

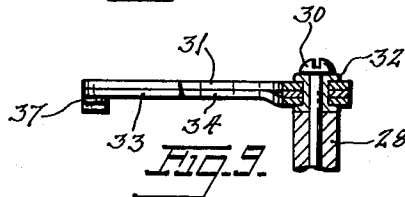
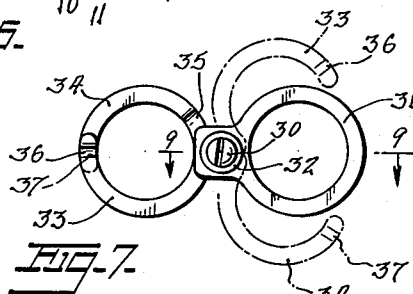
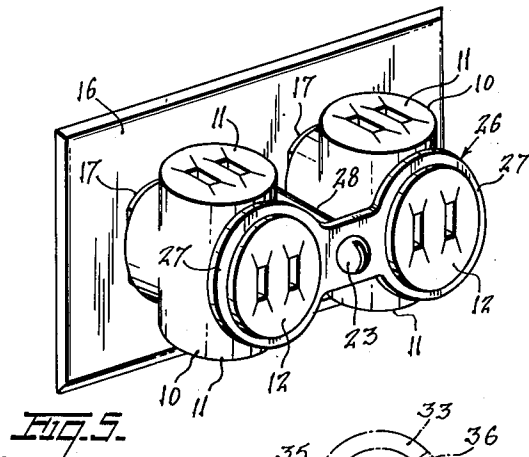
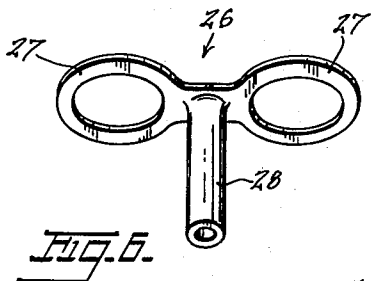
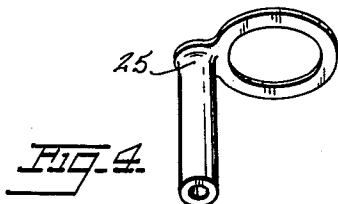
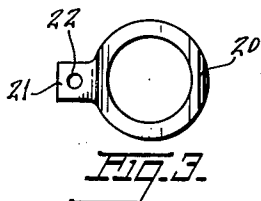
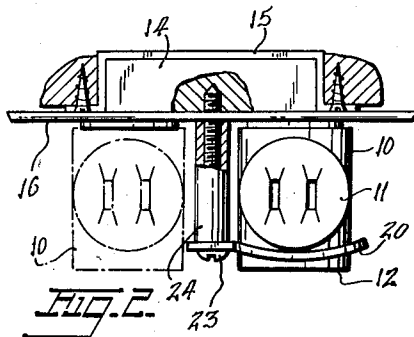
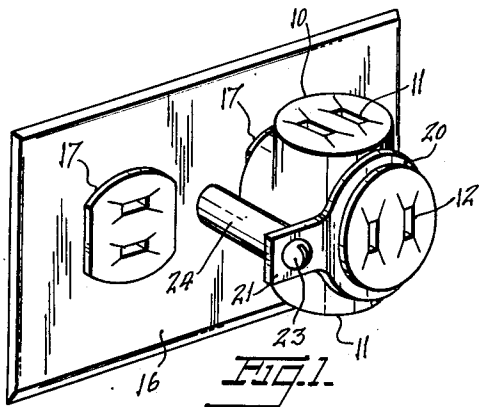
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HOLDING CLAMP FOR MULTIPLE OUTLET PLUGS

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HOLDING CLAMP FOR MULTIPLE OUTLET PLUGS

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5 Claims. (Cl. 339-77)

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This invention relates to a clamp for electric plugs, particularly the multiple outlet variety.

Multiple outlet plugs, sometimes called three way plugs, are commonly used in combination with an electric wall outlet socket to enable the latter to supply current to a plurality of electric appliances. A pair of prongs projecting from the multiple outlet plug serve not only to conduct current from the wall outlet but also to support physically the weight of the plug which, as a plurality of appliance plugs are to be engaged therewith must be of considerable size. In practice it has been found that the said prongs perform adequately when a plug is first put into service but that the weight of the plug and that of the appliance plugs connected therewith and movements of the wires associated with said appliance plugs soon effect a deterioration in the ability of the prongs to support the weight and to transfer electric current from the wall outlet to the appliances.

The principal object of the invention is the provision of clamping means for securing multiple plugs of the type discussed in engagement in a wall outlet.

