F. HOLUB.

Machine for Creasing, Punching and Swaging Horse-shoe Blanks.

No. 205,645. Patented July 2, 1878.

Fig 3.

Fig 2.

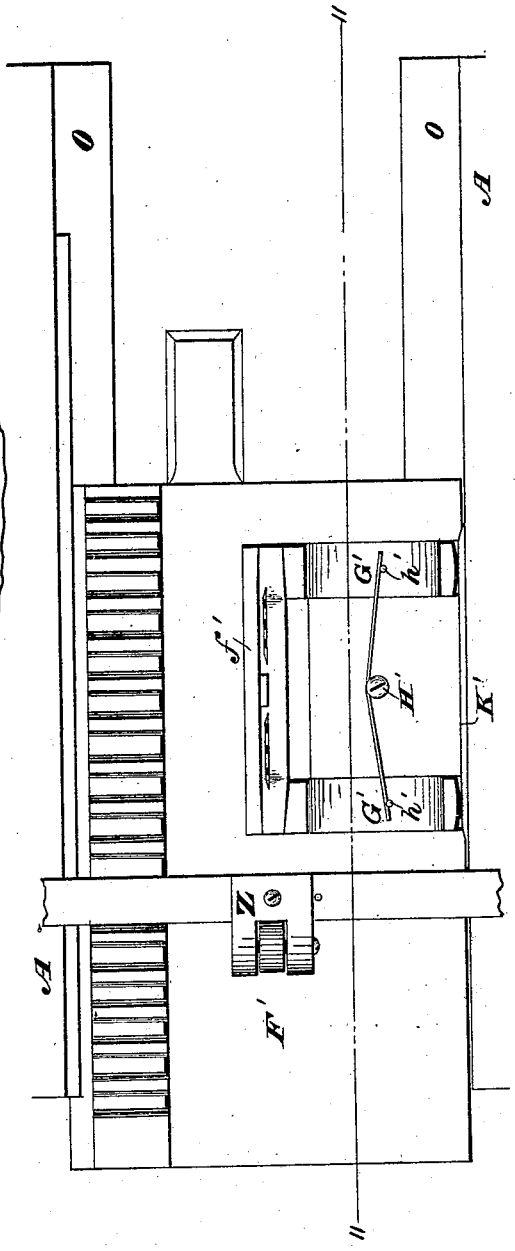
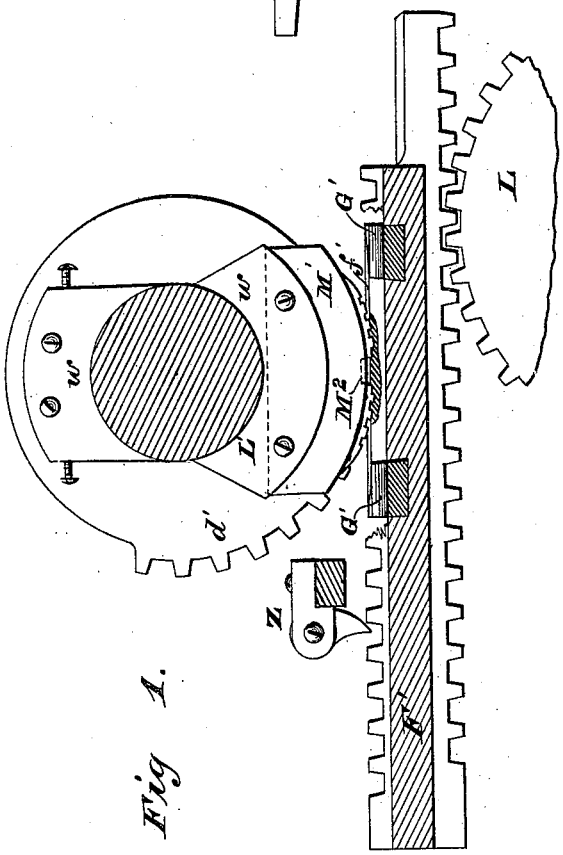


Fig 1.



WITNESSES.

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UNITED STATES PATENT OFFICE.

