June 26, 1928. 1,675,016

C. J. ALPAUGH

ELECTRIC SOCKET

Filed Nov. 4, 1926

Fig. 1.

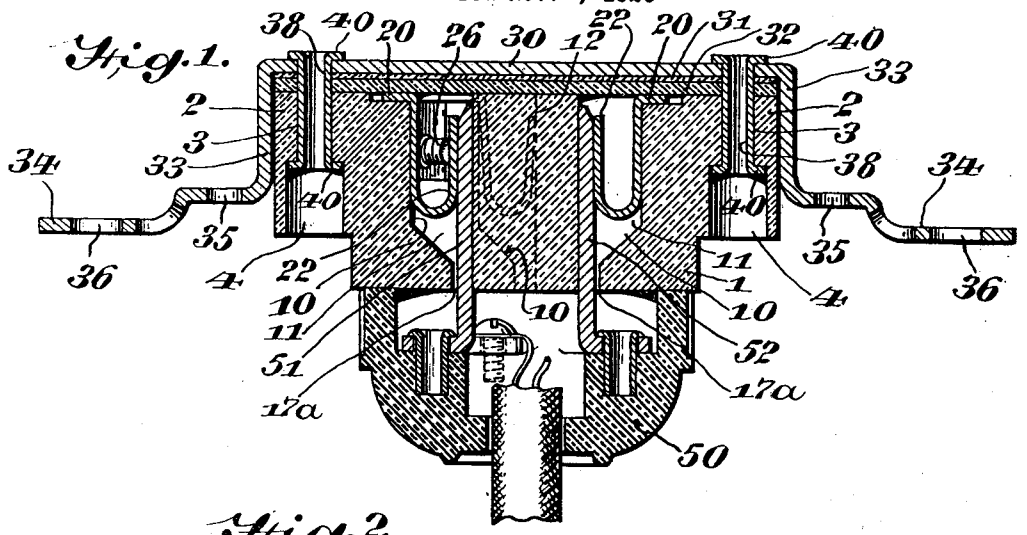


Fig. 2.

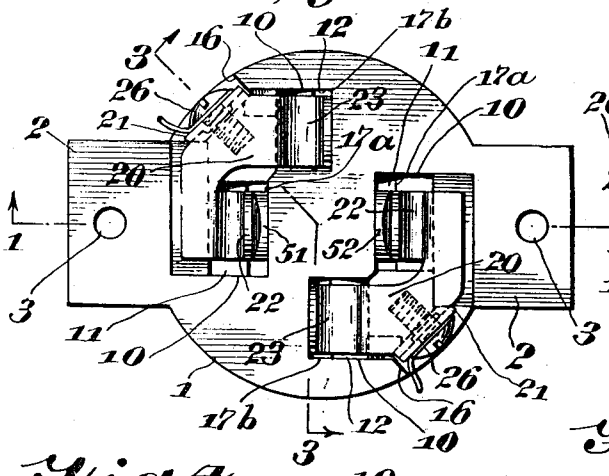


Fig. 3.

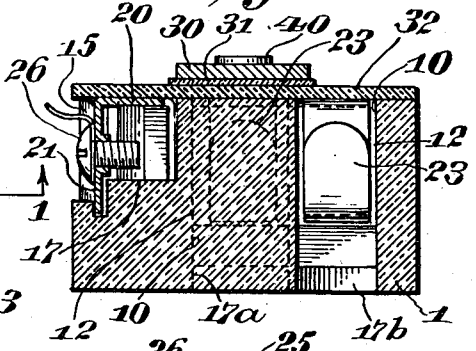


Fig. 4.

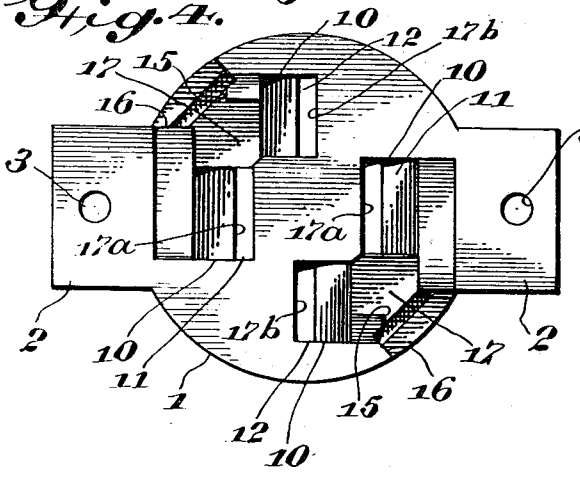


Fig. 5.

