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SHIELD FOR THREADED FLANGES OF ELECTRIC OUTLET BOXES

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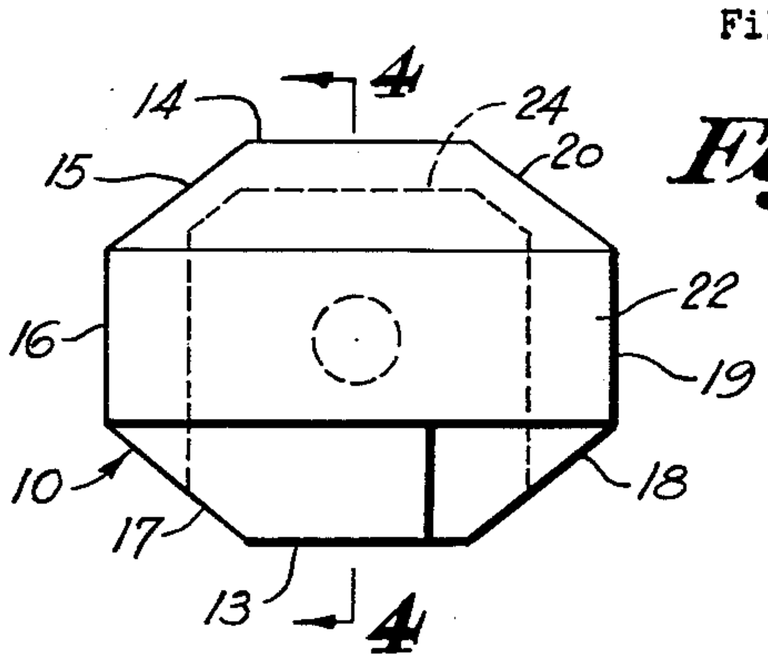


Fig. 1

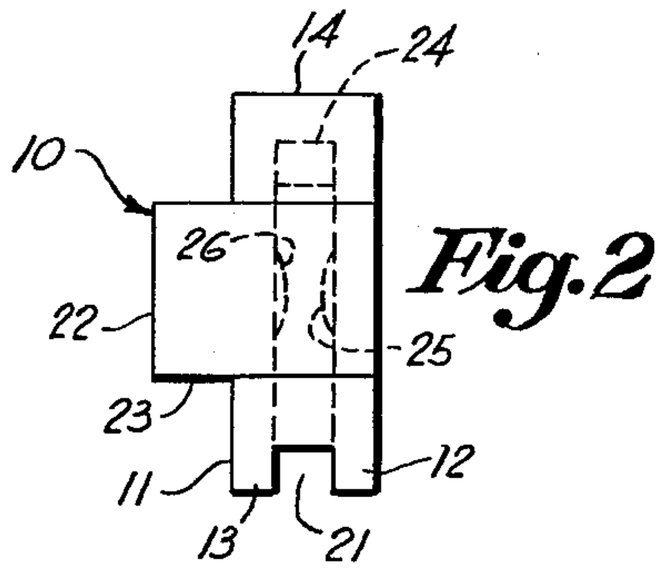
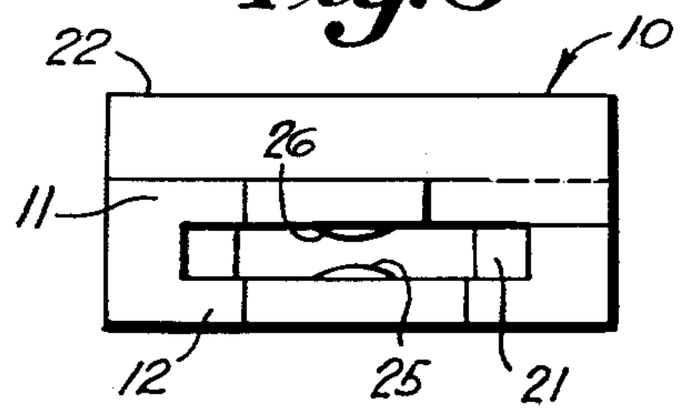


