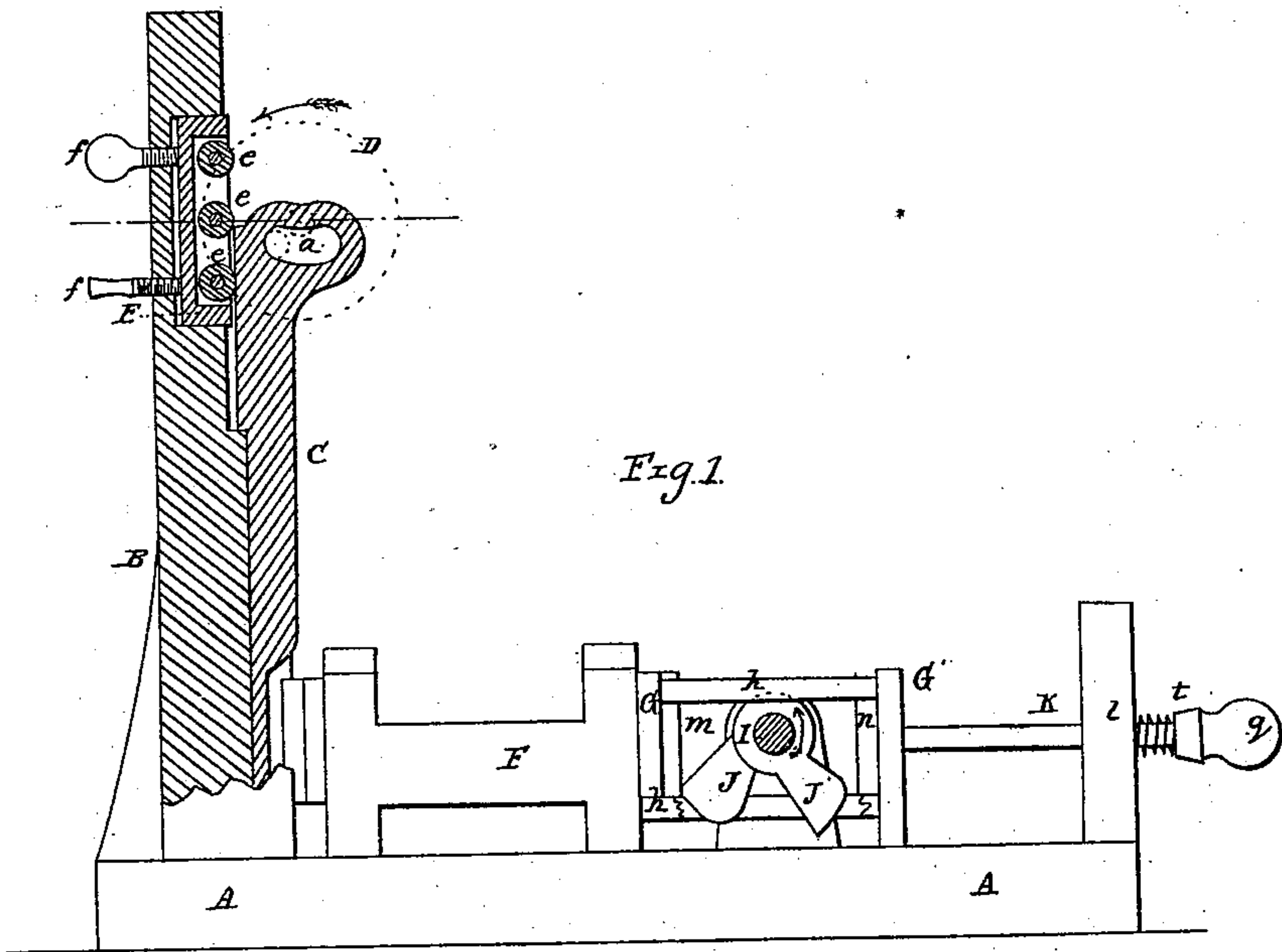


*S. W. Davis,*

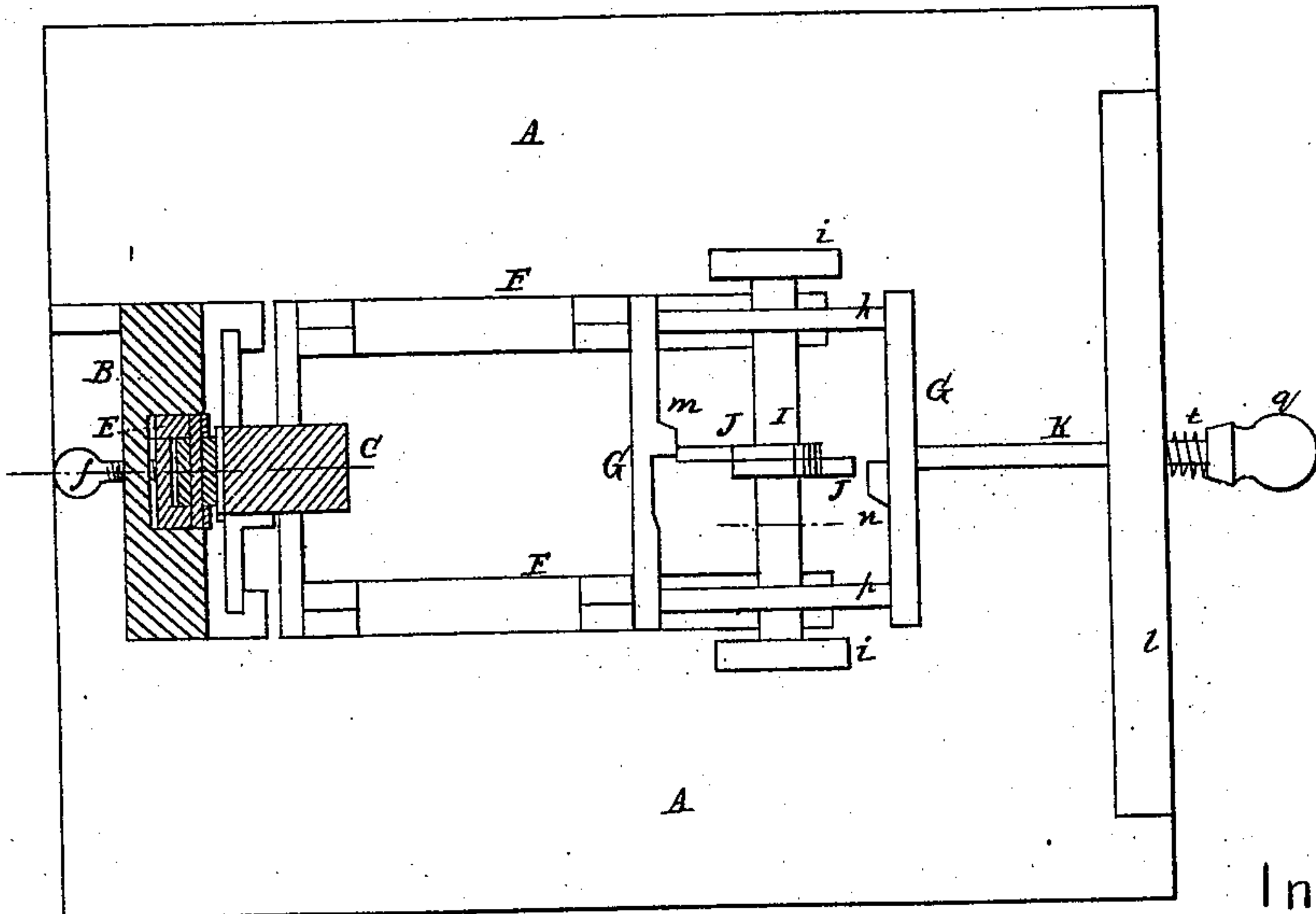
*Horseshoe Machine,*

*Patented Aug. 30, 1864.*

*N<sup>o</sup> 43,977-*



*Fig. 2*



Witnesses:

*W. Albert Steel*  
*Charles Howson*

Inventor:

*Henry Howson*  
*Atty for S. W. Davis*



# UNITED STATES PATENT OFFICE.

S. W. DAVIS, OF WILMINGTON, DELAWARE.

## IMPROVED HORSESHOE-MACHINE.

Specification forming part of Letters Patent No. 43,977, dated August 30, 1864.

