

Jan. 21, 1930.

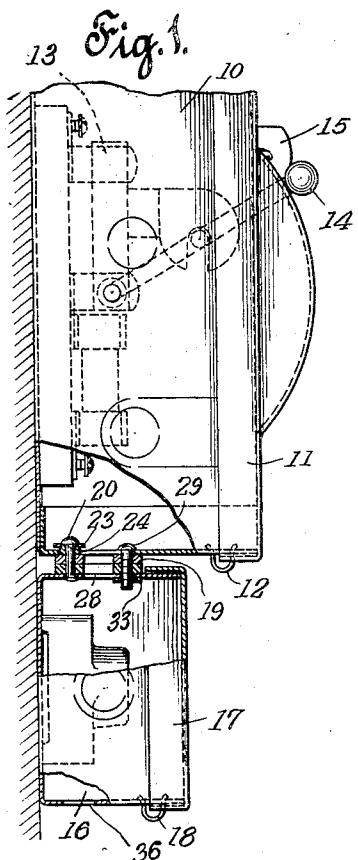
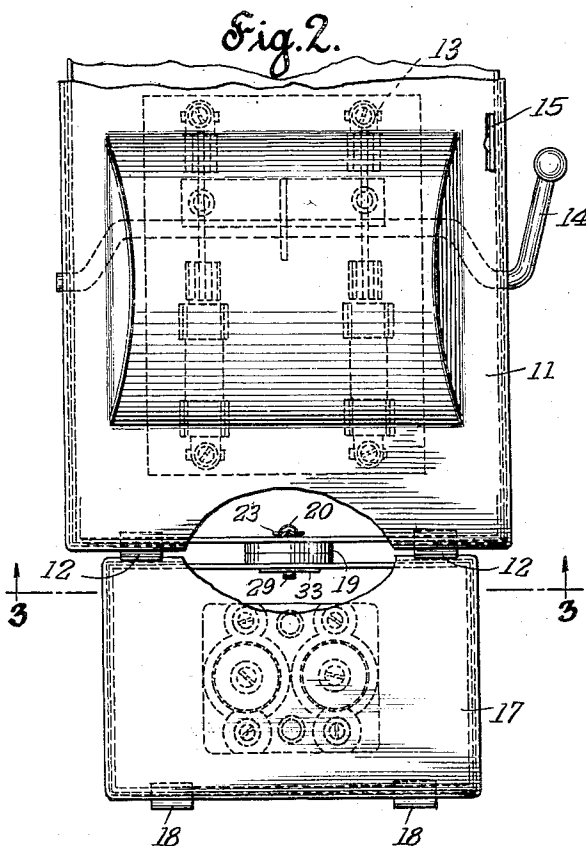
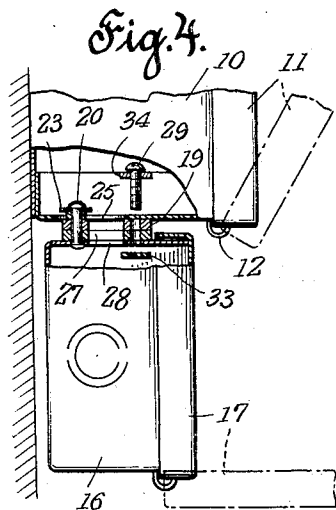
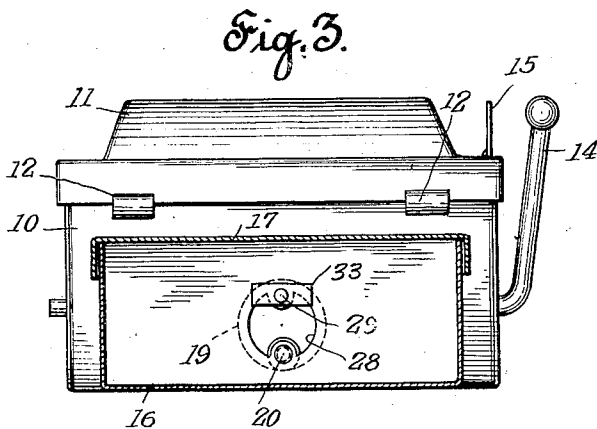
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FUSE AND SWITCH BOX CONSTRUCTION

