(No Model.)

W. GOLDIE.

METHOD OF MANUFACTURING SPIKES AND NAILS.

No. 457,583. Patented Aug. 11, 1891.

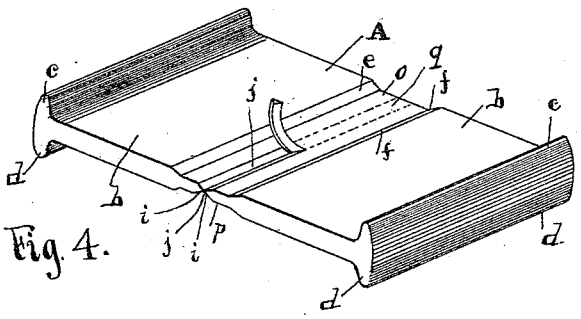

Fig. 4.

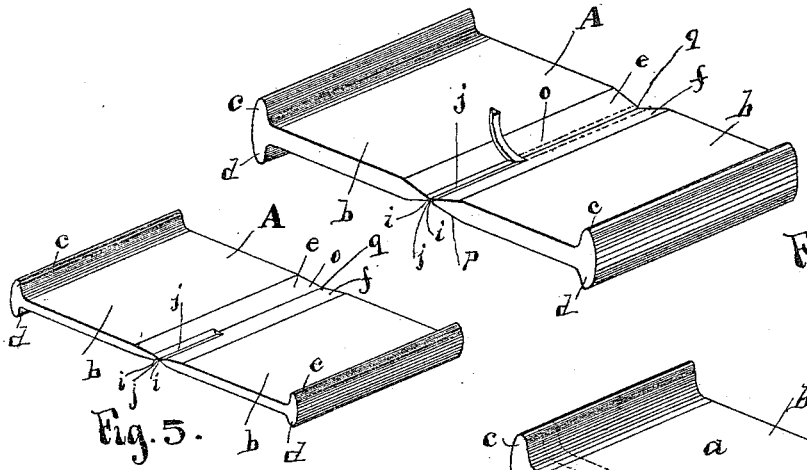

Fig. 3.

Fig. 5.

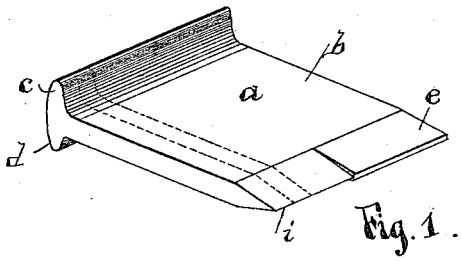

Fig. 1.

Fig. 2.

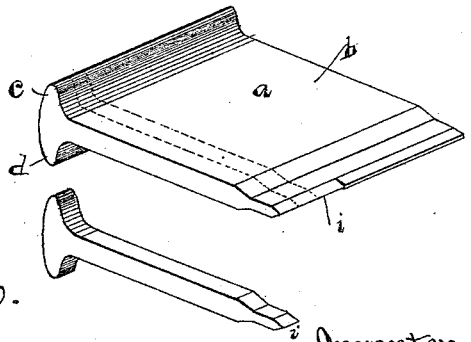

Fig. 6.

Attest
J. F. Beckbissinger
G. P. Thomas

Inventor
William Goldie
By Jas E Thomas
Atty

UNITED STATES PATENT OFFICE.

WILLIAM GOLDIE, OF WEST BAY CITY, MICHIGAN.

METHOD OF MANUFACTURING SPIKES OR NAILS.

SPECIFICATION forming part of Letters Patent No. 457,583, dated August 11, 1891.

Application filed December 29, 1890. Serial No. 376,171. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GOLDIE, a citizen of the United States, residing at West Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in the Method of Manufacturing Spikes or Nails; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in the manufacture of spikes or nails, and pertains to the manufacture of that class of nails or spikes which are severed from a rolled bar of metal by transverse cuts.

The objects of this invention are to reduce the cost of manufacturing nails or spikes and to produce a series of spikes of a uniform contour, size, and quality; and another object is to provide a cheap and reliable means of producing a sharp and clean edge upon the point or puncturing end of a spike or nail of the common variety, cut transversely from the end of a rolled metal plate or bar; and the invention consists in the method or process of forming a blank-bar for the manufacture of spikes by cutting the bar transversely by first rolling the bar to the thickness of the spike and to a width of double the length of the spike to be made, and with flanges projecting from the sides of the lateral edges for forming the head of the spikes, and with a longitudinal shallow groove in both sides of the bar in the middle of its width and a thin web portion between the grooves, then dividing the bar and forming two complete bars at one operation, each provided with a sharp edge, by severing the said web portion with a V-shaped longitudinal cut; and the invention also consists in the method of manufacturing spikes or nails by first rolling a double bar to the thickness of the body of the spike or nail and to a width of double the length of the spike or nail, and with longitudinal flanges projecting on one or both sides of both edges and with the middle portion of its width reduced in thickness by a longitudinal groove on one or both sides, then dividing the bar longitudinally into two single bars by making a V-shaped cut in one or both sides of the said reduced middle portion, then completing the spikes by severing the said single bars by a series of transverse cuts.

