C. FRENCH.

Manufacture of Horseshoe-Nails.

No. 202,534. Patented April 16, 1878.

Fig. 1.

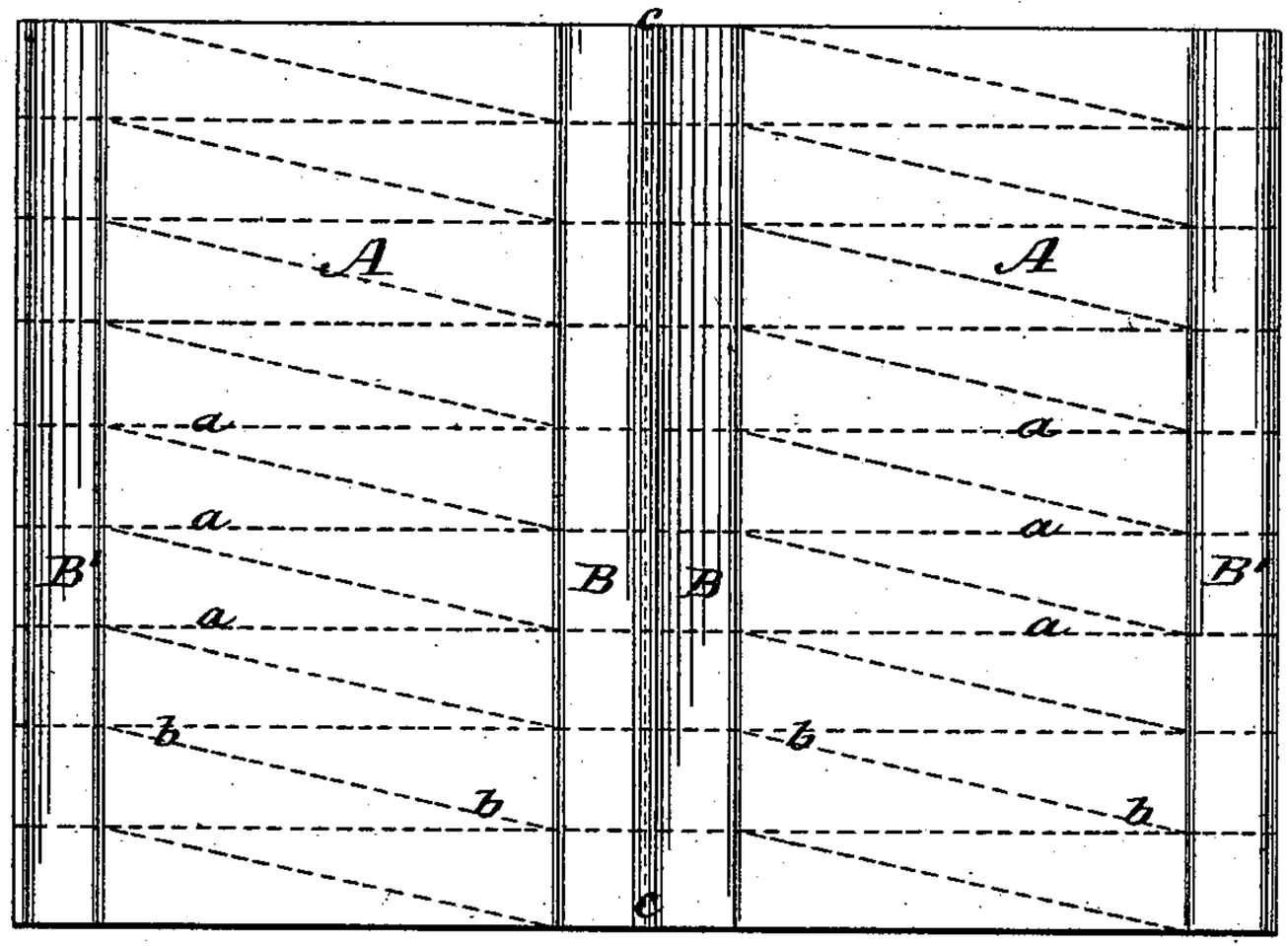


Fig. 2.

Fig. 3.

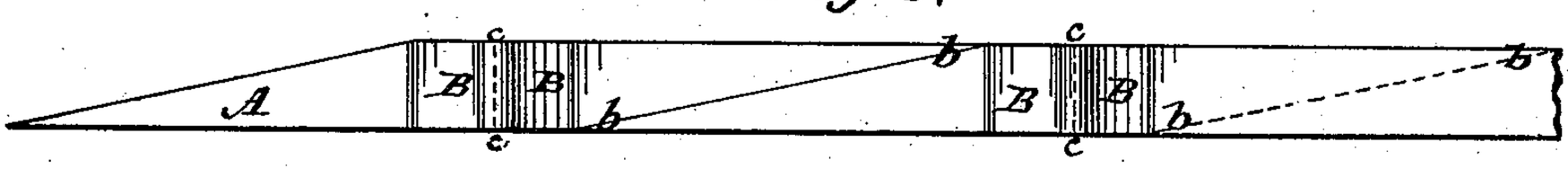
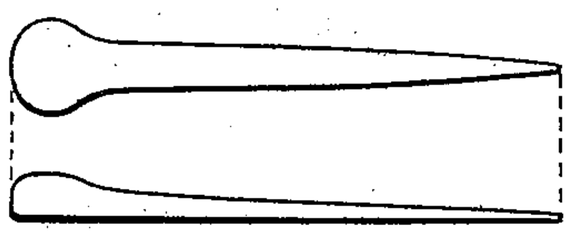


Fig. 4.



