CONTINUOUS ELECTRIC OUTLET

Alexander Sheskier, Massapequa Park, N. Y.
Application March 25, 1954, Serial No. 418,777
8 Claims. (Cl. 339—21)

This invention relates to a continuous electric outlet and more particularly to a continuous electric outlet for alignment along a wall forming all or part of a baseboard or molding along said wall.

One object of this invention is to provide an outlet of the class described which may be inobtrusive and attractive.

Another object is to provide an electric outlet of extended form permitting insertion of a conventional plug anywhere along its length, which outlet is free from fire hazards.

A further object is to provide an outlet which can be fabricated continuously so that by suitable subdivision a single piece can be provided for an entire wall, regardless of the length of the wall.

Yet another object is to provide a continuous electric outlet which is easy to install and remove.

Another object is to provide an outlet of the class described which is suited for use in homes and offices and which can be readily cleaned without contacting any conductive elements.

Another object is to provide a continuous electric outlet which is rugged and serviceable.

Another object is to provide a continuous electric outlet which can be fabricated in different colors to blend with the decor of the wall to which it is attached.

Another object is to provide a continuous electric outlet which is resistant to the detrimental effects of moisture and heat.

Another object is to provide a continuous electric outlet of the class described which can be painted simultaneously with the wall to which it is secured, without need for shutting off its power supply, and which because of its composition will not be deleteriously affected by the paint or its solvents.

An additional object is to provide a device of the class described which can be manufactured and sold inexpensively.

It is a further object of this invention to provide a continuous electric outlet which comprises a single unit or a few units which can readily be assembled.

Other objects and advantages will become apparent from the detailed description which follows and by reference to the accompanying drawing in which:

Fig. 1 represents an exploded isometric view showing the assembly of a short length of a continuous electric outlet produced in accordance with this invention.

Fig. 2 is a vertical section of a preferred embodiment and represents a modification of the continuous electric outlet of Fig. 1.

Fig. 3 is a vertical section of another modification.

Fig. 4 is a side view partially in section of another modification showing a conventional plug inserted into the outlet.

Fig. 5 is a side view partially in section showing the outlet of Fig. 2 with its spreading element, and having a plug inserted therein.

Considering the figures in which like numerals have reference to the same parts, in Fig. 1 the numeral 11 represents a substantially rigid non-conducting outer channel member having an inner surface 12, and an outer surface 13 meeting a bottom surface 14 along corner 15. Corner 15 is adapted to seat along a wall at its juncture with the top of a baseboard. The outer channel member 11 includes a pair of outer lips 16 and 17, a wedge-shaped aligning slot 18 running the length of the outer channel member, and a plurality of spaced holes one of which is shown at 19.

Inner channel member 20 is also rigid and includes a back surface 21 adapted to contact inner surface 12 of the outer channel member 11. To ensure proper contact a wedge-shaped protrusion 22 is provided, running the length of the inner channel member and conforming in contour with aligning slot 18. The inner channel member includes a slot 23 and a plurality of holes corresponding with those of the outer channel member, one of said slots being shown at 24. Inner lips 25 and 26 extend from the back surface and include sections 27 and 28 about which they may be resiliently displaced to a small extent. These sections 27 and 28 are necked-down, i.e., of reduced transverse thickness relative to the abutting portion of the lip, so that the indicated resilient displacement can occur in spite of the substantially rigid character of the channel member. Conductors 29 and 30 are resilient and generally C-shaped in cross section, fitting into the passages between the inner and outer channel members. Screw 31 passes through holes 24 and 19 and then into the wall, thereby affixing the inner and outer channel members to each other and to the wall. Spreading element 32 fits into slot 23 of the inner channel member and by spreading apart necked-down sections 27 and 28 ensures a positive, pressure contact between inner lips 25 and 26 and outer lips 16 and 17, respectively.

In the preferred embodiment of Fig. 2, substantially rigid, nonconducting channel member 41 includes rear surface 42 and bottom surface 43 meeting along corner 44. Rigid outer lips 45 and 46 contact or lie close to rigid inner lips 47 and 48, respectively, enclosing therebetween channels 49 and 50, respectively, and outer lips 47 and 48 extend from rear surface 42 and include necked-down sections 51 and 52, respectively. Between these necked-down sections, a slot 53 is positioned for receiving a spreading element which effects a positive, pressure contact between the pair of lips by forcing the inner lips apart. Conductors 54 and 55 are embedded in the outer lips and extend into the channels 49 and 50, respectively, running the length of the channel member.

