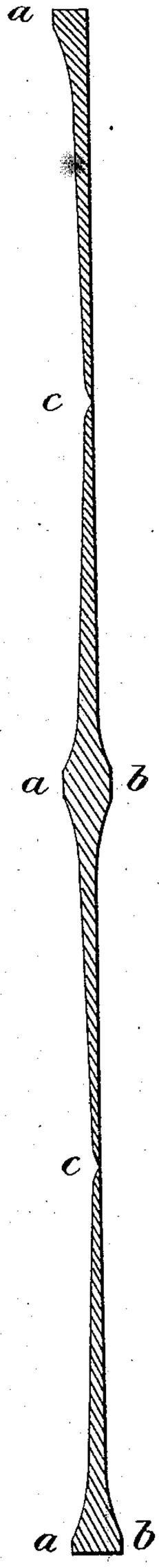
D. J. HARRINGTON.

Manufacture of Horseshoe-Nail Plates.

No. 159,410. Patented Feb. 2, 1875.



Witnesses.
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UNITED STATES PATENT OFFICE.

DANIEL J. HARRINGTON, OF CORK, IRELAND, ASSIGNOR TO JOSEPH M. LAUGHLIN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN THE MANUFACTURE OF HORSESHOE-NAIL PLATES.

Specification forming part of Letters Patent No. **159,410**, dated February 2, 1875; application filed April 7, 1874.

To all whom it may concern:

Be it known that I, DANIEL J. HARRINGTON, of Cork, in the county of Cork, Ireland, have invented certain new and useful Improvements in Methods of Making Horseshoe-Nails; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improved nail-plates, partly produced by hot-rolling and partly by cold-rolling, such nail-plates being provided on one or both sides with projecting ribs for the formation of the heads of the nails.

Between two successive ribs I produce on one side of the nail-plate, by means of cold-rolling, a groove parallel with the projecting ribs aforesaid, in such a manner that the section of the nail-plate between the said groove and the aforesaid projecting ribs shall be exactly like a pointed nail, so that nails punched from this my improved nail-plate shall be finished and ready for use, with the exception of stamping or pressing the heads thereof. Even this additional stamping or pressing of the nail-head may be dispensed with, and a nail produced by punching only from a nail-plate of the sectional shape described, although in this manner a greater waste of material is made, as compared with the former method. In both cases, however, no additional pointing and hardening of the shank of the nail is required after the nail is punched from my improved nail-plate, whereby a great saving is made both in time and labor, as well as in expensive machinery heretofore used for this purpose.

The drawing hereto annexed represents a cross-section of my improved nail-plate.

The nail-plate represented in Figure 1 is produced partly by hot-rolling, by which process I form parallel ridges *a a a b b* on one or both sides for the formation of the heads of the nails. After the nail-plates have been hot-rolled in the above-named manner, I produce, by means of cold-rolling, parallel grooves *c c* between the ridges *a a*, which grooves are made of such a sectional form that the metal left under the said grooves is similar to the sectional form of two finished and pointed and hardened nails lying with their points together. The grooves *c c* are produced by cold-rolling the previously hot-rolled plates between a pair of rollers in such a manner that the metal nearest to the grooves *c c* shall be compressed and hardened so as to receive the proper strength and hardness necessary for the point of the nail when punched, and that the pressure of the cold rolls shall decrease from the grooves *c c* toward the ridges *a a*, so as to leave the head and part of the shank in a soft and pliable condition.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent, and claim—

As an improvement in the art of making ribbed plates from which to cut horseshoe-nails, subjecting the plate when cold to the action of rolls that shall produce upon it, midway between the two ribs, a groove of such shape as will secure to the points of the nails that may be cut therefrom the necessary and usual bevel, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 17th day of March, 1874.

DANIEL J. HARRINGTON.

Witnesses:

ALBAN ANDRÉN,

JOHN R. HEARD.