Fig. 2

Fig. 3



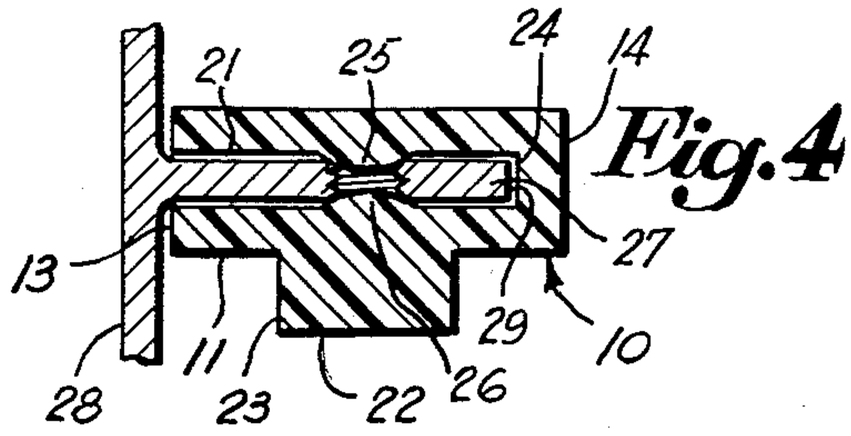
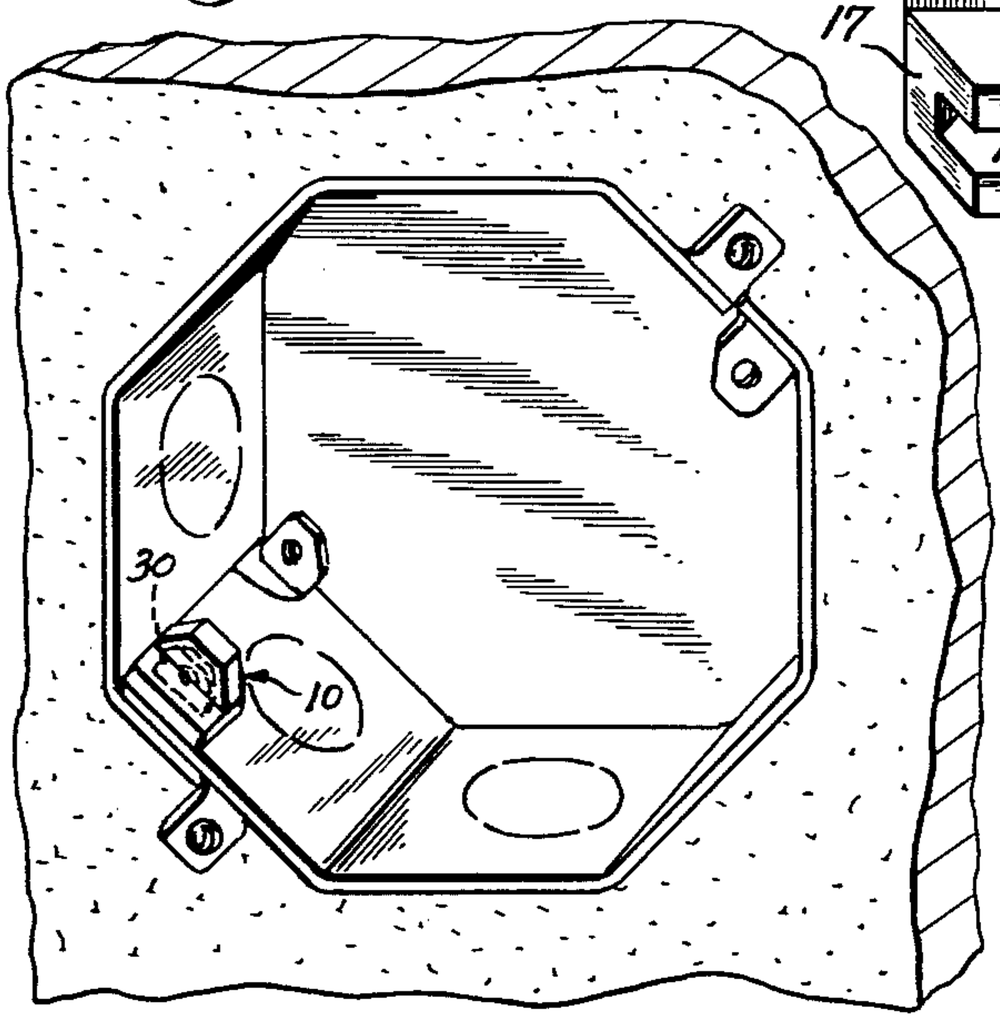