*To all whom it may concern:*

Be it known that I, S. W. DAVIS, of Wilmington, Delaware, have invented an Improvement in Horseshoe-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of certain improvements, fully described hereinafter, in the horseshoe-machine for which Letters Patent were granted to me on the 17th day of November, 1863.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 represents sufficient of a horseshoe-machine to illustrate my present improvements, and Fig. 2 is a ground plan (partly in section) of Fig. 1.

As the improvements which I am about to explain have a direct bearing on the horseshoe-machine for which Letters Patent were granted to me on the 17th day of November, 1863, it has not been deemed necessary to illustrate or describe any other parts of the machine than such as constitute or are immediately connected with my said improvements.

A represents the base-plate of the machine; B, the vertical frame secured to or forming a part of the said base-plate; C, the slide, to the lower end of which the jaws described in my aforesaid patent are hung, a reciprocating motion being imparted to this slide through the medium of a driving-shaft, to which is secured the crank-wheel D shown in red lines, Fig. 1, the pin *a* of the said crank-wheel passing through a curved slot in the upper end of the slide. One side of this slide is planed perfectly straight and the planed surface bears against the rollers *e e e*, which are arranged to turn in a box or frame, E, the latter being arranged to fit snugly in a recess in the frame B, but so freely that it can be adjusted in the said recess by means of set-screws *b*.

F represents the horizontal sliding frame described in my aforesaid patent as carrying the die for indenting the shoe and forming the depressions in the same for receiving the nails.

Two plates, G and G', are connected to this frame F, the plates being maintained a given distance apart from each other by the rods *h h*. A shaft, I, is arranged to turn in projections *i i* on the base-plate, and to this shaft are secured the two cams J and J' of the form represented in Fig. 1, the cam J being arranged to bear against the projection *m* on the plate G and the cam J' to bear against the projection *n* of the plate G'. A rod, K, projects from the rear of the plate G' through a rib, *l*, on the base plate, the rod having at the end a head or enlargement, *q*, between which and the said rib *l* intervenes a spiral spring, *t*, which has a tendency to draw the frame F toward the rear of the machine. As the driving-shaft revolves in the direction of the arrow, Fig. 1, the pin *a* of the crank-wheel D, acting in the curved slot of the slide C, tends to push the latter toward the frame B. An inordinate friction would be thus created were it not for the rollers *e*, which render the movement of the slide easy and uniform.

The indenting-dies described in my aforesaid patent are apt to become rapidly deteriorated by being in contact with the hot horseshoe for a considerable time, the projection on the former which forms the indentation in the shoe being rendered useless in a short time from this cause. To obviate this evil I have adopted the mechanism the operation of which I will now proceed to explain.

The shaft I revolves in the direction of the arrow, Fig. 1, and when the cam J comes in contact with the projection *m* of the plate G the frame, with the forming die, is moved forward rapidly so that the shoe may be indented. When the cam J leaves the plate G, the indenting-die has performed its duty. An interval elapses between the time the cam J leaves the projection *m* and the time the cam J' comes in contact with the projection *n* during this interval; therefore the frame F and its indenting-die are free from the control of the cams and under that of the spring *t*, which quickly pulls the frame F back and withdraws the indenting-die from the heated shoe, the farther backward movement of the frame being completed more slowly and certainly by the cam J' acting on the projection *n* of the plate G'. The sudden backward movement of the frame F, caused by the spring *t* during the temporary cessation of the action of the cams, thus

preserves the indenting-die from the injurious action of the heated shoe.

I claim as my invention and desire to secure by Letters Patent—

1. The adjustable rollers *e*, in combination with the reciprocating slide *C*, its curved slot, and the crank-pin by which the said slide is operated.

2. The shaft *I*, with its cams *J* and *J'*, the sliding frame which carries the indenting-die, and the spring *t* or its equivalent, whereby a

backward movement may be imparted to the said die independent of that derived from the action of the cam *J'*, as herein set forth.

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

S. W. DAVIS.

Witnesses:

HENRY HOWSON,  
CHARLES HOWSON.