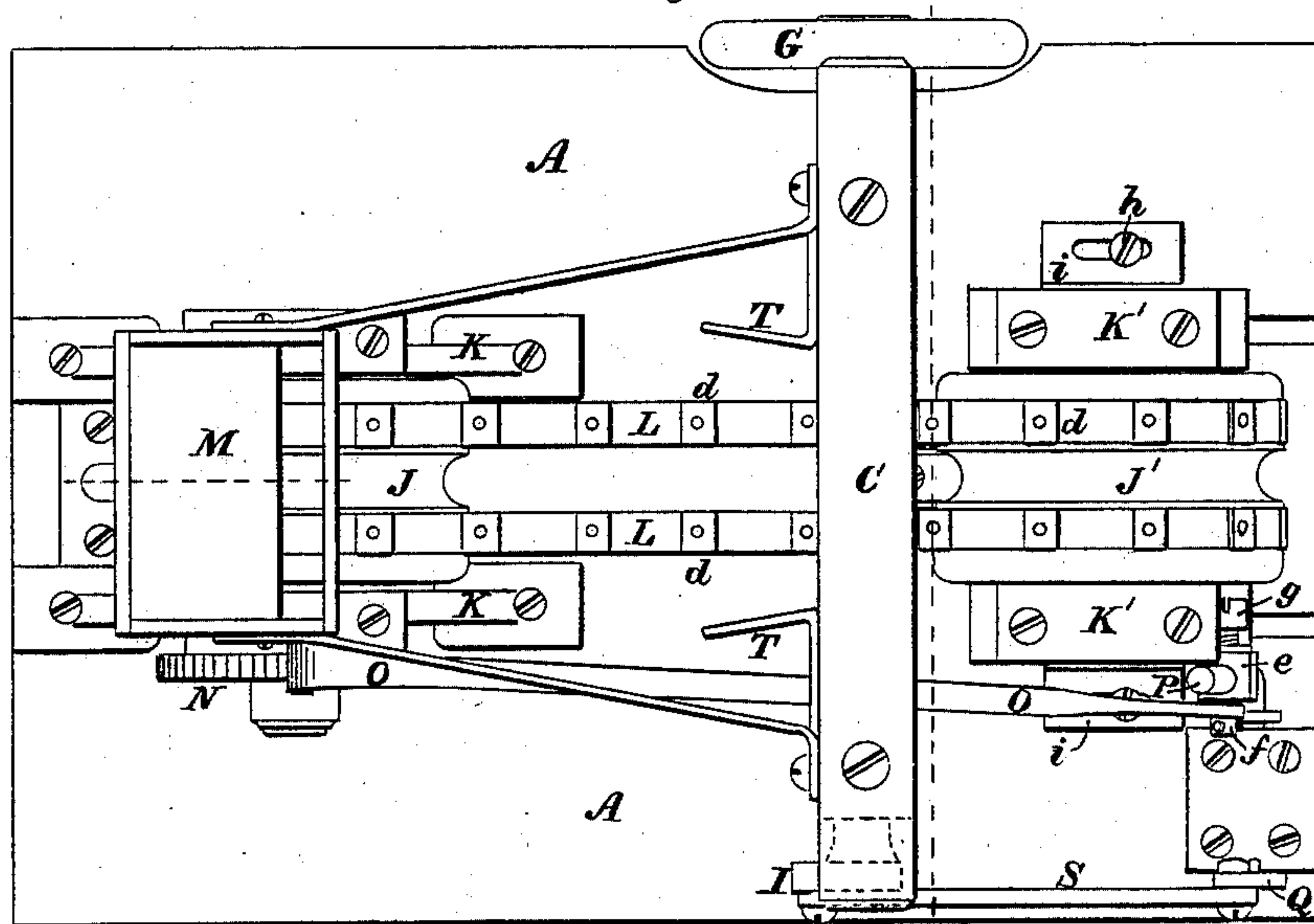
