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MANUFACTURE OF ELECTRIC CONTACTOR PRONGS

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Fig. 1.

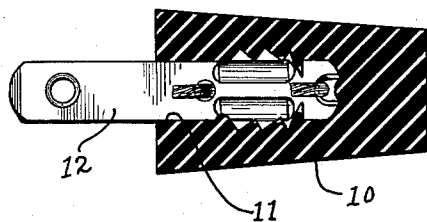


Fig. 2.

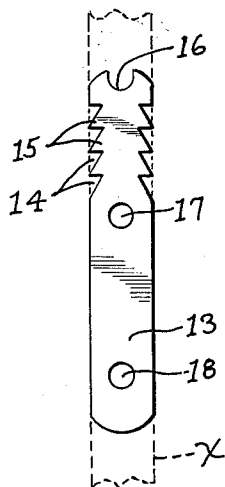


Fig. 3.

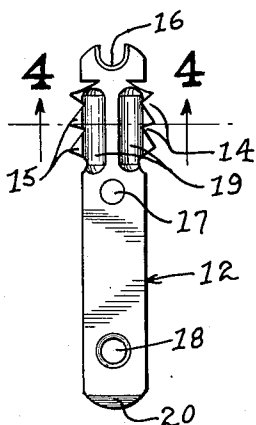
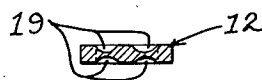


Fig. 4.



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MANUFACTURE OF ELECTRIC CONTACTOR PRONGS

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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 beyond the original width of the prong blank and constitute a series of serrations or teeth-like projections.

This invention is an improvement on my co-pending application filed January 11, 1938, Serial Number 184,399. Other objects and advantages of the invention will be apparent from the following description which taken in connection with the accompanying drawing discloses two forms of my invention.

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 blanking operation showing a series of notches cut into the original side edge of the blank to produce the desired number of teeth.

Fig. 3 is a similar view showing the blank after a secondary operation of swaging is performed to force the teeth outwardly beyond the original width of the prong blank.

Fig. 4 is a transverse sectional view through the toothed portion of the blank taken along the line 4—4 of Fig. 3.

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 of 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 Figs. 2 and 3 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 in Figure 2 and indicated by the letter X.

Adjacent one end of the blank 13 a series of

notches 14 are cut in from the opposite longitudinal edges; specifically these notches are cut so that one edge of the notch is disposed substantially perpendicular to the longitudinal axis of the blank while the other edge is inclined to the axis so as to produce a series of serrations or saw-like teeth 15, the points of which are still within the original blank width. Along with the operation of cutting out the notches, other piercings may be effected at the same time, as for instance, the terminal lug notch 16 provided at the inner end of the blank and two piercings 17 and 18.

In order to force the teeth 15 outwardly beyond the blank width, one or more elongated depressions or sockets 19 are formed within the stock at the base of the teeth 15. These sockets may be struck inwardly from one flat plane of the blank 13 or preferably they are struck inwardly from the two opposite sides of the blank in a manner as best shown in Fig. 4. The sockets 19 are produced by a punching operation and are so formed as to cause the metal of the blank 13 to be displaced and drifted outwardly beyond the original opposite longitudinal edges of said blank. Thus the teeth 15 will be forced outwardly from their original position so that they project beyond the original blank width as shown in Fig. 3. Simultaneously with the forming of the depressions 19, the outer end 20, the notch 16 and the piercing 18 may be slightly bevelled so as to give the blank a more finished appearance.

While there has been shown only one form of the invention, it is to be understood that this invention is not limited thereto but may comprehend other methods of construction 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, cutting a series of notches in from the longitudinal edge of said blank to form a plurality of teeth on a plane common with the blank, and swaging in a direction perpendicular to the plane of the blank an elongated socket into said blank directly in back of all of said notches and thereby causing all the teeth to be forced outwardly beyond the original longitudinal edge of said blank.

2. The method of forming a conductor prong for an electric connector plug comprising cutting a longitudinal blank from a strip of metal of the same width, cutting a series of notches in from the opposite longitudinal edges of said blank to form a plurality of sharp teeth on a plane com-

mon with the blank, and swaging in a direction perpendicular to the plane of the blank elongated sockets into said blank directly in back of all of said notches and thereby causing the opposite sets
5 of teeth to be forced outwardly beyond the original longitudinal edges of 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
10 same width, cutting a series of notches in from the opposite longitudinal edges of said blank to form a plurality of sharp teeth on a plane common with the blank, and swaging elongated sockets adjacent the base of said notches in from
15 both opposite sides of said blank and in a direction perpendicular thereto and thereby causing

the opposite sets of teeth to be forced outwardly beyond the original longitudinal edge of said blank.

4. The method of producing a conductor prong for an electric connector plug comprising cutting
5 a longitudinal blank from a strip of metal of the same width, cutting a series of notches in from one longitudinal edge of said blank of a character to provide a plurality of buttress shaped teeth
10 on a plane common with the blank, and swaging an elongated socket into said blank at the base of said notches and in a direction perpendicular to the plane of said blank and thereby cause all
15 the teeth to be forced outwardly beyond the original longitudinal edge of said blank.

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