

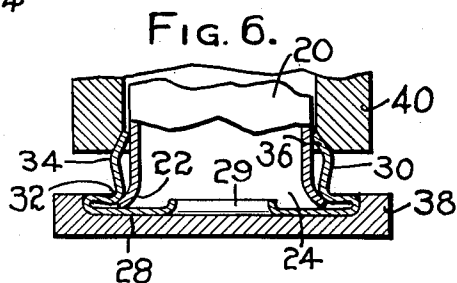
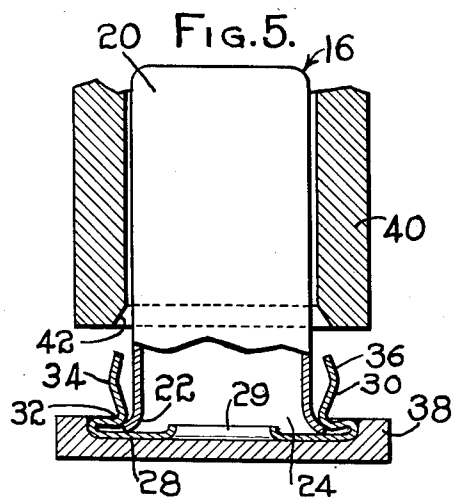
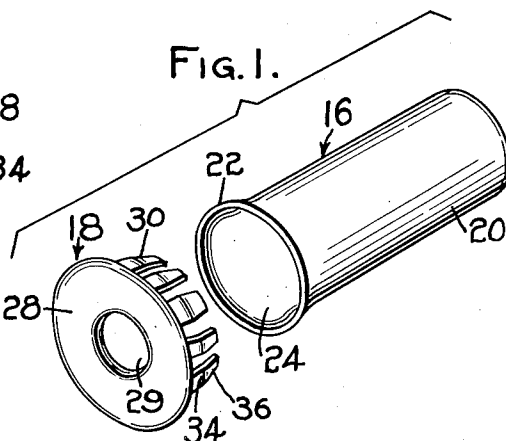
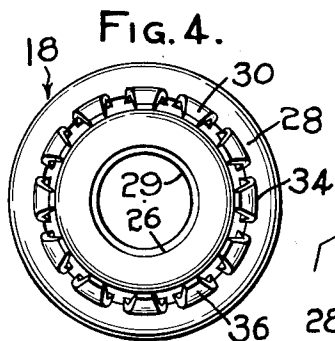
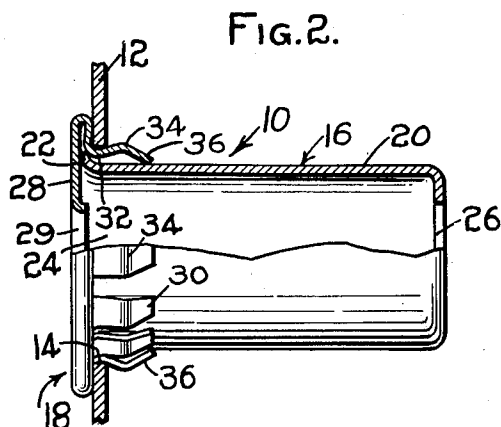
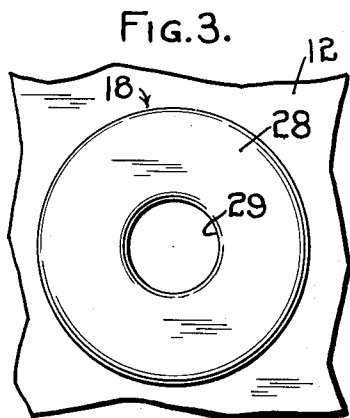
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C. A. WOODWARD

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HOUSING FOR ELECTRICAL SWITCHES AND THE LIKE

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Inventor:

CLEMENT A. WOODWARD,

By Philip E. Parker

Attorney.

UNITED STATES PATENT OFFICE

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HOUSING FOR ELECTRICAL SWITCHES
AND THE LIKEClement A. Woodward, Wellesley, Mass., assignor
to United-Carr Fastener Corporation, Cam-
bridge, Mass., a corporation of Massachusetts

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This invention relates to housings for electrical switches and the like, and has particular reference to housings adapted to snap into engagement with a supporting wall through an opening therein.

