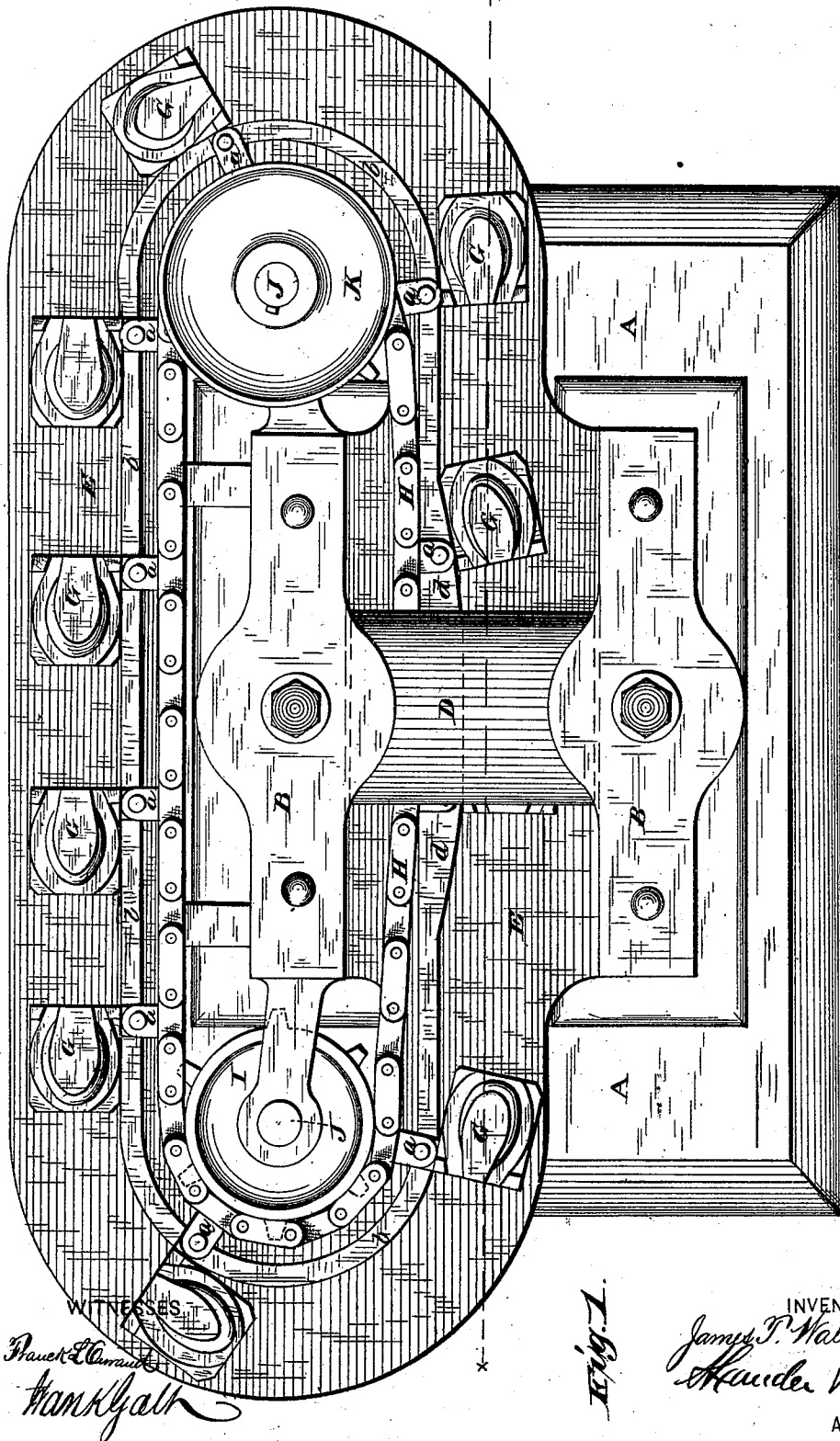


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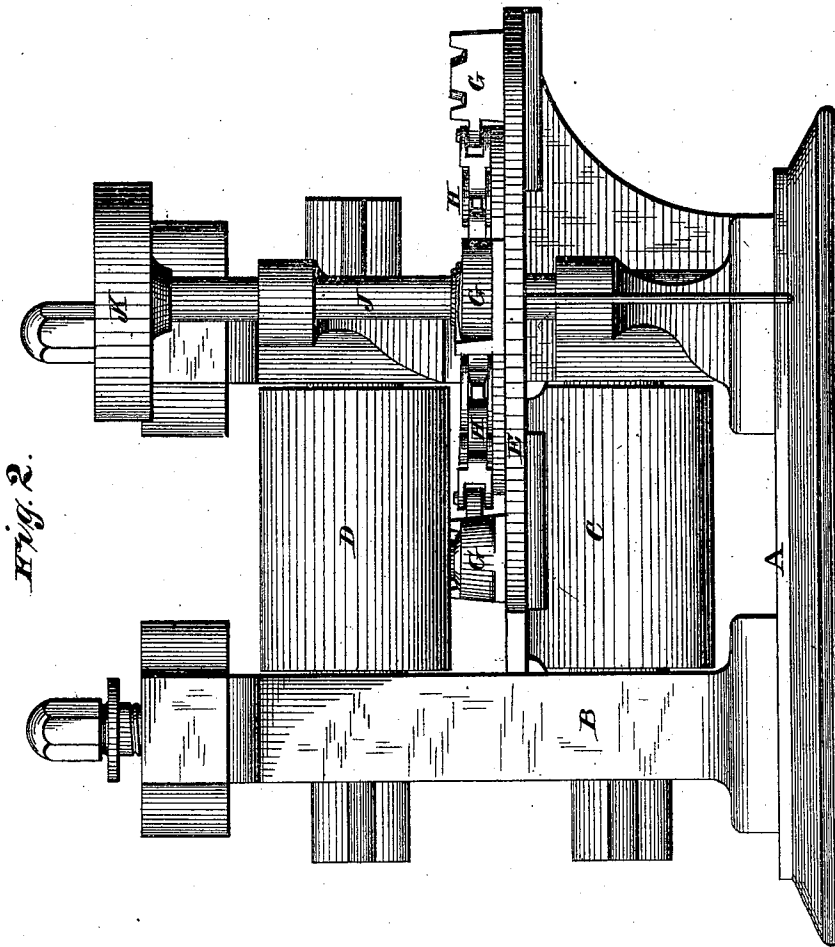