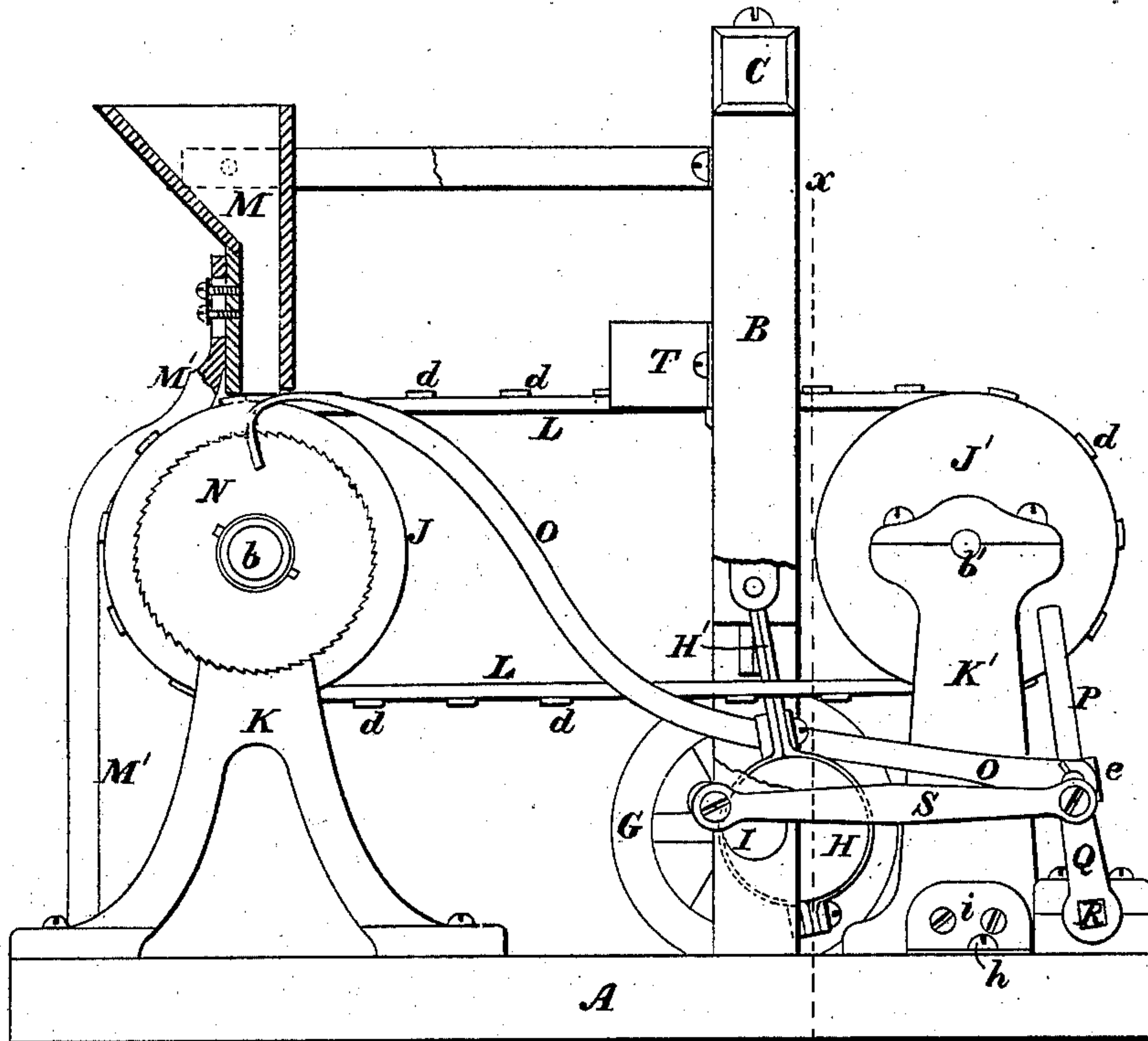


