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(54) COVERS FOR ELECTRIC SWITCHES

(71) We, CRABTREE ELECTRICAL INDUSTRIES LIMITED, formerly J. A. CRABTREE & CO. LIMITED, a British Company of Crabtree House, Alfridge, Walsall, WS9 8LT, formerly of Lincoln Works, Walsall WS1 2DN, West Midlands, do hereby declare the invention for which we pray that a Patent may be granted to us and the method by which it is to be performed to be particularly described in and by the following statement:—

This invention concerns improvements relating to covers for electric switches, and in particular to a decorative cover for attachments to an existing electric switch.

Covers for electric switches are used when it is desired to change the external appearance of a switch, for example for decorative or aesthetic reasons, but when it is desired not to change the switch itself.

Covers are conventionally snap-fitted onto existing switches, for example such covers may have inwardly-facing flaps which are received behind the switch (e.g. adjacent to the surface of the wall or like support). This necessarily imposes limitations on the design of the cover.

In addition, whereas it may be desired to form the cover from metal, using this known method of attachment there are safety problems, since it is difficult to ensure that the metal cover is reliably earthed.

It is one of the various objects of this invention to provide a cover for an electric switch which is aesthetically pleasing, and which may be used without any safety disadvantage.

This invention provides a cover for attachment in front of the face plate of an existing electric switch, the cover being provided with at least one aperture through which an operating member of the switch may extend, and two further apertures through which retaining screws by which the existing face plate is secured in position may be inserted through the cover prior to passage through the face plate, to secure the cover to the face plate.

Preferably the cover is of thin-walled

cross-section, that is having a wall thickness lying in the range of 0.005 to 0.025 inches. Conveniently, the wall thickness of the cover is about 0.015 inches.

Preferably the cover is of metal, e.g. formed from sheet material by a pressing operation. In this manner, the retaining screws may provide earthing for the cover, and hence a second level of electrical safety. However, if desired, the cover may be formed from plastics material by a moulding operation.

Advantageously, the said further apertures are counter-sunk, providing the cover with frusto-conical parts on the interior thereof bounding said further apertures, which frusto-conical parts are adapted to seat in the apertures of the existing face plate. In this manner, convenient and accurate location of the cover relative to the face plate may be achieved.

Desirably, the cover is formed to provide a continuous boundary wall upstanding from a central region, which may be planar, the one aperture and the further, screw receiving apertures being located in the central region. Preferably, outer surfaces of the boundary wall are mutually divergent in a direction rearwardly of the cover as a whole, preferably extending rearwardly beyond the central region.

There will now be given a detailed description, to be read with reference to the accompanying drawings, of a cover for an electric switch, which is a preferred embodiment of this invention. It is to be understood that this embodiment has been selected to illustrate this invention by way of example.

In the accompanying drawings:

FIGURE 1 is a front perspective view of the preferred embodiment;

FIGURE 2 is a sectional view of said embodiment; and

FIGURE 3 is an enlarged view of part of Figure 2.

The cover which is the preferred embodiment of this invention is of thin-walled construction, being formed from sheet metal of 0.015 inches thickness by a pressing

operation, and is provided with a burnished chrome finish. The cover comprises a central, planar region 2 and a continuous boundary wall 4, outer surfaces 6 of the boundary wall being mutually divergent in a direction rearwardly from the cover as a whole, and extending rearwardly of the central region.

The region 2 is provided with a first, generally rectangular aperture 10 through which, when the cover is secured to the face plate at an electric switch, a switch operating member extends. When the cover is for use in conjunction with a switch comprising more than one switch operating member, the region 2 may be provided with more than one such aperture, such apertures being spaced a distance appropriate to the relative positioning of the operating members (conventionally, side-by-side) or a single, larger aperture may be provided. It will however be appreciated that the size and/or number of apertures 10 will be appropriate to the size and/or number of operating members on the switch, such that the operating member or members will be closely fitting within the aperture or apertures 10.

The region 2 is also provided with two further apertures 12, 12, positioned one either side of the aperture 10. These apertures are spaced at a distance corresponding to the normal spacing between the existing screw-receiving apertures of the switch face plate, by the use of which the face plate may be secured by screws to a base part of the switch fixed to a supporting surface such as that presented by a wall. Said further apertures 12 are counter-sunk, as shown in Figure 3. The margins bordering the apertures may thus comprise frusto-conical parts 12a and substantially cylindrical parts 12b connecting the former integrally with the planar part 2, the parts 12a, 12b effectively form locating means engageable in complementary counter-sunk recesses 23a, 23b, of the associated face plate 20 of a switch.

To use the cover which is the preferred embodiment of this invention, the screws 24 securing the face plate 20 of a switch to a base part of the switch and forming an electrical connection to the base part which will be earthed when in use and fixed to a supporting surface, are withdrawn. The

cover is positioned over said face plate, initial location being achieved by the insertion of the parts 12a, 12b into the recesses 23a, 23b bounding the apertures 22 of the face plate. Thereafter, the screws 24 are re-inserted, first through the apertures 12 of the cover, and then through the apertures 22 of the face plate. The screws are tightened into the switch base part, to secure the face plate in position to the base part, and to secure the cover in front of the face plate.