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WITNESSES
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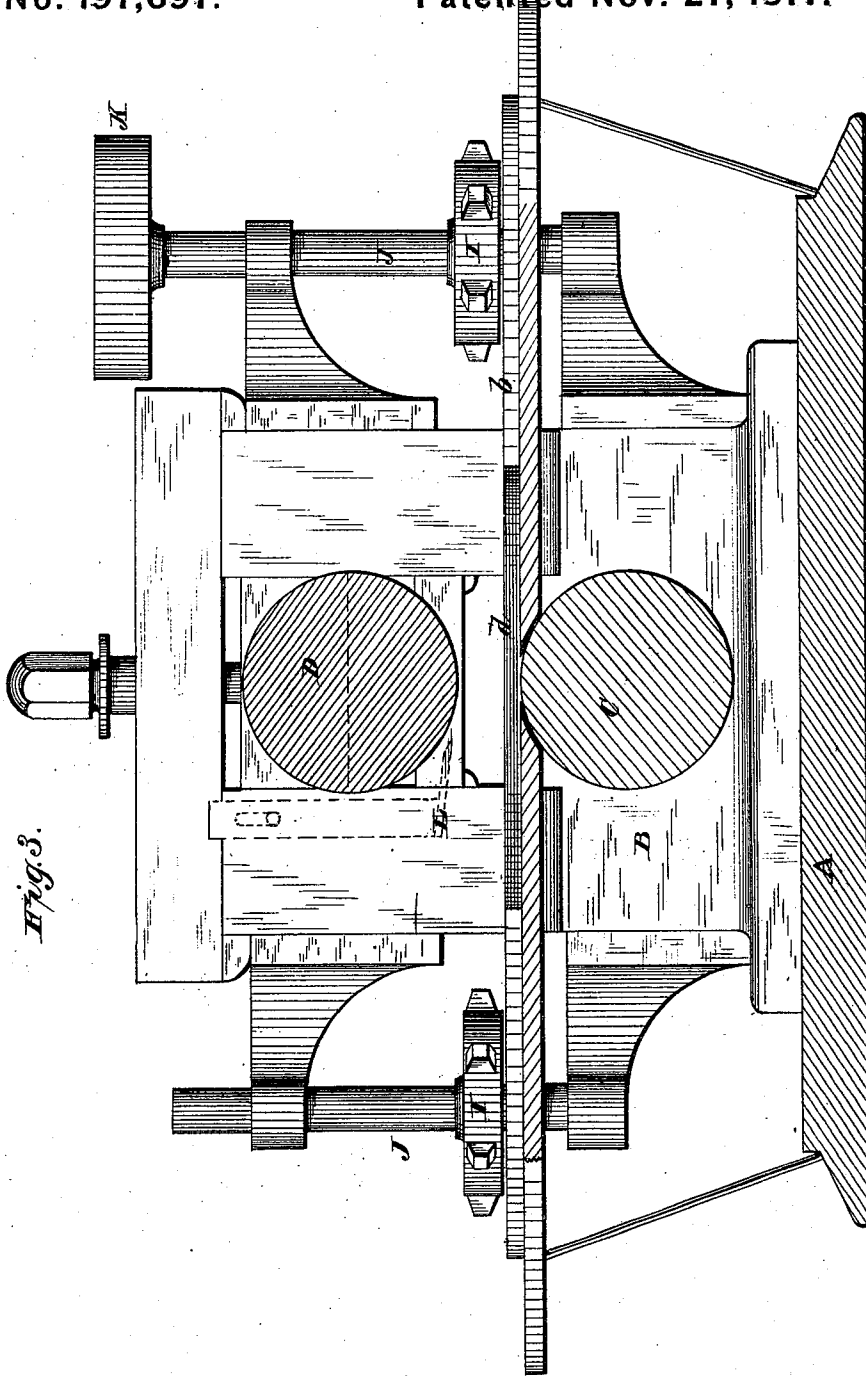


Fig. 3.

