UNITED STATES PATENT OFFICE.

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STAPLE FOR FENCES AND OTHER PURPOSES.

1,104,994.


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To all whom it may concern:

Be it known that I, WALTER E. AMBERG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Staples for Fences and other Purposes, of which the following is a specification.

The object of my invention is the provision of a substantially U-shaped staple provided with legs and so fashioned that when the staple is driven into a hole through a hollow metallic fence post or plate of limited thickness the legs will frictionally bear against the metal defining the hole and cause the said legs to cross each other and spread apart in planes approximately parallel with or slightly oblique to the plane of the base of the staple, and hold the wire or rod passing through the staple to the said post or plate, and which staple when entirely seated shall lock the wire so it cannot move relative to the post.

It is desirable to hold the wires of a wire fence taut between adjacent posts and not merely between end posts or corner posts or posts where a gate is located, so that when undue strains are imparted to the wires under the action of the displacement of the posts by frost or by the pressure of cattle against the wires or by the weight in climbing the fence the strains will not be transmitted to said end, corner or gate posts only.

With common means hitherto used for securing wires to hollow metallic posts it has been found difficult to lock the wires immovably to adjacent posts. My improved staple is designed to obviate this objectionable feature of construction and to lock the wires in taut positions between adjacent posts, thus relieving the end and corner posts from undue strains.

My invention consists generally of a staple of a substantially U shape with the legs offset from the plane of the base and bent toward each other so the points will lie in a plane at an angle to the plane of the base, and the ends spaced apart a distance sufficient to allow the staple to be passed over a wire; and it consists more specifically in certain other novelties of shape, all as specified hereinafter and set forth in the claims.

While the invention admits of various embodiments and may be applied in securing a wire or rod or tube to a metallic plate with a hole through it, I illustrate by the accompanying drawing its practical embodiment in connection with a hollow metallic fence post, the staple being constructed and combined with the wire and post according to the best modes of procedure I have so far devised for the purpose.

Figure 1 shows a hollow metallic fence post with wires secured to the same and locked in fixed positions by my improved staples. Fig. 2 is a partial horizontal section of Fig. 1 on line a—a, showing one of the wires locked to the post. Figs. 3, 4 and 5 are views on enlarged scales illustrating the principle of the application of the staple. Fig. 3 showing a horizontal sectional view of a plate or post with the pointed ends of the staple entering the hole therethrough and by dotted lines another advanced position of the staple; Fig. 4 showing a side elevation view of Fig. 3 with the points of the staple in the hole; and Fig. 5 showing a vertical sectional view, at the right the staple about to be driven into a hole in a plate or post, and at the left a wire or rod surrounded by the staple and to be held in place against a post or plate, the dotted lines indicating the position of the staple when seated. Fig. 6 illustrates the staple about to be driven into an oblong or elliptically shaped hole in a plate or post, the ends of the legs in this instance not being pointed but the legs each of a spiral shape.

Referring to Figs. 3, 4 and 5, the numeral 1 designates the staple; 2, the base of the staple; 3, the legs; 4, the pointed ends of the legs; and 5 a plate or section of a metallic post with a hole 6 therethrough. The legs are each offset or oppositely bent or twisted so the extreme ends will lie at opposite sides of an imaginary plane, see dotted line, Fig. 3, passing through the base of the staple and both legs where they spring from the base, and lie in a plane at an angle to said imaginary plane, and preferably the bend or twist of each leg is of a spiral shape from the base to the end of the leg: The end of each leg has a point 4 preferably formed by cutting the metal on a plane oblique to the length of the leg so as to form at the same time the beveled surfaces 7, 7, which surfaces are on the outer surfaces of the legs or oppositely disposed to each other. The fashioning of the staple should be such that a wire or rod may be passed between the ends to the base.
portion of the staple, or, in other words, so that a staple can be passed over the wire and
straddle it.

Upon reference to Figs. 3, 4 and 5 it will be seen that the distance A in Figs. 3 and 4 is the same as distance A in Fig. 5, and consequently that the distances B will be equal.

To insure that the legs of the staple when being driven shall frictionally bear against the metal defining the hole in the plate or post and cross each other and spread apart and lie in planes approximately parallel with or slightly oblique to the plane of the base of the staple, obviously certain relative dimensions of the hole and staple are necessary.

When the hole 6 in the plate or post is round or polygonal the diameter thereof should be less than the distance B of the staple, so the metal of the legs will frictionally engage the metal defining the hole, as at F, F, Fig. 5. It, therefore, follows that for use in a round hole the ends of the legs should be made pointed by forming the beveled surfaces 7, 7, so as to start the staple in the smallest hole possible to use in order that the maximum amount of spread of the legs may be obtained when the staple is seated as shown by dotted lines in Fig. 5 at G, G. Obviously, the action of the staple will be the same when driven into a square or polygonally shaped hole. Therefore, I do not limit the scope of the invention to the exact shape of the hole.

When the hole in the plate or post is made of an oblong or elliptical shape, as shown at 8, Fig. 6, the hole may be longer than the distance over the legs of the staple so the ends of the legs may enter the hole without being sharpened. However, it is desirable that as small a hole as practical shall be used relative to the dimensions of the staple so as to insure the maximum spread of the legs and the holding of the wire immovably to the post.

In Figs. 1 and 2 the invention is shown embodied in connection with a hollow metallic fence post and wires. In these figures 0 is the post, 10 the holes, 11 the wires, 12 the staples, and 13 the legs of a staple. It will be observed that when the staple is seated the metal of the wire at 14 has been upset or bent and forced into the hole sufficiently to lock the wire so it is practically immovable relative to the post, consequently in a fence so constructed the wires between adjacent posts will be taut and strains imparted to the wires will be transmitted substantially only to adjacent posts.

What I claim is:

1. A metallic staple of a substantially U shape having the legs offset or bent sidewise and toward each other so the ends of the legs will lie in a plane at an angle to the plane of the base, a space being provided between the ends of the legs for the passage of a wire.

2. A metallic staple of a substantially U shape having the legs offset or bent sidewise in opposite directions and toward each other and the ends of said legs provided with beveled surfaces forming points.

3. A metallic staple of a substantially U shape and having its legs pointed and offset or bent sidewise and toward each other so the points of the legs will lie in a plane at an angle to the plane of the base.

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

WALTER E. AMBERG.

Witnesses:
M. A. GARRETT,
J. B. WRIGHT.