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W. T. H. TAYLOR, W. J. JENKS & R. N. DYER.

INSULATING SADDLE STAPLE.

APPLICATION FILED NOV. 20, 1906.

Fig. 1

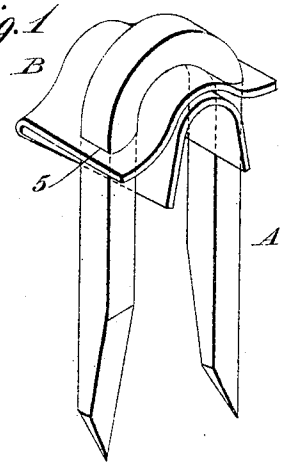


Fig. 2

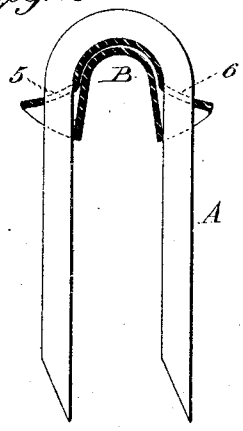


Fig. 3

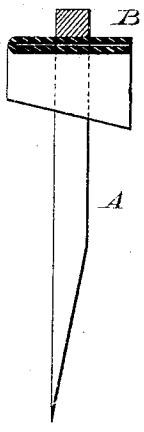
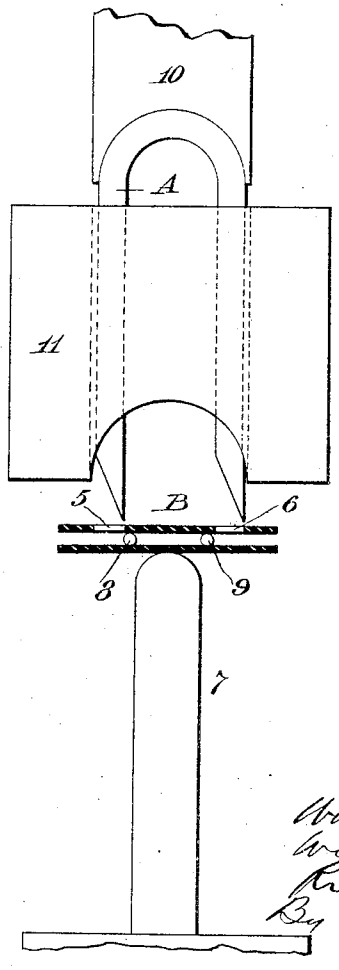


Fig. 4



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UNITED STATES PATENT OFFICE.

WALTER T. H. TAYLOR, OF BROCKTON, MASSACHUSETTS, WILLIAM J. JENKS, OF NEW YORK, N. Y., AND RICHARD N. DYER, OF EAST ORANGE, NEW JERSEY, ASSIGNORS TO INSULATING STAPLE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

INSULATING SADDLE-STAPLE.

No. 843,916. Specification of Letters Patent. Patented Feb. 12, 1907.

Application filed November 20, 1906. Serial No. 344,200.

To all whom it may concern:

Be it known that we, WALTER T. H. TAYLOR, a citizen of the United States, residing at Brockton, in the county of Plymouth and State of Massachusetts, WILLIAM J. JENKS, a citizen of the United States, residing in the borough of Brooklyn, city of New York, in the county of Kings and State of New York, and RICHARD N. DYER, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Insulating Saddle-Staples, of which the following is a specification.

Our invention relates to an improvement upon the insulating saddle-staple covered by Patent No. 420,635, granted to Luther Stieringer February 4, 1890. Its object is to provide a saddle which will not become readily detached from the staple, will not unnecessarily reduce the available width for the reception of the wire between the legs of the staple, will not require the formation of shoulders on the inner sides of the legs of the staple, will present the desirable thickness of insulation under the head of the staple, where the pressure upon the wire is exerted, and will be adapted to be made by automatic machinery rapidly and cheaply.