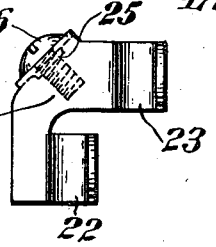
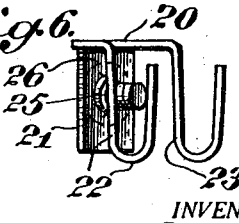


Fig. 6.



INVENTOR.

Clifford J. Alpaugh

BY

Cyrus N. Anderson

ATTORNEY.

Patented June 26, 1928. 1,675,016

UNITED STATES PATENT OFFICE.

CLIFFORD J. ALPAUGH, OF MERCERVILLE, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO METEOR ELECTRIC CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

ELECTRIC SOCKET.

Application filed November 4, 1926. Serial No. 146,125.

My invention relates to electric sockets, particularly sockets of the character which are adapted to be mounted in recesses in building walls or the like.

The said invention has for its general object to provide an electric socket combining simplicity and efficiency in a high degree.

It is also an object of the invention to provide contact members for such sockets which are interchangeable and which are so constructed that they are adapted for use with plugs having contact plates of different arrangement.

To these and other ends the invention comprehends the construction and arrangement of parts as hereinafter described in detail, particularly pointed out in the claims and as illustrated in the accompanying drawing in which I have shown one convenient form of mechanical embodiment thereof. However, it will be understood that the invention is susceptible of embodiment in other forms of construction than that shown and that changes in the details of construction may be made within the scope of the claims without departing from the principle or spirit of the said invention.

In the drawing,—Fig. 1 is a central longitudinal sectional view taken along the line 1—1 of Fig. 2;

Fig. 2 is a view in bottom plan of the base or body portion of the socket member with parts of the structure removed in order that the said base may be more clearly disclosed;

Fig. 3 is a longitudinal sectional view taken on the angular line 3—3 of Fig. 2;

Fig. 4 is a view similar to that shown in Fig. 2 but with the contact members, which are shown in Fig. 2 removed;

Fig. 5 is a bottom plan view of one of the contact members; and

Fig. 6 is a view in edge elevation of said contact member.

Referring to the drawing: 1 designates the base or body portion of an electric socket which is provided with lateral projections 2 through which openings 3 extend. The outer or top ends of these openings are enlarged, as indicated at 4.

The socket member 1 is provided with socket openings 10 which are disposed therein in diametric relation to each other.

These socket openings are provided with portions 11 and 12 which are arranged substantially at right angles to each other as shown. The socket openings 10 are connected with the outer side of the base 1 by means of notches 15, the outer sides of which are somewhat widened as indicated at 16 and which open upon the under side of said base. The outer portions of the said notches extend below platform like portions 17 which separate the lower portions of the parts or legs 11 and 12 of the said socket openings. In other words, the outer end portions of the parts or legs 11 and 12 of the sockets are deeper than the central portions thereof. The inner or bottom portions of the parts 11 and 12 of the socket openings are relatively large in transverse area and are connected with the front or top side of the base by narrow slot-like openings 17^a and 17^b, the inner side of which are flush with or are continuations of the inner sides of parts 11 and 12 of the openings 10. These socket openings 10 are adapted to receive the metal spring contact members which are illustrated separately and in detail in Figs. 5 and 6 of the drawing. Each of these metal spring contact members comprises a bottom or base portion 20 which when the device is in use occupies a position at the inner or bottom side thereof. Extending at right angles to the said bottom or base portion 20 of each of said contact members is an outer side or leg portion 21 which when the contact member is in place in one of the socket openings 10 occupies a position in the wider outer portion 16 of a notch 15. The lower end of said outer side or leg portion 21 is adapted to engage in a rectangular shaped depression or seat at the lower end of the outer widened portion 16 of a notch 15 as shown in Fig 3.

The base portion 20 of each metal contact member is also provided at its opposite ends with laterally extending projections 22 and 23 each of which may be described generally as being of U-shape as is clearly shown in Fig. 6, although the outer or free leg of each projection is slightly flared or is divergent from the other or inner leg.