Fig. 3 shows a simplified form of the outlet of Fig. 1. The outer channel member 61 is similar to outer channel member 11 differing only in that the conductors 62 and 63 are embedded in outer lips 64 and 65, respectively, as described in reference to Fig. 2. Inner channel member 66 includes inner lips 67 and 68 which extend from necked-down sections 69 and 70, respectively, near the back of the inner channel member. The vertical distance between the contacting lines of each of the inner lips is slightly greater than the vertical distance between the contacting lines of the outer lips, and assembly of the inner and outer channel members by means of screw 71 passing through the inner channel member, through the outer channel member, and into the wall, simultaneously serves to establish a positive pressure contact between the pairs of lips by pivoting the inner lips towards each other slightly about the necked-down sections.

Figs. 4 and 5 show modified outlets with conventional plugs inserted therein. In Fig. 4, the outlet comprises the outer channel member 11 and conductors 29 and 30 de-
scribed in reference to Fig. 1, and inner channel mem-
ber 66 described in reference to Fig. 3. The prongs 72
and 73 of plug 74 extend between pairs of lips 16, 67
and 17, 68, respectively, and contact conductors 29 and
30, respectively. The resiliently paddles provide
s some retaining action on the prongs while the piv-
total displacement of the inner lips about their necked-
down sections effects a strong gripping action on the
prongs.

In Fig. 5 the positive pressure contact between the
pairs of lips effected by spreading element 32 is trans-
ferred to a strong gripping action on the prongs 72 and
73. The prongs contact embedded conductors 54 and 55
and because of the shape of the conductors the prongs
are displaced slightly towards each other, which dis-
placement serves to grip the prongs more securely while
simultaneously assuring electric contact.

Where the outlet comprises a separate inner and outer
channel member these members may be secured to each
other by means other than that which secures the as-
ssemble referred to the wall. For example, separate
screws may be provided so that as purchased the only
operation necessary to complete installation will be
fastening of the previously assembled outlet to the wall.

Because of the external appearance the continuous
outlet may consist of a molding along the juncture of
the wall and floor of a room or may constitute an elevated
molding along a wall since it need only be secured to
the wall. Alternatively, it may be employed as a part
of a molding in conjunction with other elements con-
tventionally employed. In either event, the device is
attractive and its presence is neither obtrusive nor de-
structive of the beauty of a room, permitting electric
appliances to be inserted anywhere along its length.
Furthermore, the device can readily be removed by re-
versing the installation steps and only an occasional
screw hole will evidence its former position.

The embodiment shown in Fig. 2 is particularly eco-
nomical to manufacture and assemble since the entire
outlet save the spreading element is a single piece. In
place of a continuous spreading element, a plurality of
short spreading elements may be utilized and inserted
in the slot between the inner lips at spaced intervals.

As shown in Fig. 1, the slot 23 may be a taper con-
tinuous with the exterior surfaces of the inner lips.
Alternatively, as shown in Figs. 2 and 5, the slot 53 may
be discontinuous with the exterior surfaces of the inner
lips so as to form a notch or semi-circle in the lower edge
of the spreading element. The shape of the spreading
element may be varied so long as it serves to displace
the inner lips from each other.

The conductors have been shown as embedded in the
outer lips. The shape of the conductors may be varied
considerably but for embedded conductors, flat contact
surfaces having their rear edges positioned more closely
to each other than their leading edges is preferred since
electrical contact is ensured.

As has been noted, although the channel members are
substantially rigid, the necked-down sections on the
inner lips effect the closure of the conductor channels as
well as effecting the requisite grip on the prongs of the
plugs by permitting slight pivotal movement of the inner
lips. While the outer lips could be necked-down where
the outlet is attached to a wall elsewhere than along the
floor so that the outer lips may be deflected, this form
is not as desirable as where it is the inner lips which are
so proportioned. The preferred form prevents spread-
ing of the outer lips and further places absolute limits on
the amount of displacement to which the inner lips may
be subjected, i.e., from contact with each other to con-
tact with the wall. Since the outer lips if necked-
down would be limited in movement only in the direction
towards the inner lips, movement away from the inner
lips could be carried to the breaking point.

The tight seal between the pairs of lips prevents the
plug from being accidentally dislodged and at the same
time prevents the entry of dirt or moisture into the con-
ductor channels. The conductors are well insulated from
each other and because of the rigidity of the lips there is
insufficient space for insertion of a child's index finger.
Any arcing which might occur during insertion or
removal of the prongs is confined to the conductor
channel and is isolated from the other channel or any
inflammable materials.

The channel members or members is preferably com-
posed of a plastic material which is insulating, non-con-
ductive, and resistant to deterioration due to heat, cold,
moisture, or conventional household cleaning agents.
The use of a synthetic material permits the member or
members to be extruded continuously and the extruded product
has a high gloss and attractive appearance. In addition,
fillers or pigments may be incorporated in the plastic mass
to produce a variety of colors.

