

H. A. HARVEY.
SCREW NAIL.

No. 71,166.

Patented Nov. 19, 1867.

Fig: 1.

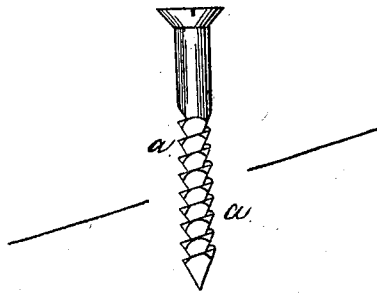


Fig: 2.

Fig: 3.



Witnesses:
Edw. C. Lundy
Wm A. Bishop

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United States Patent Office.

HAYWARD A. HARVEY, OF NEW YORK, N. Y.

Letters Patent No. 71,166, dated November 19, 1867.

IMPROVED SCREW-NAIL.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HAYWARD A. HARVEY, of the city, county, and State of New York, have invented a new article of manufacture, which I term a Screw-Nail, and that the following, taken in connection with the drawings, is a full, clear, and exact description thereof. In the drawings—

Figure 1 is an elevation of a screw-nail made according to the principles of my invention, and

Figures 2 and 3 are sections through the same and a modification thereof.

At the present day it is a common practice among carpenters and other workmen to drive pointed wood-screws into place with a hammer, either up to the head or nearly so, and, in the latter case, to complete the driving with a screw-driver; and screws thus driven can be removed by means of a screw-driver. It has also been proposed by various persons to make nails with nicks or indentations in the shank thereof, formed in various shapes and by various tools, into which nicks the fibres of wood expand when the nail is driven, thus preventing its easy removal; but such nicks or indentations, if sufficiently deep, and of proper form to act efficiently in holding, permit the wood to enter them so deeply that it is almost, if not quite, impossible to pull out the nail. The nails are, therefore, used to a small extent only, and the screws are so expensive that ordinary nails are often employed in places where screws would be more suitable. These considerations have led me to my invention, which consists of a screw-nail, formed from a cylindrical or polygonal rod, with nicks entirely surrounding it, and each nick inclined to the axis of the nail, and terminating at its ends in other nicks. These nicks, when all formed, have, at their outer edges, much the appearance of a screw-thread; but they are not so, as they do not form any warped surfaces, as screws always do, and moreover, the cross-section of the barrel of the nail (viz, that part which is left untouched by the nicks) is not, as a screw is, circular, but polygonal. (See figs. 2 and 3.) The outside of the nail is, moreover, not in all parts alike, inequalities in configuration being evident where the nicks meet and run into each other. The continuous spiral leading through the nicks, being in form somewhat like the space enclosed between screw-threads, is moreover irregular, instead of regular, as in a screw; and this space in my nail cannot be cut out by the action of a chaser caused to travel, as in a screw machine, from the head to the point of the screw.

In order to make my nail, I take a round or polygonal rod, properly headed, and hold it fast in jaws or nippers, with that part of the shank on which the nicks are to be cut projecting. I then, by preference, take two sets of cutters, either rotating jigs or files, or such cutters as are used in planing machines, and, placing them in suitable carriages, so that each set shall be diametrically opposite the other, I cause them to advance across the blank, each set cutting a series of diagonal nicks. The blank is then turned one-fourth, one-sixth, or one-eighth, etc., of a revolution, and the other sets of diagonal nicks cut, each nick of each set leading into a nick of the set first cut; and thus nicks are cut in succession, until the rod is surrounded by them, the nicks being shown at *a*, fig. 1. The nicks may also be cut by reciprocating files, and the nail may be made out of an ordinary screw-blank by a common file worked by hand.

This nail can, as I know from long experience in the manufacture of wood-screws, be made more cheaply than a wood-screw, will drive by a hammer as easy as or easier than a wood-screw, will hold as fast as any of the nicked nails, or even more securely, and can be removed by unscrewing as a screw is removed from wood.

The nicks may have any desired cross-section, either ratchet-shaped, as shown in the drawings, or otherwise; but I prefer the ratchet shape.

The point of the nail may be formed in any proper way. I prefer to cut it at the same time that the nicks are cut.

What I claim as my invention, is—

A screw-nail, composed of a proper head, and a body surrounded by nicks, which are diagonal to the axis of the nail, and at their ends extend into other nicks, so as to constitute a continuous irregular spiral nicking around the body of the nail, the nail, as a whole, being substantially such as hereinbefore described.

H. A. HARVEY.

Witnesses:

EDW. E. QUIMBY,

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