

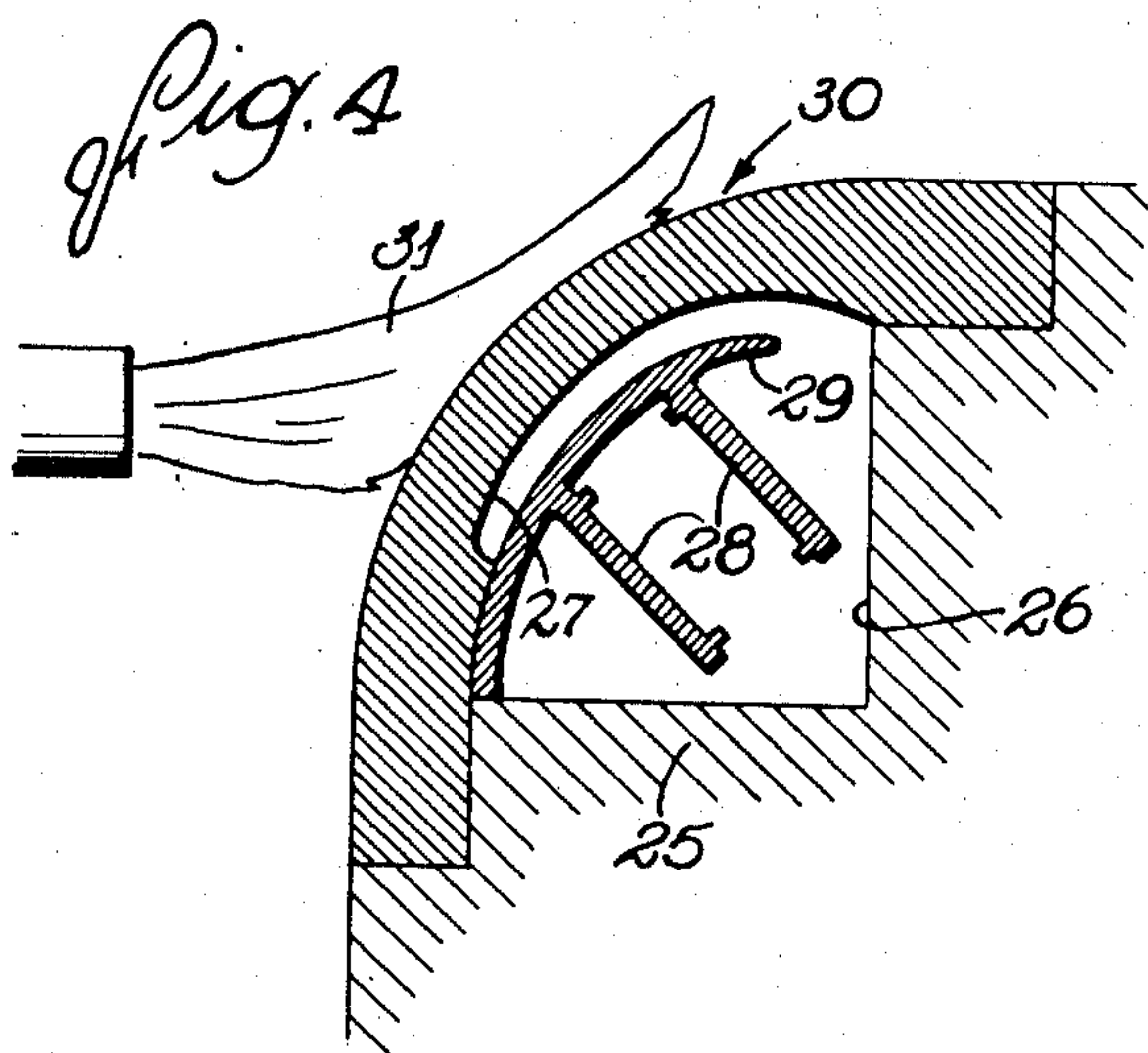
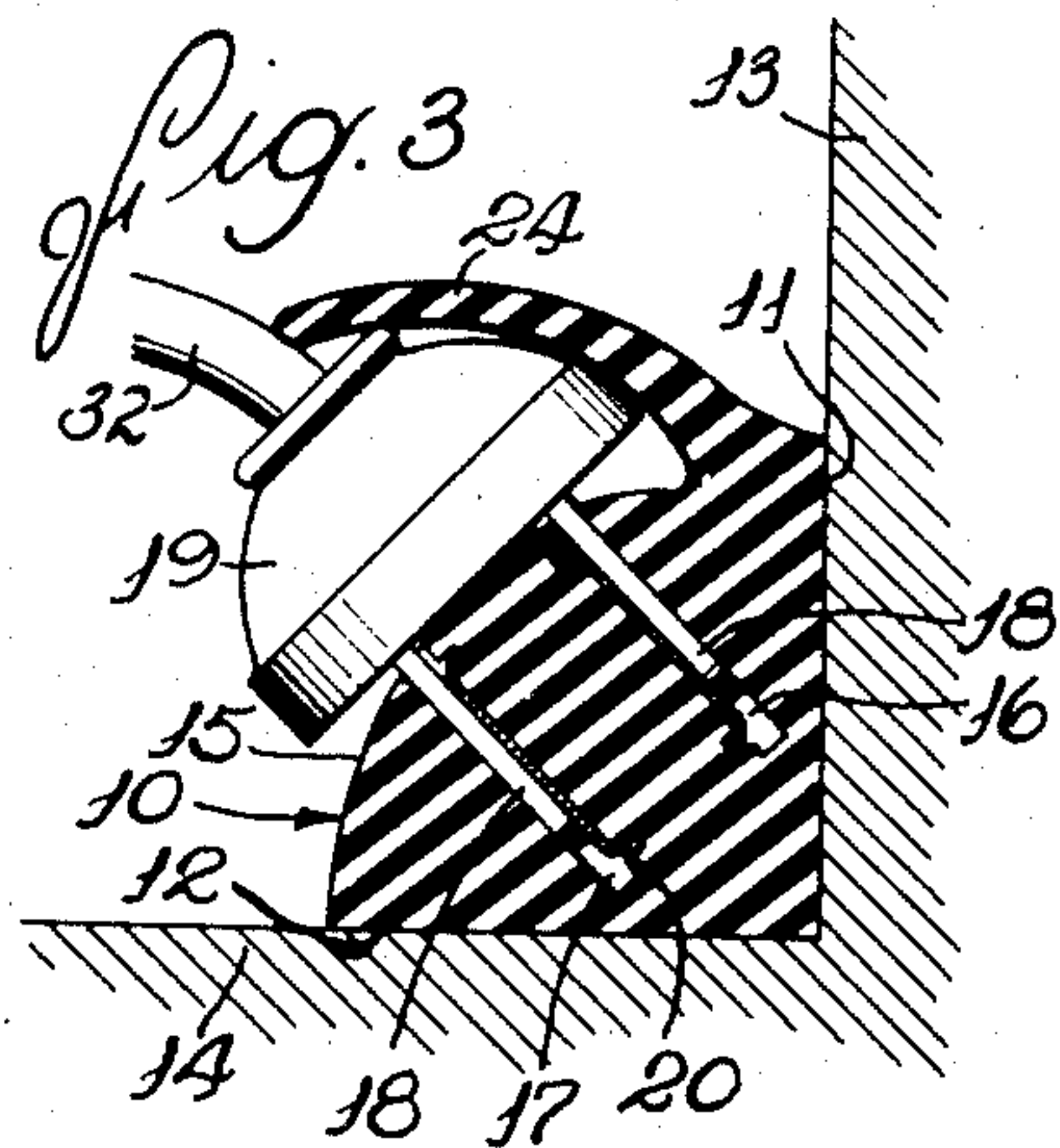
