

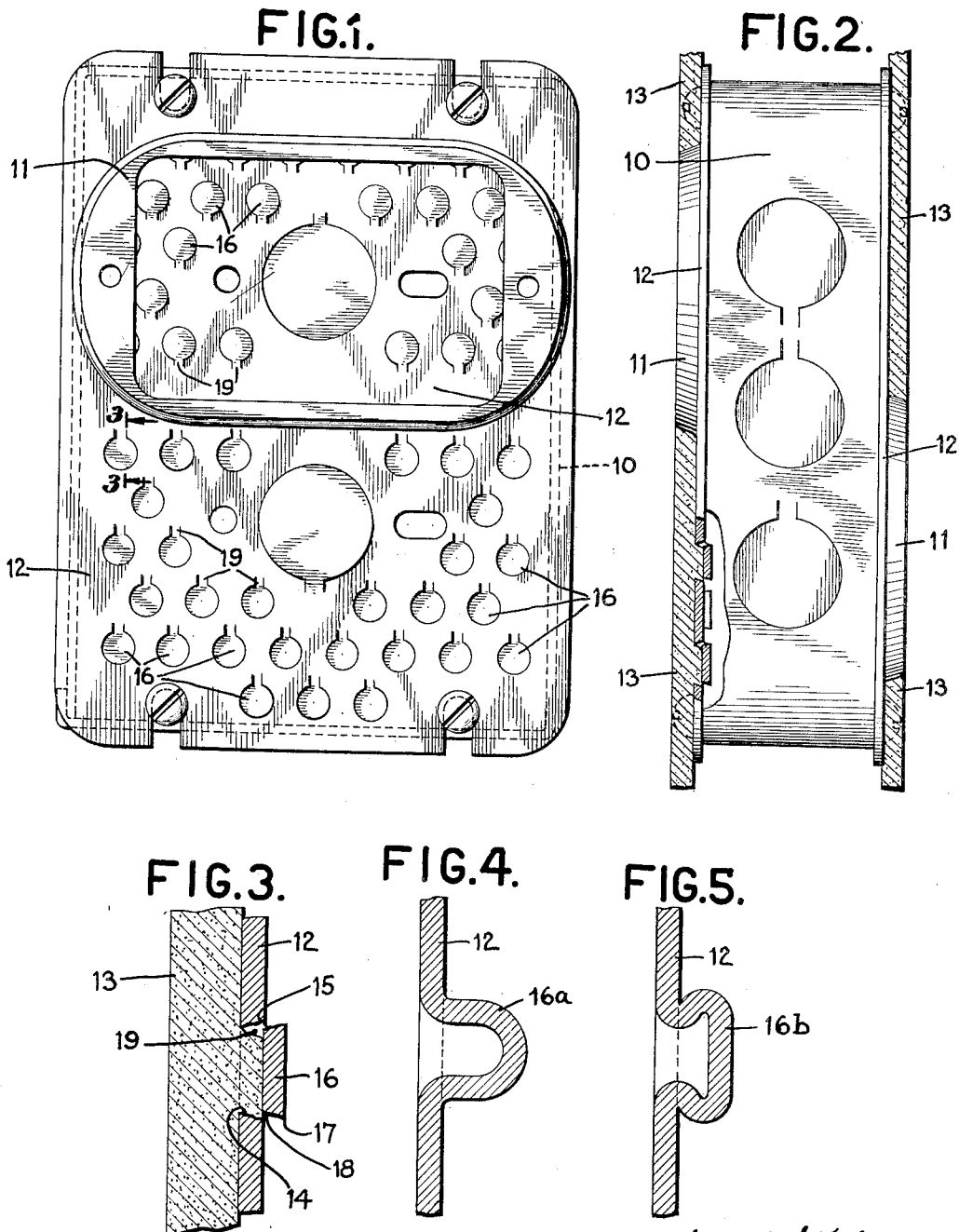
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PLASTER LOCK

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PLASTER LOCK

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In the use of outlet boxes and other like devices for electrical and other services in buildings, the flanges or cables for such boxes some times have to be disposed quite close to the surface of a plastered wall and great difficulty has been experienced in holding plaster in position in such locations. It is objectionable to have openings which extend entirely through the walls of the box flanges for the purpose of providing a conventional plaster lock on account of the fact that some of the plaster will fall into the bottom of the box or enclosure and interfere with the proper functioning of the enclosing box. In the case of electrical boxes, this plaster would fall into the conduits and interfere with the drawing in or removal of the wires through the conduits. Other objections to such form of construction are obvious to those versed in building construction.

The present invention has for its object the provision of a lock or key for thin plaster films, which is of such construction that the protrusion of plaster through the under surface will be prevented.

A further object of the present invention resides in the provision of a plaster lock which will be cheap and economical to manufacture.

Further and other objects of the present invention will be hereinafter set forth in the accompanying specification and claims and shown in the drawing, which by way of illustration show certain preferred embodiments of the invention.

In the drawing:

Figure 1 is a front elevational view of an electrical outlet box embodying my invention;

Fig. 2 shows the box of Fig. 1 embedded in a wall with the covers in place and with the plaster in position and interlocking into the plaster locks;

Fig. 3 is a detailed sectional view taken on line 3—3 of Fig. 1; and

Figs. 4 and 5 show modified embodiments of the invention.

