2 Sheets—Sheet 1.

W. TALLMAN.

Horseshoe Nail Machine.

No. 27,656. Patented March 27, 1860.

Fig. 2

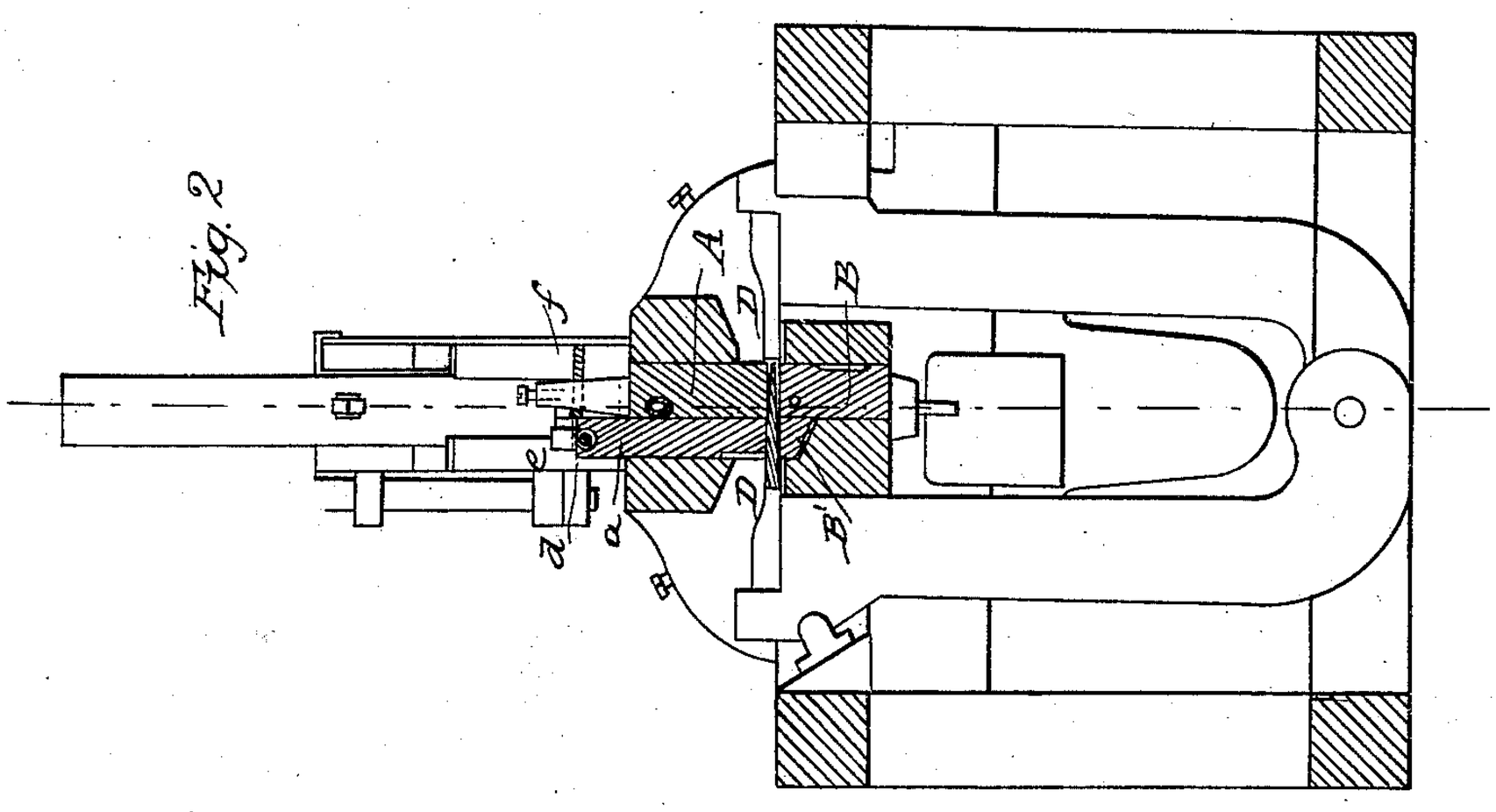
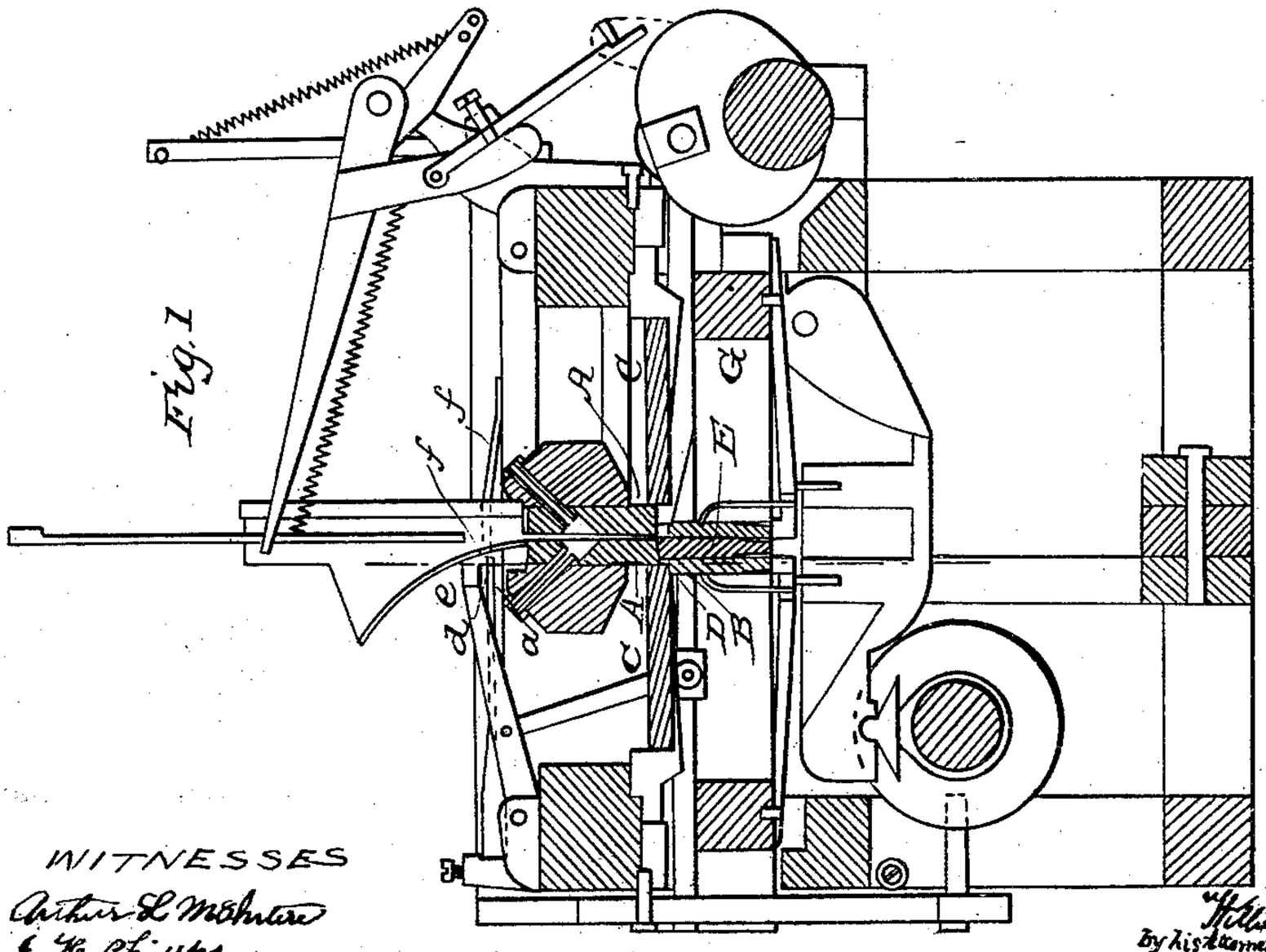


