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MANUFACTURE OF ELECTRIC CONTACTOR PRONGS

Original Filed June 10, 1939

Fig. 1.

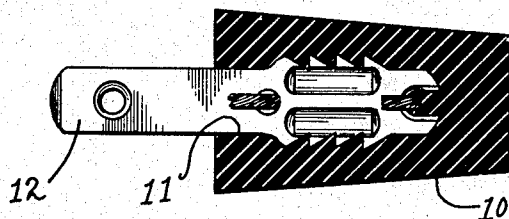


Fig. 2.

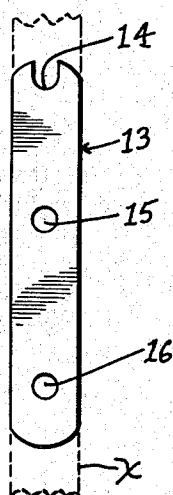


Fig. 3.

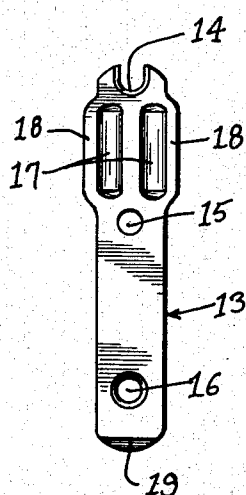


Fig. 4.

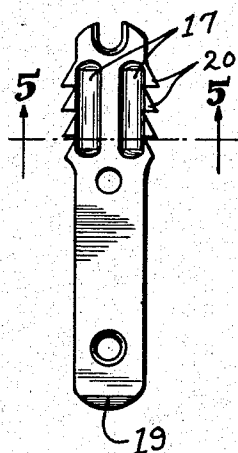


Fig. 5.



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MANUFACTURE OF ELECTRIC CONTACTOR PRONGS

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Original application June 10, 1939, Serial No.
278,451. Divided and this application January
20, 1940, Serial No. 314,806

4 Claims. (Cl. 29—155.55)

This invention relates to the manufacture of electric contactor prongs and particularly to the method of forming serrations or projections on the prongs for the purpose of providing a secure anchorage for the prong when inserted into an electric plug made of rubber or a similar material.

The main object of this invention is to make a contactor prong for the above use in which the original metal stock from which the prong is made is no wider than the finished width of the prong, and by a swaging operation portions of the stock are forced outwardly on opposite sides beyond the original width of the prong blank and then by a clipping operation a series of serrations or teeth-like projections are provided within the drifted portions of the stock.

This invention is a divisional application of my copending application filed June 10, 1939, Serial No. 278,451.

Other objects and advantages of this invention will be apparent from the following description which taken in connection with the accompanying drawing discloses another form of my invention as distinct from the above referred to application.

In the drawing:

Fig. 1 is a longitudinal sectional view through the body portion of an electric plug showing a contactor prong in its finished state embedded therewithin.

Fig. 2 is a plan view of a prong member, per se, as it appears after the first operation of piercing and parting the blank from a strip of metal of a width no greater than the blank.

Fig. 3 is a similar view showing the blank after a secondary operation of swaging is performed to force longitudinal sections of the stock material outwardly from opposite sides of the original blank width.

Fig. 4 is a view showing the blank in its completed form with serrated teeth clipped or notched into the drifted stock portion of the blank.

Fig. 5 is a transverse sectional view through the tooth portion of the blank along the line 5—5 of Fig. 4.

In the drawing the numeral 10 indicates a plug body which in this case may be of the soft rubber type having a socket 11 provided therein to receive the contactor prong 12 in its finished state. The socket 11 preferably is somewhat restricted relative to the dimensions of the cross section to the prong so as to cause the prong to be inserted therewithin only by a forced fit.

