P. P. Read.

Mach. for Making Ox-Shoes.

Patented Jan. 23. 1849

No. 6048.

Fig. 1.

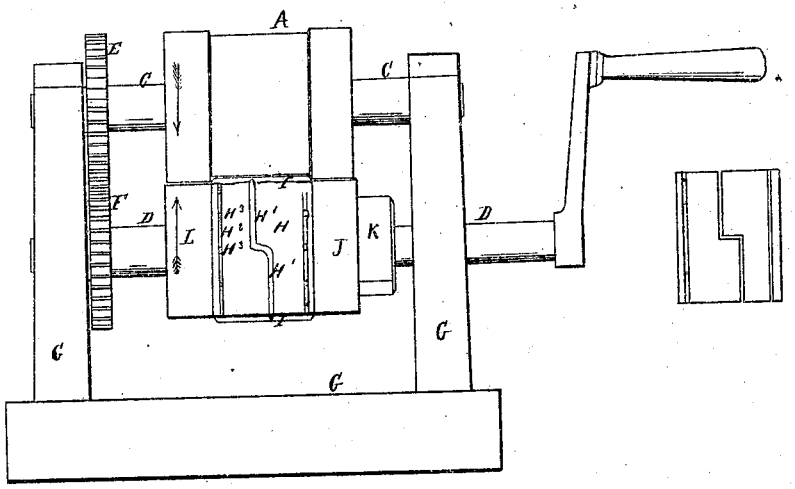


Fig. 8.

Fig. 2.

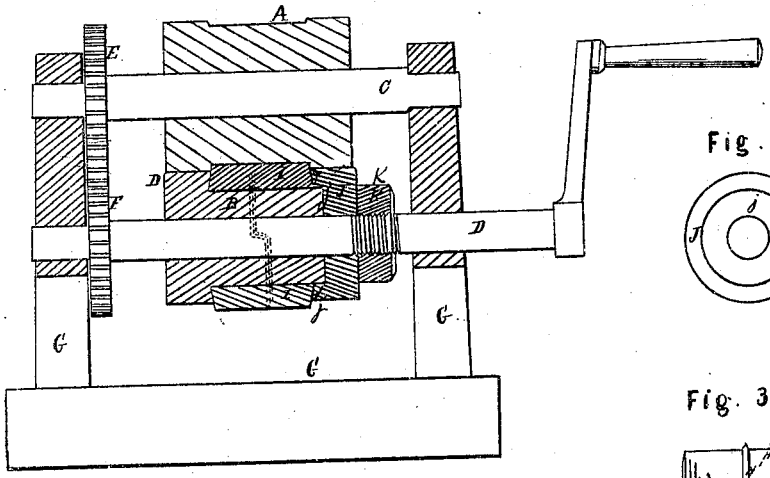


Fig. 7

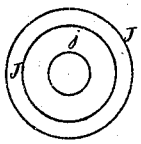


Fig. 3.

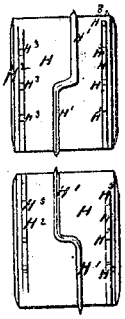


Fig. 4.

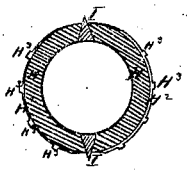


Fig. 5.

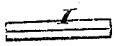
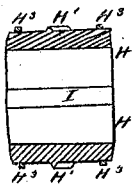


Fig. 6.



UNITED STATES PATENT OFFICE.

PHILIP P. READ, OF BOWDOIN, MAINE.

ROLLER OX-SHOE MACHINE WITH MOVABLE DIES.

Specification of Letters Patent No. 6,048, dated January 23, 1849.

To all whom it may concern:

Be it known that I, PHILIP PITTS READ, of Bowdoin, in the county of Lincoln and State of Maine, have invented a new and useful Machine for Making Ox-Shoes, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1, is an elevation of the machine. Fig. 2, is a vertical longitudinal section through the center of the same. Fig. 3, is a plan of the convex sides of the dies for creasing, punching and dividing the bar of iron into shoes. Fig. 4, is an end elevation of the segment and triangular dies combined. Fig. 5 is a plan of the triangular dies for dividing the bar of iron into suitable lengths for shoes. Fig. 6 is a longitudinal section of the segment dies showing the inner face of one of the triangular dies. Fig. 7, is a plan of the recessed and beveled face of the collar J. Fig. 8, is a plan showing the plate of iron divided for a pair of shoes for each foot of the ox.

