

Cord orifice for flush-mounted electrical outlets

The invention concerns a cord orifice for flush-mounted electrical outlets that are equipped with a swing-out cover, in which an opening is provided for the passage of connection leads when the cover is closed, which can be closed off with a flap mounted pivotably on the swing-out cover, the flap being supported in both the closed and open position by a support piece, and being lockable.

German Utility Model 75 11 354 discloses flush-mounted electrical outlets which, installed in the floor, are equipped with a swing-out cover that is pivotably joined to the electrical outlet. An opening in the cover can be closed off with a flap attached in permanent and pivotable fashion on the cover, said flap, in the closed position, terminating flush with a flange which braces the electrical outlet on the floor. The support piece supporting the flap is an integral component of the electrical outlet. No provision is made for removal of the flap from the cover which carries it.

When flush-mounted electrical outlets of the aforesaid kind are used on stone or parquet floors which can, for example, be sanded, the problem

results that, even if the electrical outlet flange is left off, the swing-out cover of the electrical outlet but not the flap of the cord orifice can be covered with the material of the floor covering. If the floor covering were treated in a manner which removes material, a cord orifice flap made of metal or plastic according to the known design would be damaged, since it is installed approximately flush with the floor and would also be treated. No provision for removal of the cord orifice flap prior to floor treatment can be made, since the electrical outlet should also, and in particular, be completely closed during treatment of the floor, in order to prevent soiling and damage to the electrical equipment. Treatment in a manner which removes material also results in a change in the height of the floor covering, to which the existing cord orifices cannot be adapted.

It is the object of the invention to create a cord orifice for flush-mounted electrical outlets of the kind cited initially, the components of which are not impaired when the floor covering is treated in a manner which removes material and perform their sealing function without restriction, and which can be adapted exactly to a varying height of the floor covering.

This object is achieved by the fact that the cord orifice has a frame, embodied in two parts, whose U-shaped first part is mounted displaceably perpendicular to the cover plate in the opening of the swing-out cover and carries the pivotably mounted flap, and whose second part, adapted to the inner contour of the electrical outlet, comprises the support piece for the flap and is mounted displaceably along the wall of the electrical outlet. This configuration creates an adjustable-height cord orifice which on the one hand can be lowered below floor level when the floor covering is being mechanically treated, such that the cord orifice, which can be closed off with its flap, completely seals the electrical outlet against soiling even in the lowered state, together with the swing-out cover. On the other hand, the adjustability of the cord orifice means that its upper rim can be leveled at the height of the floor. The result is that even after repeated removal of material, and thus a reduced height of the floor covering which is

transferred to the swing-out cover of the electrical outlet, the flush-mounted electrical outlet, including its orifice, can be adjusted so as to run flush with the floor covering.

In an embodiment of the invention, the displaceability of the frame parts is made possible by oblong holes, arranged in the frame parts perpendicular to the plane of the swing-out cover when closed, through which bolts are passed which are detachably fastened for the first part of the frame on the swing-out cover, and for the second part of the frame on the electrical outlet. The result is that when the bolts are loosened, the frame parts can be displaced, while by tightening the bolts the frame parts can be immobilized, so that the frame parts can easily be brought to a suitable height and established there.

In a further embodiment of the invention, the frame parts including the pivotably mounted flap can be removed from the swing-out cover and the electrical outlet. This makes it possible to replace the cord orifice or to clean it separately.

The description below represents a preferred exemplifying embodiment of the invention with reference to the drawings, in which:

Fig. 1 shows, in a schematic sectioned view, a cord orifice, built into a flush-mounted electrical outlet, with a closed swing-out cover (the pivotable flap being indicated with dot-dash lines in the open position, and dashed lines in the closed position);

Fig. 2 shows the installed cord orifice in a section along section line II-II in Fig. 1, without depicting the pivotable flap;

Fig. 3 shows, in a perspective view, the region of a swing-out cover in which the first part of the cord orifice frame is installed;

Fig. 4 shows, in a perspective view, an exemplifying embodiment of the U-shaped first part of the cord orifice frame; and

Fig. 5 shows, in a further perspective view, an exemplifying embodiment of the second part of the cord orifice frame.

