

(No Model.)

W. GOLDIE.

METHOD OF POINTING SPIKES.

No. 413,342.

Patented Oct. 22, 1889.

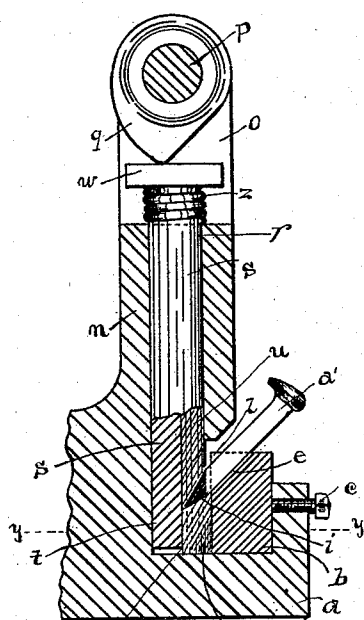


Fig. 2.

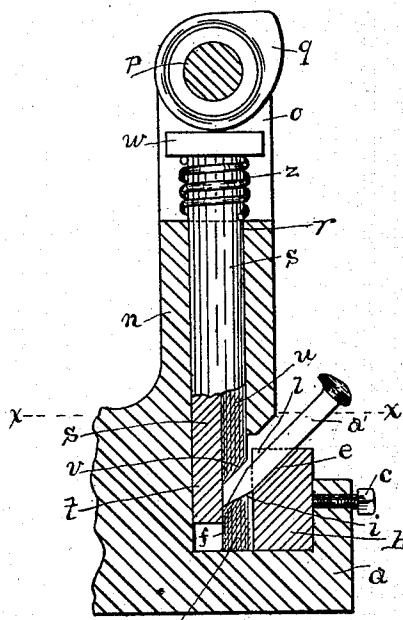


Fig. 1.

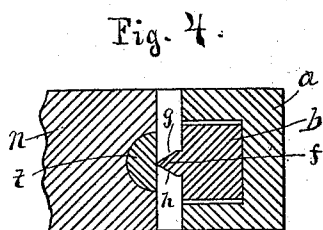


Fig. 4.

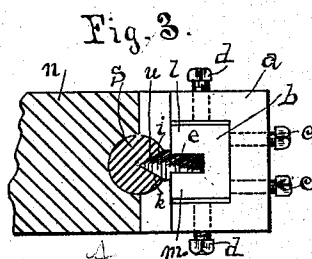


Fig. 3.

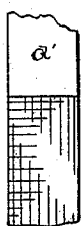


Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.



Fig. 9.



Fig. 10.



Fig. 11.

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UNITED STATES PATENT OFFICE.

WILLIAM GOLDIE, OF WEST BAY CITY, MICHIGAN.

METHOD OF POINTING SPIKES.

SPECIFICATION forming part of Letters Patent No. 413,342, dated October 22, 1889.

Original application filed January 2, 1889, Serial No. 295,143. Divided and this application filed June 17, 1889. Serial No. 314,664. (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 Art of Making Spikes; 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 and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in the art of manufacturing spikes; and it consists in the method of forming or providing a spike with a more perfect and complete point or puncturing end, whereby the spike is enabled to enter the wood by dividing or severing the grain of the timber with a clean cut, so that the inclined compressing-surfaces on the front and sides of the point portion on being forced into the timber will force the divided fibers of the wood backward or outwardly and form a compact and solid wall, which firmly supports the spike against a crowding strain, and also by bearing firmly against the sides of the spike-body renders much greater and more efficient service in retaining the spike against a pulling strain.

The object of my invention is to provide a method of manufacturing spikes that will produce a superior article of manufacture, and at the same time not add greatly to the cost thereof.

A further object of my invention is to provide a spike with one or more sharp and clean cutting-edges, and also with smooth surfaces for compressing the grain or fiber of the timber evenly and solidly, whereby the holding qualities of the spike are rendered more efficient and satisfactory.

The subject-matter of this application is a portion of the application, Serial No. 295,143, filed by me on January 2, 1889, and was withdrawn therefrom for the purpose of dividing the said former application; and I illustrate one form of device suitable for carrying out my improved method or process in the accompanying drawings, in which—

Figure 1 represents a vertical central section of a machine with the dies thereof arranged for forming diagonal cutters on the lateral sides of the spike-point, and shows the parts thereof and also the spike in position before the pointing operation is commenced. Fig. 2 is the same, showing the position of the parts after the pointing operation is performed. Fig. 3 is a section of Fig. 1 taken at *xx*. Fig. 4 is a section of Fig. 2 taken at *yy*. Fig. 5 is a front view of the lower end of a spike before being pointed by my improved method. Fig. 6 is a side view of the same. Fig. 7 is a front view of one form of spike-point made after my improved method. Fig. 8 is a rear view of the same. Fig. 9 is a front view of another form of spike-point made by my improved method. Fig. 10 is a side view of the same. Fig. 11 is a front view of a chisel-point formed on a spike by my improved method.