Fig. 4

Fig. 5

Fig. 6



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SHIELD FOR THREADED FLANGES OF ELECTRIC OUTLET BOXES

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This invention relates to a shield used for the protection of threads on electric outlet box flanges.

It is well known that in the construction industry, electric outlet boxes and the like are installed by mounting them on temporary floor, ceiling or wall forms, and then pouring the concrete or applying the plaster wherein the boxes are to be contained. Despite careful mounting of the boxes and other steps taken to seal them from the entry of foreign matter, it frequently happens that wet concrete or plaster seep into the box enclosure and cover the threads on flanges contained therein, creating an undesirable condition as the flanges contain threaded holes which are the means whereby sleeves enclosing the wiring, cover plates, receptacles and the like are fastened to the outlet box. The necessity of removing hardened concrete or plaster from flanges is a wasteful and not always easy task required of the electrician making electrical connections at the box. The common tried practice of trying to protect the flange and threaded hole by inserting a screw therein all too often meets with failure, as the solidified concrete or plaster makes it difficult, if not impossible, to remove the screw.

Consequently, it is a primary object of this invention to provide a shield for temporarily covering the thread on flanges of electric outlet boxes while they are being installed.

It is another object of this invention to provide a shield for temporarily covering the thread on flanges of electric outlet boxes during installation, that is simple to install and easy to remove.

These and other objects of the invention will become apparent in the course of the following specification.

In the attainment of the aforesaid objectives, the present invention contemplates the provision of a flat shield which may be octagonal in shape and be made of a plastic material and which comprises top and bottom sides, wherein the immediate front and remote rear edges of said sides are somewhat longer than the remaining six equal length edges. Edge pieces connect the top and bottom sides except that portions of the front edges thereof are not connected, thereby leaving a slotted opening in the shield through which the electric outlet box threaded flange will pass when the shield is inserted thereon. A portion of one half of the upper side of the shield is removed to facilitate a snug fitting of the shield against the inner face of the outlet box adjacent to the threaded flange projecting therefrom. Projections formed integral with and protruding from the inner faces of the top and bottom sides of the shield respectively, may be provided within the shield to seal the threaded hole in the flange enclosed by said casing.

One side of the shield is preferably fitted with an elongated upstanding shoulder extending the full length of the shield and parallel to the front edge of said shield, said shoulder extending across the shield a length coincident that of the edges perpendicular to said front edge, said shoulder being provided to facilitate removal of the shield from the flange.

The invention will appear more clearly from the following detailed description when taken in conjunction with the accompinying drawing showing, by way of example, a preferred embodiment of the inventive concept.

In the drawing:

FIGURE 1 is a plan view of the shield constructed in accordance with the principles of this invention;

FIGURE 2 is a side elevational view of the shield shown in FIGURE 1;

FIGURE 3 is a front elevational view of the shield shown in FIGURE 1;

FIGURE 4 is a sectional view along line 4—4 of FIGURE 1 showing the shield inserted on an outlet box flange;

FIGURE 5 is a perspective view of the shield; and

FIGURE 6 is a perspective view of an electric outlet box looking up into the box in its installed position in a ceiling, illustrating the shield inserted in operative position on a threaded flange in the box.

Referring now in greater detail to the drawing where like reference numerals indicate like parts, reference number **10** indicates the shield.

