Nov. 8, 1932. G. WINTER 1,887,079

METHOD OF MANUFACTURING STAPLE DRIVING PUNCHES

Filed May 4, 1931

Fig. 1

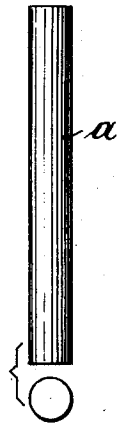


Fig. 2

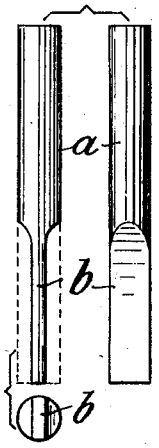


Fig. 3

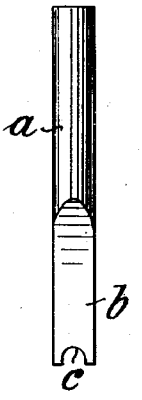


Fig. 6.

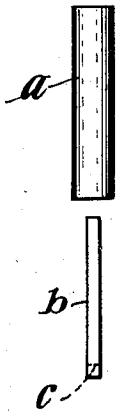


Fig. 4

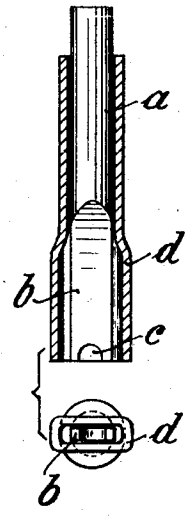


Fig. 5

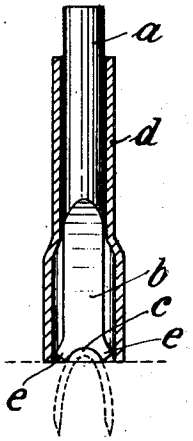
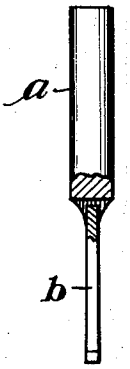


Fig. 7.



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UNITED STATES PATENT OFFICE

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METHOD OF MANUFACTURING STAPLE-DRIVING PUNCHES

Application filed May 4, 1931, Serial No. 534,973, and in Austria May 10, 1930.

This invention relates to the known devices for driving wire staples, in particular as used in connection with electric installation work, and has for its object to simplify and to cheapen the manufacture of such devices by providing for the making of the punch and for the fitting and assembling of the same in its guiding sleeve or holder according to a method which has proved in practise to be the most advantageous for this purpose. In known tools of this character, it is apparent that they are rather complicated or they utilize a limiting pin or key to prevent the punch from falling out of its guide member, which pin or key becomes easily damaged upon use of the punch.

According to the method provided by the present invention a round-section bar destined to form the punch is first cut to length, after which for a certain distance from one end the material of the bar is removed on two sides to leave a thin central flat portion of the width of the diameter of the bar, the end of which flat portion is then provided with a central notch. The punch is then inserted in the guiding sleeve or holder which is suitably flattened at one end. The forked end of the flat portion of the punch formed by the above-mentioned notch is then spread laterally, so that the punch can no longer be withdrawn from the sleeve.

The flat end portion of the punch can also be made by welding or soldering a suitably shaped strip to the one end of a cylindrical bar.

The separate stages of the method according to the invention are illustrated, by way of example, in the accompanying drawing in which:

Figure 1 is a side view and an end view of a metal blank of which the punch is made,

Fig. 2 shows two side views, one turned 90° in respect to the other, and an end view showing the first step of the method,

Fig. 3 is a side view showing the next step,

Fig. 4 is a side view and an end view showing a further step in the method showing the punch in its sleeve,

Fig. 5 is a side view showing the final step of the method,

Fig 6 is a side view of the punch in two parts, and

Fig. 7 is a side view partly in section showing the two parts of Fig. 6 secured together.