When a contact member is placed in one of the socket openings 10 the U-shaped portions 22 and 23 enter the relatively deep portions 11 and 12 thereof, as is clearly shown. At such time the portion 21 occu-

pies a position within the relatively wide portion 16 of the notch 15.

As already indicated, either of the metal spring contact members may be inserted into either of the socket openings 10; that is to say, the said contact members are interchangeable the one with the other. The portion 21 of each metal contact member is provided with a screw-threaded opening as indicated at 25 for the reception of a binding screw or post 26 by means of which the end of a conducting wire may be connected to the said contact member.

As is apparent, the bent or closed portions of the U-shaped contact legs 22 and 23 extend from the bottom or inner side of the wall member toward the front side thereof and it will be noted that the outer portions of the said U-shaped members normally contact with the inner sides of the portions 11 and 12 of the socket openings 10.

The metal contact members are retained in place within the socket openings 10 by means of a metal strip 30 between which and the inner or bottom side of the base portion 1 of the socket are strips 31 and 32 of insulating material. The strip 32 of insulating material contacts with the base portion 20 of the contact members and holds the same securely and stationarily in place within the socket openings 10. The outer end portions of the bar 30 are bent so as to provide portions 33 which overlie the outer ends of the projections 2. Projecting laterally from the portions 33 are extensions 34 provided with openings 35 and 36 through which means may be passed for fastening the socket member to a building wall or other structure. The strip 30 together with the strips 31 and 32 are retained in place by tubular rivets 38 which extend through the openings 3 and the opposite ends of which are upset as indicated at 40.

It will be observed that each of the contact members is provided with two U-shaped portions 22 and 23 constituting two spring contact portions with which the contact plates of a plug such as 50 are adapted to contact.

In the construction as illustrated the plates 51 and 52 are arranged in oppositely disposed relation to each other in parallel planes separated from each other as shown. These plates are adapted to be inserted through the openings 17^a so as to contact with the outer sides of the outer legs of the U-shaped spring contact portions of the contact members which occupy the portions 11 of the socket openings 10. However, it will be apparent that the plugs may be employed having plate contacts spaced from and relative to each other in a different manner from what is illustrated in the drawing. Such contact plates may be spaced from and relative to each other so as to engage the spring metal contact portions of the contact members which are located within the portions 12 of the socket openings 10.

The relation of the metal contact members to the socket openings is such that all that is necessary is to place one of the former in one of the latter and thereafter secure the metal strip 30 and strips 31 and 32 in place which automatically acts to secure and retain the said metal contact members in place.

It will be seen that by my invention I have provided a construction of electric socket which is simple and effective and in which portions thereof may be assembled and secured together with the greatest readiness.

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

1. An electric socket comprising a base member of insulating material having contact receiving openings in the bottom thereof, the said openings each being provided with portions arranged angularly with respect to each other, and the said base portion also having relatively small openings leading from the bottoms of the relatively large angularly arranged portions of the said contact receiving openings, and the said base member also having notches in the lower portion of the side and the bottom thereof which are in communication with the said contact receiving openings, contacts adapted to fit within said openings, said contacts each having U-shaped contact portions which are adapted to occupy the angularly related portions of said openings and the inner free legs of said contact portions being adapted to contact with the inner side walls of the said angularly related portions of said openings and said contacts also having projecting portions substantially parallel with the said contact portions which are adapted to be located within the said notches.

2. A metal contact member for an electric socket comprising a base portion with legs arranged substantially at a right angle with respect to each other, each of said legs being provided with U-shaped spring projections extending substantially at right angles thereto, the opposite sides of one of the said U-shaped projections occupying planes substantially parallel with the end of the leg to which it is connected and the opposite sides of the other U-shaped projection occupying planes substantially parallel with an edge of the other leg to which it is connected, whereby the opposite sides of one of the U-shaped projections are substantially parallel with the opposite sides of the other U-shaped projection and the said base portion being provided with a projection extending laterally from the middle portion thereof in a direction substantially parallel with the direction in which the said U-shaped pro-

jections extend from the said base portion.

3. A contact member for electric sockets comprising a base portion having contact projections extending laterally therefrom and in spaced relation to each other and also having a lateral projection extending from the outer edge thereof, said last named projection being provided with means whereby an electric conducting wire may be connected thereto.

In testimony that I claim the foregoing as my invention, I have hereunto signed my name this 2nd day of November, A. D. 1926.

CLIFFORD J. ALPAUGH.