Filed Dec. 27, 1926

3 Sheets-Sheet 1



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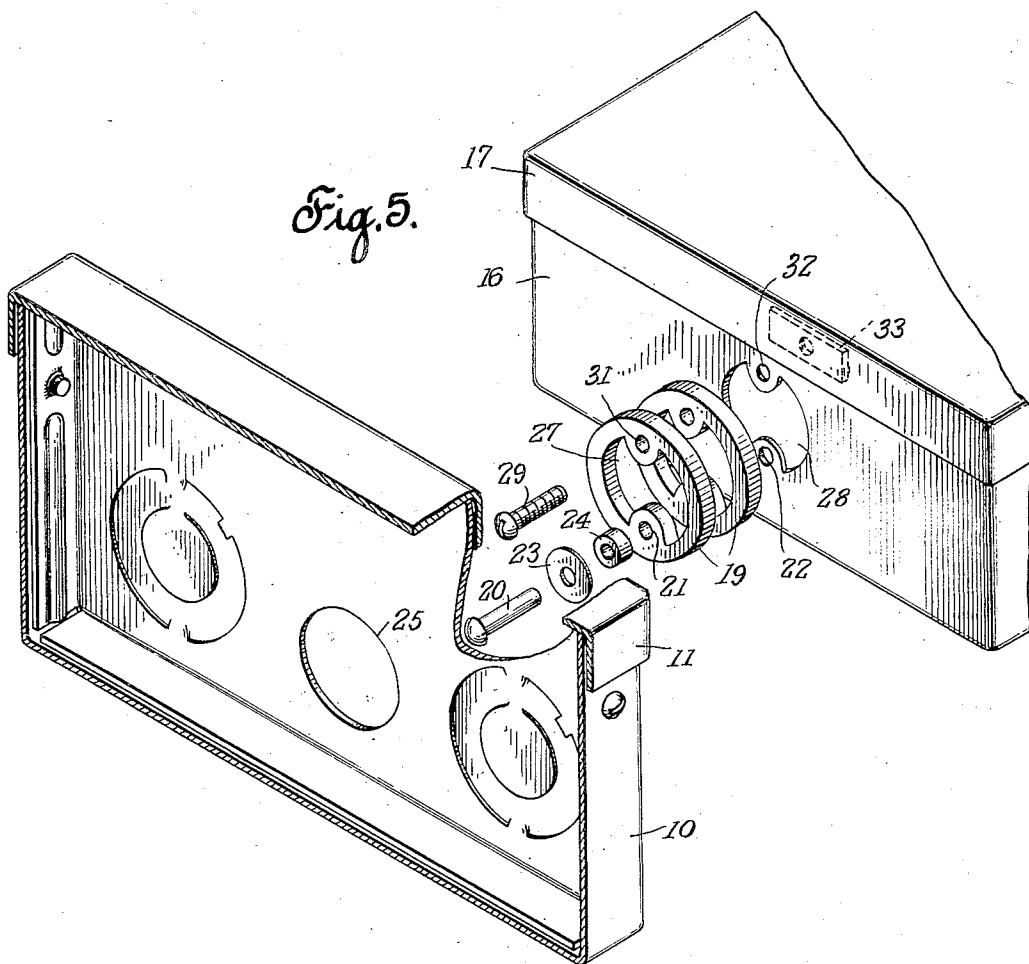
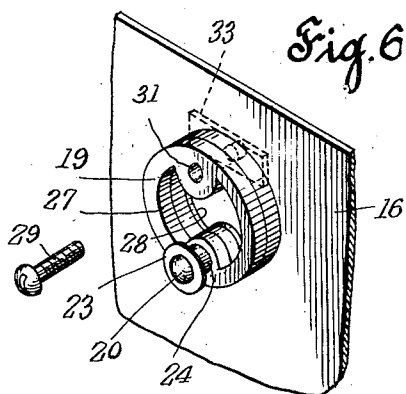
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FUSE AND SWITCH BOX CONSTRUCTION