An attempt has been made to improve the Stieringer saddle-staple by threading lengthwise upon the staple a strip of thin insulating material, covering both the inner and outer sides of the legs of the staple near the head with a single thickness and giving a double thickness under the head of the staple; but this staple is objectionable for many reasons, among others that the covering of the outer sides of the legs of the staple adds to the cost of the article without increasing its electrical efficiency, while the double thickness under the head of the staple is not always effective, because one thickness is formed by the approaching ends of the strip of insulating material, leaving a break or gap in one thickness of the insulation at the very point where the integrity of the insulation is most important. This staple, further, is difficult to manufacture.

Our improved insulating saddle-staple has all of the advantages and none of the defects of the construction referred to.

In the accompanying drawings, Figure 1 is a perspective view, on an exaggerated scale, of our improved insulating saddle-staple. Fig. 2 is an elevation of the staple, the saddle being in section. Fig. 3 is a cross-section of the saddle and staple, taken at right angles to Fig. 2; and Fig. 4 is an elevation with the layers forming the saddle in section, showing the saddle about to be pierced by the staple and formed.

A is the metal staple, preferably having a curved or arch-shaped head. B is the insulating-saddle. The saddle is composed of two thicknesses of relatively thin insulating material, such as vulcanized fiber, formed of a single piece of material folded upon itself. The upper thickness of the saddle is pierced with holes 5 6, punched therein, through which the legs of the staple pass, thereby holding the saddle upon the staple by friction, while the lower thickness of the material rests between the legs of the staple beneath the upper thickness, being held in that position by reason of its being in one piece with the upper thickness.

In the manufacture of the saddle-staple a strip of the thin insulating material slightly moistened, so as to make it pliable, and having double the width of the saddle is folded longitudinally upon itself and is then cut transversely of the strip into short lengths, the upper layer of the folded strip being punched with the holes 5 6. The double thickness from which the saddle is to be formed is held upon an anvil 7. Between the folds of the saddle project spring-fingers 8 9. These spring-fingers serve to prevent the points of the staple from piercing the lower layer when they are driven through the holes 5 6 in the upper layer. The friction produced by driving points of the staple through the upper layer presses the upper layer downwardly upon the spring-fingers 8 9, which in turn press upon the lower layer and bend it over the anvil, so that when the staple-points reach the lower layer they strike it at such an angle that they slide along its surface without cutting into it. The spring-fingers are then withdrawn. At the same time that the staple is driven through the holes 5 6 by means of the driver 10 the former 11 is moved forward and

presses both thicknesses of the insulating material down upon the anvil 7, thus giving form to the saddle. The folding of the insulating-strip and the forming of the saddle do not cause the insulating material to crack or break, on account of the pliability produced by the moistening of the material. The subsequent drying of the material causes it to return to its hard and horn-like condition, the saddle retaining its form. It will be observed that both thicknesses of the insulation under the head of the staple are continuous or unbroken throughout their opposed surfaces and also that the saddle is made of a single piece of insulating material folded laterally with respect to a plane passing through the legs of the staple, the upper thickness of the fold only being pierced by the legs of the staple.

What we claim is—

1. As a new article of manufacture, an insulating saddle-staple having a saddle which is pierced by the legs of the staple and is held thereon by friction, such saddle presenting a single thickness of insulation on the inner sides of the legs of the staple, and a double thickness of insulation under the head of the staple, both thicknesses of insulation under the head of the staple being continuous or unbroken, substantially as set forth.

2. As a new article of manufacture, an insulating saddle-staple having a saddle made of two thicknesses of insulating material formed of one piece of material folded upon itself at right angles to the plane of the legs of the staple, one of such thicknesses only being pierced by the legs of the staple, substantially as set forth.

3. As a new article of manufacture, an insulating saddle-staple having a saddle made of two thicknesses of insulating material formed of one piece of material folded upon itself at right angles to the plane of the legs of the staple, the upper thickness only being pierced by the legs of the staple, substantially as set forth.

This specification signed and witnessed this 9th day of November, 1906.

WALTER T. H. TAYLOR.
WILLIAM J. JENKS.
RICHARD N. DYER.

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JNO. ROBT. TAYLOR,
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