H. H. JENKINS.  
Machine for Forming Metallic Shoe-Shanks.  
No. 216,330. Patented June 10, 1879.



***Witnesses:***

Roland C. Lincoln.

Thos. J. Pendergast

Fig. 1.  
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by *Chas. Hildrew*  
Attorney.

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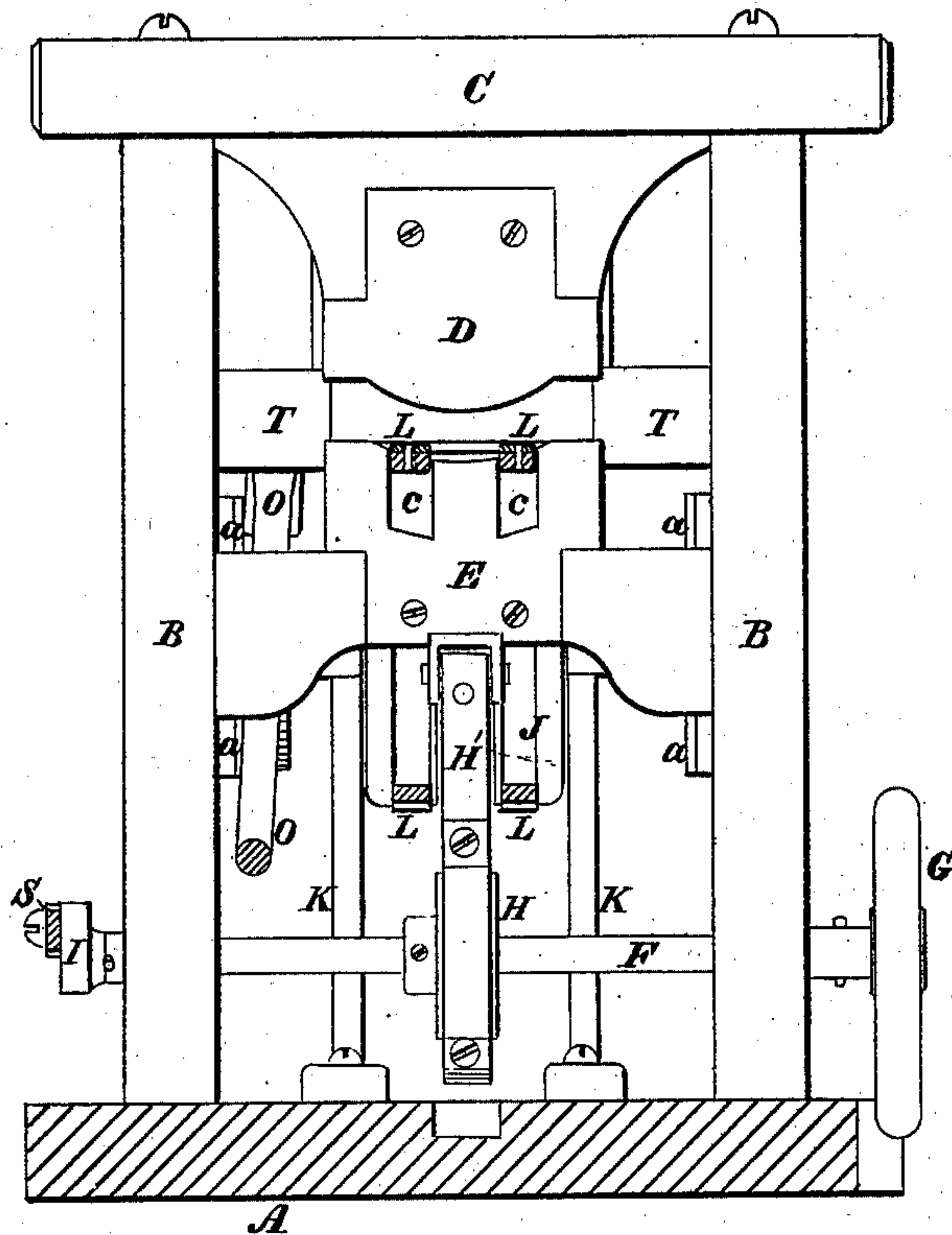


Fig. 3.

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How. F. Pendergast

Herim H. Jenkins Inventor:

by Charles H. Foster  
Attorney.



# UNITED STATES PATENT OFFICE.

HIRAM H. JENKINS, OF SOUTH ABINGTON, MASSACHUSETTS.

## IMPROVEMENT IN MACHINES FOR FORMING METALLIC SHOE-SHANKS.

Specification forming part of Letters Patent No. **216,330**, dated June 10, 1879; application filed March 3, 1879.

### *To all whom it may concern:*

Be it known that I, HIRAM H. JENKINS, of South Abington, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Machines for Forming Metallic Shoe-Shanks, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to a machine for manufacturing metallic shoe-shanks, and particularly to that part of the machine which imparts to the straight shank-blank the desired curvature in the direction of its length and thickness, and may be incorporated in the same machine with the devices for cutting the blank from the plate, or it may be used separate from and independent of said cutting devices; and the said invention consists in a novel combination and arrangement of the parts, as hereinafter more fully set forth and claimed, whereby the shoe-shank blank is conducted from the hopper to the dies, then bent into proper shape, and discharged, the work of conducting the blanks to the dies and imparting motion to said dies for bending the blanks being automatically performed by the same machinery in one and the same operation.

Figure 1 is a plan of a machine embodying my invention. Fig. 2 is a sectional side elevation, with a portion of the frame broken away; and Fig. 3 is a vertical section on line *x x* on Figs. 1 and 2.