Fig. 1



WITNESSES

Arthur L McIntire

E. H. Phillips.

INVENTOR

William Tallman

By his Attorney.

Joseph Reynolds

2 Sheets—Sheet 2.

W. TALLMAN.

Horseshoe Nail Machine.

No. 27,656. Patented March 27, 1860.

Side View

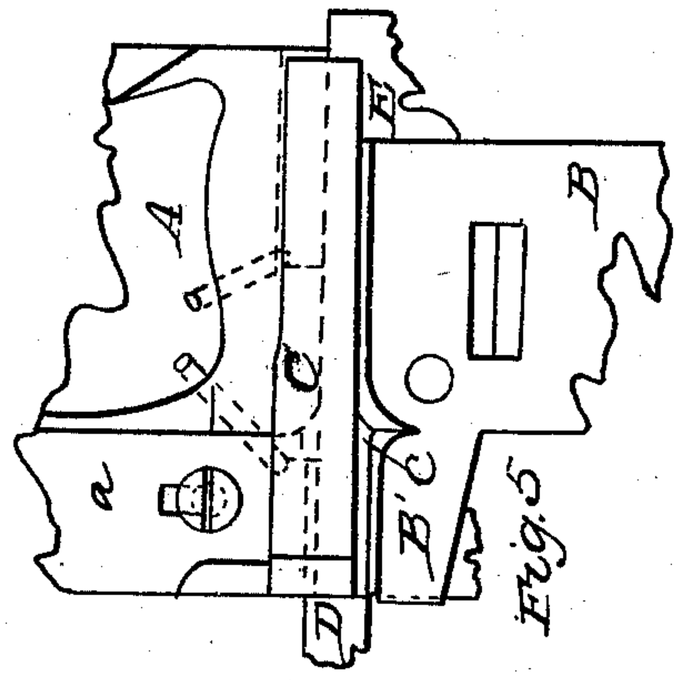


Fig. 5

End View

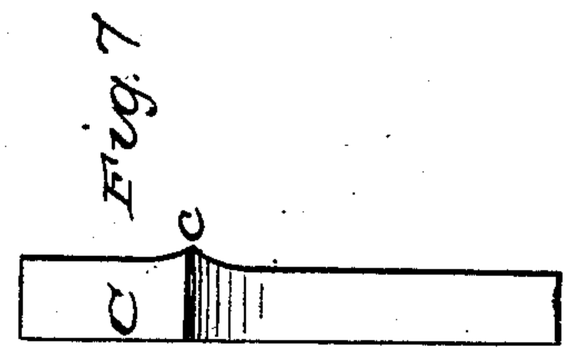
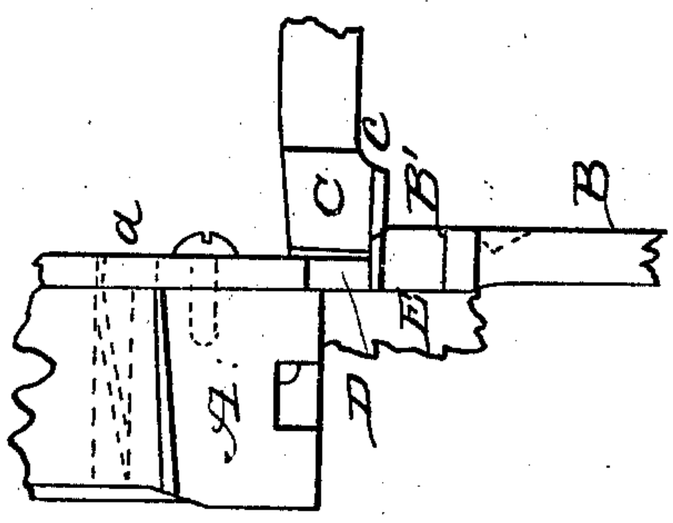
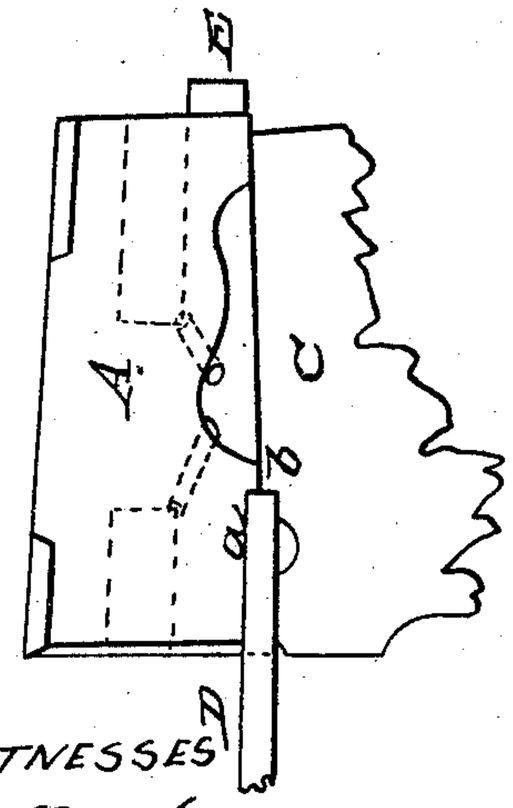


Fig. 7

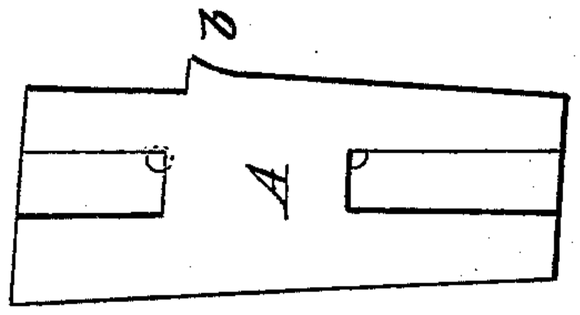
End View



Top View



Bottom View



WITNESSES

Arthur L. Wilmarth

J. R. Phillips.

INVENTOR

William Tallman

by his Attorney.