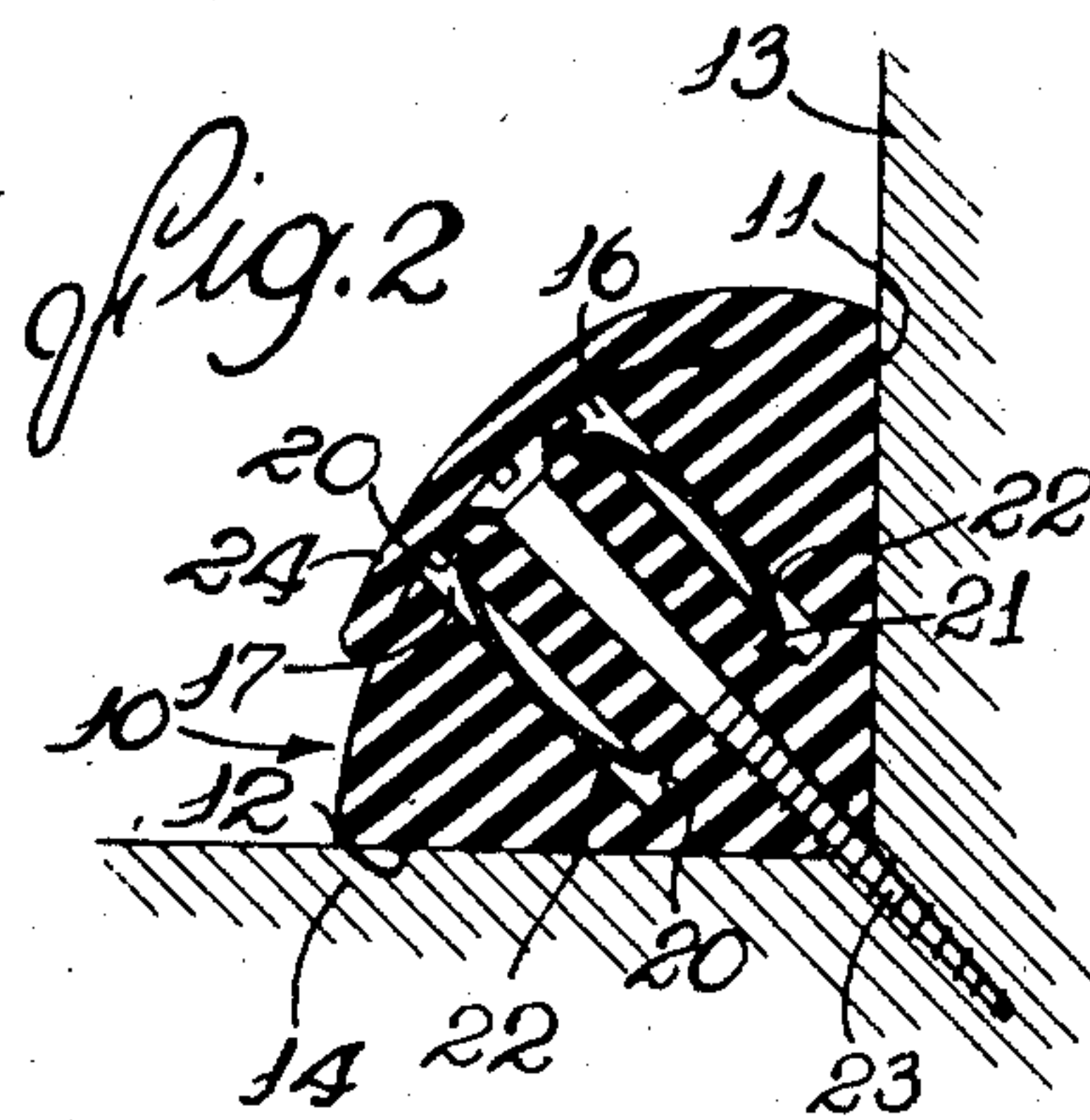
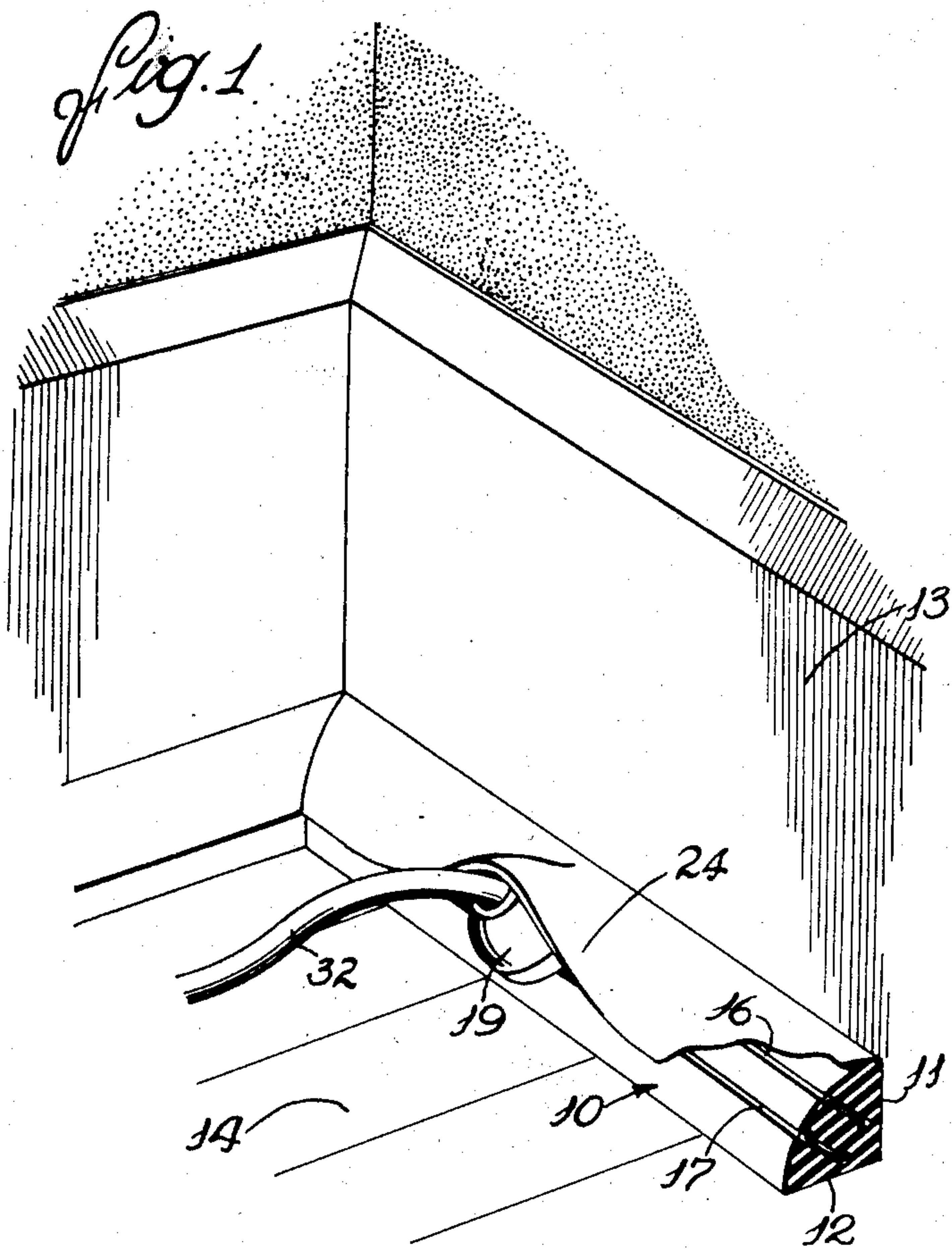
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CONTINUOUS ELECTRICAL OUTLET AND METHOD OF MAKING SAME