In carrying out the present invention dovetail lock cavities are produced in the surface of the metal which is to be provided with plaster locks. Furthermore, according to one and a further embodiment of the invention, advantage is taken of a peculiar action of punched metal when operated on by a punch press. If the die is made appreciably larger than the punch the metal is not entirely cut through the entire thickness of the metal, but it is partly cut and partly torn, the "tear" proceeding from the edge

of the punch in its passage through the metal being operated on to the edge of the die, thus producing a hole or cavity that is progressively larger towards the under surface. I take advantage of this effect and action to produce a cavity that acts as a lock to secure thin plaster films firmly to the surface of the metal. By suitable means I retain the plug which is partially punched out immediately adjacent the opening, thus preventing the plaster from extending through to the other surface.

Referring to the drawing, 10 is a box of any suitable or usual configuration. It may be provided with removable cover portions generally designated 11. 12 represents the cover portions which comprise sheet metal plates which are to be provided with the desired plaster locks. 13 represents the thin plaster film. Referring to Fig. 3, 14 is the portion of the hole in metal plate 12 that is cut with the punch to the size of the punch. 15 represents the torn part of the hole. 16 represents the plug which is punched out from plate 12 by the punch. 17 is that part of the plug that corresponds to the diameter of the cooperating die and 18 is the part of the plug which corresponds to the diameter of the punch. The plug 16 is retained in position adjacent the hole by an uncut portion or neck 19, and the relation of the plug 16 to the plate 12 when fabrication is finished is substantially that of Fig. 3 with the plug 16 disposed substantially close to the inner face of 12. By disposing the plug 16 in this relation, penetration of plaster into the interior of the box is prevented. When the plaster is applied it is pressed under the action of the workmen's tools, this causes the plaster 13 to penetrate the locking cavities and, as shown in Figs. 1 and 2, these are as closely spaced over the surface of the metal plate 12 as may be necessary.

While I have illustrated in Figs. 1, 2 and 3 the invention in its preferred form with a round aperture and round plugs, the invention is not limited to any such configuration of parts. The holes may be hexagon, square or corrugated or of any other configuration. The plug 16 might be retained in position by more than one retaining neck 19.

Figs. 4 and 5 show the different embodiments of the invention and in Fig. 4 the metal of plate 12 is merely punched down without any portion of it being torn away. The plaster locking member being indicated at part 16a. According to the embodiment shown in Fig. 5, the part 16b is first punched out in the manner of 16a of Fig. 4 and

afterwards deformed to assume the shape shown.

What I claim is:

1. A plaster lock including a plate-like member having a multiplicity of distinctively separated localized individual plaster locking cavities therein provided by plug portions integral with the plate and disposed out of the plane of the plate, the material of said plate having bounding portions of less diameter which overlie a cavity of greater diameter relatively near the plug portion whereby each individual locking cavity is undercut at points remote from the surface of the plate which receives the plaster to lock the plaster in position.
2. A plaster lock for retaining plaster in a thin film over a plate-like surface, said plaster lock including a plate having a plurality of distinctively separated partially punched out plug portions which are severed from the plate over the greater part of their periphery and each plug portion being only secured to the plate by a single narrow intact portion, said plug portions being deformed downwardly from the plaster receiving portion of the plate to provide plaster receiving cavities bounded by the partially punched out plug portions and by the edges of the plate from which the plug portions are partially punched out.
3. A plaster lock for retaining plaster in the thin film over a plate-like surface, said plaster lock including a plate with cavity forming plug portions deformed out of the general plane of the plate and providing plaster receiving openings in the plaster receiving face of the plate, said cavities being provided with plaster locking portions provided by portions of the plate which define apertures of less diameter than the diameter of the material bounding the bottom of the cavities adjacent the plug portions whereby a positive interlock with the plaster is secured.

4. The invention set forth in claim 3 in which the plug portions are connected to the plate around their entire periphery whereby plaster is prevented from leaking through from the back of the plate.

5. The invention set forth in claim 3 in which the plug portions are connected to the plate by narrow neck means and in which the plug portions have their plaster receiving surface disposed substantially in alignment with the rear surface of the plate remote from the plaster receiving front surface of the plate.

6. A plaster lock for retaining plaster in a thin film over a plate-like surface, said plaster lock including a plate with partially punched out plug portions which are deformed out of the plane of the plaster receiving front surface of the plate into a plane in which the plaster receiving surface of the plugs are substantially in alignment with the rear surface of the plate whereby substantially closed plaster receiving cavities are provided with a diameter which is relatively larger at points remote from the surface of the plate which receives the plaster whereby the plaster is locked to the plate.

7. A plaster lock for retaining plaster in a thin film over a plate like surface which includes partially punched out portions formed from the material of the plate which is to be covered and disposed below the cavities which are created by punching out the material, said partially punched out portions having a diameter which is relatively larger on the surface most remote from the plate whereby the locking cavities are undercut at points remote from the surface of the plate which receives the plaster and act to lock the plaster in position.

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