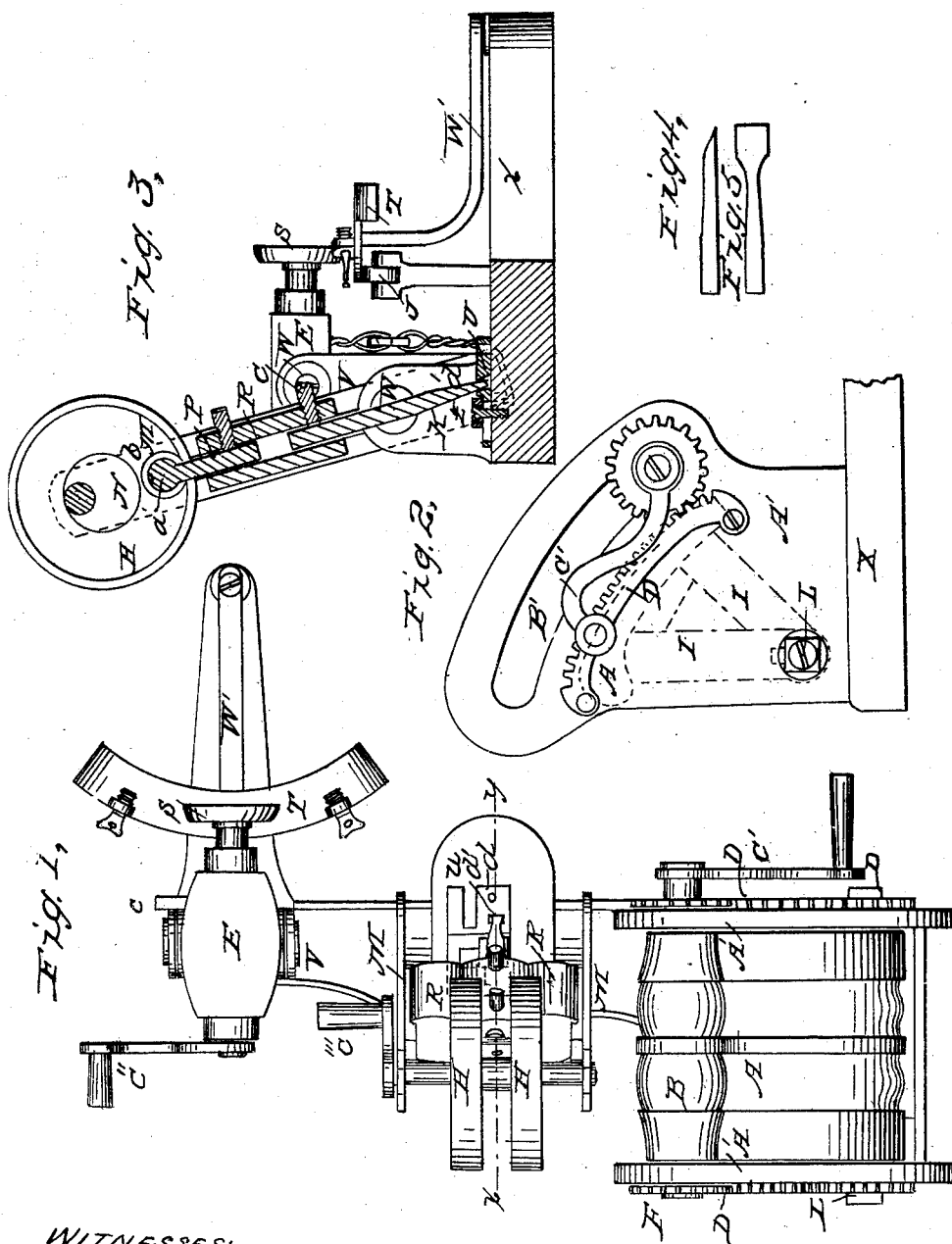


T. J. WEST.
Horseshoe Machine.

No. 45,661.

Patented Dec. 27, 1864.



WITNESSES:
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IMPROVEMENT IN MACHINES FOR MAKING HORSESHOES.

Specification forming part of Letters Patent No. 45,661, dated December 27, 1864.

To all whom it may concern :

Be it known that I, THOMAS J. WEST, of the town of Alfred, in the county of Allegany and State of New York, have invented a new and useful Improvement in Horseshoe-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plan view of my improved machines for making horseshoes. Fig. 2 is a side view of that portion of the machine which gives the desired shape and size to the shoe, showing it detached or broken from the other portion of it; Fig. 3, a vertical section of the punching and splitting apparatus part of the machine, as indicated by the line *xy* in Fig. 1.

Like letters indicate like parts in all figures of the drawings.

The nature of my invention has reference to the construction of an adjustable bed and pressure-roller; also in the construction and arrangement of a device for creasing the shoe to any desired length or depth after it has been made, and also in an apparatus or device whereby the shoe may be punched to any desired angle. If the iron for making the shoe is found too wide, by removing the punch and inserting the splitting-tool (as seen in Figs. 4 and 5) it may be narrowed.

