Aug. 21, 1923. 1,465,783

F. POLZER

STAPLE STRIP

Filed July 10, 1922

FIG. 1.

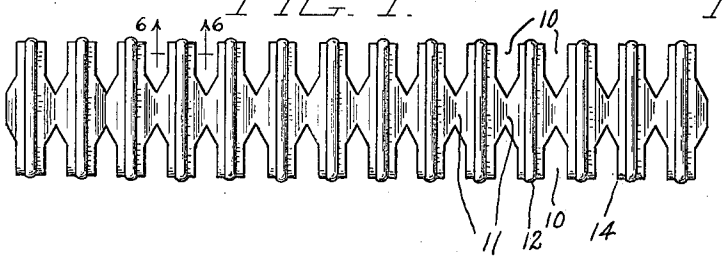


FIG. 2.

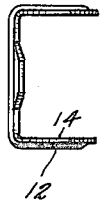


FIG. 3.

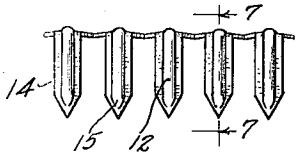


FIG. 4.

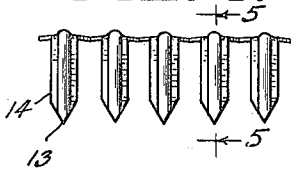


FIG. 5.

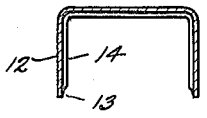


FIG. 6.

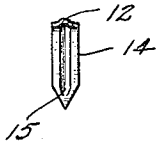
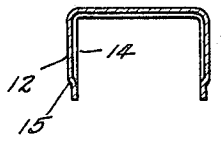


FIG. 7.



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Patented Aug. 21, 1923. 1,465,783

UNITED STATES PATENT OFFICE.

FRIDOLIN POLZER, OF NEW YORK, N. Y., ASSIGNOR TO THE E. H. HOTCHKISS COMPANY, OF NORWALK, CONNECTICUT, A CORPORATION OF CONNECTICUT.

STAPLE STRIP.

Application filed July 10, 1922. Serial No. 574,007.

To all whom it may concern:

Be it known that I, FRIDOLIN POLZER, a citizen of the United States, residing at New York, county of New York, State of New York, have invented an Improvement in Staple Strips, of which the following is a specification.

This invention relates to staples and staple strips for use with automatic staple driving machines whereby paper and the like are fastened by means of staples cut from an integral strip and clinched through the articles to be secured by means of a reciprocating plunger.

It is an object of the invention to provide an improved staple and staple strip which will allow use of a thinner gauge of metal than that ordinarily employed for these articles so as to effect considerable saving in the amount of metal required for a given number of staples.

It is also an object of the invention to so form the integral staples that staples formed of a thinner gauge metal will be as strong as staples formed of the thicker gauge metal now generally employed.

It is a still further object of the invention to provide a staple which will be more easily passed through the articles to be attached, and one which will also be more easily separated from the strip by the reciprocating plunger so that operation of the stapling machine will be made easier for the operator.

With these and other objects in view I have devised the improved staple and strip shown in the accompanying drawing, in which

Fig. 1 is a top plan view of my improved staple strip.

Fig. 2 is an end view thereof.

Fig. 3 is a side view of a portion of a staple strip showing one form of staple.

Fig. 4 is a similar view showing a slightly modified construction.

Fig. 5 is a sectional elevation of a staple substantially on the line 5—5 of Fig. 4.

Fig. 6 is a cross sectional view through a staple substantially on the line 6—6 of Fig. 1, and

Fig. 7 is a sectional view of a staple substantially on the line 7—7 of Fig. 3.

The staple strip is made from a single piece of sheet metal cut out as shown at 10 to form the individual staples which are connected together by a narrow strip of metal 11. Each individual staple is strengthened by means of a rib 12 pressed up from the metal of the staple substantially at the center thereof. This rib may extend throughout the entire length of the staple to and including the points 13 at the ends of the legs 14, as shown in Figs. 4 and 5, or it may stop short of the point of the legs, as shown at 15 in Figs. 3 and 7, or this rib may be formed only on a part of the staple which is required to be strengthened, such as the legs 14 which are required to overcome the resistance to the passage of the points thereof through the articles to be secured together without bending of these legs. In the form shown in Figs. 4 and 5 the rib curves the metal adjacent the point so that it more nearly approaches a round point and for this reason its entrance into or its passage through the articles to be attached is facilitated. The rib need not be continuous but may comprise a series of short ribs if desired.

The employment of the rib, as shown, strengthens each individual staple and increases its resistance to bending out of shape. It will, therefore, be apparent that with this arrangement the staples may be made of metal of considerable less thickness which will have the same strength as flat staples made of metal of considerable greater thickness, so that there is a considerable saving in the amount of material required to make a given number of staples. In actual practice the flat staple is ordinarily made of a metal of about the thickness of .014 inch while with the present construction they may be made of .010 or .011 inch thickness. It will also be apparent that, as the metal is thinner, it will be easier for the cutting edge of the plunger to sever the integral connection 11 between the individual staples in the operation of the machine in which they are to be used, rendering the use of the machine with these staples much less fatiguing to the operator especially where a large number of attachments are to be made. It is found that the rib, however, does not interfere with the proper clinching of the staple.

Having thus described the nature of my invention, what I claim is:

1. As an article of manufacture a staple strip comprising a plurality of staples in-

tegrally connected and adapted for use in an automatic stapling machine in which the individual staples are severed from the strip and driven, said staples being substantially U-shaped and of substantially flat sheet metal provided with a longitudinal strengthening rib extending throughout substantially the length of the legs thereof to a position at least adjacent the points of the staple, and the connection between the staples being substantially straight transversely of the strip.

2. As an article of manufacture a staple strip comprising a plurality of staples integrally connected and adapted for use in an automatic stapling machine in which the individual staples are severed from the strip and driven, said staples being substantially U-shaped and of substantially flat sheet metal provided with a continuous longitudinal strengthening rib extending throughout the length of the body portion and substantially throughout the length of the legs thereof to a position at least adjacent the points of the staple, and the connection between the staples being substantially straight transversely of the strip.

In testimony whereof I affix my signature.

FRIDOLIN POLZER