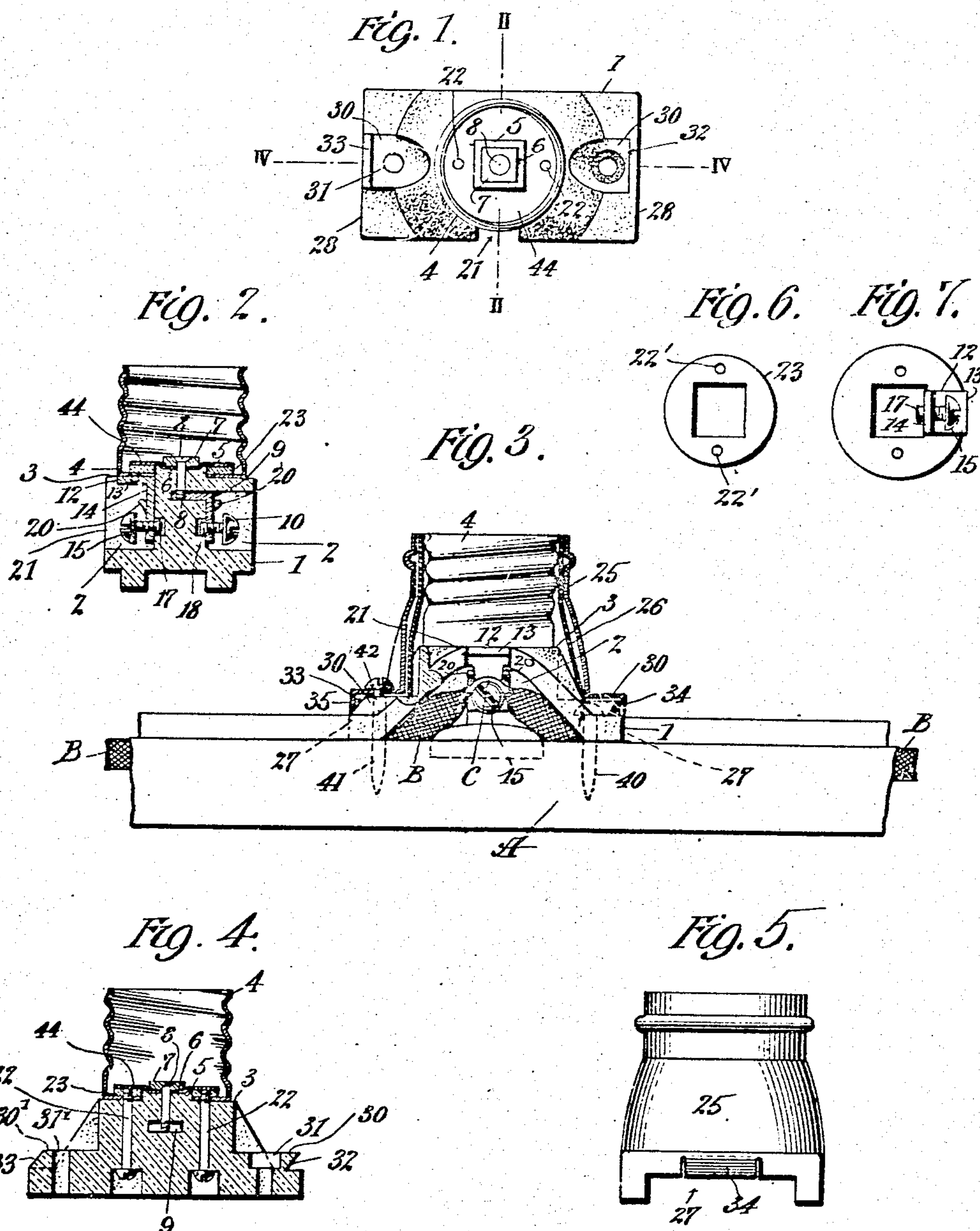


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ELECTRICAL APPLIANCE.
APPLICATION FILED JAN. 29, 1908.

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UNITED STATES PATENT OFFICE.

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ELECTRICAL APPLIANCE.

No. 931,518.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES S. STEWART, a citizen of the United States, residing at the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Electrical Appliances, of which the following is a full, clear, and exact description.

My invention relates to appliances for electric wiring, and more particularly to receptacles for molding wiring, where the circuit wires are run along a wall or ceiling in the longitudinal grooves of a molding.

The present invention covers more particularly a form of receptacle in which a single insulating block carries a threaded shell and a central stud terminal for a lamp and has curved passages in which the circuit wires are received. These parts are covered up in the finished article by a metallic, vitreous, or other outside casing.

I provide improved means for securing the base or body block to the molding, and also for attaching the casing in place. For this purpose, I employ the usual fastening screws in conjunction with certain interlocking parts, as hereinafter described. I also provide other features of construction, particularly a way by which the threaded shell is secured to the base block with great security and without dependence on the usual fastening screws. I also provide for the free removal or attachment of the threaded shell to the base block, whenever desired, without removing any terminal screws. I also improve the mica or insulating plate which is included between the central stud terminal and the bottom of the threaded shell.