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3 Sheets-Sheet 2



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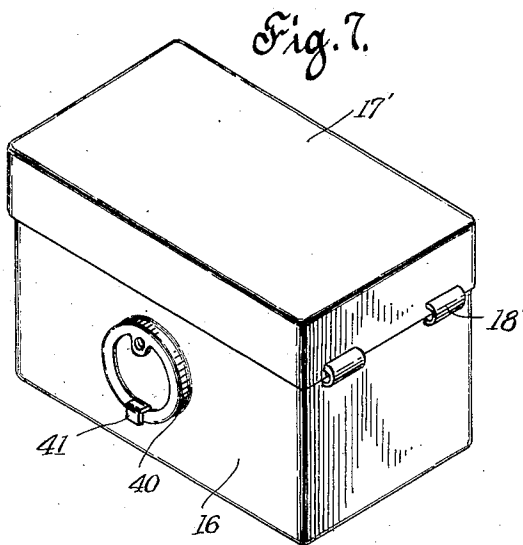
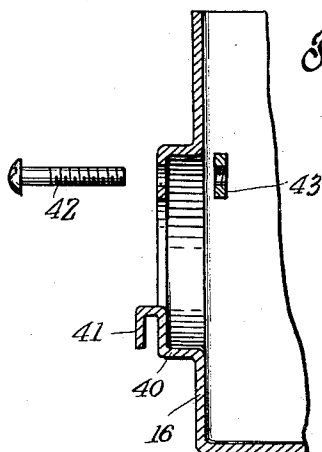
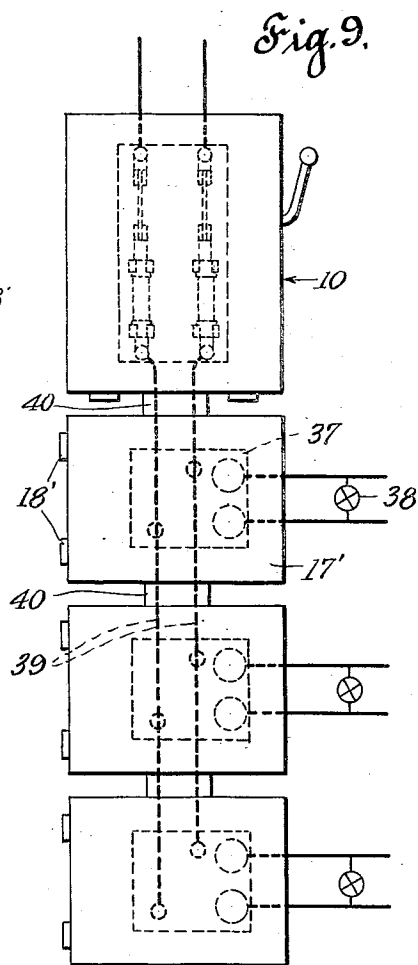
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FUSE AND SWITCH BOX CONSTRUCTION

Filed Dec. 27, 1926

3 Sheets-Sheet 3



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FUSE AND SWITCH BOX CONSTRUCTION

Application filed December 27, 1926. Serial No. 157,232.

In safety switch installations the switch proper is sometimes enclosed in one box with a replaceable fuse in an adjoining box suitably connected to the switch box. The switch box may be sealed or locked to prevent tampering with the switch or wires and the fuse box may be freely opened for replacing the fuse.

One object of my invention is to provide a simple form of connecting conduit which may be associated with the fuse box so that the fuse box and the conduit can be readily applied to the switch box.

