

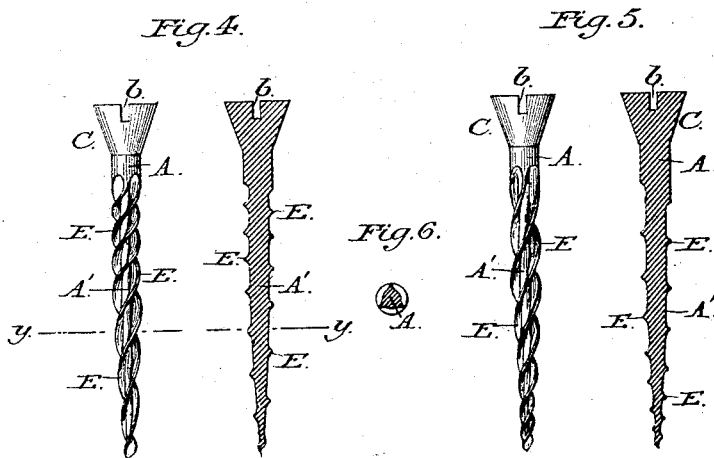
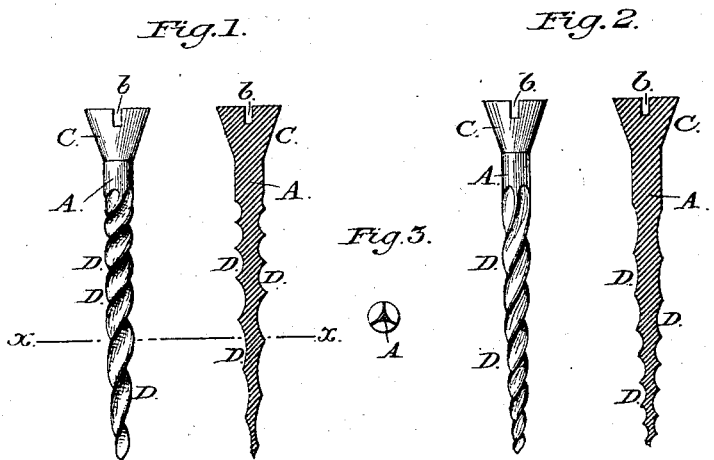
(No Model.)

W. T. MCGINNIS.

SCREW NAIL.

No. 327,296.

Patented Sept. 29, 1885.



Attest:

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UNITED STATES PATENT OFFICE.

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SCREW-NAIL.

SPECIFICATION forming part of Letters Patent No. 327,296, dated September 29, 1885.

Application filed July 13, 1885. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. MCGINNIS, of the city, county, and State of New York, have invented a new and useful Improvement in Screw-Nails; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to the construction of a nail which may be readily driven with a hammer, but which is threaded, in manner as hereinafter set forth, so that it shall obtain a much firmer hold upon the wood than an ordinary nail, and which will also readily withdraw itself from the wood without tearing the same upon being turned by means of a screw-driver.

My invention consists in producing one or more spiral threads along the length of the nail with an increasing pitch from end to end, so that the proximate turns of the thread shall be closer at one end of the nail than at the other.

In the accompanying drawings, Figure 1 represents, both in elevation and in longitudinal central section, my improved screw-nail having the threads produced thereon by means of spiral grooves formed in the tapering body of the nail, and with a pitch gradually decreasing toward the point. Fig. 2 represents in elevation and section the same description of screw-nail having the pitch of its threads increasing toward the point. Fig. 3 is a transverse section in line *xx* of Fig. 1. Figs. 4 and 5 illustrate, respectively, each by an elevation and longitudinal section, a modification of my invention, in which the threads are produced in the form of ribs projecting from the tapering body or stem of the nail, the pitch of the threads in Fig. 4 being shown as decreasing, and that in Fig. 5 as increasing, toward the point. Fig. 6 is a cross-section in line *yy* of Fig. 4.

A represents the body or stem of my improved screw-nail, tapering in form and nicked at its larger end, as shown at *b*, said end being usually, but not necessarily, formed with a conical enlargement, constituting a head, C, such as is ordinarily found in wood-screws, although I prefer to make this head longer and more tapering than the head generally found upon wood-screws. The body or stem A of the screw-nail is exteriorly threaded by

means of one or more spiral grooves, D D, produced along its length with a pitch which is gradually changed from end to end of the body, so that the interval between the proximate threads shall be much closer next to the head than at the point, (see Fig. 1,) or vice versa, as shown in Fig. 2. In either case the angle of the spiral ridge between the proximate grooves with the body of the nail remains uniform, and is made at a very obtuse angle—say ninety degrees or more—so that the nail may be readily driven into a piece of wood without undue friction and without tearing its fibers.

As an equivalent for the threads of varying pitch produced by channeling or grooving the stem or body of the nail, I contemplate forming spiral ridges or threads E E in relief, each as a distinct projection from the body, whose tapering form is preserved as a central core, A', in manner substantially as shown in Figs. 4, 5, and 6.

In either case the screw-nails may be manufactured by stamping metal blanks between suitable dies in a drop or other form of press, or by chasing the same in a lathe adjusted to produce a thread of varying pitch.

My screw-nail differs from an ordinary wood-screw, not only in the increased angle of its spiral thread, but more especially in the gradually-varying pitch thereof, the pitch being made to increase from head to point, or vice versa. The result of this gradual approximation of the threads is to produce, as the nail is driven, a gradual compression of the fibers embraced between the threads, serving to bind and hold the driven nail very firmly, without, however, preventing its withdrawal by a rotation thereof through the instrumentality of a screw-driver or equivalent device applied to its head or outer end.

I claim as my invention—

A screw-nail constructed with a tapering body encircled by spiral threads produced thereon with a pitch varying constantly from one end thereof to the other, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM T. MCGINNIS.

Witnesses:

J. F. ACKER, Jr.,

A. B. MOORE.