The manner in which the prong 12 is produced is best shown in Figures 2, 3 and 4 wherein the original blank is indicated by the numeral 13. This original blank 13 out of which the prong 12 is fabricated is of the same width as the metal stock from which the blank is cut, the strip stock being shown in dotted outline of Fig. 2 and indicated by the letter X. During the operation of parting the blanks from each other in the strip X other operations of piercing a terminal end notch 14 at the inner end of the blank 12 and two apertures 15 and 16 may be effected in the blank.

In order to provide stock from which to cut teeth that will project beyond the original blank width, a pair of longitudinal depressions 17 are provided in the blank face from both opposite sides thereof and adjacent the edges of the blank as shown in Fig. 3. These depressions on opposite sides of the blank as shown in Fig. 5 are in substantial alignment with each other for the purpose of causing a substantial amount of the stock to be forced outwardly from opposite sides of that vicinity of the blank and form a pair of projecting wings 18 of a substantial length. While the sockets 17 are shown as struck inwardly from two opposite flat planes of the blank 13, it will be obvious that the wings 18 might be also formed by striking in depressions of a greater degree of depth from only one side of the blank. The reason for having the depressions struck in from two opposite sides is to prevent a too serious fracture of the metal at that point and results in less hardship upon the tools. Simultaneously with the forming of the depression 17, the outer end 19, the notch 14 and the piercing 16 may be slightly beveled so as to give the blank a more finished appearance.

By a subsequent clipping or notching operation a series of teeth 20 are cut into the outwardly projected wings 18 in such a manner that they are in the form of a series of serrations or saw-like teeth with one edge of the notch preferably disposed substantially perpendicular to the longitudinal axis of the blank, while the other edge is inclined to the axis so as to allow the prong to be more easily inserted into the plug 10 while the perpendicular sections will serve to bite into the rubber with any outward force applied thereto.

With this method of cutting the teeth into the blank by the last operation, the teeth in the final form will all be uniform in size and shape and this is desirable when much depends upon the efficiency of the teeth to afford a secure

anchorage within the plug 10 after the assembly of the prong 12.

It is to be understood that this invention is not limited to the exact form that is shown but may comprehend other methods of invention without departing from the spirit of the invention.

What I claim is:

1. The method of producing a conductor prong for an electric connector plug comprising cutting a longitudinal blank from a strip of metal of the same width, swaging in a direction perpendicular to the plane of the blank an elongated socket adjacent one longitudinal edge thereof to cause a portion of the blank stock to be forced outwardly beyond the original edge of the blank in the form of a wing disposed in a plane common with the blank, and subsequently cutting a series of teeth-like barbs into said wing with said teeth-like barbs disposed in the same plane with said blank.

2. The method of producing a conductor prong for an electric connector plug comprising cutting a longitudinal blank from a strip of metal of the same width, swaging into said blank in a direction perpendicular thereto a pair of elongated sockets adjacent opposite longitudinal edge thereof to cause wing portions to be forced outwardly from opposite edges and on a plane common with the blank, and subsequently cutting

a series of teeth-like barbs into said wing portions with said teeth-like barbs disposed in the same plane with said blank.

3. The method of producing a conductor prong for an electric connector plug comprising cutting a longitudinal blank from a strip of metal of the same width, swaging into said blank from opposite sides and in a direction perpendicular thereto pairs of elongated sockets adjacent the edges of said blank to cause wing portions to be forced outwardly from opposite edges of said blank on a plane common therewith, and subsequently cutting a series of teeth-like barbs into said wing portions with said teeth-like barbs disposed in the same plane with said blank.

4. The method of producing a conductor prong for an electric connector plug comprising cutting a longitudinal blank from a strip of metal of the same width, swaging into said blank in a direction perpendicular thereto a pair of elongated sockets adjacent opposite longitudinal edges thereof to cause wing portions to be forced outwardly from opposite edges on a plane common with the blank, and subsequently clipping a series of buttress-shaped teeth into said wing portions with said teeth disposed in the same plane with said blank.

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