Another object is to provide a fuse box having an extended spacer or connector forming a connecting conduit of such a character that the fuse box may be detachably connected with a switch box, or, in gang fashion, with one or more similar fuse boxes so that the wires from the main switch may be run continuously through all of the fuse boxes and may be suitably connected with a fuse block in each separate fuse box which construction permits the individual fusing of as many circuits as may be connected with the main switch.

Another object is to provide a construction of this character which can be readily installed and yet which cannot be easily tampered with.

In one form the invention contemplates the use of a conduit which is secured to the fuse box and is adapted to be readily connected with the switch box in such a way that the fuse box may be opened without opening, or, in any way, disturbing the switch box.

Fig. 1 is a side view and partial vertical section showing a part of a switch box and the fuse box connected thereto.

Fig. 2 is a front view of the same, parts of the covers being broken away to show the connection between the boxes.

Fig. 3 is a horizontal sectional view on the plane of the line 3—3 of Fig. 2 looking upward in the direction of the arrows.

Fig. 4 is a fragmentary side view and partial section showing the fuse box being applied to the switch box.

Fig. 5 is a perspective view of the various

parts by which the connection is effected, such parts being shown separated.

Fig. 6 is a perspective view showing the connection attached to a fragment of the fuse box.

Fig. 7 is a perspective view of another form of construction.

Fig. 8 is a sectional view in which the conduit spacing member is formed up as an integral part of the fuse box.

Fig. 9 is a diagrammatic view of a gang arrangement of a switch box and three separate fuse boxes.

The switch box 10 has a cover 11 which in the form shown is hinged at 12 at the bottom edge. I have illustrated by dotted lines one form of switch 13 with an external operating handle 14. It should be understood, of course, that the details of the switch construction and the method of operating the same are immaterial to the present invention. The switch box cover is preferably held in place by latch 15 which may be sealed or locked in any well known or suitable manner.

The fuse box 16 has a cover 17 which may be hinged at 18 at the lower end or at one side of the box. Any suitable form of fuse and holder may be employed.

The connecting conduit device, which is intended to space the fuse box away from the switch box sufficiently to permit the fuse box to be readily opened, includes in one form one or more perforated spacing members 19 connected to the fuse box by means of a bolt or rivet 20 which passes through the lug 21 in the spacer and through the lug 22 in the fuse box. This rivet or bolt may be provided either with an enlarged head or with a washer 23 and a smaller washer 24 which spaces the washer 23 away from the spacing member 19 sufficiently to allow for the thickness of the end wall of the switch box 10. This wall is provided with any suitable form of opening 25 which may have a knockout of the usual form. The enlarged head of rivet 20 or the washer 23 is adapted to be inserted through the opening 25 and hooked over the edge 26 of the opening 25 in the end of the switch box. The spacing member 19 is provided with a passage 27 in line with the open-

ing 25 in the end of the switch box and the opening 28 in the end of the fuse box, so that the conductor wires may be run through from the switch box to the fuse box.

5 The bolt or screw 29 is adapted to be inserted through the hole 31 in the spacing member and through the hole 32 in the end wall of the fuse box and to screw into a bar or nut-like plate 33 on the inside of the fuse box. The head of the screw 29 or a washer-like member 34 is adapted to overstand the upper edge 35 of the opening 25 in the end wall of the switch box when the parts are in their assembled relation. The screw 29 is inserted in the process of assembling the fuse box with the switch box as shown in Fig. 4. When the screw is in place the parts are securely connected as shown in Fig. 1.

20 Obviously the positions of the screw 29 and the nut plate 33 may be reversed so that the head of the screw is located inside of the fuse box and the nut plate 33 is inside of the switch box.

25 The conduit members 19 may be formed of sheet metal so that they may be readily blanked out. Any number of them may be employed so as to provide the necessary spacing of the fuse box away from the switch box.