My improvement relates to three distinct operations of making and finishing the shoe, all of which are combined in one machine, and which I will hereinafter particularly describe.

To enable any one skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I have two upright sides, *A' A'*, whose top surfaces have a peculiar curve, (as seen in Fig. 2.) They are secured in a proper manner to a base-plate, *X*. Between them is the adjustable bed *A*, supported by two arms or plates, *I I*, diverging from a given point, to the outer sides of the bed, as seen clearly in Fig. 2 in dotted lines, one plate or arm lapping over the other, with slots in them of sufficient size to allow the bed to be adjusted to different heights and different angles of inclination, and through which passes a bolt, *L*, securing them to the uprights on the inside. It will be observed that the upper surface of the bed is provided with

longitudinal grooves corresponding in their transverse curvature with that of the edge of the shoe-blank, which are for the purpose of steadying the shoe-pattern while it is being shaped into a shoe. Immediately above the bed is the pressure-roller *B*, whose surface corresponds with the surface of the bed below. On each end of this roller there is a cog-wheel, *F*, the cogs of which mesh with those of a curved ratchet, *D*, on the outside of the uprights, as seen clearly in Fig. 2. In the uprights are curved slots *B'*, as seen in the same figure, which guide the roller in its reciprocating movements when the latter is acted on by the crank-handle *C'*.

Operation: After the iron has been subjected to a sufficient heat and reduced to a shoe-pattern—that is, bent to an angle or in the shape of a fork—one arm of the blank is then placed edgewise on the bed, the latter being first adjusted by the supporting arms or plates underneath, as described above, and by turning the crank-handle the roller is made to pass backward and forward over the edge of the iron until the arm has been reduced to the proper width and curvature. The blank is then reversed or turned over on the other edge, and is subjected to the same operation from the pressure of the roller until the other half is made. The shoe, thus complete as far as the shape and size are concerned, is transferred to the adjustable table *T* at the other end of the machine, where it receives the proper “creasing,” so termed in blacksmithing, to allow the nail-heads to be countersunk. The construction of this apparatus or part of the machine for doing this I will proceed to describe. I have two upright plates or bars, *V V*, which support the oscillating block *E*, and through which passes a shaft, a solid beveled wheel, *S*, being attached thereto, as seen in Figs. 1 and 3. Underneath the block there is a lever, *G*, secured to the base-plate at one end by a chain, and supported by another chain suspended from the block, the former serving as a fulcrum to the lever. The adjustable table *T* is in the form of a segment of a circle, or it may be made nearly the shape of the shoe. It is attached to the vertical portion of a bent arm, *W*, the extreme end of the horizontal portion of which is bolted to the projecting part of the base-plate sufficiently loose to allow the table to

be moved in the radius of a circle. This table is supported by a beveled friction-wheel, J, properly arranged on a post, as seen in Fig. 3.

Operation: When the shoe is placed on the table, the crease may be made at any desired distance from the edge of the shoe by means of the adjusting-screws O O. Any length of crease may also be had by imparting to the table a greater or less vibratory movement, and the creasing may be light or heavy, just as the operator desires. By placing one foot upon the lever and turning the crank-handle C'' he is enabled with the other hand to regulate the shoe on the table in its relation to the beveled wheel as he wishes. The shoe is then transferred to the punching apparatus, by which the nail-holes are formed. This apparatus is constructed of two upright plates, M M, and bolted to two upright projections, W W, from the base-plate, sufficiently loose, to allow of their being moved to any angle desired in the punching of the shoe. Between the plates is a shaft, on which are two eccentric hollow wheels, H H. In each of the hollow portions of the wheels are two other eccentric solid wheels, rigidly secured or cast with the larger ones. Between the two latter is a bar, P, with a small cross-shaft, a, having on each end a small friction-wheel, b, as seen in Fig. 3. The punch K is inserted in the punch-stock R, and held in place by a mov-

able screw, C. The bar to which the two friction-wheels are connected is also inserted in the stock and held in a like manner, (as seen in the same figure.) This stock is grooved on the outer edges, and is guided by tongues on the inside of the upright plates M. On the base-plate is the die-plate U. By removing the punch and inserting the splitting-tool and slipping the die to one side, which may be done by loosening the set-screw Z, the iron, if found to be too wide, may, before being bent, be reduced in width. It will thus be seen by this arrangement that a proper motion is imparted to the punch in the punching of the shoe by the turning of the crank-handle C'''.

My machine is constructed entirely of iron.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The adjustable curved bed and pressure-roller, operating substantially in the manner and for the purpose herein set forth.
2. The creasing apparatus constructed and operated substantially as described.
3. The punching apparatus, constructed and operating substantially as described.

THOMAS J. WEST.

Witnesses:

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