Another object of the invention is to design the clamping means in such manner that the application thereof to a wall outlet does not require any alteration of the latter.

Still another object of the invention is to adapt the clamp for use with a pair of multiple plugs associated with a double wall outlet.

A modified form of the invention has for its object to provide clamping means for a pair of multiple plugs wherein the means associated with one of the plugs is readily releasable for purposes of removing the plug.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a perspective view illustrating a first form of the invention applicable to a single multiple plug.

Fig. 2 is a plan view, partly in section, of the means shown in Fig. 1.

Fig. 3 is an elevational view of an element shown in Figs. 1 and 2.

Fig. 4 is a perspective view illustrating a modified construction of means shown in Figs. 1 and 2.

Fig. 5 is a perspective view similar to Fig. 1 but

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illustrating the means of the invention as applied to a pair of plugs.

Fig. 6 is a perspective view of an element shown also in Fig. 5.

Fig. 7 is an elevational view of a modified form of the invention.

Fig. 8 is a fragmentary detail view of a portion of the device of Fig. 7.

Fig. 9 is a sectional view of the device of Fig. 7 in a closed position, taken on line 9-9 of Fig. 7.

Referring to Figs. 1 and 2 the invention is illustrated as applied to a standard three way plug 10 in the form of a pair of intersecting cylinders of which one has a female socket 11 at either end while the other has a female socket 12 at one end and a pair of prongs 13 projecting from the other end.

As shown the said prongs 13 are engaged in a standard wall outlet to transfer electric current from the latter to the female sockets 11 and 12. The wall outlet comprises a contact box 14 to which wires from a suitable source of electric energy are connected and into which the prongs of a pair of plugs extend for electrical connection to the wires. Box 14 has secured thereto a metal strap or bracket 15 by which the same is fastened in a wall opening in the manner indicated. Associated with box 14 is a face plate 16 which covers the said opening in the wall but has apertures therein to expose the receptacles for the prongs of the plugs to be connected to said source of electrical energy. At its center, face plate 16 also has an aperture 17 through which a screw can be threaded into a bore 18 provided in box 14, in order to secure the plate in place. The construction of box 14 is extremely well known in the art and need not be described here.

In Figs. 1 and 2 a single multiple plug 10 is shown connected to the wall outlet and it is believed obvious that the size of the same is incompatible with the ability of the prongs 13 to support the same physically and at the same time provide good electrical contacts, particularly when it is realized that additional strains are placed thereon by appliance plugs connected thereto.

According to the invention, a clamp or support ring 20 is mounted on the cylindrical portion of plug 10 surrounding socket 12 thereof, which, it will be remembered is located opposite the prongs 13. At one side, see also Fig. 3, ring 20 is provided with a short tail 21 having an aperture 22 therein to receive a long bolt 23.

Bolt 23 extends through a sleeve 24 which bears

against face plate 16, and is threaded into bore 18 to draw tail 21 tightly against said sleeve.

The construction is such that bolt 23, sleeve 24 and ring 20 provide a firm support for plug 10 and prevent movements thereof in any direction. It is to be noted that ring 20 encircles a portion of plug 10 and thereby gives protection against forces applied to the plug from any direction as by an unintentional kick or by pulling on appliance plugs connected thereto.

Referring now to Fig. 4 there is disclosed a modification of the structure described above. As shown the ring 20, its tail 21 and sleeve 24 are replaced by a single cast or otherwise formed brace or clamp 25 which functions in the same manner and to the same end as the parts replaced thereby. One piece brace or clamp 25 however has the advantage that it forms a more rigid structure and therefore gives a greater measure of protection.

Referring now to Figs. 5 and 6 the means of the invention is shown as applied to a pair of multiple plugs 10 connected to the same wall outlet. As shown a one piece cast or otherwise formed brace or clamp 26 includes a pair of rings 27 each encircling a portion of one of the plugs 10 and a sleeve portion 28 through which the bolt 23 described above is extended to secure the clamp in place. Of course, if desired, the construction shown in Figs. 1 and 2 can be developed to support a pair of plugs, but the one piece construction is preferred because of the increased rigidity obtained therewith.

It is believed evident that the described two plug clamp effectively bars movements of the plugs in the same manner as described above in connection with the one plug clamp.