Each fuse box may be provided with a knock-out 36 which corresponds with the conduit members and this particular knock-out is located in the wall of the box directly opposite the conduit member so that any number of fuse boxes may be connected together tandem fashion. Obviously, the box may be provided with other similar knock-outs at the sides of the box which would permit of other combinations should this be desirable.

40 Preferably the conduit members, together with the appurtenant attaching parts, are secured to the fuse box as a unit and the ordinary procedure in connecting the unit to a switch box would be to remove one of the knock-outs in the switch box either at one side or one end of the box; then the screw 29 would be removed and the members 23 and 24 carried by the fuse box would be hooked over the edge of the knock-out hole in the switch box. Then the screw 29 and the nut plate 33 would be secured in position to lock the boxes together.

55 When the boxes are thus connected, both boxes rest upon a common plane or surface which greatly aids in rigidly securing the fuse box in position.

When the boxes are connected, the head of the screw 29 is preferably located inside of the switch box and therefore is not accessible from the fuse box; any simple means may be used for preventing the turning of the nut plate when the screw 29 is set up and thus the fuse box cannot be removed without first opening the switch box.

65 Obviously the nut plate 33 could be dispensed with by merely tapping the hole 32 to

receive the screw 29 but the nut plate makes a stronger construction which is desirable when the fuse box is constructed of relatively thin sheet metal.

It may be seen from the foregoing that the fuse box may be readily attached to the switch box after the switch box is installed and that other fuse boxes may be added as required without disturbing those previously installed.

75 Although the connecting means is described as applied to a fuse box construction, it is obvious that the invention may be applied to other forms of switch box or fuse box which are provided with standard knock-outs.

In the form shown in Figs. 7 and 9, the hinges 18' are at one side edge so that the cover 17' will swing on a vertical instead of a horizontal axis.

85 A number or gang of fuse boxes may be installed as shown in Fig. 9 with the fuse blocks 37 and load branches 38. A conductor 39 may be run through from the switch box 10 and the fuse boxes. The conduits 40 house the conductor 39.

The conduit 40 may be integral with the wall of the fuse box 16' and provided with a hook 41 at its rear edge (corresponding to washer 23) to engage in an opening in another adjacent box. The screw 42 and nut 43 function like the screw 24 and nut 33. This form of construction has its own advantages.

I claim:

1. A detachable electrical appliance enclosing box including a sheet metal box, a cover for said box, a connecting conduit secured to and extending from one of the walls of said box, a hook extending laterally from the end of said conduit and adapted to extend through a knock-out opening in a wall of an adjacent electrical appliance enclosing box and to engage the inner edge of said knock-out opening and clamping means for securing the said boxes together, the said clamping means including a screw so positioned as to pass through the said knock-out opening and abut the edge of said opening at a point substantially opposite to the point of engagement of said hook.

2. A fuse box having a flanged cover, a connecting conduit secured to and extending from one side of the box and of greater length than the thickness of the cover flange, a hook-like catch projecting laterally from the outer end of said conduit, a clamping screw extending inwardly into said conduit, said catch and said screw being adapted to extend into a knock-out opening of a switch box and engage oppositely disposed edges thereof, and a clamping nut on the inner end of said screw within said conduit.

3. A box for electric fittings having a connecting conduit permanently secured to and extending from one side of said box and serv-

ing as spacing means between the box and an associated box, said conduit having a catch projecting laterally from its outer end and adapted to be hooked into a knock-out opening in the associated box and a removable clamping member adapted to be passed through the knock-out opening and secured to said conduit and having a head adapted to be clamped against an edge of the knock-out opening in the associate box.

4. A detachable construction including a sheet metal box having a cover hinged thereto and an opening in one of its side walls, and a connecting conduit comprising a spacing washer secured to said box and having a wire-receiving opening in register with the opening in said box, hook means extending from the edge of said spacing washer for extending through a knock-out opening in an adjacent box and engaging an inner edge thereof and a screw extending through said knock-out opening at a point substantially opposite said hook means and into said spacing washer for clamping said boxes together.

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