

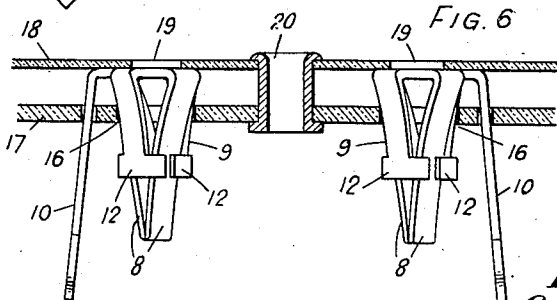
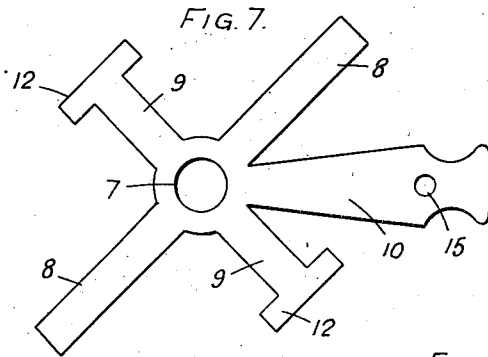
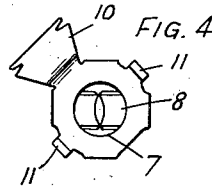
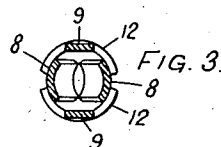
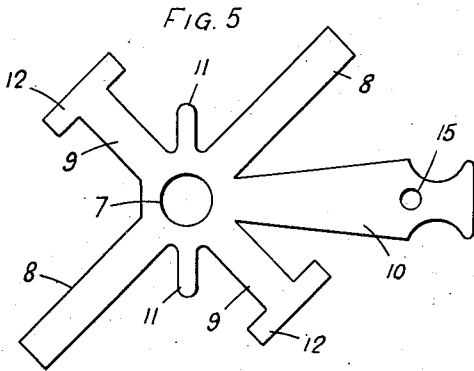
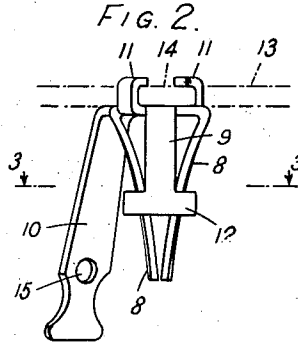
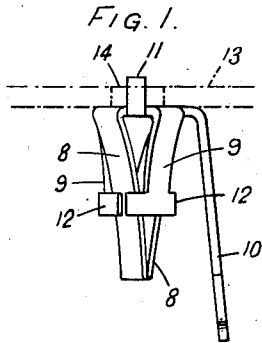
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SPRING SOCKET FOR ELECTRIC PLUG COUPLINGS

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SPRING SOCKET FOR ELECTRIC PLUG
COUPLINGSGeorge Wagstaff, Beeston, Nottingham, England,
assignor to Carr Fastener Company Limited,
Stapleford, Nottingham, EnglandApplication June 2, 1936, Serial No. 83,005
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6 Claims. (Cl. 173—328)

This invention relates to an improved spring socket for electric plug couplings. The object of the invention is to produce a spring socket which gives a firm gripping contact on the inserted plug or the like and at the same time returns to its normal dimensions after the plug or the like has been removed and thus does not become de-

formed in use. According to the invention the socket is designed with two sets of spring members. One set engage the inserted plug or the like to make the electric contact while the other set are arranged to bear on the first set to reinforce them, increasing the grip on the plug and at the same time preventing the socket from splaying. The head of the socket may be formed with lugs for fixing it to a thermionic valve holder for example. The socket is also provided with a lug or tag for attachment to a conductor or lead.

In the preferred form the socket is made from a single piece of suitable metal by a stamping process. Such a one-piece socket may comprise a top portion having a hole for the reception of the plug or the like, and integral with this top portion are for example, four down-turned spring fingers, a lug or tag for attachment to an electrical conductor or lead and preferably two upstanding lugs for fixing the socket to a holder or the like.

Two of the aforesaid spring fingers are shaped and bent to grip the inserted plug or the like and the other two spring fingers act as reinforcements and are formed with lateral extensions for example so that they engage the outside of the first-mentioned fingers. Thus when a plug or the like is inserted into the socket, the first-mentioned fingers yield and grip the plug and at the same time these fingers meet the extensions on the reinforcing spring fingers and thus the grip on the plug is increased and at the same time the extra spring resistance prevents the socket from being splayed. The socket also recovers shape readily when the plug is removed.

To enable the invention to be fully understood it will now be described by reference to the accompanying drawing in which:

Fig. 1 is an elevation of a socket made according to one form of the invention shewn attached to a plate, and

Fig. 2 is an elevation thereof from a different angle.

Fig. 3 is a section on the line 3—3 Fig. 2 and

Fig. 4 is a plan view of the socket.

