Dec. 4, 1934. H. H. WERMINE 1,983,157

ELECTRIC OUTLET

Filed March 21, 1931

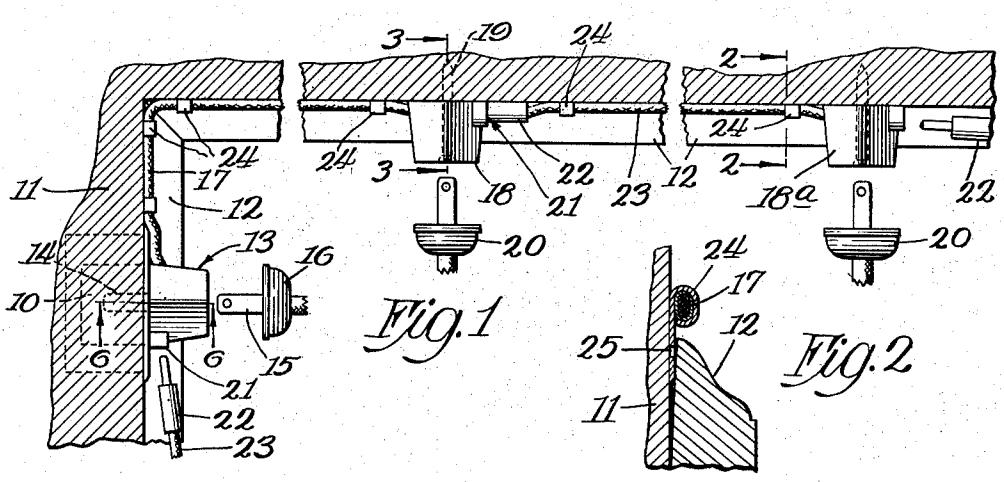


Fig. 1

Fig. 2

Fig. 3

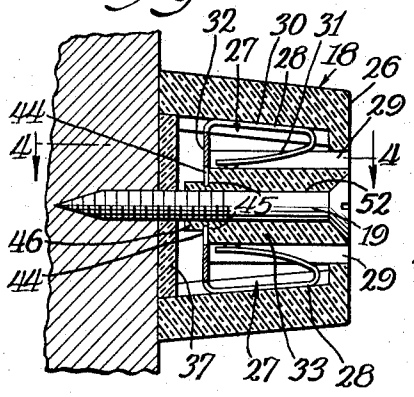


Fig. 5

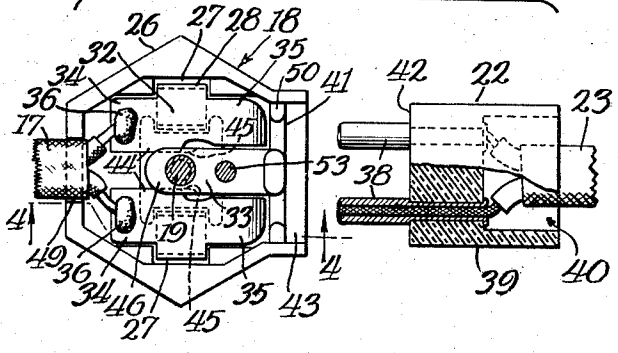


Fig. 6

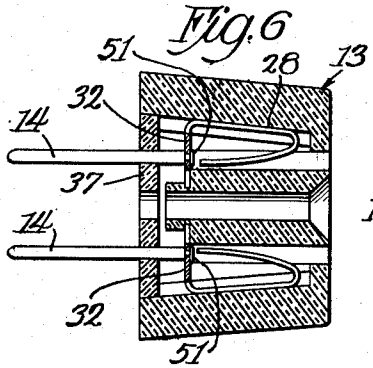


Fig. 4

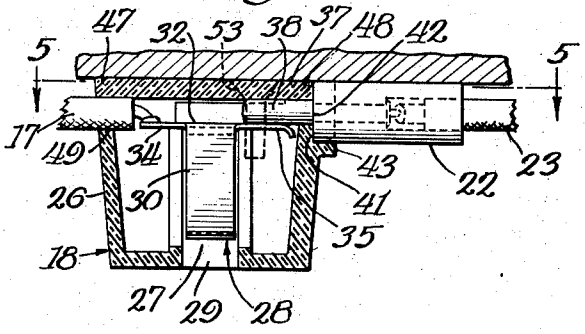
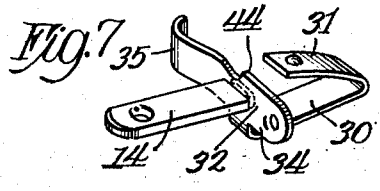