Referring to the drawing, the punch proper is formed of a round-section bar or blank *a* (Fig. 1) of the length of the finished punch. This bar *a* is cut away for a certain distance from one end, on two sides, so that a central flat portion *b* remains (Fig. 2). The end of this flat portion is then notched at *c* (Fig. 3). The punch is now in a state to be inserted from the upper end into its guide sleeve or holder *d* (Fig. 4) which is cylindrical in shape with its lower end flattened to receive the flat end portion of the punch. For the purpose of locking the punch against removal from or rotation within the holder the forked end of the punch formed by the notch *c* is now spread out (Fig. 5), so that the ends *e* are bent slightly outwards, making the over-all width at the end of the punch greater than that of the flat portion *b* or than the diameter of the bar *a*. In consequence, the punch can only be lifted within the holder until this flared end comes into contact with the shoulder formed at the transition from the cylindrical portion of the holder to the flattened portion of the same. The assembling of the punch in its holder is thus completed, and the device is ready for use.

The flat portion *b* of the punch can also be made by the welding or soldering of a strip of metal of the same breadth as the round portion of the punch to one end of the latter, the remaining stages of the manufacturing process being the same as before.

It is likewise possible to spread the end of the punch before the insertion thereof in the holder, the latter being subsequently flattened about the flat portion of the punch. The punch may be made in two pieces or sections as shown in Fig. 6 in which the flat portion may be made separately and then welded, soldered or secured in any other suitable manner to the bar *a* as shown in Fig. 7.

I claim:—

1. The method of manufacturing a de-

vice for driving wire staples which consists in forming a punch having a cylindrical upper portion and a flat lower portion, cutting a notch in the outer end of the said flat portion, inserting said punch in a hollow sleeve having a cylindrical upper portion and a flat lower portion, the width of the flat lower portion being greater than the diameter of said cylindrical upper portion, and widening said notch laterally to flare the extreme end of the flat lower portion of the punch, for the purpose of assembling said punch within the hollow sleeve, and of preventing the removal of the punch from the sleeve.

2. A method as claimed in claim 1, in which the said punch is formed by the welding of a metal strip to the end of a round-section bar of a diameter equal to the breadth of the said strip.

3. A method as claimed in claim 1, in which the said punch is formed by soldering a strip of metal to the end of a round-section bar of a diameter equal to the breadth of the said strip.

4. The method of manufacturing a device for driving staples which comprises forming a punch having a cylindrical upper portion and a flat lower portion, cutting a notch in the outer end of the flat portion, widening said notch laterally to flare the extreme end of said flat lower portion of the punch, inserting the punch in a cylindrical hollow sleeve, and flattening the lower portion of the hollow sleeve adjacent the flat lower portion of the punch thereby preventing the removal of the punch from the sleeve.

5. The method of manufacturing a device for driving staples which comprises flattening one end of a cylindrical metal blank, cutting a notch in the outer end of the flat portion of the blank, flattening one end of a cylindrical hollow sleeve, inserting the blank in the sleeve, and widening out the notch laterally to flare the extreme end of the flat portion whereby the flared notch and flat portion of the hollow sleeve prevent the removal of the blank from the sleeve.

6. The method of manufacturing a device for driving staples which comprises providing a flat portion on one end of a cylindrical metal blank, cutting a notch in the outer end of the flat portion of the blank, flattening one end of a cylindrical hollow sleeve, inserting the blank in the sleeve, and widening out the notch laterally to flare the extreme end of the flat portion whereby the flared notch and flat portion of the hollow sleeve prevent the removal of the blank from the sleeve.

7. The method of manufacturing a device for driving staples which comprises providing a flat portion on one end of a cylindrical metal blank, cutting a notch in the outer end of the flat portion, inserting the blank and flat portion in a cylindrical hollow sleeve, flattening one end of the sleeve adjacent the flat portion of the blank, and widening out the notch laterally to flare the extreme end of the flat portion whereby the flared notch and flat portion of the sleeve prevent the removal of the blank and its flat portion from the sleeve.

In testimony whereof I affix my signature.

GERHARD WINTER.