A flush-mounted electrical outlet 1 has, in known fashion, a swing-out cover 2 which carries a pivotable flap 3, 3a which in its inactive position 3 closes off a cord orifice in swing-out cover 2, and in its open position 3a allows connection leads to pass. The cord orifice is exposed through a corresponding opening 2a in cover 2, the shape of which is visible in Fig. 3. When V2A or brass sheet is used as the material for cover 2, opening 2a can easily be produced by punching. In this process, side parts 2b of the cover, to be formed later by folding out of the cover panel, should be taken into account; these moreover have holes 7 for attachment of a frame part 5 to the cover, the significance of which will be discussed later. The number and size of the holes are theoretically arbitrary, and governed only by stress requirements.

Cover 2 configured in accordance with Fig. 3 can, as depicted in Fig. 1, be covered with floor material 4, preferably parquet, so that outer surface 4a of the cover is identical to the remaining floor surface 4b. Because the floor may possibly be treated in a manner which removes material, for example if the parquet is sanded, surfaces 4a and 4b are not invariable as to height; this means in particular that the height can decrease. This circumstance is taken into account by the fact that flap 3, 3a is mounted on two frame parts 5 and 6, made preferably of plastic and inserted into the cord orifice of the cover, said frame parts being arranged displaceably in recess 2a of the cover and in electrical outlet 1. This is achieved by the fact that on the one hand, oblong holes 8 are provided in the U-shaped frame part 5, through which holes bolts (not depicted), for example, are passed and are fastened detachably in holes 7 of cover 2, so that frame

part 5 can be loosely guided or can be immobilized on cover 2.

On the other hand, as is evident from Figs. 1 and 2, to complete the support frame a second frame part 6 is fitted between the arms of the U-shaped frame part 5 and fastened to wall 1a of electrical outlet 1. Frame part 6 does not necessarily need to be surrounded by the arms of frame part 5; this is merely advantageous for stable mounting of swing-out cover 2 in the inactive position, since it is easy to adjust the location of the cord orifice between the two frame parts. For optimum mounting of the second frame part 6, however, the latter is to be adapted to the inner contour of the electrical outlet. The second frame part 6 also has, as shown in Fig. 5, oblong holes 8 through which, as in the case of frame part 5, bolts (not depicted) pass and are fastened to electrical outlet 1, for example by means of threaded holes 9. The second frame part 6 furthermore comprises a support piece 6b for flap 3, 3a, by which the latter, in the closed state 3, is supported in known fashion sufficiently for loads resulting from forces from above. In addition, the flap can rest, even in the open state 3a, on rim 6a of frame part 6, as depicted with dot-dash lines in Fig. 1.

Displacement of the two frame parts perpendicular to the surface of the closed cover takes place synchronously along oblong holes 8 with the bolts loosened, so that the flap can maintain its inactive position 3 parallel to the surface of the closed cover. The cord orifice can thereby be lowered below the floor level and protected from damage during a floor treatment involving removal of material. The cord orifice can be returned in the same way, after the floor treatment, to a suitable position flush with the floor. The frame parts can be removed by completely detaching the fastening means.



Claims:

1. A cord orifice for flush-mounted electrical outlets that are equipped with a swing-out cover, in which an opening is provided for the passage of connection leads when the cover is closed, which can be closed off with a flap mounted pivotably on the swing-out cover, the flap being supported in both the closed and open position by a support piece, and being lockable; wherein the cord orifice has a frame (5, 6), embodied in two parts, whose U-shaped first part (5) is mounted displaceably perpendicular to the cover plate in the opening (2a) of the swing-out cover (2) and carries the pivotably mounted flap (3), and whose second part (6), adapted to the inner contour of the electrical outlet, comprises the support piece (6b) for the flap (3) and is mounted displaceably along the wall (1a) of the electrical outlet.
2. The cord orifice as defined in Claim 1, wherein the displaceability of the frame parts (5, 6) is made possible by oblong holes (8), arranged in the frame parts perpendicular to the plane of the swing-out cover (2) when closed, through which the bolts are passed which are detachably fastened for the first part (5) of the frame on the swing-out cover (2), and for the second part (6) of the frame on the electrical outlet (1).
3. The cord orifice as defined in Claim 2, wherein the frame parts (5, 6) including the pivotably mounted flap (3) can be removed from the swing-out cover (2) and the electrical outlet (1).