With these and other objects in view, the invention consists in the features of construction and combination as hereinafter set forth and claimed.

In the drawings, Figure 1 is a top or plan view of the base or body block of a receptacle embodying the principles of my invention; Fig. 2 is a vertical section thereof on the line II—II of Fig. 1; Fig. 3 is a side elevation of the base or body block in place upon a molding, the casing being shown in section; Fig. 4 is a section on the line IV—IV of Fig. 1; Fig. 5 is an end elevation of the casing; Fig. 6 is a detail view showing a clamping washer employed in the construction; and Fig. 7 is a bottom view of the threaded shell.

Referring to the drawings in which like parts are designated by the same reference sign, 1 indicates a block or body of porcelain or insulating material forming the base of the structure. This part is of the same general construction as hitherto proposed by me, having lateral grooved passages 2 on each side into which the circuit wires are deflected upward and received. 3 designates a flat upper face on which the threaded shell 4 may rest. 5 indicates a central protuberance, preferably square in outline, which projects slightly above the plane of the surface 3. The central portion 6 of this protuberance is depressed to receive a central stud contact plate or stud 7. 8 designates a screw extending downwardly from the plate 7 to an L-shaped clip or part 9 which extends into one of the passages 2, and has a terminal screw 10 therein. These features as thus far described are substantially the same as hitherto constructed by me, and in themselves constitute no part of the present invention.

The threaded shell 4 has riveted, soldered, or otherwise attached to its bottom face an L-shaped clip 12 of which one leg or member extends radially outward along the bottom face of the threaded shell to or slightly beyond the periphery thereof, as clearly shown in Fig. 7. The other leg 14 extends downward so as to lie against the inside flat face of passage 2 of the base block when the threaded shell is in place thereof. In practice, I prefer to construct this inside flat face of passage 2 continuous with an edge of the protuberance 5, as shown in Fig. 2.

15 designates a terminal screw received in the leg 14 of the clip 12. Both terminal screws 10 and 15 extend completely through the clips in which they are received and are headed over slightly on their inside ends at 17, the body 1 of the receptacle being slightly recessed inwardly at points to accommodate the screws.

20 denote ears formed integral with the clips 9 and 12 and which produce shoulders to engage the circuit wires.

The body or base block 1 is cut away on one side by a deep rectangular recess 21 which joins the passage 2 of this side with the upper face 3 of the block. The transverse width of the recess 2 exactly corresponds to the width of the clip 12 on the threaded shell so that when the threaded shell is positioned on the block, its clip 12

will enter the recess 21 with a close and accurate fit. As the recess 21 connects with the passage 2 on this side of the block, it is clear that the leg 14 may extend freely down into said passage. The threaded shell is secured in this relation by screws 22 which pass upward through the block 1 into threaded holes 22' of a clamping washer 23 (see Fig. 6). The object of this construction is to provide a very secure fastening to resist any angular movement of the threaded shell on the block 1. It is evident that the leg 13 of the clip 12 forms a sort of a key which is very strong and rigid and engages a recess of such dimensions in the block 1 as to resist any turning strains which may be applied to the threaded shell. In this way, the turning strains are removed from the screws 22 and from the portion of the threaded shell which engages the square protuberance 5. Not only is a fastening of great security thus provided, but it will be noted that a perfect electrical connection is made from the threaded shell to the corresponding circuit wire. The clip 12 is virtually a part of the threaded shell (being preferably soldered thereto) and the connection of the circuit wire is made directly to said clip 12. In addition to these advantageous results, the threaded shell is freely removable and replaceable upon the block 1, the clip 12 being capable of entering downward through the recess 21 without removing the terminal screw 15. Accordingly, the terminal screw may be riveted or headed over at its inside end to prevent removal which is a very advantageous feature in practice.

The casing 25 may be made of sheet metal (with a vitreous coating, if desired) and is of a form and size to fit over the block 1 including the threaded shell 4 fixed thereto.

26 denotes a lining or sheathing of insulating material which is placed around the threaded shell to separate the same from the casing 25. At each end the casing 25 has an incut portion 27 of a width and size to fit over the ends 28 of the block 1. At these points the casing has a certain interlocking relation or engagement with the block 1 which constitutes an exceedingly important feature of the present invention.

It will be noted that the block 1 has integral bosses 30, 30', thereon at each end which project slightly above the plane of the surrounding parts. These bosses have holes 31, 31', through which ordinary screws may be passed to screw the block to a molding or in any desired relation. At their outer ends, neither of these bosses has a face which is square or normal to the surrounding parts. As clearly shown in Fig. 4, the boss 30 is provided with an undercut face or shoulder 32, while the boss 30' at the opposite side has a face 33 which constitutes a cam surface or incline which has a wedging

function. The casing 25 has a portion 34 which is deflected forward to engage the undercut shoulder 32 (see Fig. 3). On the opposite side of the casing 25, an edge 35 is provided which rides downward on the inclined face 33 of the boss 31 and cams or wedges the casing sidewise during such movement. The dimensions of the casing and block are such that as the casing is cammed or moved sidewise in this way, the edge 34 passes under and is tightly engaged beneath the ledge 32.