By use of the counter-sinking of the apertures 12, 12, not only is initial location of the cover relative to the face plate easily achieved, and a desirable appearance produced, but an adequate electrical contact between the screws 24 and the cover is achieved, ensuring that the cover is adequately earthed.

WHAT WE CLAIM IS:—

1. A cover for attachment in front of the face plate of an existing electric switch, the cover being provided with at least one aperture through which an operating member of the switch may extend, and two further apertures through which retaining screws by which the existing face plate is secured in position may be inserted through the cover prior to passage through the face plate, to secure the cover to the face plate.

2. A cover according to Claim 1 and which is of thin-walled cross-section.

3. A cover according to Claim 2 and having a wall thickness lying in the range 0.005 to 0.025 inches.

4. A cover according to any one of the preceding claims and formed from sheet metal by a pressing operation.

5. A cover according to any one of claims 1, 2 and 3 and formed from plastics material by a moulding operation.

6. A cover according to any one of the preceding claims and provided with frusto-conical parts on the interior thereof bounding said further apertures, which frusto-conical parts are adapted to seat in the apertures of the existing face plate.

7. A cover according to any one of the preceding claims comprising a continuous boundary wall upstanding from a central region, said one aperture and said further apertures being located in the central region.

8. A cover according to claim 7 wherein

operation, and is provided with a burnished chrome finish. The cover comprises a central, planar region 2 and a continuous boundary wall 4, outer surfaces 6 of the boundary wall being mutually divergent in a direction rearwardly from the cover as a whole, and extending rearwardly of the central region.

The region 2 is provided with a first, generally rectangular aperture 10 through which, when the cover is secured to the face plate at an electric switch, a switch operating member extends. When the cover is for use in conjunction with a switch comprising more than one switch operating member, the region 2 may be provided with more than one such aperture, such apertures being spaced a distance appropriate to the relative positioning of the operating members (conventionally, side-by-side) or a single, larger aperture may be provided. It will however be appreciated that the size and/or number of apertures 10 will be appropriate to the size and/or number of operating members on the switch, such that the operating member or members will be closely fitting within the aperture or apertures 10.

The region 2 is also provided with two further apertures 12, 12, positioned one either side of the aperture 10. These apertures are spaced at a distance corresponding to the normal spacing between the existing screw-receiving apertures of the switch face plate, by the use of which the face plate may be secured by screws to a base part of the switch fixed to a supporting surface such as that presented by a wall. Said further apertures 12 are counter-sunk, as shown in Figure 3. The margins bordering the apertures may thus comprise frusto-conical parts 12a and substantially cylindrical parts 12b connecting the former integrally with the planar part 2, the parts 12a, 12b effectively form locating means engageable in complementary counter-sunk recesses 23a, 23b, of the associated face plate 20 of a switch.

To use the cover which is the preferred embodiment of this invention, the screws 24 securing the face plate 20 of a switch to a base part of the switch and forming an electrical connection to the base part which will be earthed when in use and fixed to a supporting surface, are withdrawn. The

cover is positioned over said face plate, initial location being achieved by the insertion of the parts 12a, 12b into the recesses 23a, 23b bounding the apertures 22 of the face plate. Thereafter, the screws 24 are re-inserted, first through the apertures 12 of the cover, and then through the apertures 22 of the face plate. The screws are tightened into the switch base part, to secure the face plate in position to the base part, and to secure the cover in front of the face plate.

By use of the counter-sinking of the apertures 12, 12, not only is initial location of the cover relative to the face plate easily achieved, and a desirable appearance produced, but an adequate electrical contact between the screws 24 and the cover is achieved, ensuring that the cover is adequately earthed.

WHAT WE CLAIM IS:—

1. A cover for attachment in front of the face plate of an existing electric switch, the cover being provided with at least one aperture through which an operating member of the switch may extend, and two further apertures through which retaining screws by which the existing face plate is secured in position may be inserted through the cover prior to passage through the face plate, to secure the cover to the face plate.

2. A cover according to Claim 1 and which is of thin-walled cross-section.

3. A cover according to Claim 2 and having a wall thickness lying in the range 0.005 to 0.025 inches.

4. A cover according to any one of the preceding claims and formed from sheet metal by a pressing operation.

5. A cover according to any one of claims 1, 2 and 3 and formed from plastics material by a moulding operation.

6. A cover according to any one of the preceding claims and provided with frusto-conical parts on the interior thereof bounding said further apertures, which frusto-conical parts are adapted to seat in the apertures of the existing face plate.

7. A cover according to any one of the preceding claims comprising a continuous boundary wall upstanding from a central region, said one aperture and said further apertures being located in the central region.

8. A cover according to claim 7 wherein



the central region is generally planar.

9. A cover according to one of claims 7 and 8 wherein outer surfaces of the boundary wall are mutually divergent in a direction rearwardly of the cover as a whole.

10. A cover according to any one of claims 7, 8 and 9 wherein the boundary wall extends rearwardly beyond the central region.

- 10 11. A cover for attachment to the face plate of an existing electric switch, constructed and arranged substantially as

hereinbefore described with the reference to the accompanying drawings.

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