(No Model.)

H. A. HARVEY.

TAP FOR CUTTING SPIRAL WEDGE NUTS.

No. 274,492. Patented Mar. 27, 1883.

Figure 1.

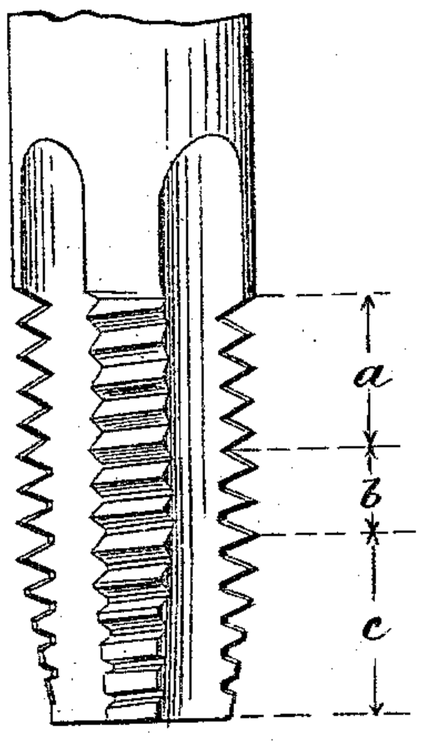
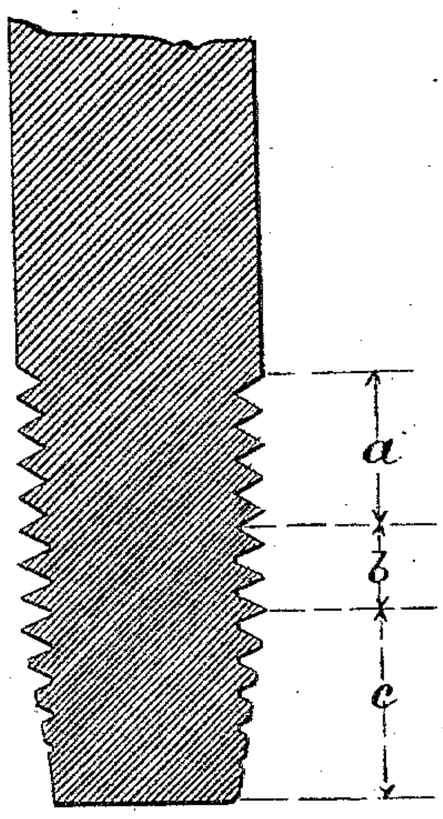


Figure 2.



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UNITED STATES PATENT OFFICE.

HAYWARD A. HARVEY, OF ORANGE, NEW JERSEY.

TAP FOR CUTTING SPIRAL WEDGE-NUTS.

SPECIFICATION forming part of Letters Patent No. 274,492, dated March 27, 1883.

Application filed November 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, HAYWARD A. HARVEY, of Orange, New Jersey, have invented a certain Improvement in Taps for Cutting Spiral Wedge-Nuts, of which the following is a specification.

The tap which I have invented for this purpose is provided with a thread of uniform pitch, the convolutions of which, in the forward portion of the tap, have comparatively narrow bases and steeply-inclined sides, while the consecutively adjoining convolutions have their bases progressively widened and their sides gradually diminished in steepness. At its forward end it is tapered, and is provided with a suitable number of convolutions of a groove which has a flat bottom, forming obtuse angles with the sides of the threads. The intermediate section of the tap is provided with a flat-bottomed spiral groove, the bottom of which gradually diminishes in width, its angles with the sides of the thread gradually diminishing in obtuseness until the sides of the thread meet.

In the accompanying drawings, illustrating a tap embodying my invention, Figure 1 is an elevation, and Fig. 2 is a central longitudinal section.

The drawings represent a tap, A, provided with a screw-thread of uniform pitch, rendered discontinuous by the usual longitudinal grooves, A'. The forward section, *c*, of the tap has the usual taper, and is provided, as will be seen, with a flat-bottomed spiral groove. In the middle section, *b*, of the tap the angles of the sides of the thread with the flat-bottomed groove gradually change. The bottom of the groove gradually diminishes in width until the sides of the thread meet, forming the triangular grooves of the several convolutions of the heel-section *a* of the tap.

It will be seen that by a single insertion of this tap into a nut-blank there will be cut in the blank, first, a number of convolutions of a truncated thread, then a number of convolutions of a truncated thread gradually merging into a V-thread by the progressive narrowing of its apex, and, finally, a number of convolutions of a V-thread.

In Letters Patent of the United States No. 224,591, dated February 17, 1880, granted to me for improvement in lock-nuts, I described a method of making a nut of this character by the use of two taps, the one cutting a truncated thread throughout the entire length of the hole through the nut-blank, and the other adapted to gradually transform the truncated thread into a V-thread.

By my present invention, as will be seen, I am enabled with a single tap to perform the entire operation of cutting the thread in a nut of the character described.

I claim as my invention—

A tap for cutting spiral wedge-nuts, substantially such as herein described, the same consisting of a tap having the usual taper at its forward end, and the usual longitudinal grooves, and provided throughout with a spiral thread of uniform pitch, the convolutions of which, in the forward portion of the tap, have sides forming excessively acute angles with each other, by which this portion of the tap is adapted to cut a certain number of convolutions of a truncated thread in the nut, while the adjoining convolutions of the thread in the middle section of the tap have sides the angles of which relatively to each other gradually diminish in acuteness, by which the middle section of the tap is adapted to cut a certain number of convolutions of the nut-thread in the form of truncated threads with progressively narrowing apices, and the remaining or heel section of the tap has a thread the convolutions of which are alike in their area and shape in cross-section, and are thus adapted to cut a number of similarly like convolutions of thread in the nut.

H. A. HARVEY.

Witnesses:
ASA FARR,
M. L. ADAMS.