

**No. 670,891.**

**Patented Mar. 26, 1901.**

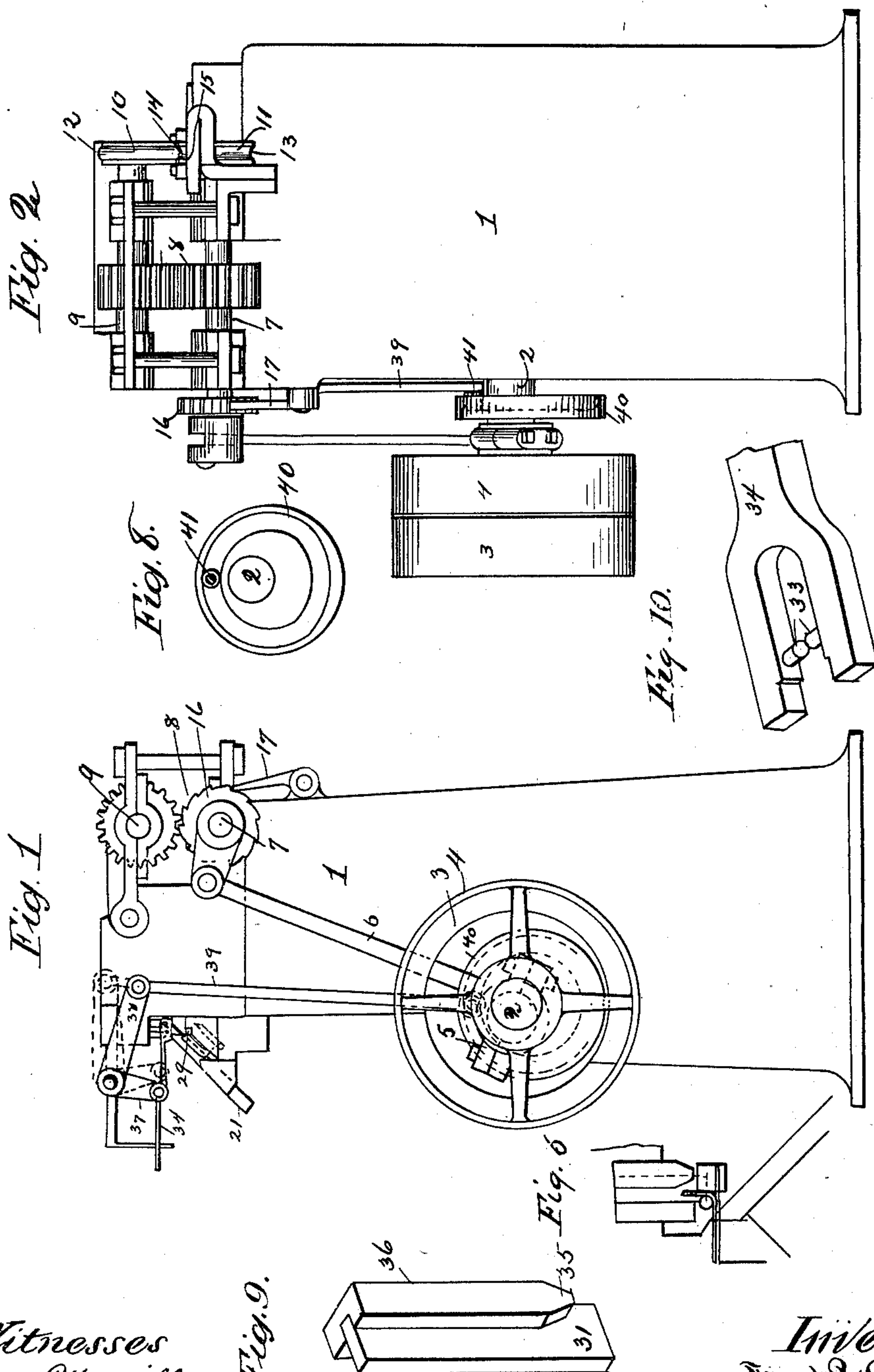
**F. P. CADY.**

**MACHINE FOR MAKING CLAMPS.**

(Application filed Oct. 15, 1900.)

(No Model.)

**2 Sheets—Sheet 1.**



Witnesses  
Percy E. Neville  
R. R. Rule

*Inventor*  
Frank Q. Cady  
By *W. M. Marmor*  
*Attorney*



No. 670,891.