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CONTINUOUS ELECTRICAL OUTLET AND
METHOD OF MAKING SAME

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2 Claims. (Cl. 173—334.1)

The invention relates to a continuous electrical outlet and to a method of making such an article and has particular reference to electrical outlets which are formed as strips of indeterminate length arranged to be cut to a desired dimension and fashioned to receive a conventional pronged connector anywhere along its length.

Outlets of this character, as heretofore known, have been structurally complicated, expensive to manufacture, and usually unsafe to use because of the accessibility of the live conductors. Consequently, such prior structures have not gone into widespread use in spite of the need for an outlet structure capable of being quickly installed, as in the modernization of a building, and which will provide an available electrical outlet connection convenient to any part of a room.

A general object of the invention is to provide an improved outlet of this nature which is easy to install and safe to use and may be made inexpensively.

Another object is to provide a continuous outlet strip having a body formed of a flexible insulating material, such as rubber, and provided with longitudinal spaced slots for continuous conductors, the open faces of the slots being closed by a flexible lip-like member which closely overlies the slotted face of the body, yet may be readily flexed therefrom to permit insertion of the prongs of a connector into the slots and into electrical contact with the conductor.

Other objects and advantages will become apparent in the following description and from the accompanying drawing, in which:

Figure 1 is a perspective view of a room corner illustrating an installation of an outlet embodying the features of the invention.

Fig. 2 is a cross sectional view through the connector.

Fig. 3 is a similar view showing a prong connector associated therewith.

Fig. 4 is a somewhat diagrammatic view illustrating in cross section a forming die by which the process may be carried out.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawing and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the

spirit and scope of the invention as expressed in the appended claims.

The form of continuous outlet, which has been selected for illustration of the invention, is shaped and dimensioned to take the place of the quarter-round strip that is conventionally used at the corner of a wall and the floor.

The outlet may, of course, assume other forms than the particular one shown. In its exemplary form, the outlet member 10 comprises a body of generally triangularly cross-sectional shape having angularly related flat sides 11 and 12 for abutment respectively with an upright wall 13 and the floor 14. The third side 15 is smoothly arcuate. The body is formed of a flexible, yielding insulating material, such as rubber, and may be inexpensively made in any length desired by the process hereinafter described.

Extending inwardly of the body from the arcuate face 15 is a pair of longitudinal parallel slots 16, 17 spaced apart the distance between the prongs 18 of a conventional connector 19 and dimensioned to receive the prongs. Each slot has formed in one side wall thereof (preferably the wall provided by the body material between the slots) a pair of spaced parallel grooves 20 (Fig. 2) adapted to receive the flange-like marginal portions 21 on an elongated conductor strip 22. Preferably, these strips are arcuate in cross section, are dimensioned to fit in the slots and grooves with ample security to prevent accidental displacement, and are formed of a gauge of good electrically conductive material, such as copper, which will provide a substantial degree of flexibility and resiliency. Such means as screws 23, extended into the building structure through suitable apertures paralleling the planes of the slots, may be used to secure the outlet in place.