Fig. 7



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ELECTRIC OUTLET

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5 Claims. (Cl. 173—334)

This invention relates to an improved electric outlet, and more particularly to an improved portable or extension outlet, i. e., an arrangement in which an outlet element proper may be positioned at a point remote from a fixed outlet, such as a wall outlet, and connected to the latter.

The main objects of the invention are: To provide an extension outlet arrangement of the type referred to, which will afford extreme flexibility in respect to the number of outlets which may be connected to a single standard wall outlet without producing an unsightly effect; to provide an arrangement which will facilitate the positioning of outlets on either or both sides of the wall outlet; to provide a simple, but rigid and durable, outlet structure, while, at the same time, providing a structure which may be made economically and at a low cost, and, in general, it is the object of the invention to provide an improved extension cord outlet device of the class described.

Other object and advantages of the invention will be understood by reference to the following specification and accompanying drawing, wherein I have illustrated the construction and application of a selected embodiment of my improved outlet extension cord.

In the drawing:

Fig. 1 is a plan illustrating a typical application of my improved outlet extension cord;

Figs. 2 and 3 are sections on the lines 2—2 and 3—3, respectively, of Fig. 1;

Fig. 4 is a section on the line 4—4 of Fig. 3, the approximate location of this section being also indicated by the line 4—4 of Fig. 5;

Fig. 5 is a view of the back of Fig. 4, certain parts being shown separated and a closure element being removed to more clearly illustrate the construction;

Fig. 6 is a section on the line 6—6 of Fig. 1, and

Fig. 7 is a perspective illustrating one of the elements of the structure shown in Fig. 6.

Referring now to the drawing, I have illustrated in Figure 1 one corner of a room wherein a standard electric outlet designated 10 is mounted in the wall 11 a distance above the base board 12 which extends around the room in the usual manner. It is often found that outlets such as 10 are not located where most desired, and it has been customary, although objectionable, to simply run an ordinary extension cord from the wall outlet 10 to any remote location where a floor lamp or other electric device is located. To overcome the objectionable use of extension cords strung loosely across the floor, and to provide greater convenience and neatness in the use of extension cords, I provide a unit structure which includes a connector plug or tap 13 provided with contact prongs 14 for engaging the standard wall outlet 10, and suitable contact members within the body of the connector for contacting with the prongs 15 of a connector plug 16. It will be understood that the connector plug 16 is connected to a floor lamp, table lamp, or other electric appliance, and that the connector plug 13 receives the plug 16 in substantially the same manner that the wall outlet 10 would receive the plug 16 if the connector 13 were not used. The connector plug 13 is provided with means to which the conductors of a duplex conductor cord 17 may be connected, and the conductor cord 17 may be conveniently positioned at the top edge of the base board 12 as indicated. At the free end of the cord 17, another connector plug or outlet tap 18 is provided, the connector 18 being similar to the one designated 13 but without rearwardly projecting prongs such as 14. The connector 18 is designed to be secured to the base board 12 by means of a wood screw such as indicated at 19, so that the connector or outlet 18 is securely mounted in fixed position. The connector plug 20 of any electric appliance may be plugged into the connector 18 so as to supply electric current to the appliance located near the connector 18.

Both of the connectors 13 and 18 are further provided with an auxiliary outlet 21 which is designed to receive a special type of connector plug 22 which is carried by one end of a flexible conducting cord 23. The other end of the flexible conducting cord 23 is provided with a connector or outlet 18^a which is of the same construction as the outlet 18 previously referred to.