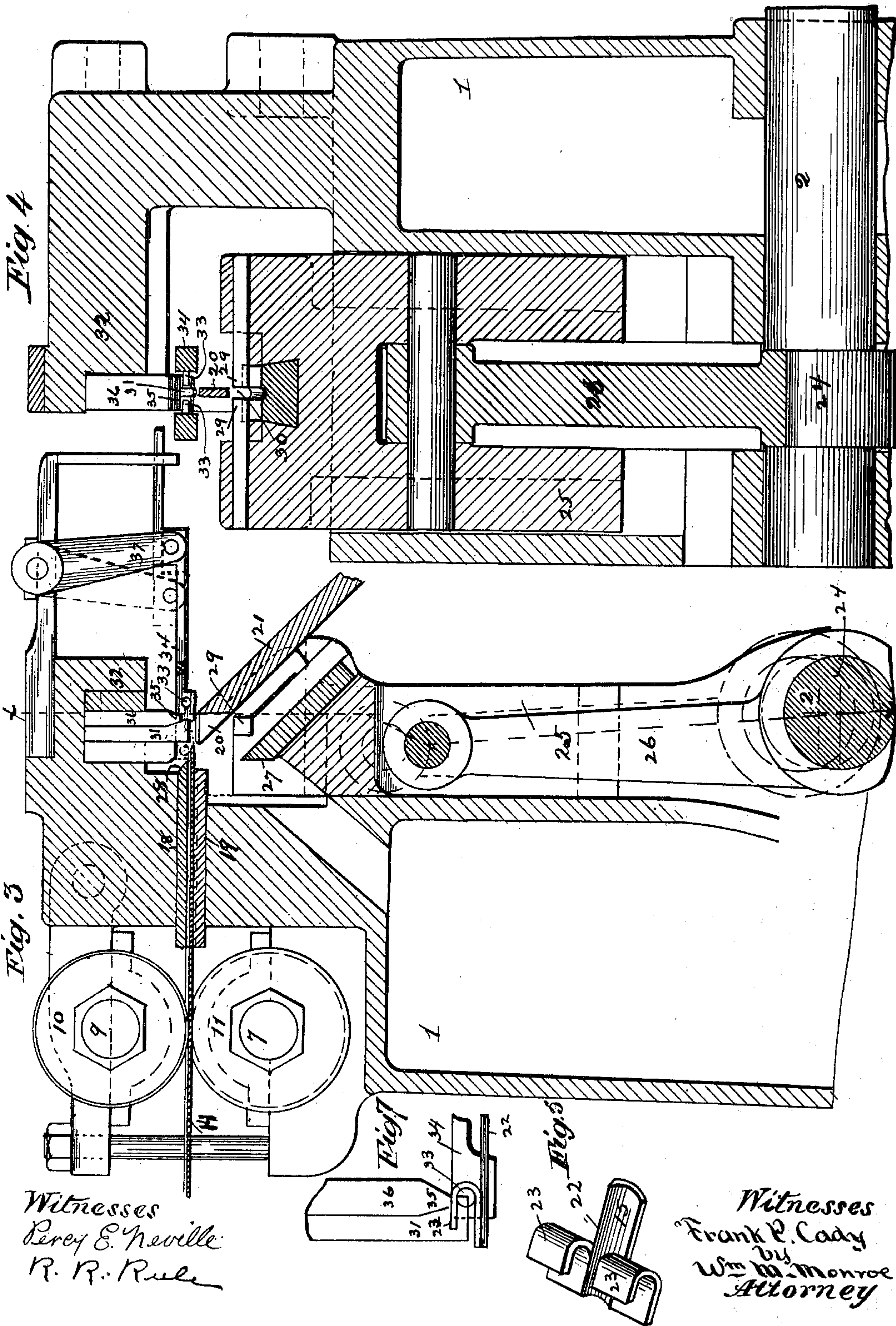
Patented Mar. 26, 1901.

F. P. CADY.  
MACHINE FOR MAKING CLAMPS.

(Application filed Oct. 15, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses  
Percy E. Neville  
R. R. Rule

Witnesses  
Frank P. Cady  
by  
Wm. M. Monroe  
Attorney



# UNITED STATES PATENT OFFICE.

FRANK P. CADY, OF CLEVELAND, OHIO, ASSIGNOR TO DANIEL W. AYLWORTH, OF SOUTH HAVEN, MICHIGAN.

