A. VAN WAGENEN.

Nail-Strips for Sole-Fastenings.

No. 166,662. Patented Aug. 10, 1875.

FIG I

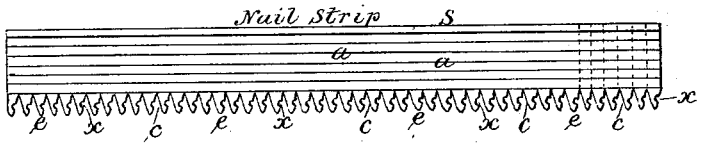


FIG II

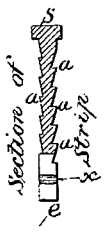
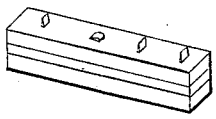
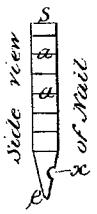


FIG III





WITNESSES

John E. Laing,
J. A. Rutherford

INVENTOR

Albert Van Wagenen,
By Johnson and Johnson,
his Attorneys.

UNITED STATES PATENT OFFICE.

ALBERT VAN WAGENEN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN NAIL-STRIPS FOR SOLE-FASTENINGS.

Specification forming part of Letters Patent No. **166,662**, dated August 10, 1875; application filed May 17, 1875.

CASE D.

To all whom it may concern:

Be it known that I, ALBERT VAN WAGENEN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Nail-Strips for Sole-Fastenings; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

In another patent bearing even date herewith I have shown and described a nail-strip having a shouldered edge and a thin edge, with one side thereof made concave in a peculiar manner, to effect the clinching of the nail-point in a line outside of that made by the nails when cut from the strip and driven into the sole.

The feature of invention claimed herein consists of a nail-plate having its sides parallel and pointed or cut crosswise at one edge, so as to leave the point for each nail the full thickness of the strip, and having a recess in one of the inclined sides of each tooth, whereby to effect and determine the clinching of the nail-point in the line of the nail, or, rather, in the line of its descent, and obtain thereby the advantage of driving the nails very near the edge of the sole, instead of having the clinch lie outside of the path of the nail. In all other strip-cut nails of which I have any knowledge the clinching-points lie to the sides, and therefore wider than the line occupied by their shanks. By my improvement they lie between the nails.

In the accompanying drawings, Figure 1 represents a side view of a portion of a nail-strip embracing my invention; Fig. 2, a cross-section of such strip on an enlarged scale; and Fig. 3, a side view, showing a nail cut from the blank.

The strip has its sides parallel its entire width, with a shoulder, *s*, at one edge, projecting equally on both sides to form the head of the nail when cut, while the other edge is cut crosswise to form points by cutting spaces, *x*, across the strip sufficiently wide to leave the teeth *e* narrow enough to be turned and clinched in the line in which the nail is driven. The spaces *c* may be of any desired shape and depth to make the cutting-edges of the teeth for entering the sole freely. One of the inner sides of each tooth, at or near its base, is made with a slight cross-recess, *x*, in the tapering side of the point of the nail, to insure the turning of the tooth in the direction stated. The inside recess *x* reduces the metal in the points, and thereby causes them to clinch more readily, and their points *e* are left the full thickness of the strip. These broad cross-points, with their cross-recesses, form the points of the nails when cut, and they insure the turning of the point in the line of the driven nails. The sides of the strip are provided with fins, *a*, either parallel or oblique to the edges of the strip, and these fins have long and short angles, so that the nail, in entering the sole will only act by the short sides of the fins to hold it from working out, while the long sides of the fins enter the sole as if the sides of the nail were entirely plain.

This nail-blank has peculiar advantages in enabling it to be produced with far less difficulty and expense by reason of its being a parallelogram, as some difficulty attends the rolling of metal strips having tapering sides, and, moreover, requires special and expensive machinery for the manufacture of such tapering blanks. The nail-blank is rolled preferably as a plain strip, and the ratchet-fins formed by a separate operation to give sharp and well-defined seizing-fins, while the cutting and clinching points, with their cross recesses, are formed by passing under the action of suitable cutters, by which several operations the strip is produced without bends or irregularities in its length.

The following is claimed as new in nail-strips for sole-fastenings, namely:

1. A nail-strip for boot and shoe nailing machines having parallel sides its full width, with one of its edges formed of cross-cuts or spaces, *c*, through the thickness of the strip, and points *e*, having cutting-edges equal in width to the thickness of the strip, whereby to

effect and determine the clinching of the nail-point in the line of the nails when cut and driven, substantially as herein described.

2. A nail-strip with parallel sides and cross division-points, having one of the inner or tapering sides of each point made with a recess, *x*, as and for the purpose stated.

3. A nail-strip having parallel sides and edge shoulder, side fins, and points formed by cross-spaces, with sharp edges, equal in width to the thickness of the strip, as a new article of manufacture.

4. A nail for boot and shoe nailing machines, having parallel sides from head to point, side seizing-fins, wedge-point, and a cross-recess in one of the sides of such point, as shown and described.

In testimony that I claim the foregoing as my own I have affixed my signature in presence of two witnesses.

ALBERT VAN WAGENEN.

Witnesses:

A. W. ADAMS,

B. S. HENRY.