The finished article because of its moisture resistance
and lack of openings may be cleaned safely and easily
merely by wiping with a damp cloth, requiring no special
precautions. The extrusion of continuous lengths of ma-
terial permits a single piece to be used for each wall pre-
venting unattractive joints which serve to collect dust.

Furthermore, the outlet can be painted simultaneously
with its support without fear of damage by the paint or
the solvents.

Where the outlet is to be introduced into a new home
the conductors may be connected to the power supply
through the back. In existing homes the outlet can be
worked into the power supply in similar manner or may
be energized by employing a wire having a plug at each
end, one plug inserted into an existing socket and the
second end into the new outlet. Suitable links for lengths
of the outlet and for turning corners may be provided,
but do not constitute the subject matter of the present in-
vention. Furthermore, special caps may be provided for
the ends of the outlet where it is not continuous but
these similarly do not form the subject matter of this in-
vention.

Because of its construction, it is apparent that the novel
outlet is rugged and safe.

The conductors which are metallic and preferably of
copper may likewise be extruded continuously and they
may be flexible or rigid. Preferably, however, they are
rigid and may be embedded in the channel members by
continuous extrusion therewith. Consequently, the pre-
ferred embodiment is designed to prevent disengage-
manship. This ease of manufacture is accompanied by extreme ease of as-
sembly and represents a practicality which permits the novel
outlet to be fabricated at a minimum expense.

Accordingly, there has been described a continuous
electric outlet comprising, in combination, a plurality of
spaced longitudinally extending substantially rigid mem-
ers, each of said members being provided with abutting
lips defining an insulating channel therebetween, said lips
being composed of an insulating material, at least one lip
each of said members being provided with a necked-
down section extending longitudinally of said insulating
channel, and a plurality of longitudinally extending con-
ductors disposed within said insulating channels, respec-
tively, whereby upon insertion of the prongs of an electric
plug between said lips of said members, respectively, into
said insulating channels, respective lips are displaced
about said necked-down sections and said prongs are
strongly gripped by said lips.

Various changes and modifications may be made with-
out departing from the spirit and scope of this invention
and it is intended that such obvious changes be embraced by
the annexed claims.

I claim:
1. A continuous electric outlet comprising, in com-

bination, a plurality of spaced longitudinally extending
substantially rigid members, each of said members being
provided with abutting lips defining an insulating channel therebetween, said lips being composed of an insulating material, at least one lip of each of said members being provided with a section extending longitudinally of said insulating channel and of reduced transverse thickness relative to the abutting portion of the lip, and a plurality of longitudinally extending conductors disposed within said insulating channels, respectively, whereby upon insertion of the prongs of an electric plug between said lips of said members, respectively, into said insulating channels, respective lips are displaced about said sections so that each prong is strongly gripped by the lips defining its respective channel to resist withdrawal, and said prongs contact said conductors with the channels, respectively.

2. A continuous electric outlet according to claim 1, wherein two of said members are provided.

3. A continuous electric outlet according to claim 2, wherein said two members are connected to each other remote from said lips.

4. A continuous electric outlet comprising, in combination, a longitudinally extending substantially rigid outer insulating member having a base and two legs terminating in outer lips, a longitudinally extending substantially rigid inner insulating member having a base and two legs terminating in inner lips, said inner member being attached to said outer member along said bases with said inner lips pressing upon said outer lips and defining two longitudinally extending insulating channels between said lips of said attached members, respectively, at least one lip of each of said insulating channels being provided with a section about which said lip is displacable, said sections each being of reduced transverse thickness relative to the abutting portion of its respective lip, and a pair of conductors extending longitudinally within said insulating channels, respectively, whereby upon insertion of the prongs of an electric plug between each of said pairs of contacting lips into said insulating channels defined thereby, respective lips are displaced slightly about said sections and said prongs contact said conductors, respectively, while held securely between respective pairs of pressing lips.

5. A continuous electric outlet according to claim 4, wherein said conductors are embedded in one of said lips of each of said channels, respectively.

6. A continuous electric outlet according to claim 4, wherein said legs of said inner member are provided with said sections of reduced transverse thickness.

7. A continuous electric outlet according to claim 4, wherein said inner and outer members are integral, including spreading means between said inner lips for pressing said inner lips against said outer lips.

8. A continuous electric outlet according to claim 7, wherein said lips of said inner member are provided with longitudinal notches, respectively, remote from said insulating channels to secure said spreading means.

References Cited in the file of this patent

UNITED STATES PATENTS

2,105,833 Feuer et al. 18, Jan., 1938
2,250,513 Von Gehr 29, July, 1941
2,283,398 Von Deventer 19, May, 1942
2,284,097 La Jone 26, May, 1942
2,361,721 Von Deventer 31, Oct., 1944
2,441,461 Wayne 11, May, 1948
2,680,233 McFarlin 1, June, 1954