The outlet or tap 13, the conductor 17, and the outlet or tap 18 constitute what may be considered one unitary device, and the plug 22, conductor cord 23, and connector or tap 18^a constitute another unitary device.

Each of these unitary devices constitutes what may conveniently be called electric outlet extension units, and it will be observed that these units may be connected to provide as many outlets 18 or 18^a as may be desired, and that the wall outlet 10 may be extended in either direction therefrom. For holding the conductor cords 17 and 23 in place at the top of the base board or other desired location, I provide holders or eyelets such as indicated at 24 in Figure 2, these eyelets being strung on the conductor and positioned at desired intervals where they may be inserted between the base board and the wall. The tail part 25 of

each holder 24 may be provided with an opening for receiving small wood screws or other fastening means for securing the holder to the face of a base board, wall, or the like.

In Figures 3, 4 and 5, I have illustrated the details of construction of the outlet connector or tap 18. It includes a main body or housing part 26, preferably formed of suitable insulating material, the housing being provided with suitable recesses such as 27 in which are seated contact elements 28. The recesses 27, in the instant embodiment, open to the rear end of the housing, and the front end is provided with apertures, such as indicated at 29, through which the prongs of a metal connector plug may be inserted into the recesses 27 for contacting with the contact members 28.

The contact elements 28 are preferably formed of a suitable grade of spring copper or bronze, and each contact element includes a back leg 30, a front leg 31 and a base part 32. As shown clearly in Figure 3, the back and front legs 30 and 31 are formed by rebending the leg portion 31 with respect to the back portion 30, and it will be understood that the contact prongs of a male connector plug, when inserted through the openings 29, engage the said legs 31 which are adapted to yield from the central portion 33 of the housing against which they bear.

The base part 32 of the contact element is disposed laterally with respect to the legs 30 and 31, i. e., in a plane substantially parallel with the plane of the back and front ends of the housing 26. The base 32 is extended edgewise in both directions so as to provide an attaching lip 34 and an auxiliary contact element 35. As shown in Figure 5, the conductors of a duplex cord 17 may be connected to the contact elements 28 by being soldered to the said attaching lips 34, as indicated at 36. The auxiliary contact element 35 co-operates with the back closure element 37 to receive the contact prongs 38 of a special type of connector plug 22. (See Figures 4 and 5.)

The connector plug 22 is preferably of a small and compact construction, and, in this instance, includes a body part 39 of suitable insulating material, the said body part being recessed, as indicated at 40, to receive the end of the duplex conductor cord 23, the conductors of which are respectively connected to the contact prongs 38. The contact prongs may conveniently consist of tubular elements suitably anchored in the body part 34, the conductors of the duplex cord 23 being disposed within and soldered to the said prongs substantially as indicated in Fig. 5. As shown, the connector plug 22 is more or less oblong in transverse section, and, compared with the connector 18, it is of comparatively small size. The connector 18 is provided with an integrally formed stop shoulder 41 for receiving the front end 42 of the connector plug body, and a flange-like formation 43 is provided for enclosing the said front end portion of the plug part 22.

For retaining the contact elements 28 in place in the housing 26, said contact elements are provided with edgewise extensions 44 which project into grooves 45 formed in the opposite sides of the rear central portion 46 of the housing 26, as clearly shown in Figures 3 and 5. The extensions 44 may be easily snapped into place, but it has been found that this interlocking connection between the contact elements and housing 26 is highly effective to prevent accidental displacement of the contact elements from the housing under ordinary conditions. The rear closure 37 is preferably in the form of a disk of fibre or other suitable insulating material, this closure fitting within the walls of the housing 26, as clearly shown in Figure 3, and being provided with suitable lip extensions 47 and 48 designed to fit in the notches 49 and 50, respectively, formed in the housing walls for receiving the conductor cord 17 and contact prongs 38, respectively. As shown in Figure 4, the lip 48 terminates in the plane of the shoulder 41 so as to co-operate therewith in limiting insertion of the connector plug 22. Also, it will be noted by inspection of Figure 4 that the bottom or back of the connector 18 and adjacent surface of the plug 22 are in substantially the same plane.