## MACHINE FOR MAKING CLAMPS.

SPECIFICATION forming part of Letters Patent No. 670,891, dated March 26, 1901.

Application filed October 15, 1900. Serial No. 33,098. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK P. CADY, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Automatic Machines for Making Clamps, of which I hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to automatic machinery for manufacturing a slitted and curved metal clamp adapted for use in securing the crossing of the wires in wire fences.

The invention consists in the feeding, cutting, and forming devices and in the details of the various parts, as hereinafter described, shown in the accompanying drawings, and specifically pointed out in the claim.

In the accompanying drawings, Figure 1 is a rear view of the machine. Fig. 2 is a side view. Fig. 3 is an enlarged vertical section taken through the center of the metal ribbon from which the clamps are formed. Fig. 4 is an enlarged vertical section of the machine on line X X, Fig. 3. Fig. 5 is a detail view of completed clamp. Fig. 6 is a detail illustrating the first part of the act of forming the curved wings. Fig. 7 shows the completion of the act. Fig. 8 is a detail view of cam which operates the sliding plate which holds the forming and withdrawing pins. Fig. 9 is a detail of forming-dies, and Fig. 10 is a detail of forming-pins and sliding head.

In the views, 1 is the frame, and 2 the driving-shaft, upon which are the driving and fly wheels 3 and 4 and the eccentric 5, which, by means of the connecting-rod 6, rotates the shaft 7 of gear 8, through which the shaft 9 is also rotated in the opposite direction. Upon the forward extremities of these shafts are mounted the rollers 10 and 11, the upper one, 10, being provided with the annular projection and the lower one with the annular groove 13. Between these rollers is fed the metal ribbon 14, in which is pressed the groove 15 as it traverses the rolls. A ratchet-wheel 16 and dog 17 prevent the roll-shafts from turning backward, but permit this being done when it is desired to remove a faulty ribbon

therefrom. As soon as the ribbon has passed through the rolls it enters the guide-plates 18 and 19 and passes out the required distance to form a blank for a clamp. It then rests at the forward part upon a tongue 20, projecting from the inclined plate 21, upon which it is finally discharged. Before it is discharged from the machine, however, it is cut off and formed, as shown in Fig. 5, with a central tongue 22 and curved side portions 23. This is accomplished by means of the following mechanism: Upon the main shaft 2 is placed the eccentric or crank 24, which reciprocates the cross-head 25 by means of the connecting-rod 26. Upon this cross-head is placed the knife-edge 27, which upon the upward movement of the cross-head shears off the metal ribbon against the outer edge 28 of the upper guide. Simultaneously with this movement the two dies 29, separated at the center at 30 to the width of the central tongue 22 of the clamp, rise and press upward the side wings 23 of the clamp, shearing them from the tongue by passing on either side of the metal strip 31, which is supported in the head 32 of the machine. At this moment the pins 33, secured to the sliding head 34, are placed directly above the main portion of the clamp and the dies press the side wings up about it in a vertical position, as shown in Fig. 6. The slide 34 then moves outward and pulls the vertical wings against the tapered extremity 35 of the die-block 36, when the wings will be pressed over the pins 33 and will take the finished shape (shown in Fig. 5) ready to drop upon the inclined plate for removal.

The reciprocating slide 34 is operated by rock-arms 37 and 38, link 39, and cam 40 upon the main shaft, a roller 41 following the cam-groove, which is circular for a portion of its curve, thus giving a moment's rest to the slide while the metal is being bent over the pins.

I do not limit myself to any one form of detail, of which there are many equivalents which could be equally well adapted to use in their place; but

What I claim as new, and desire to secure by Letters Patent, is—

In an automatic machine for manufacturing clamps for the purpose described, feeding and grooving rollers, guides through



which the metal ribbon is fed, a reciprocating head, provided with a cutter and slitting dies, fixed dies, above said reciprocating head against which said cutter and slitting dies  
5 act, pins secured to a reciprocating head, upon which the side portions of the clamp are bent when the dies have separated them from the central portion, projecting dies underneath which said pins pass so constructed and  
10 arranged as to bend down the detached side

portions upon the pins as the clamp passes, and means for operating the various parts, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 15 two subscribing witnesses.

FRANK P. CADY.

Witnesses:

WM. M. MONROE,  
RALPH R. RULE.