The object of the invention is to provide a housing assembly comprising a body member and a cap member in which the cap member has means thereon for receiving the body portion in snapping engagement therewith and for engaging a supporting wall when the housing is inserted into an opening therein.

A further object of the invention is to provide a housing assembly comprising a body member and a cap member having resilient means thereon for engaging a supporting wall in which said resilient means is supported by the body member during engagement of the housing with a supporting wall.

A still further object of the invention is to provide a housing assembly for switches and the like, comprising a body member and a cap member in which the cap member is provided with extending legs shaped and arranged to engage the housing body and to engage a supporting wall when the housing is inserted into an opening therein.

Other objects of the invention will, in part, be obvious, and will, in part, appear hereinafter.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description, taken in conjunction with the accompanying drawing, in which:

Fig. 1 is a perspective view of the component parts of a housing embodying the features of the invention;

Fig. 2 is a view in elevation, partly in section, of the housing of the invention assembled in an opening in a supporting wall;

Fig. 3 is a view of the housing of Fig. 2 as seen from the left side;

Fig. 4 is a view of the housing of Fig. 2 as seen from the right side;

Fig. 5 is a view in elevation, partly in section, of the component parts of the housing in position in an assembly apparatus for a final assembly operation; and

Fig. 6 is a fragmentary view in elevation, partly in section of the housing and assembly apparatus, illustrating the operation of the assembly apparatus.

Referring to the drawing, there is illustrated a housing assembly 10, which is adapted to be snapped into engagement with a supporting wall 12 through an opening 14 therein. The assem-

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bly 10 comprises a body 16 and an attaching cap 18 which is shaped and arranged to be snapped into engagement with one end of the body 16.

The body 16 comprises a wall 20 and an annular flange 22 extending outwardly therefrom at one end of the body. In the preferred embodiment, the wall 20 is substantially cylindrical, providing an internal cavity 24 for receiving a switch or other device (not shown) to be contained in the housing. An opening 26 may be provided in one end of the body 16 for receiving electrical lead wires to be connected to the switch.

The cap 18 comprises a base 28 which may have an opening 29 disposed centrally therein, and a number of attaching legs 30 extending outwardly from the base. The legs 30 are disposed on the base 28 to receive the body 16 centrally thereof. Each leg 30 is provided with an inwardly extending flange-engaging shoulder 32, an outwardly extending wall-engaging shoulder 34, and a free end portion 36. The flange-engaging shoulders 32 are disposed in such relation to the base 28 as to allow the flange 22 to be snapped into engagement behind the shoulders 32 whereby the flange 22 is firmly retained between the base 28 and the shoulders 32. The outwardly extending supporting wall-engaging shoulders 34 are disposed on the legs 30 a predetermined distance from the base 28 whereby the assembled holder may be snapped into engagement with a supporting wall 12 through an opening 14. The free end portion 36 extends inwardly from the wall-engaging shoulder 34 for support by the wall 20 of the assembled body 16. During insertion or withdrawal of the assembly from the opening, the shoulder 34 is compressed inwardly, causing the free end portion 36 to bear against the body wall 20, thereby providing a stiffer spring action to the shoulder 34.

To assemble the component parts of the housing, the end of the body 16 having the flange 22 is snapped into engagement behind the flange-engaging shoulders 32 to facilitate such engagement, the legs 30 are bent outwardly prior to assembly to allow the flange 22 to pass the free ends, and to be more easily engaged by the shoulders 32. The legs 30 are then subjected to a forming operation as illustrated in Figs. 5 and 6. The cap 18 is placed in a suitable holding means 38 and an annular die 40, having an internal beveled surface 42, is forced downwardly about the body 16. As the die 40 descends, the beveled surface 42 engages the legs 30, forcing them inwardly to engage the body wall 20. At the same time the shoulders 32 will be moved

into substantially non-separable engagement with the flange 22.

For convenience in manufacture it is desirable to have the outwardly extending shoulder and the inwardly extending shoulder disposed on the leg as illustrated. It will be readily seen that the position of the shoulders may be varied, and will depend partly on the thickness of the flange and the thickness of the supporting wall.