FRANK HOLUB, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO NATHAN E. PLATT AND EDWIN THORN, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR CREASING, PUNCHING, AND SWAGING HORSESHOE-BLANKS.

Specification forming part of Letters Patent No. **205,645**, dated July 2, 1878; application filed June 26, 1878.

To all whom it may concern:

Be it known that I, FRANK HOLUB, of Chicago, in the county of Cook and State of Illinois, have invented an Improved Machine for Creasing, Punching, and Swaging Horseshoe-Blanks, for which the following is a specification:

My invention consists in certain useful combinations of mechanism, as hereinafter specified and claimed.

The main frame and operating-gearing of my machine are substantially the same as described in my application for patent for machine for bending and swaging horseshoe-blanks filed in the United States Patent Office June 18, 1878, and need not here be described. I also employ in my present machine the same anti-friction-roller frames there described to support the reciprocating bed-plate or table on ways O.

In the accompanying drawings, illustrating my invention, Figures 1 and 2 are, respectively, sectional and plan views of a bed-plate and swaging and punching appliances; and Fig. 3 is a view of a finished unbent blank.

In order to crease, punch, and swage up the heels of the blank by the use of my machine, I provide a bed-plate or table, F′, as shown in Figs. 1 and 2. This bed-plate has upper and lower rack-bars, but is without grooves and guideways and former, and it is provided with a die, *f′*. At each end of this die, and working at right angles to it in transverse grooves in the surface of the table, are two plungers or dies, G′ G′. When the table is in position the dies bear at their outer ends against the side of the main frame A, and are thereby held in proper position with respect to the die *f′* to permit the heated blank to be laid between their inner ends and the die *f′*, as shown in Fig. 2. They are connected together by means of a centrally-pivoted spring-lever, H′, impinging against studs *h′ h′*, and tending to press the dies outward against the side of the frame. Toward the rear of the machine, on the side of the frame against which these dies normally bear by the force of the spring-lever H′, and projecting slightly over the edge of the table, is an incline or cam-projection, K′. When this table and these dies are employed I secure adjustably in the groove L′ of the carrier *w* a segmental creasing and punching die, M^1, which operates upon the blank to crease and punch it, as will be obvious from the drawings. In this die M^1 I provide a slot, M^2, to make room for and prevent leveling the toe-calk, if any is provided on the blank.

The operation of the parts described in connection with the bed-plate is as follows: Supposing the table to be at the limit of its forward motion and the machine in operation, and a heated blank to be placed in position in relation to the dies, as shown in Fig. 2, as the table moves backward the incline or cam K′ will strike the outer end of the rear plunger G′ and cause it to swage up and thicken one end or heel portion of the blank. Immediately after the incline will also strike the outer end of the front plunger, and in turn swage up and thicken the other end or heel portion of the blank.

The cam-surface is of such length that it will continue to clamp down the rear plunger until after it has clamped down the front plunger, and then, as the table continues to move backward, it will release the rear plunger, when the spring-lever H′ will retract that plunger, and afterward, when the front plunger has been released, the front end of the spring-lever will also retract it, so that the swaged blank can be removed and a new blank be put in place to be operated upon; but while the blank is held clamped by both these plungers the creasing and punching operation will have taken place by means of the revolving segmental die M^1.

The blank, after thus being swaged, punched, and creased, is removed by the catch Z, substantially as described with respect to the bent blank in my application already mentioned. The catch Z does not occupy precisely the same position with respect to all tables to do its work, but is adjustable laterally, so as to catch both straight and bent blanks when different tables are employed, as may happen in the same machine—one for bending and swaging and the other for creasing, punching, and swaging blanks.

Having thus described the construction and

mode of operation of my machine, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in the bed-plate F′, of the die *f′* and plungers G′ G′, connected by spring-lever H′, and operated by cam K′, substantially as described.

2. The combination of the die *f′*, spring-plungers G′ G′, cam K′, and adjustable revolving creasing and punching die M′, substantially as described.

In testimony whereof I have hereunto subscribed my name.

FRANK HOLUB.

Witnesses:
PETER MCGURN,
CHAS. W. REQUA.