A is the base of the machine, from which rise the standards B B, connected at their top ends by the cross-head C, to the under side of which is secured, in any convenient manner, the male or convex bending-die D, directly beneath which the female die E, having its upper surface shaped to fit the under face of the die D, is mounted upon slides or guideways *a*, formed upon the standards B B, in such a manner that it may be reciprocated vertically thereon.

F is the driving-shaft, mounted in suitable bearings in the standards B B, and having firmly secured thereon the operating wheel or pulley G, eccentric H, and crank I, and may be revolved by hand or by a belt leading from any revolving shaft onto the wheel G, in an obvious manner.

The eccentric H is connected by the eccentric-rod H' to the under side of the die E, and by its rotation imparts to said die a reciprocating vertical movement toward and from the die D.

J and J' are two drums or pulleys, mounted upon shafts *b* and *b'*, having their bearings in the stands K and K', respectively, and each having their peripheries grooved to receive the two narrow belts L L, said drums or pulleys being so arranged, relative to the bending-dies, that the upper horizontal portions of the belts L L, extending from one drum to the other, pass between said dies in a plane below the extreme lower portion of the upper die, D, and above the extreme upper portion of the lower die, E, when it is in its lowest position, said lower die, E, having cut through its upper surface two slots, *c c*, directly beneath said belts, and of such a width as will permit the die E to move upward into contact with the die D without disturbing the belts.

The belts L L each have formed thereon or secured thereto, at regular and equal intervals, a series of lugs, *d d*, projecting outward therefrom a distance not greater than the thickness of the strip of sheet-steel, (which I term a "blank,") to be conveyed to and acted upon by the bending-dies.

M is a hopper, adjustably secured to the standard M' in a position immediately above the belts L L, with the lower edge of its side that is toward the dies just far enough above said belts to permit the free passage of a single blank resting upon said belt.

The drum J has an intermittent rotary motion imparted thereto by means of the ratchet-wheel N, secured to the shaft *b*, the pawl O, levers P and Q, rocker-shaft R, connecting-rod S, and the crank I secured to the end of the driving-shaft F.

The pawl O is secured to the lever P by means of the adjustable block *e*, pin *f*, and set-screw *g*, so that by adjusting the block *e* to a greater or less distance from the axis of motion of said lever the stroke of the pawl O may be varied, and thereby the distance traveled by the belts L L at each intermittent movement thereof may be regulated.

The stands K', which carry the drum J', are adjustably secured to the base A in such a



manner that they may be moved to a greater distance from the roll J to strain the belts L L taut, said stands being firmly secured in position after being moved by the screws *h* passing through slots in ears *i*, formed upon or secured to said stands and screwed into the base A.

T T are two side guides, adjustably secured to the standards B B upon opposite sides of the machine, outside of the belts, at a distance from each other about equal to the length of the blank, and so shaped as to serve to correct any inaccuracy in the position of the blank on the belt or belts occasioned by accidental end-wise movement thereon during the forward movement of the belt or belts, and insure the proper presentation of the blank to the action of the bending-dies.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a machine for bending metallic shoe-shanks, the die E, formed with slots *c c* at its face, through which the belts pass, die D, endless belts L, with lugs *d*, secured transversely thereon, and drums J J', the one, J', adapted to be adjusted to tighten the belts, substantially as and for the purpose described.

2. The adjustable hopper M, in combination with the drums J J', carrying endless belts L, with lugs *d*, and dies D E, with slots *c*, to permit the passage of the belts, substantially as and for the purposes described.

3. The combination, in a machine for bending metallic shoe-shanks, of adjustable hopper M, endless belts L *d*, stationary drum J, adjustable drum J', and guides T, whereby the shoe-shank blanks are fed from the hopper and conducted between the dies in a straight position to be pressed into form, substantially as described.

4. In a machine for forming metallic shoe-shanks, in combination with the drums J J', with endless belts L *d*, the ratchet-wheel N, pawl O, levers P Q, rock-shaft R, rod S, and crank I, for giving the drums and belts an intermittent rotary motion, for the purpose specified.

5. The combination and arrangement, in a machine for forming metallic shoe-shanks, of the hopper M, endless belts L *d*, drums J J', and dies D E, ratchet-wheel N, pawl O, levers P Q, rod S, crank-arm I, eccentric H, and eccentric-rod H', for giving an intermittent rotary motion to the belts and imparting motion to the dies, whereby the work of conducting the blanks to the dies and bending the same is automatically performed at one and the same operation.

Executed at Boston, Massachusetts, this 1st day of March, A. D. 1879.

HIRAM H. JENKINS.

Witnesses:

ROLAND C. LINCOLN,  
CHAS. H. DREW.