Joseph R. Reynolds

UNITED STATES PATENT OFFICE.

WILLIAM TALLMAN, OF PROVIDENCE, RHODE ISLAND.

HORSESHOE-NAIL MACHINE.

Specification of Letters Patent No. 27,656, dated March 27, 1860.

To all whom it may concern:

Be it known that I, WILLIAM TALLMAN, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in the Manufacture of Horseshoe-Nails, and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section and Fig. 2 a cross section of a machine to which the improvements are particularly applicable. Fig. 3 is a top view of a stationary cutter, gripping die, heading punch and top die. Fig. 4 is an end view of the stationary cutter, top die, gripping die, bottom die, movable cutter, and heading punch. Fig. 5 is a side view showing the stationary cutter, top die, gripping die, bottom die, and portions of the movable cutter and heading punch. Fig. 6 is a bottom view of the stationary cutter. Fig. 7 is an edge view of the gripping die.

The same part is marked with the same letters of reference wherever it occurs.

The invention is particularly applicable to the machinery, the subject of a patent granted to Samuel G. Reynolds on the twentieth day of January 1852, with which machinery as described in the specification of that patent the heads of horse shoe nails cannot be made as large as is desirable because the blank or metal of which the head is made, being supported only on two sides, were liable to cripple, and make imperfect nails notwithstanding the heads being made of a small size. Likewise the nails made in the said Reynolds machine were discharged by a punch performing no other office than that of discharging the nail.

The object of this improvement is to make the heads of the nails as large as is required, and more perfect in form, by constructing, arranging and operating the parts connected with making the head, in such a manner as to form a case or mold, inclosing the end of the blank and heading punch on all four sides, so that as the punch advances in the case to head the nail by upsetting the end of the blank the metal will be completely confined within the case, which should be of the same size as the finished head.

As the improvement relates to such parts only as are connected with the heading and discharging of the nail, and may be applied to more than one combination or arrangement of machinery, such combinations forming no part of my invention, I have not thought it necessary to describe a machine in full for making nails but have confined my drawings and specification to such parts of a machine only, as are necessary to show the improvement in a full and clear manner.

Figs. 1 and 2 are sectional views of the machine of Samuel G. Reynolds which is intended for working double sets of cutters, dies, heading punches, &c., for the purpose of making a nail at each vibration or movement of the carriage or slide, whereas the succeeding figures represent the pivots single, and on a larger scale, but to those familiar with the structure and operation of such machines, these variations will present no difficulty.

A marks the stationary cutter; B the bottom die, B′ the extended portion of the bottom die, C is the gripping die, D the heading punch; E is the movable cutter; *a*, is the top die; *b* is the projection on the rear side of the stationary cutter, made to fit the face of the gripping die, *c* is the projection or shape of the underside of the gripping die made to fit the face of the bottom die; *d* is the spring to move the top die up against the adjustable stopper *f*; *e* is the arm that acts upon the top die at the proper time to discharge the finished nail; G is the vibrating carriage or slide that moves the cutter E to and fro past the cutting edge of the stationary cutter.

At the rear side of the stationary cutter is placed the top die *a*, which is moved up by the spring *d*, against the adjustable stopper *f*, the said stopper being made adjustable for the purpose of being set to stop the top die at the proper place to form the top of the case.

The bottom die B forms the bottom of the case, either by extending a portion at the top edge to a proper distance, or by making the whole length of the die as wide as is required for the case, and making the top or face of the required form for the underside of the case. The other two sides of the case being formed by the movable cutter on one side and the gripping die on the other as shown in Fig. 4.

The top die *a* which is of the same thickness as the finished head, performs two functions; one to form the top of the case, the other to discharge the nail when completed, by being acted upon by the arm *e*, or any

other suitable moving part and forced down at the proper time to discharge the nail.

The operation is as follows: As the movable cutter cuts the piece from the plate and moves it across the stationary cutter to its rear side and under the top die, a portion of the bottom die, which die is connected with the movable cutter, moves beyond the face of the gripping die and fits its underside, thus completing the case at the same time that the piece or blank is pressed against the gripping die. In this position of the parts the heading punch advances in the case, and heads the nail by upsetting the end of the blank, after which the movable cutter returns to cut another piece, leaving the nail free to be discharged by the top die which is acted upon at the proper time by the arm *e*, or any other suitable moving part of the machine, and descends and discharges the nail.

What I claim is—

The top die performing the two functions of discharging the nail and forming the top of the case in combination with the stationary cutter, movable cutter, and bottom die, the said bottom die having its face extended to a suitable distance and in proper form for the underside of the case, all arranged and operated substantially as described.

WILLIAM TALLMAN.

Witnesses:

HENRY MARTIN,

ALBERT M. HEWITT.