Similar letters in the several figures refer to corresponding parts.

A and B are two rollers whose axles are geared together by cog wheels in the manner of a common rolling mill and turned by any convenient and adequate power.

C and D are the axles of said rollers.

E and F are the cog wheels.

G is the frame. H are the dies secured to the periphery of the lower cylinder B for dividing the iron and making the creases and punching the nail holes. H′ being the portions of the dies for dividing the iron longitudinally. H^2 the portion for making the creases and H^3 the punches for making the nail holes.

I are the dies for cutting the shoes into the required lengths.

J is a collar for confining the dies on the lower cylinder.

K is a nut for securing the collar.

L is a stationary collar formed on one end of the lower cylinder against which the dies are held firmly by the collar J and nut K.

The movable collar J is made in the form of a cylinder perforated in the center with a round aperture to admit the axle D to pass through and reamed out at *j* on the side next the cylinder in the form of a cylindrical recess extending half through the collar to admit the end of the cylinder B and to allow the collar to slide freely over the same, and made beveling around said cylindrical recess at J′ to admit the beveled ends of the dies I and H. The stationary collar L is likewise recessed on the side next the dies in the form of a circular beveled recess around the cylinder to admit the beveled ends of the segment dies.

The segment dies for dividing, creasing and punching the iron are made of cast steel in the form of a circle corresponding in curvature on its inner circumference with the curvature of the external or convex surface of the cylinder B on which they are secured in the ends of the segments H are beveling to correspond with the beveled sides of the triangular dies I which are placed between them, as seen more clearly in Fig. 4. Each set of dies creases, punches, and divides each plate into two shoes (right and left); the number of sets of dies or segments are determined by the diameter of the cylinder on which they are secured. The drawing represents only two sets of dies which will make four shoes. I generally arrange six segments of sets of dies on the cylinder for making twelve shoes. The cutting edge of the triangular dies I and of the dies H are made to project beyond the circumference of the segment dies a sufficient distance to cut through the plate of iron and divide it into suitable lengths for shoes. The segment dies are placed on the cylinder with the triangular dies between their beveled ends and their beveled sides in the recessed sides of the collars:—the sliding collar J is then brought up against the opposite beveled sides of the segments and secured by screwing up the nut K tight against the sliding collar which will hold them securely upon the cylinder:—the distance between the sliding and stationary collars is equal to the width of the plate of iron to be divided into two rows of shoes. A circular channel is formed on the circumference of the upper cylinder as wide as the space between the stationary and movable collars and of a depth equal to the thickness of the intended shoes.

The plates of iron to be formed into shoes are brought to the required width and thickness they are then heated to a red heat and introduced between the dies and upper roller which is made to revolve at the requisite degree of speed in the direction of the arrows. This motion of the rollers draws the iron

between the dies and upper roller and creases, punches, and divides and cuts it into such shape and size to be finished into right and left shoes suitable for shoeing oxen, having broad heels and narrow points with suitable calks and heels if required.

Fig. 8 represents the form of the plates as they leave the dies and before they are finished into shoes suitable for shoeing oxen.

In order to keep the dies cool they may be caused to revolve in a vessel of cold water placed below them which is kept filled by a conducting pipe leading from a reservoir. Or the water may be discharged directly upon the dies by a pipe.

Operation: The plate of iron is introduced to the dies and cylinder between parallel guides supported by a frame or table or in any convenient way.

I make no claim to the frame, roller, axles and gearing as these are made and arranged like the ordinary rolling mill nor do I claim segment dies fastened on by screws, nor do I claim segment dies fastened on rollers by screws; but

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

The employment of the segment and triangular dies H, I constructed and arranged and operated substantially as above described in combination with the cylinder made with beveled collars and nut for securing them as herein set forth.

In testimony whereof I have hereunto signed my name before two subscribing witnesses this thirtieth day of May 1848.

PHILIP PITTS READ.

Witnesses:

WM. P. ELLIOT,

R. W. FENWICK.