The accompanying drawings illustrate the operation of carrying out my improved method.

Figure 1 is a view in perspective of a bar partly prepared by my improved method for the manufacture of spikes. Fig. 2 is the same with the bar arranged with a different contour. Fig. 3 is a double bar rolled in a form to produce two bars shown in Fig. 1, and arranged for carrying out my improved method. Fig. 4 is a bar arranged for producing two bars shown in Fig. 2 by the operation of my improved method. Fig. 5 is a nail-plate arranged for carrying out my improved method. Fig. 6 shows a finished spike of the form produced from the bar shown in Fig. 2 by my improved method.

A is a bar having a width of double the length of a spike which is to be made, and on each lateral edge portion are formed two flanges *c* and *d*, projecting in opposite directions, and these flanges are provided with a proper contour to form the head of the spike, and the portions *b* of the bar adjacent to the heads are provided with parallel sides, which form the body portion of the spike, and centrally between the portions *b* are arranged on opposite sides of the bar the longitudinal grooves *o* and *p*, which form sloping surfaces *e* and *f*, and the thin web portion *q*, centrally located between the grooves and sloping surfaces. The bar is formed to the contour desired by rolling in the common way between rolls having their peripheries provided with surfaces of the proper contour for reducing the bar to the desired form for producing spikes from the bar by a series of transverse cuts, and it will be seen that the double bar thus formed has the form and dimension in transverse section corresponding to the form and dimension of a longitudinal section of two spikes of the desired form joined together at their points, end to end, by a thin web. The bar being rolled, as described, the thin portion *q* is severed by a longitudinal cut *j* made on one or both sides, which, besides

severing the double bar into two single bars *a*, (shown in Figs. 1 and 2,) provides each of the bars with a keen sharp edge *i* at a single operation. The bars *a* thus finished are passed through suitable cutting machinery, and pieces of the proper width to form a spike are severed therefrom by transverse cuts and produce spikes similar in form and finish to that shown in Fig. 6, with a rectangular body portion having parallel sides and with a head portion projecting from the front and rear sides of its upper end, while the point-portion is provided with a clean and sharp cutting-edge, which, when driven, divides the grain of the timber without breaking and mutilation and leaves the spike true and straight, and without the liability of turning or twisting.

It will be noticed, of course, that this method of manufacturing spikes greatly reduces the labor required to form a complete and perfect spike, as by rolling the bar with a reduced middle portion and with its opposite edges provided with flanges for the head portion of the spikes allows the bar in cooling to contract equally on both sides and edges and remain true and straight, and then by making the central longitudinal cut *j* with a suitable tool of a V form both bars when cut apart are provided with a most perfect edge at one operation and at the same time, and from which a series of spikes cut will be perfect in form and point and each will be a complete duplicate of the other, so that perfect uniformity of size and contour is acquired, while an edge upon the point is provided which severs the grain or fiber of the wood as it enters the tie without mutilation or "breaking down."

In rolling the double bar, if preferred, a centrally-located V-groove can be rolled in one side of the reduced middle portion *q*, and then by making the V-cut in the opposite side the bar will be divided into two single bars, and the edges of the single bars will then be provided with the thin cutting-edge before described, so that I do not limit my invention altogether to making the cut with the tool on both sides of the thin portion *q*, as the most important feature of my improved process lies in forming the thin cutting-edge upon both bars by one and the same operation and at the same time the double bar is cut apart, whereby a saving of time and labor is obtained and perfect and uniform spikes are made.

What I claim as my invention is—

1. The herein-described method of forming blank-bars for the manufacture of finished spikes by cutting the bar transversely, and consisting of first rolling a bar to the thickness of the spike and to a width of double the length of the spike to be made, and with flanges projecting from the sides of their lateral edges for forming the head of the spikes and with a longitudinal shallow groove in both sides of the bar in the middle of its width, and a thin web portion between the grooves, then dividing the bar and forming two complete bars at one operation, each provided with a sharp edge, by severing the said web portion with a V-shaped longitudinal cut, substantially as set forth.

2. The herein-described method of manufacturing spikes or nails, consisting, essentially, in first rolling a double bar to a form and thickness transversely corresponding to a longitudinal section of two spikes having their points joined together end to end by a thin web, then dividing the said double bar into two single bars with their adjacent edges made sharp and even by making a V-shaped longitudinal cut through the said thin web portion, then finishing the spike by dividing the said single bars by a series of transverse cuts, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM GOLDIE.

Witnesses
GEO. P. THOMAS,
JAS. E. THOMAS.