For certain applications, it may be desirable to have the body extend beyond the cap, in which case a larger opening may be provided in the cap, and the flange may be disposed at some point intermediate the ends of the body.

Although in the illustrated embodiment, each leg is provided with a flange-engaging shoulder and a wall-engaging shoulder, it may be desirable in some cases to provide some legs with flange-engaging shoulders only, and others with wall-engaging shoulders only.

Since certain other obvious changes may be made without departing from the scope of the invention, it is intended that all matter contained herein be interpreted in an illustrative, and not in a limiting sense.

I claim:

1. A housing assembly for switches and the like, which is adapted to be snapped into engagement with a supporting wall through an opening therein, the assembly comprising a body member and a cap member, said body member comprising a wall forming a switch-receiving cavity, and an outwardly extending flange disposed about the wall portion, said cap member comprising a base and attaching legs disposed on the base to receive the body centrally thereof, said legs having inwardly extending shoulder portions outwardly extending shoulder portions, and free end portions, said inwardly extending shoulder portions being disposed in spaced relation to the base, whereby said legs are adapted to receive the peripheral flange in snapping engagement and to retain securely said flange between the base and the inwardly extending shoulder portions, said outwardly extending shoulder portions being disposed in spaced relation to the base to receive a section of the supporting wall therebetween, said free end portions extending inwardly from said outwardly extending shoulder portions and being disposed for support by the body wall when the outwardly extending shoulder portions are subjected to compression during snapping engagement of the housing assembly with the supporting wall through an opening therein.

2. A housing assembly for switches and the like, which is adapted to be snapped into engagement with a supporting wall through an opening therein, the assembly comprising a body member and a cap member, said body member comprising a wall forming a switch-receiving cavity, and an outwardly extending flange disposed about the wall portion, said cap member comprising a base and attaching legs disposed on the base to receive the body centrally thereof, each of said legs having an inwardly extending shoulder disposed adjacent the base to form a flange-receiving and securing recess therebetween, an outwardly extending shoulder portion

spaced apart from the base to receive a supporting wall section therebetween, and a free end portion extending inwardly from said outwardly extending shoulder portion, said free end portion being disposed for support by the body wall during engagement of the outwardly extending shoulder portion with the supporting wall.

3. A housing assembly for switches and the like, the assembly comprising a body member and a cap member, said body member comprising a substantially cylindrical wall portion forming a switch-receiving cavity, and an outwardly extending peripheral flange disposed about the wall portion at one end of the body, said cap member comprising a base and an annular series of attaching legs disposed about the base to receive the body centrally thereof, each of said legs having an inwardly extending shoulder portion disposed to receive and retain in secured hooked engagement a portion of the flange between said base and said inwardly extending shoulder portion, an outwardly extending shoulder portion spaced apart from the base a suitable distance to receive an edge of a supporting wall therebetween and a free end portion extending inwardly from the outwardly extending shoulder portion and being disposed for support by said wall portion when the outwardly extending shoulder portion is subjected to compression during snapping engagement of the assembly with a supporting wall through an opening therein.

4. A housing assembly for switches and the like, the assembly comprising a body member and a cap member, said body member comprising a substantially tubular wall portion forming a switch-receiving cavity and an outwardly extending peripheral flange disposed about the wall portion at one end of the body, said cap member comprising a base in engagement with said one end of said body and an annular series of attaching legs extending from said base and spaced about the outer peripheral surface of said body, each of said legs having an inwardly extending shoulder adjacent said base in retaining engagement with said peripheral flange of said body, an outwardly extending shoulder spaced apart from said base a suitable distance to receive an edge of a supporting wall therebetween, and a free end portion extending inwardly from the outwardly extending shoulder portion and being disposed for support by said wall portion when the outwardly extending shoulder portion is subjected to compression during snapping engagement of the assembly with a supporting wall through an opening therein.

CLEMENT A. WOODWARD.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
730,567	Plassmann	June 9, 1903
973,568	Russell	Oct. 25, 1910
2,111,713	Watson	Mar. 22, 1938
2,118,665	Churchill	May 24, 1938
2,125,843	Hall	Aug. 2, 1938
2,223,673	Catron et al.	Dec. 3, 1940