

(No Model.)

W. W. TITZELL.
MANUFACTURE OF NAILS.

No. 288,958.

Patented Nov. 20, 1883.

Fig 1

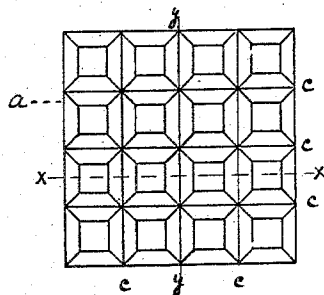
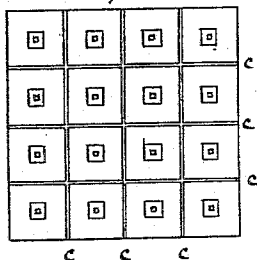
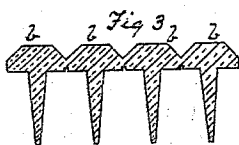
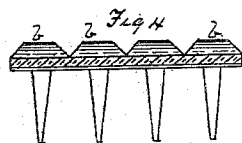
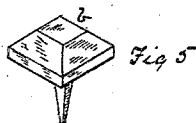


Fig 2



WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM W. TITZELL, OF ALLEGHENY, ASSIGNOR TO HIMSELF AND
AUGUST MEYER, OF BRIDGEWATER, PENNSYLVANIA.

MANUFACTURE OF NAILS.

SPECIFICATION forming part of Letters Patent No. 288,958, dated November 20, 1883.

Application filed March 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. TITZELL, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in the Manufacture of Nails; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an improvement in the manufacture of nails; and it consists in casting the nails so that the heads being united form a sheet having dividing-grooves between them; in separating the nails by breaking them apart at the edges of the heads along the grooves, and in annealing the nails so separated to render them tough and malleable.

I will now describe my invention so that others skilled in the art may manufacture and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of the top of the heads of the nails before they are broken apart. Fig. 2 is a plan view of the lower face of the sheet of nails. Fig. 3 is a vertical sectional view of the same through the line *x x*, Fig. 1. Fig. 4 is a vertical sectional view of the same through the line *y y*, Fig. 1. Fig. 5 is a view of one of the finished nails.

Like letters of reference indicate like parts wherever they occur.

My invention, although it may be used in the manufacture of nails of different shapes and kinds, is especially adapted for the manufacture of nails having sharp conical or pyramidal points, as these nails cannot be manufactured by the nail-machines now in general use. The pattern used in forming the mold is a counterpart of the sheet of nails when cast, being a series of nails, *a*, the heads *b* of which are united at their edges and having grooves or gutters *c*, deep on the upper surface and shallow on the lower face, traversing the sheet, so as to form breaking-edges. From the lower face of these portions of the sheet *a*, between the gutters, the shank *d* of the nail extends downward, tapering to a point. The sand having been placed in the flask, such as are

generally used in casting, the mold is formed from the pattern in the usual manner. The molten iron is then run into the mold. After the metal has become cool the flask is opened and the sheet of nails, in the form shown in the drawings, is removed from the mold. This sheet is composed of nails, the heads *b* of which are united at their edges along the grooves *c*. The metal at these points being thin is easily broken and the nails separated from each other. After the nails have been separated they are placed in an annealing-furnace and annealed until they become tough and malleable.

My invention is especially adapted to the manufacture of hob-nails for shoes, the shanks of which are short, having a sharp pyramidal point, and the heads of which are large. The advantages of my invention are the ease and rapidity with which the nails are manufactured, their durability, and the small cost of the labor and material required. The sheets *a* may be cast of any suitable size, containing from three to five hundred nails in a sheet.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a frangible cast-metal sheet of nails, the heads of which are united at their edges, substantially as specified.

2. A sheet of cast-metal nails, wherein the sheet which forms the heads of the nails is marked by intersecting grooves or lines of fracture, substantially as and for the purposes specified.

3. The hereinbefore-described process for manufacturing nails, consisting in casting the nails so that the heads form a sheet, in separating them from each other, and in annealing them, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand this 22d day of March, A. D. 1883.

WILLIAM W. TITZELL.

Witnesses:

W. B. CORWIN,
L. C. FITLER.