An important feature of the invention is the provision of novel means for closing the slots to prevent the unintended insertion of other bodies into the slots and seal the slots against the entrance of dirt, water and the like. In the present instance, this means is in the form of a resilient lip-like member 24 fashioned integrally with the body of the outlet. As shown in Fig. 2, the lip is arranged normally to rest against and closely follow the contour of the arcuate face 15 and when the outlet is horizontal to extend preferably in a downward direction across and beyond the open faces of the slots. Thus, the slot entrances are concealed by a lip which seals the entrance against dirt and moisture, yet may be

easily lifted or flexed away from the body at any point to expose the slots for the insertion of the connector prongs. The lip also affords protection to an assembled connector since, as shown in Fig. 1, the lip tends to follow the contour of the connector smoothly to form an overlying and concealing shield. It will be noted that at no time are the open faces of the slots entirely exposed.

An outlet of the type which has been described may be produced readily and inexpensively by a novel method which provides for the formation by an extrusion process of an article having a body and an extension, such as a lip or flange, integral therewith, the body being of substantial mass and the extension being comparatively smaller and usually relatively thin. According to the present method, the rubber material, of which the article is to be produced, is properly compounded and milled and thence forced by suitable feed means through the aperture of a forming die. As shown diagrammatically in Fig. 4, a die for producing the rubber element of the outlet comprises a member 25 having a die aperture 26 therein to form the body of the rubber element, a die aperture 27 to form the lip 24, and forming means 28, 29 to produce respectively the slots and the division between the body and lip.

In the extrusion of rubber compounds, the forming die is usually held at a predetermined elevated temperature to maintain the rubber compound in a desired condition. Where there is a substantial difference between the masses of two sections of a formed article, as in the case of the outlet body and the lip, an extrusion process will not work successfully. According to the present method, such articles may be successfully extruded by maintaining the portion of the die, which forms the more massive part of the body, at a temperature that is proper for its operation while heating the portion of the die for forming the smaller part of the article to a higher temperature as required by the character of the smaller part. For example, the die member 25 might under certain conditions be held at an operating temperature on the order of 240°-250° F. and the lip forming section, designated 30, would be heated, by such means as a gas flame 31, to a temperature of 300°-310° F. Under such conditions, the rubber material would pass the extrusion die without difficulty even though the lip or flange section is substantially smaller than the body section of the article.

Thus, the flexible insulating part of the outlet may be inexpensively produced in such lengths

as may be desired, as contrasted with the more costly method of molding similar bodies of limited length. The conductor strips are easily inserted, since the preformed grooves receive the strips and cooperate with the slots to hold the strips in place. The overhanging lip seals the slots until purposely lifted. The outlet is simple to install, since the body material and the conductors may be readily severed as desired. A corner installation is shown in Fig. 1, in which the adjoining ends of the outlet have been cut for abutment in the same manner as ordinary quarter-round. If necessary, suitable bridging pieces of conducting material may be inserted in the slots to contact the conductors and establish the circuit across a cut. Current may be delivered to the conductors in any preferred manner as by a connector 19, lead wires 32 and a similar connector (not shown) plugged into a wall outlet of the usual type.

I claim as my invention:

1. An electrical outlet comprising, in combination, a body in the form of an elongated rubber strip having parallel slots opening in one face thereof, said slots each having parallel grooves spaced inwardly from the open face thereof, resilient electrical conductors in said slots each having a bowed cross sectional form providing margins arranged to seat in said grooves, and a thin, integral flexible member on said body extending from one side of said face across said slots in closing relation thereto, the flexibility of said member permitting it to be folded away from said body to expose said slots for the insertion of the prongs of a connector, the resiliency of said conductors effecting a strong clamping engagement on the prongs upon insertion of the connector.
2. An electrical outlet of the character described, comprising in combination, a body in the form of an elongated rubber strip having a pair of longitudinally extending parallel slots opening in one face thereof, said slots being arranged and dimensioned to receive the prongs of a connector, an elongated flexible conductor in each of said slots resiliently mounted in said body for flexing movement against the resiliency of said body to yieldably clamp said prongs upon insertion of said connector, and a thin, flexible lip integrally formed with said body and extending from one side of said face across said slots in closing relation thereto, the flexibility of said lip permitting it to be folded away from said slots for the insertion of said prongs.

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