Fig. 5 is a plan view of a blank for forming the socket shewn in Figs. 1-4.

Fig. 6 is a part sectional elevation shewing two sockets of modified construction secured in position between two plates, and

Fig. 7 is a plan view of the blank for forming one of the sockets.

Referring to Figs. 1-5, the spring socket illustrated is formed from a single piece of suitable metal and comprises a top portion having a hole 7 and four down-turned spring fingers 8, 8, 9, 9, a lug 10 for attachment to an electric conductor and two upstanding lugs 11 for fixing the socket to a holder or the like. The fingers 8 have a curved cross section (Fig. 3) and are shaped and bent to grip the inserted plug while the fingers 9 are formed with lateral extensions 12 so that they engage the outside of the fingers 8 and the extensions 12 are bent to embrace the fingers 8 as clearly shewn in Fig. 3. Thus the spring fingers 9 act as reinforcements to the fingers 8, increasing the grip on the inserted plug and at the same time preventing the socket from splaying. The socket also recovers shape readily when the plug is removed. The socket is shewn as fixed in a holder plate 13 the plate having a hole 14 corresponding to the hole 7 in the socket top the lugs 11 being passed through holes in the plate adjacent to the hole 14 and their ends turned over on to the plate as indicated in Figs. 1 and 2. The lug 10 is preferably provided with a hole 15 for the attachment of the electric conductor.

Fig. 5 shows a plan view of the blank for forming the socket shewn in Figs. 1 and 2 and it will be understood that the blank is bent and shaped by a suitable pressing operation into the finished form.

Figs. 6 and 7 shew a socket similar to that shewn in Figs. 1-5 with the exception that the lugs for securing the socket to a holder are omitted. In this case the socket is intended to be gripped between two plates which are secured together to form a holder.

As shewn in Fig. 6 the socket is inserted into a hole 16 in the lower plate 17, the lug 10 passing through another hole in the plate. The upper plate 18 of the holder has a hole 19 registering with the hole in the top of the socket and the two plates 17, 18 are secured together in known manner by the eyelet 20. In the example illustrated two sockets are shewn in the holder but obviously any desired number of sockets may be inserted. In this case the socket is formed from the blank shewn in Fig. 7, the blank being identical with that of Fig. 5 except that the lugs 11 are omitted.

It will be understood that the socket may com-

prise any desired number of spring fingers and the reinforcing fingers may be variously shaped or arranged to engage the other fingers.

While the socket according to the invention is particularly adapted for use with thermionic valves it will be understood that it is also applicable for use with various kinds of electrical apparatus.

I claim:

1. A one-piece spring socket member for electric plug couplings formed from a single piece of metal and comprising a head, downwardly converging spring contact fingers extending from spaced portions of said head and presenting between them a plug-receiving socket, and downwardly extending yieldable members extending from said head intermediate said fingers, said yieldable members having formed at their ends lateral extensions substantially embracing said fingers to reinforce said fingers and restrain spreading thereof.

2. A one-piece spring socket member for electric plug couplings formed from a single piece of metal and comprising a head, downwardly converging spring contact fingers extending from spaced portions of said head and presenting between them a plug-receiving socket, and downwardly extending yieldable members extending from said head intermediate said fingers, said yieldable members having formed at their ends lateral extensions substantially embracing said fingers to reinforce said fingers and restrain spreading thereof, and a conductor attaching lug extending from said head between one finger and one yieldable member and arranged to extend downwardly therefrom in spaced relation to said socket.

3. A one-piece spring socket member for electric plug couplings formed from a single piece of metal and comprising a head, downwardly

converging spring contact fingers extending from spaced portions of said head and presenting between them a plug-receiving socket, and downwardly extending yieldable members extending from said head intermediate said fingers, said yieldable members having formed at their ends lateral extensions substantially embracing said fingers to reinforce said fingers and restrain spreading thereof, and a pair of oppositely disposed attaching lugs extending from said head intermediate said fingers and yieldable members.

4. A spring socket member for electric plug couplings formed from a single sheet metal stamping, said socket member comprising a head, a pair of opposed fingers extending from opposite sides of said head and bent relative thereto to provide a plug receiving socket between them, and a pair of opposed yieldable members extending from opposite sides of said head intermediate said fingers and bent to a position adjacent the fingers, said yieldable members having lateral projections at their ends substantially embracing and reinforcing said fingers.

5. A spring socket member for electric plug couplings formed from a single sheet metal stamping, said socket member comprising a head, a pair of opposed fingers extending from opposite sides of said head and bent relative thereto to provide a plug receiving socket between them, and a pair of opposed yieldable members extending from opposite sides of said head intermediate said fingers and bent to a position adjacent the fingers, said yieldable members having T-shaped ends substantially embracing and reinforcing said fingers.

6. A spring socket member as defined in claim 4 characterized in that a pair of opposed integral attaching lugs extend from said head adapted to be clinched over a supporting part.

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