative surface shall come into reducing re-  
50 lation to the anvil slightly before the front edge of the blank reaches a vertical plane passing through the axis of the roll the latter will have a flattening and spreading action over the entire surface of the blank from edge  
55 to edge.

I claim herein as my invention—

1. A machine for the manufacture of clips for wagons, &c., having in combination a reciprocating anvil, a hammer for effecting a preliminary flattening of the rod, and a roll  
60 adapted to flatten and spread the body of the blank in one direction, substantially as set forth.

2. A machine for the manufacture of clips for wagons, &c., having in combination a re-  
65 ciprocating anvil, a hammer for effecting a preliminary flattening of the rod, and oppositely-rotating rolls adapted to flatten and oppositely spread portions of the body of the blank, substantially as set forth. 70

3. A machine for the manufacture of clips for wagons, &c., having in combination a reciprocating anvil and oppositely-rotating rolls adapted to operate in conjunction with the  
75 anvil to flatten and oppositely spread the intermediate portion of a rod, substantially as set forth.

4. A machine for the manufacture of clips for wagons, &c., having in combination a reciprocating anvil, a hammer for effecting a  
80 preliminary flattening of the rod, oppositely-rotating rolls adapted to flatten and oppositely spread portions of the body of the blank, means for lifting the article during the reciprocating of the anvil for the removal of  
85 cinder, substantially as set forth.

5. A machine for the manufacture of clips for wagons, &c., having in combination a reciprocating anvil, a hammer for effecting a preliminary flattening of the rod, oppositely-  
90 rotating rolls adapted to flatten and oppositely spread portions of the body of the blank, and means operative by the anvil to lift the finished blank from the anvil, substantially as set forth. 95

6. A machine for the manufacture of clips for wagons, &c., having in combination a reciprocating anvil, oppositely-rotating rolls adapted to operate in conjunction with the  
100 anvil to flatten and oppositely spread a portion of a rod and means for lifting the article during the reciprocation of the anvil, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JAMES H. BAKER.

Witnesses:

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F. E. GAITHER.