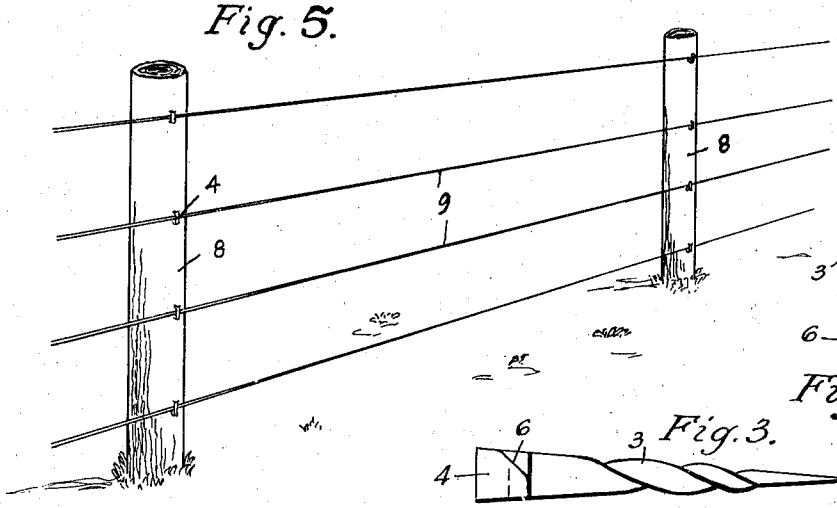
Nov. 11, 1941. A. P. HUNERWADEL 2,262,499

FENCE NAIL

Filed July 19, 1940

Fig. 5.



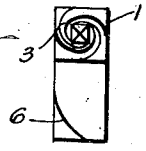


Fig. 2.

Fig. 3.

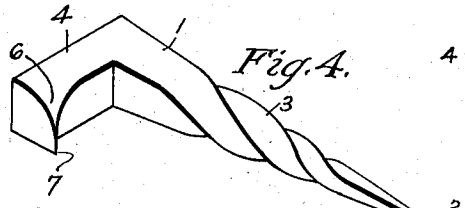


Fig. 4.

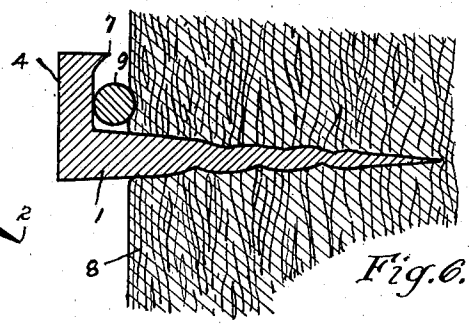


Fig. 6.

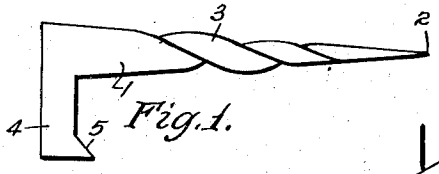


Fig. 1.

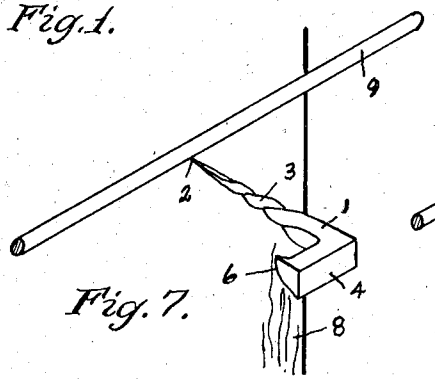


Fig. 7.

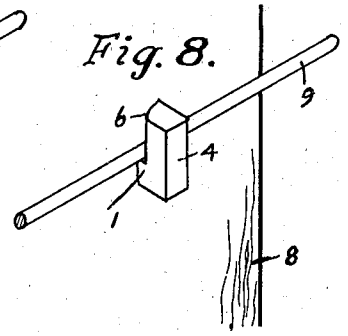


Fig. 8.

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BY Ernest B. Miller.

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Patented Nov. 11, 1941 2,262,499

UNITED STATES PATENT OFFICE

2,262,499

FENCE NAIL

Alexander Patton Hunerwadel, Red Bank, Tenn., assignor of one-half to Robert Alexander Hunerwadel, Chattanooga, Tenn.

Application July 19, 1940, Serial No. 346,317

4 Claims. (Cl. 85—20)

My invention pertains to a fence nail.

Adequate experience in the practical phases of the specified art having convinced me and later various associates and rural residents accustomed to permanent and temporary fence installation or erection that the market still lacks a nail fulfilling all the requirements of complete satisfaction, involving considerations of economy of manufacture, speed and effectiveness of employment, security in exercise of function and facility of extraction preparatory to disassembly, I applied myself to the design, construction and successful demonstration of a nail adapted to clamp fence wire to wooden posts and furnishing an insurance against its loosening during variant climatic conditions or fluctuating temperatures. The named considerations have been satisfied and the stated objects have been realized.

Accordingly, I am not unaware that twisted nail shanks are not new, nor heads with lateral extensions, wherefore I next specify the advantageous structural distinctions of my evolved nail formation and the novel method of using my nails during wire fence erection and the superior functional resistance of my type of nail.