In the construction illustrated, the shield **10** is made of a material that will give a resilient construction, for example, plastic, and consists of flat and identical octagonal shaped, parallel spaced sides **11** and **12**, said sides being longer in one horizontal axis than the other, so that the immediate front and remote rear peripheral edges **13** and **14** are somewhat longer than the remaining six end edges **15**, **16**, **17**, **18**, **19** and **20** which have equal lengths, with said top and bottom sides **11** and **12** of the shield **10** except along peripheral edge **13**, being connected with each other by depending edge sections of substantially equal or greater thickness than sides **11** and **12**, said edge sections being formed integral with and at a right angle to said sides along peripheral edges **14**, **15**, **16**, **19** and **20** and along a portion of peripheral edges **17** and **18**, so that the shield constitutes a contiguous, walled structure, completely enclosed around its top, bottom and edge surfaces except along its immediate front edge **13** and portions of the adjacent edges **17** and **18**.

It should be understood that the shield described herein, has an octagonal configuration because it is intended for use in an octagonally shaped electric outlet box which is only one of a class of such boxes, and the shield configuration can be varied and/or conformed to the shape of the box wherein it is to be used without limiting the intended scope of the inventive concept herein disclosed.

A slotted opening **21** is formed in the front of the shield **10** by sides **11** and **12** where they are not connected along edge **13** and portions of adjacent edges **17** and **18**, said slotted opening being provided to adapt the shield **10** to the outlet box flange to be enclosed therein. The slotted opening **21** has a width slightly in excess of the flange to be enclosed, and extends inwardly into the shield **10** to the near face **24** of the edge section along edge **14** of said shield.

The side **11** of the shield **10** has an upstanding elongated shoulder **22** projecting therefrom. The shoulder **22** is formed integral with side **11** along peripheral edges **16** and **19** of said side, and integral with the outer face of the side **11** along lines connecting the ends of peripheral edges **16** and **19** respectively. The shoulder **22** projects uniformly from side **11** a height slightly in excess of one-half the length of peripheral edge **16** of said side.

A portion of one half of top side **11** of the shield **10** has been removed, as best seen in FIGURE 5, to facilitate a snug fitting of the shield against a recessed surface (illustrated in FIGURE 6), of the inner face of the outlet box adjacent the threaded flange projecting therefrom. The portion removed is described by a

cutting plane perpendicular to edge **13** of the side **11**, extending inwardly therefrom to the side edge surface **23** of shoulder **22**, and thence at a right angle along the edge surface **23** to the intersection of peripheral edges **18** and **19** of side **11**, and thence acutely along edge **18** of the side **11** to the intersection of peripheral edges **13** and **18** of side **11**, and thence obtusely along edge **13** of side **11** a short distance to an intersection with the point of first entry.

The inner faces of top and bottom sides **11** and **12** of the shield **10** have opposed dome-shaped projections **25** and **26** formed integral with these faces and projecting outwardly therefrom a slight distance. The projections **25** and **26** are centrally located at the geometric center of the inner faces of sides **11** and **12** of the shield **10**, and have a diameter slightly in excess that of the threaded hole in the outlet box flange to be enclosed by shield **10**, so that the projections **25** and **26** tightly cover and seal the threaded hole in the flange when shield **10** is inserted over said flange (FIG. 4).

In operation:

The shield **10** is quickly and easily removably inserted as best illustrated in FIGURE 4, on a flange **27** of an electric outlet box **28** by grasping the top surface of shoulder **22** and the bottom or outer face of side **12** of shield **10** with the finger tips. The shield **10** is then positioned alongside the flange **27** with the slotted opening **21** of the shield opposed to the end edge **29** of the threaded flange and the shoulder **22** of the shield **10** disposed toward the end of the outlet box from which mechanical connections will be later made. The shield is then slidably inserted over the flange **27** until the end edge **29** of the flange strikes projections **25** and **26** of the shield. At this point a slight increase in sliding force will force the projections to ride over the end edge **29** of the threaded flange and by the same action extend shield sides **11**, **12** downwardly and upwardly, respectively. When the shield is fully inserted, the near face **24** of the edge section along edge **14** of the shield **10** will lie immediate the end edge **29** of the flange, the projections **25** and **26** will lie in the threaded hole of the flange effectively sealing it, the peripheral edges **13**, **17** and **18** of the shield will rest against the similarly configural inner face of the outlet box **28**, with the removed portion of the side **11** resting against recessed surface **30** of the inner face (FIG. 6), and sides **11** and **12** of the shield due to their resilient construction will return to their original shape, thereby effectively enclosing the flange **27** of the electric outlet box to prevent the entry of concrete or plaster.