The same letters of reference indicate like parts throughout the several views.

a is a bed-piece or supporting-plate mounted upon suitable legs or standards, and upon the front end portion of the bed-piece is placed a stationary anvil die-block *b*, and the block is arranged to be adjusted in any suitable manner and in any required direction, and, as herein illustrated, by the front screws *c* and the lateral screws *d*. The upper side of the die-block is provided with a die-face *e*, having its upper surface sloping inwardly and downwardly (as herein shown to about the angle of forty-five degrees) as may be required to conform to the shape of the point to be produced, and the inner or front vertical face *f* of the block is extended forward, and has its lateral sides *g* and *h* arranged to conform to the longitudinal contour of the edges designed to be produced on the spike-point, and, as shown in the illustrations, the portion *f* is provided with the sides *g* and *h*, diverging from the center in the form of a male *V*, while the upper surface *i* of the portion *f* is sloping and forms a continuation of the face *e*; or the angle may be slightly changed to conform to the compressing-surface of the spike to be operated upon, and is provided on its lateral sides with the oblique edges *j* and *k*.

Extending upwardly from the rear portion of the bed-piece *a* is a standard *n*, and upon the side supports *o*, which extend above the standard, is mounted the transverse shaft *p*, which carries a cam *q*, rigidly secured thereon between the side supports *o*. The standard *n* is provided on its upper portion with a vertical opening or slide *r*, while the front portion of the standard in rear of the die-block *b* is removed, the rear side of the slide *r*, however, continuing below the block to the bed-piece; and *s* is a plunger placed within and fitted to the slide *r* to allow a vertically-reciprocating movement to be imparted thereto, and the front portion of the lower end of the plunger is removed, leaving the remaining portion *t* so located as to rest against or in close proximity to the V-edge of the portion *f*, and the front side of the plunger above the guide-stop is provided with a longitudinal V-shaped groove *u*, conforming to the contour of the male V-projection *f*, over which it passes in the reciprocation of the plunger. The lower end of the V-groove *u* is provided with the cutting-edges *v*, of any suitable form, being herein shown as sloping upward from the inner angle of the V-groove, as best adapted to making the form of point herein shown. The upper end of the plunger is provided with a projection or collar *w*; and *z* is a spring coiled around the plunger beneath the collar and resting upon the upper portion of the standard beneath the side supports *o*, and operates to lift the plunger to bear its upper end against the periphery of the cam *q*. Suitable means are attached to the shaft *p* for imparting a rotary motion thereto and revolving the cam *q* in the proper direction, and the cam operating upon the upper end of the plunger forces it downward, while the spring *z* operates to lift the plunger after the extended portion of the cam has passed the plunger, so that the plunger is moved slowly downward and lifted quickly upward to allow ample time to place the spike *a'* in position. The spike *a'* before it is operated upon by the herein-described machine is provided by any well-known means with front and rear compressing-bevels usually formed by swaging the end of the spike-blank to produce the ordinary well-known chisel-point with its extreme end or point usually quite dull or thick, and the spike is then placed between the guides *l* and *m*, with the rear face of its point lying upon the anvil die-face *i*, and with its end or chisel-edge bearing against the guide-stop *t*, as shown in Fig. 1, and the plunger then

descending causes the edges *v* to impinge upon the upper side of the spike-point and pass downward to shear off the metal which projects laterally beyond the edges *j* and *k* and produce on the lower or rear side of the spike cutters which leave exceedingly sharp and clean edges, and at the same time making neat and smooth oblique bevels on the spike-point in front of the cutting-edges. Of course it is well known that metal bars commonly used in the construction and manufacture of the common forms of spikes are formed by the rolling process, and are provided with a fiber or grain running lengthwise thereof, and it will be observed that the gist of my invention lies in the improved method of producing a cutting edge or edges upon a spike-point by shearing the metal of the spike nearly in the direction in which the fiber of the iron lies, shearing across the fiber, however, at the required angle to produce the desired bevel, which process has the effect of forming exceedingly sharp and clean cutting-edges for dividing the grain of the timber, and also smooth and even facets for compressing the fiber of the wood without abrasion or mutilation, besides making the cut with greater ease and precision.

The machine herein described for carrying out my improved method is adapted to the practice of the process for the production of oblique cutters located coincident with the rear compressing-bevel of the spike-point; but other forms of spike-points may be as well made in the same manner by changing the form of the cutters and dies in the machine; or a machine otherwise constructed may be arranged to operate upon the point for carrying out the improved method in substantially the same manner.

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

The herein-described method of forming a cutting-edge on a spike-point, consisting, substantially, of swaging the point to produce front and rear compressing-surfaces, and then producing a sharp edge by shearing off the surplus metal obliquely across and in the direction of the length of the grain or fiber of the rolled iron, substantially as set forth.

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

WILLIAM GOLDIE.

Witnesses:

C. J. MCINERNEY,
JAS. E. THOMAS.