The use and operation is as follows: The block 1 is first positioned upon the molding A or in any desired relation, as shown in Fig. 3, in which position it is initially secured by a single screw 10 through the hole 31 of the boss 30 having an undercut ledge 32. It will be noted that the casing 25 is not in place at this time, but notwithstanding this fact, the screw 10 is permanently driven into place and serves the function of holding the base or body block 1 in place while the wiring connections are being made. The circuit wires B are stripped for a portion of their length at C and engage upon the terminal screws 10 and 15 which are thereupon tightened so as to connect the circuit wires to the respective clips 9 and 12. Everything is now in readiness for the attachment of the casing 25 which is slipped over the block 1 so that the inwardly deflected edge 34 engages beneath the ledge or inclined surface 32. The fastening screw 41 is now passed downward through an opening 42 in the casing 25 and through the hole 31' of the boss 30'. As the casing is pressed downward into place, it is evident that the surface 35 will force it to the left in Fig. 3, thereby locking the engagement of the edge 34 with the undercut ledge 32. It is evident that an absolutely tight engagement of the screw 41 is not necessary to hold the casing in place. The vertical extent of the cam face 35 is sufficiently great to maintain the locking engagement at 32 notwithstanding a considerable looseness of the screw 41. I therefore fasten the casing of the receptacle in place with substantially as great security as if two separate screws were passed there-through at each end, but an additional function has been obtained by the screw 10, namely, the initial holding of the base or body block 1 in place while the connections were being made.

An additional feature of the present invention lies in the way in which the central stud terminal 7 is insulated from the washer 23 which holds the threaded shell in place.

44 designates a mica disk of a size to fit within the threaded shell and surround the central stud terminal. I form the disk 44 with a small round central hole of a size just sufficient to receive the screw 8, and make the cap 7 of a size slightly less than the depres-

sion 6 in the protuberance 5. In this way, the square cap 7 embosses the central portion of the mica disk 44 evenly into the square recess 6 of the protuberance 5, in which relation it is clamped and held. The result is a fastening of great security for the mica disk, which, otherwise, would only be prevented from rotating by the frictional pressure of the clamping engagement. I regard this as important in practice, because turning strains are frequently applied to the mica disk which would otherwise tend to loosen and unscrew the central terminal. At the same time, the mica is made to constitute a very efficient insulating barrier, since it interposes a partition or wall at every point between the central stud terminal and the surrounding parts of opposite polarity.

What I claim, is:—

1. An electrical appliance comprising a base or body block having an undercut ledge and having a cam or wedge face, and a casing having a portion adapted to be received beneath said ledge and having a portion entirely rigid therewith and cooperating with said cam face to impel said portion of the casing laterally and into locking engagement with said ledge.

2. An electrical appliance comprising a base or body block having an undercut ledge at one end and having a cam face at its other end inclined downwardly and away from said ledge, and a casing having a portion adapted to engage beneath said ledge, and a portion entirely rigid therewith and adapted to ride on said cam face to impel the said casing laterally and lock it in its engagement with said ledge.

3. An electrical appliance comprising a base or body block having a boss at each end, one of said bosses having an undercut ledge and the other boss having a cam face inclined downwardly and away from said ledge, a casing having a portion fitting beneath said ledge and having another portion engaging said cam face to impel and lock the casing in such engagement with said ledge.

4. An electrical appliance comprising a base or body block having a screw hole at

each end and having an undercut ledge at one end and a cam face inclined downwardly and away from said ledge at the other end, and a casing having a portion fitting beneath said ledge and having a surface adapted to ride on said cam face to impel said casing into locking relation with said ledge, said casing having an opening adapted to register with the screw hole in said body block at the end thereof corresponding to said cam face.

5. An electrical appliance comprising a base or body block having a center contact and having a grooved passage on one side to receive a circuit wire, a threaded shell having a clip permanently attached thereto and extending downward into said passage, said block being entirely cut away on its side to receive said clip and permit the lateral removal of the same with its connected shell, and a terminal screw having a riveted-over extremity in said clip whereby it is permanently connected thereto.

6. An electrical appliance comprising a threaded shell, a base or body block having a top face with a central integral protuberance, said protuberance having a non-circular depression, a contact plate forming a central stud terminal within said depression, and an insulating disk clamped in said depression by said plate and separating said plate from the threaded shell.

7. An electrical appliance comprising a threaded shell, a base or body block having an integral protuberance, said protuberance having a square central depression, a square contact plate of less size than said central depression, means for clamping said contact plate in said depression, and an insulating disk embossed downward into said depression by said clamping plate, whereby said plate is separated from the threaded shell.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

JAMES S. STEWART.

Witnesses:

FRANK S. OBER,
WALDO M. CHAPIN.