In Figure 6, I have shown the details of construction of the connector plug or tap 13. The interior construction thereof is substantially the same as that of the connector 18 just described. However, contact prongs 14 are secured to the base portions 32 of the contact elements 28 and project rearwardly through suitable openings provided in the closure disk 37. The closure disk thus serves to support the prongs 14 in their proper positions. The inner ends of the prongs 14 may conveniently be connected to the bases 32 of the contact elements by means of portions of reduced width which project through suitable openings in the base portion, and which reduced end portions are then headed over, as indicated at 51.

For receiving the screw 19 to secure the connector 18 in place, the connector is provided with a central aperture 52, the closure disk 37 being similarly apertured, as indicated in Figure 3. The closure disk 37 may conveniently be secured in place in the housing 26 by means of a screw 53 which threadedly engages a suitably tapped opening in the central portion 33 of the housing.

I am aware that changes may be made in the structure thus described without departing from the spirit of my invention, the scope of which should be determined by reference to the following claims, the same being construed as broadly as possible consistent with the state of the art.

I claim as my invention:

1. An electric connector comprising a housing member having an opening in its front end for permitting the contact prong of an electric connector plug to be inserted into said housing, a contact element seated inside of said housing for engaging a contact prong inserted thereinto, said contact element having interlocking engagement with a portion of said housing so as to be retained therein and being provided with a base portion extending laterally relative to the plane of said contact element and constituting an auxiliary contact element, and a base portion for said housing having a portion co-operating with said auxiliary contact element to receive and grip the contact prong of a male connector plug.

2. An electric connector comprising a housing member having a contact element seated therein, the front end of said housing being provided with an opening for permitting the contact prong of a plug connector to be inserted into said housing for engaging said contact element, said contact element having a base portion extending laterally relative to the plane of said contact element and constituting an auxiliary contact element, a contact prong secured to said base part and projecting rearwardly from said hous-

ing, said housing having an opening in its side adjacent its base for permitting a connector plug to be inserted into the housing for engaging said auxiliary contact element and a rear closure element through which said prong projects and whereby said prong is supported in predetermined position, said closure element also having a portion cooperating with said auxiliary contact element to receive and grip the contact prong of a male connector plug.

3. An electric connector comprising a housing member having a contact element seated therein, the front end of said housing being provided with an opening for permitting the contact prong of a plug connector to be inserted into said housing for engaging said contact element, said contact element having a base portion extending laterally relative to the plane of the contact element and said base portion having an endwise extension constituting an auxiliary contact element, said base portion also having an edge portion interlockingly engaging a portion of said body, a contact prong secured to said base part and projecting rearwardly from said housing, said housing having an opening in its side adjacent its base for permitting a connector plug to be inserted into the housing for engaging said auxiliary contact element and a rear closure element through which said prong projects and whereby said prong is supported in predetermined position.

4. An electric connector comprising a housing member having an opening in its front end for permitting a contact prong to be inserted into the interior of said housing member from the front thereof, a contact member seated in the interior of said housing for engaging a contact prong inserted thereinto, said contact element having a base portion extending laterally relative to the plane of said contact element and constituting an auxiliary contact element adjacent the base of the housing, said housing having a base portion adapted to cooperate with said auxiliary contact element to receive and grip the connector prong of a male electric connector plug.

5. An electric connector of the class described, comprising a hollow housing having an opening in its front end for permitting the prong of an electric connector to be inserted into the housing and an opening in its side adjacent its rear end for permitting another electric connector prong to be inserted into the housing, a contact member within said housing and comprising an arm having an end portion rebent to form a main contact wing adapted to be engaged by a connector prong inserted through said front end opening and its opposite end portion bent to approximately right angular relation to the arm, and an auxiliary contact wing formed integrally with and extending sidewise from said last-mentioned bent end portion, said auxiliary contact wing being associated with said side opening and adapted to be engaged by a connector prong inserted through said opening.

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