I fabricate my nails out of an initially polygonal (preferably of squared) stock; form the shanks with a twisted section of predetermined pitch and linear extent and intermediately of their heads and pointed ends; form the heads with a lateral, approximately rectangular extension with the latter itself terminating as a somewhat sharpened flange and so proportion the location, pitch and longitudinal extent of the twisted middle section of the shank that when the nail is being driven into wood it will be caused to turn through an arc of substantially ninety degrees. The nail is held with its point against the post and under the wire, with its head (according to the exemplification of the drawing) directed horizontally to the left whereby when it is "driven home" the head will swing through a quarter turn and assume its desired upwardly directed position in which it has interlocked the wire while firmly clamping it to the post. The inner side of the head extension or that side which faces the point of the nail is preferably concave to serve as a socket for a section of the wire. It is emphasized that my fastening member is to be driven by axial impact and is not to be screwed into the post and that there are preferably three flutes on each of the four sides of the elsewhere quadrilateral structure. The squared head-adjacent end of the shank functions as a stopper against the entry of moisture likely to cause decay of the wood there in permanent assemblies. The three flutes on each side have been empirically determined to accomplish exact one-quarter turn while effecting a withdrawal movement of the nail sufficient to clear the wire of a temporary fence, the coarseness of pitch contributing. A manipulated claw hammer grasping the squared head readily withdraws the nail without injury either to it or to the wire. Shrinkage of the wood under sun rays does not result in release of my design of nail. The head and shank as I have originated them cooperate in function because a definite and advantageously combined axial and turning movement occurs when hammering which causes the head overhang to swing over, enclose and then clamp the wire.

It is to be recognized that the scope of my invention comprehends equivalent head and shank associated designs. The disclosure of the drawing and the specific description of the parts are merely one exemplification of a plurality of mechanical embodiments and arrangements subject to change in proportion, shape or size according to the peculiar needs of its cooperative use or function.

Adverting to the drawing:

Figure 1 is a side elevation of a fence-post nail embodying my invention.

Figure 2 is an end view looking toward its pointed end.

Figure 3 is an elevation viewed at ninety degrees with reference to the line of view followed in Figure 1.

Figure 4 is a perspective view.

Figure 5 is a perspective view of a portion of a fence comprising wire secured to wooden posts by my nails.

Figure 6 is a longitudinal section taken on a vertical plane through post, wire and nail.

Figure 7 illustrates the initial presentation of the nail in relation to a post and a strand of wire, with the point of the nail under the wire and with the lateral extension of the nail head disposed about horizontally to the left.

Figure 8 is a perspective view similar to Figure 7, but showing the nail driven in and automatically turned through an angle of ninety degrees consequent to an upward swing of the head extension.

My fence-post nail comprises a shank 1 composed of polygonal or, as illustrated, of squared stock to terminate at one end as a point 2. Intermediately of its ends the shank is twisted to form a fluted section 3. When such a nail is

driven into wood it automatically turns, but I have so designed it that the linear extent and pitch of the flutes of its twisted section will impart a one-quarter turn, which is to say, through an arc of ninety degrees, as it moves axially into wood for nearly the entire length of the shank. The nails which I have had made and successfully used, with consideration of their size and relative dimensions, have exactly three flutes on each of the four sides for effecting the desired one-quarter turn, though that is merely a preferred exemplification.

The head 4 is also of squared stock and comprises a lateral extension substantially at a right angle from the shank 1. The free end of the head 4 is fashioned with a flange 5 which projects in a direction about parallel with the shank whereby to be adapted partially to confine a section of wire strung across a series of fence posts. The flange 5 may be observed to have a peculiar shape, with a corner (exemplifiedly the upper one while resting on a level surface and with its head 4 directed toward the left as shown in Figure 4) beveled-off at 6 and terminating at a point 7. The purpose of the beveled area 6 will be hereinafter explained.

Figure 5 illustrates a type of fence employing wooden posts 8, superposed wires 9 strung thereacross and my nails serving detachably to hold the wires in desired spaced relation.

Figure 6 is a disclosure approximating the interrelation of a post, wire section and one nail when the latter has been driven in as far as necessary. It is to be understood that the nail is hammered in and twisted out by means of a claw-hammer or other suitable implement in instances when the fence was intended to function only temporarily.

Figures 7 and 8 illustrate the method of securing fence wire with the benefit of use of my origination. As appears in Figure 7, the point 2 of the nail is presented under the wire while the lateral extension 4 is directed toward the left. The hammer blows required to drive the nail to the position in which it appears in Figure 6 will have caused it to make a one-quarter turn of its head to have described an upward arc of ninety degrees to assume the position in which it appears in Figure 8. If the fencing is temporary, it is desirable easily and quickly to disassemble without injuring the wire, wherefore I have provided the beveled surface 6 so that when the claw of a hammer is applied to twist out a nail, such surface facilitates the initial non-marring travel of the head over the wire. Thereafter the coarse pitch of the flutes will rapidly enough effect an axial withdrawal to clear the wire. While the bevel 6 is shown on only one corner, the same principle might be applied by duplicating the bevel on the symmetrically opposite corner so that when a hammer is employed to cause the nail to enter the post by axial impact, the head of the nail will similarly clear the wire during its turning entry into the post.

I claim:

1. A nail comprising a twisted shank terminating as a point and a C-shaped head adapted partially to enclose a wire, separated portions of said head respectively merging, and projecting approximately parallel, with said shank, said projecting portion having a corner beveled.

2. A nail adapted for use with wooden fence posts, comprising a polygonal shank twisted intermediately of its ends and a head including a lateral extension and a terminal flange projecting therefrom, that single corner of said flange which is in advance during a withdrawal turning movement of the nail being beveled.

3. A wooden-fence-post nail comprising in combination, a shank pointed at one end, of polygonal cross section at its other end whereby to be adapted to function as a stopper and intermediately of its ends formed with a twist of predetermined coarse pitch and of predetermined axial extent on all sides; and an angularly projecting head terminating as an extension with a portion projecting in substantially the same direction as said shank, one side of said extension being shorter than its other side for the purpose specified.

4. A fence-post nail comprising a twisted shank and a C-shaped head adapted partially to enclose a wire, a free edge of said head being oblique with reference to a cross-sectional plane of said shank.

ALEXANDER PATTON HUNERWADEL.