In some instances one of the receptacles of a wall outlet is used by a multiple socket plug and at other times by some other plug device, whereas the second receptacle is always utilized by a multiple plug. In order to support the plug which is in the nature of a temporary connection and yet to provide easy access to the receptacle which it utilizes, the means shown in Figs. 7, 8 and 9 are provided. As shown, said means include a sleeve 28 which is substantially identical with sleeve 24 described above, a bolt 30 for extension through said sleeve in the same manner as bolt 23, and a ring 31 which may be identical with ring 20 and serves to permanently secure a multiple plug in place. Mounted on bolt 30 between ring 31 and the end of sleeve 28 is a grommet 32 which serves as the pivot for a pair of half rings 33 and 34. As best shown in Fig. 9, half ring 34 is provided with an off setting bend 35 near its pivoted end to bring the same into alignment with half ring 33 for the remainder of its length. Half ring 33 is provided near its free end with a transverse crimp 36 for cooperation with a similar crimp 37 in half ring 34. It is to be noted that crimps 36 and 37 form an indentation in the one face of the half rings and an extension from the other face.

The construction is such that ring 31 serves in the same manner as described above to secure a multiple plug against unwanted movements. When a second multiple plug is to be used, the half rings 33 and 34 are engaged therewith the same as the full rings previously described.

In so engaging the said half rings the crimps 36 and 37 thereof come into contact with one another and act, detent fashion, to maintain the engagement of the half rings with the plug. Obviously, therefore, the half rings perform the

same function as the full rings previously described. However, when it is not desired to utilize the half rings they may be swung back out of the way as indicated in Fig. 7. Further, if desired the half rings may be retained together by their detent crimps in alignment with ring 31 as indicated in Fig. 9.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. Means for clamping a pair of multiple socket plugs each having at least one portion projecting beyond the remainder thereof, in engagement with a wall outlet which includes a threaded bore located between the plugs comprising a ring for encircling the projecting portion of one of said plugs, a tail extending diametrically from said ring, a sleeve extending between the tail and the threaded bore, a bolt extended through said sleeve and threaded into said bore, a grommet mounted on the bolt between the sleeve and the tail, a pair of half rings pivoted on said grommet and adapted to embrace the said projecting portion of the other plug, and detent means for securing the ends of said half rings together.

2. Means for clamping a pair of multiple socket plugs each having at least one portion projecting beyond the remainder thereof, in engagement with a wall outlet which includes a threaded bore located between the plugs comprising a ring for encircling the projecting portion of one of said plugs, a tail extending diametrically from said ring, a sleeve extending between the tail and the threaded bore, a bolt extended through said sleeve and threaded into said bore, a grommet mounted on the bolt between the sleeve and the tail, a pair of half rings pivoted on said grommet and adapted to embrace the said projecting portion of the other plug, and detent means for securing the ends of said half rings together, said means comprising a transverse crimp in each said half ring near its free end.

3. Means for clamping a pair of multiple socket plugs each having at least one portion projecting beyond the remainder thereof, in engagement with a wall outlet which includes a threaded bore located between the plugs comprising a ring for encircling the projecting portion of one of said plugs, a tail extending diametrically from said ring, a sleeve extending between the tail and the threaded bore, a bolt extended through said sleeve and threaded into said bore, a grommet mounted on the bolt between the sleeve and the tail, a pair of half rings pivoted on said grommet and adapted to embrace the said projecting portion of the other plug, and detent means for securing the ends of said half rings together, said half rings being swingable into alignment with the first said ring and said detent means securing them in such alignment.

4. Means for clamping a pair of multiple socket plugs each having at least one portion projecting beyond the remainder thereof, in engagement with a wall outlet which includes a threaded bore located between the plugs comprising a ring for encircling the projecting portion of one of said plugs, a tail extending diametrically from said ring, a sleeve extending between the tail

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and the threaded bore, a bolt extended through said sleeve and threaded into said bore, a grommet mounted on the bolt between the sleeve and the tail, a pair of half rings pivoted on said grommet and adapted to embrace the said projecting portion of the other plug, and detent means for securing the ends of said half rings together, said means comprising a transverse crimp in each said half ring near its free end, and said half rings being swingable into alignment with the first said ring and said detent means securing them in such alignment.

5. Means for clamping a pair of multiple socket plugs each having at least one portion projecting beyond the remainder thereof, in engagement with a wall outlet which includes a threaded bore located between the plugs comprising a ring encircling the projecting portion of one of said plugs, a tail extending diametrically from said ring, a sleeve extending between the tail and the threaded bore, a bolt extended through said

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sleeve and threaded into said bore, a grommet mounted on the bolt between the sleeve and the tail, a pair of half rings pivoted on said grommet and adapted to embrace the said projecting portion of the other plug, and detent means for securing the ends of said half rings together, said half rings being swingable out of engagement with the plug to permit removal of the latter, and into alignment with the first said ring, and said detent means securing them in such alignment.

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