To remove the shield **10** from the flange **27**, it is only necessary to insert a screw driver or the like between the inner face of outlet box **28** and side edge surface **23** of shoulder **22** of the shield **10**. A slight levering of the screw driver will force the shield from the flange.

It is thus seen that a shield has been provided for electric outlet box threaded flanges that is inexpensive, reusable, simple to install and remove and capable of providing maximum protection for the threaded flange from concrete, plaster and the like during installation of the box.

It is apparent that the specific illustration shown and described has been given by way of illustration and not by way of limitation and that the structure above described is subject to wide variation and modification without departing from the scope or intent of the invention as defined in the appended claims.

What is claimed is:

1. A shield for enclosing the threaded flange of an electric outlet box and the like, said shield comprising two substantially flat side portions, edge sections integral with said side portions and maintaining said side portions in parallel spaced relationship for enclosing said flange, whereby each of said side portions has inner and outer surfaces, and opposed projections integral with said side portions and located upon the inner surfaces thereof, said projections fitting into the threaded portion of the flange, and an elongated shoulder integral with one of said side portions and projecting outwardly from the outer surface thereof, said shoulder having at least one side extending substantially perpendicularly to said outer surfaces.

2. A shield for enclosing the threaded flange of an electric outlet box and the like, said shield comprising an octagonal body having parallel upper and lower wide surfaces and eight side surfaces, two of said side surfaces being located opposite each other and being of equal length which is greater than that of any of the other side surfaces, said body having a slot formed therein intermediate said upper and lower surfaces and having opposed surfaces parallel thereto, said slot communicating with one of said two side surfaces of greater length and two of said other six side surfaces located on opposite sides of said one side surface of greater length, the sides of said slot extending perpendicularly to said one side surface of greater length, said slot being adapted to tightly enclose said threaded flange, an elongated shoulder integral with said body and projecting outwardly from one of said wide surfaces, said shoulder being substantially rectangular in shape and extending in a spaced adjacent parallel relationship to one of said side surfaces of greater length, said shoulder having at least one side extending substantially perpendicularly to said one wide surface, and dome-shaped projections integral with said body and located opposite each other upon said opposed surfaces of said slot, said projections fitting into the threaded portion of the flange.

3. A shield for enclosing the flange of an electric outlet box having an angularly raised surface adjacent the flange, said shield comprising a substantially polygonal body having parallel upper and lower wide surfaces and a plurality of side surfaces, two of said side surfaces being located opposite each other and being of equal length, other side surfaces extending between the two first-mentioned side surfaces and being of smaller length than that of the two first-mentioned side surfaces, said body having a slot formed therein intermediate said upper and lower surfaces and parallel thereto, said slot communicating with one of the two first-mentioned side surfaces of greater length and two of the other side surfaces of smaller length located on opposite sides of said one side surface of greater length, the sides of said slot extending perpendicularly to said one side surface of greater length, said slot being adapted to tightly enclose said flange, and an elongated shoulder integral with said body and projecting outwardly from one of said wide surfaces, said shoulder being substantially rectangular in shape and extending in a spaced adjacent parallel relationship to one of the two first-mentioned side surfaces of greater length, said shoulder having at least one side extending substantially perpendicularly to said one wide surface, said body having formed therein an angular recess covering in length a portion of one of the two first-mentioned side surfaces of greater length and an adjacent side surface of smaller length and covering in height the distance between said slot and one of said wide surfaces, said recess fitting against said angularly raised surface of the electric outlet box.

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