

UNITED STATES PATENT OFFICE.

ROBERT ROSS, OF VERGENNES, VERMONT, ASSIGNOR TO NATIONAL HORSE-NAIL COMPANY, OF SAME PLACE.

IMPROVEMENT IN THE ART OF MANUFACTURING HORSESHOE-NAILS.

Specification forming part of Letters Patent No. **156,676**, dated November 10, 1874; application filed February 2, 1874.

To all whom it may concern:

Be it known that I, ROBERT ROSS, of Vergennes, in the county of Addison and State of Vermont, have invented a new and useful Improvement in the Art of Manufacturing Horse-Nails, of which the following is a specification:

The process of manufacturing machine-made horse-nails, as heretofore carried on, has involved the separation of the blanks from each other before subjecting them to the action of the rolls, hammers, dies, and other devices for the purpose of beveling and shaping the point and finishing up the shank.

The time consumed and the labor involved in the various necessary manipulations of these separate blanks in the production of the finished nails have formed a large item in the expense of the manufacture.

The present invention seeks to simplify the process of manufacture, and thus produce an equally good article at a largely-reduced cost.

To this end, instead of cutting the nail-plate up into separate blanks, as heretofore, it is cut into blanks which are attached by the metal constituting their heads. The blanks thus connected closely resemble cards or combs. These cards or combs may be produced from the original plate by stamping or by rolling, or in any mode adapted therefor.

A mechanism specially adapted for the production of such cards of nail-blanks, with a minimum waste of metal, is described in an application for Letters Patent of the United States filed by ROBERT ROSS on or about the 21st day of January, A. D. 1874.

The most economical course will be found to be to cut these cards from plates that have previously been rolled into ridges substantially corresponding in transverse section with the shape of the head of the completed nail.

If, however, they be made from plates of uniform thickness throughout, it will be necessary to form the heads afterward by upsetting the metal, which could be done before separating the blanks of the card from each other.

After the card is cut from the plate it is subjected to the action of rollers or other suitable

devices for stiffening and smoothing the shanks of the nails in precisely the same way that, by the old processes, the metal composing the shank of an individual nail is compressed and hardened and its surface smoothed. The points, also, of the united blanks of the comb or card are to be beveled and both shanks and points to receive their lateral form in the same general mode as that hitherto adopted for finishing a single blank in these same respects.

Mechanism adapted for shearing and beveling the blanks while still in the card or comb is shown in an application for Letters Patent of the United States filed by ROBERT ROSS on or about the 13th of April, 1874.

The shanks and points having been completed, nothing will remain to the production of the finished nails but the separation of the heads, which may be effected by cutting them off one by one, by means of a cold-chisel or other hand-tool, or it may be effected by the use of a gang of chisels or cutting-edges capable of separating all the nails of a given card at a single blow.

By this method of finishing the shanks and points of the nails a large saving in time and labor is effected, the cost of the completed article being correspondingly and materially reduced.

I do not claim the production of a card or comb of nail-blanks, as I am aware that blanks have heretofore, in certain intermediate stages in the process of manufacturing nails, been attached by their heads.

What is claimed as of this invention is—

The herein-described process of making horse-nails, the same consisting, in substance, in cutting the nail-plate into cards or combs of blanks attached by the metal composing the heads, finishing up the shanks or bodies and the points of the nails while the blanks are still connected, and then separating the heads, all in the manner substantially as set forth.

ROBERT ROSS.

Witnesses:

J. G. HINDES,
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