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JAMES T. WALKER, OF ALBANY, NEW YORK.

IMPROVEMENT IN MACHINES FOR IMPRESSING, EMBOSSING, COMPRESSING, AND SHAPING METALS, &c.

Specification forming part of Letters Patent No. **197,697**, dated November 27, 1877; application filed November 7, 1877.

To all whom it may concern:

Be it known that I, JAMES T. WALKER, of Albany, in the county of Albany, and in the State of New York, have invented certain new and useful Improvements in Impressing, Embossing, Compressing, and Shaping Machines for Metals and other Materials; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a machine for impressing, embossing, compressing, and shaping metals and other materials, by means of one or more independent and detachable traveling dies, in combination with, and passing between, a pair of revolving rollers, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a plan view of my machine adapted for making horseshoes. Fig. 2 is an end elevation; and Fig. 3 is a longitudinal vertical section of the same on the line *x x*, Fig. 1.

A represents the bed of the machine, or the floor upon which the machine is erected. B B are two standards or housings, in which are placed the journals of two rollers, C and D, the upper roller, D, being made adjustable up and down, in any suitable manner, to accommodate the machine to dies of varying thickness. E represents the table or platform over which the dies G G travel. These dies are connected, by joints *a a*, with an endless chain or carrier, H, passed around ordinary sprocket-wheels I I, which are secured upon upright shafts J J, and one of these shafts is provided with a pulley or band-wheel, K, to be run by a belt or other means from an engine or other motive power.

The dies G G, traveling on the table or platform E, have their inner edges bearing against an endless track or guide, *b*, on said platform, the parts being so arranged that the endless

chain or carrier passes between the housings B and on the outside of one of them, and the dies will pass successively, one after the other, between the rollers C D. Between the rollers C D the track *b* is formed or provided with a swell or enlargement, *d*, forming what I call a "switch," whereby the dies are successively brought square under and between the rollers, and at the same time the endless chain tightened or the slack taken up just at the time when each die passes between the rollers.

The dies G G, as shown in the drawing, are constructed for forming horseshoes. The blanks are first bent in a bending-machine, and then placed on the dies, either by hand or otherwise, and the dies, with the blanks thereon, are then moved successively in between the rollers. These rollers being continuously rotated, the lower roller C forms a revolving bed for the die, while the upper rotating roller D presses down the metal into the die much better and with less jar than a reciprocating plunger.

In rear of the upper roller D is placed a cross-bar, L, which is adjustable up and down, and serves to prevent the metal or other material from getting out of proper place on the die as it passes between the rollers.

It is evident that a machine of this character can be used for impressing, embossing, compressing, and shaping any metal or other material, in any form or shape desired, simply by providing requisite dies. In cases where the embossing, &c., is to be done on both sides of the material, the dies will be made double, so as to close over the material before passing between the rollers.

The dies are preferably connected to the endless chain by the joints *a*, as described, and are then detachable from the chain, so that other dies can be easily substituted.

When the machine is used for making or pressing horseshoes or other articles where the metal is pressed around a core, the dies should be so arranged and so moved that the ends of the blank will pass in between the rollers first, because if the center were first passed in, the metal would spread inward in the form of a fin, and this is obviated by running in the dies heel foremost.

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

1. One or more detachable dies independently connected to an endless chain or carrier arranged on a platform, in combination with a pair of revolving smooth-surfaced rollers, substantially as and for the purposes herein set forth.

2. The combination of an endless chain or carrier, having one or a series of dies hinged thereto, the horizontal platform, and the revolving rollers, with mechanism for operating the rollers and the traveling dies, substantially as and for the purposes herein set forth.

3. An endless track or guideway, *b*, arranged on a horizontal platform, in combination with the endless chain or carrier, having one or a series of dies connected thereto, and

two revolving rollers, one above and the other below the platform, for the purposes set forth.

4. The switch *d*, in combination with the endless track *b*, the endless chain and its dies, and the two rollers, for the purposes set forth.

5. The combination of the endless chain or carrier *H*, having dies *G* hinged to the sides thereof, and supported on the horizontal platform *E*, the shafts *J J*, with sprocket-wheels *I I*, and the rollers *C D*, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of November, 1877.

JAMES T. WALKER.

Witnesses:

FRANK GALT,
J. J. MCCARTHY.