Witnesses:

I. J. Masson

D. P. Lowe

Inventor:

Carlos French,

by E. E. Masson
atty.

UNITED STATES PATENT OFFICE.

CARLOS FRENCH, OF SEYMOUR, CONNECTICUT.

IMPROVEMENT IN THE MANUFACTURE OF HORSESHOE-NAILS.

Specification forming part of Letters Patent No. **202,534**, dated April 16, 1878; application filed July 21, 1877.

To all whom it may concern:

Be it known that I, CARLOS FRENCH, of Seymour, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in the Art of Manufacturing Horseshoe-Nails; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a top view of a plate of metal from which the horseshoe-nail blanks are to be cut. Fig. 2 represents an edge view of the same. Fig. 3 represents a rod equal in width to the head of a nail-blank, with projections at regular intervals to form said head. Fig. 4 represents, in top view and side view, a finished horseshoe-nail made according to my improved mode.

Many of the horseshoe-nails, as generally cut from plates, have a shank of uniform width, extending at least one-half of the length of the nail, and when such nails are partly driven in the hoof, at the second blow upon their head they often bend, have to be withdrawn, and are thrown aside.

The object of my invention is to obviate this defect, and also to re-enforce the nails under the head, where, when in use, they come in contact with the edge of the perforations of the horseshoe, and where they are liable to break.

My invention consists in making the nail plates or bars of rolled or forged iron, or of homogeneous steel, said bars being formed or cut wider than the finished nail, with alternate projections for the head and depressions of nearly uniform thickness for the body of the nail, and cutting said plates or bars diagonally in a straight line from a point adjacent to the neck of a blank to the other.

It also consists in a horseshoe-nail made tapering in thickness from the head to the point by swaging and compressing the sides and neck of said blank, as shown in Fig. 4.

In the drawings, A, Figs. 1 and 2, represents a portion of the plate or sheet of nearly uniform thickness—that is, to form the body of the nail; and B, the projection or thick portion intended for the head.

The plate is first cut into parallel strips wider than the finished nail, as indicated by the dotted lines *a a*, to give the necessary quantity of metal for the head and neck of the nail after it is compressed sidewise; and each strip is cut diagonally on a straight line, *b b*, beginning at a point adjacent to the foot of the projection B of the head of one nail-blank to the foot of the projection B′, forming the head of the adjoining blank. As the projection B forms the head of two adjoining blanks, it is then cut in two on the line *c c*, and each blank can be operated upon separately by swaging-dies.

If the metal of which the blanks are made is in the form of rods or bars rolled or forged, as shown in Fig. 3, the operation is similar. They are cut diagonally on the line *b b* from a point adjacent to the neck of a blank to a similarly-located point adjacent to the neck of the other, and then either divided on the line *c c* and swaged separately, or swaged in pairs and afterward separated by cutters operating on each side of the head. By this mode of cutting the blanks diagonally from plates or bars none of the metal is wasted, and by swaging the sides of the blanks the metal is compressed and condensed, particulary at the widest part—the neck of the nail—where it becomes thicker, and in the best form and condition possible to resist concussion and wear.

I am aware of the patent granted to J. Holcomb, July 14, 1846, No. 4,634, from which my present invention materially differs in the several particulars set forth, which I regard as improvements.

The rounding of the head is done by machinery, in any suitable manner—by the cutting-edges of griping-jaws, swaging-dies, or formers, that slightly compress the head of the nail, while they powerfully compress laterally the metal of the neck and shank, which is thus not sensibly elongated, but rendered thicker, with a gradual taper from neck to point, conforming with the amount of metal in the blank.

Having thus described my invention, I claim—

1. The described improvement in the art of making horseshoe-nails, consisting in forming a plate or bar with projections for the heads of

the nails, but thinner than the finished nail at the shank and neck, cutting said plate into blanks by a single straight diagonal cut, each blank being wider at the shank and neck than the nail, and subsequently, by lateral compression, upsetting, bending, and finishing the nail, as and for the purpose set forth.

2. The blanks of horseshoe-nails cut from plates into bars, or from bars of alternate uniform or nearly uniform thickness for the body, and with projections for the head, said blanks being thinner and wider at the shank, but of a length equal to a finished nail, and formed by dividing the bars by a single straight diagonal cut, substantially as shown and described.

CARLOS FRENCH.

Witnesses:
S. C. TUCKER,
JOHN COLEMAN, Jr.