Sept. 12, 1933. O. WOERTZ 1,926,927

ELECTRICAL JUNCTION BOX

Filed March 31, 1932

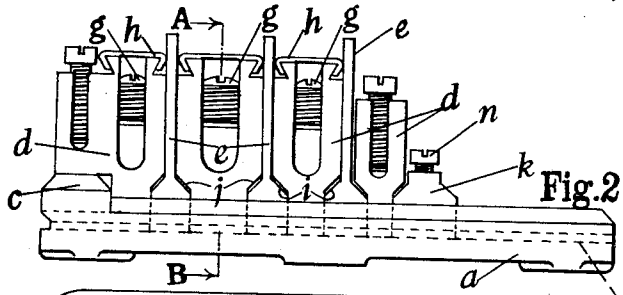


Fig.2

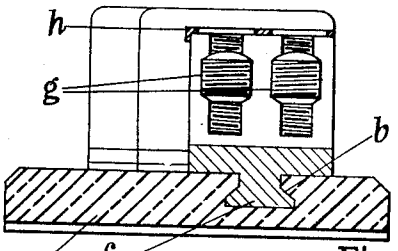


Fig.3

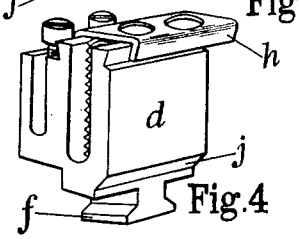


Fig.4

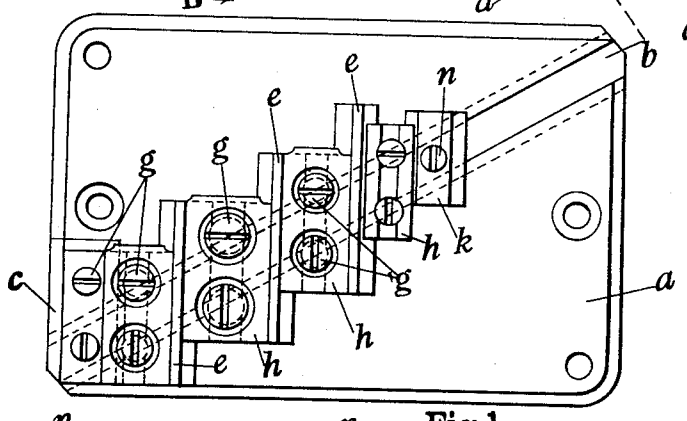


Fig.1

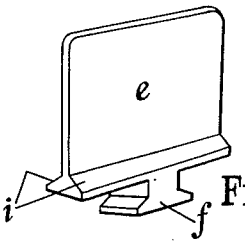


Fig.5

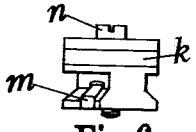


Fig.6

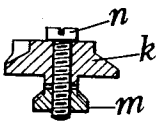


Fig.8

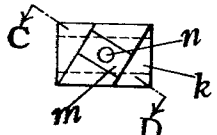


Fig.7

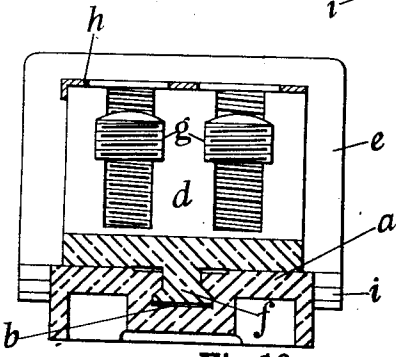


Fig.10

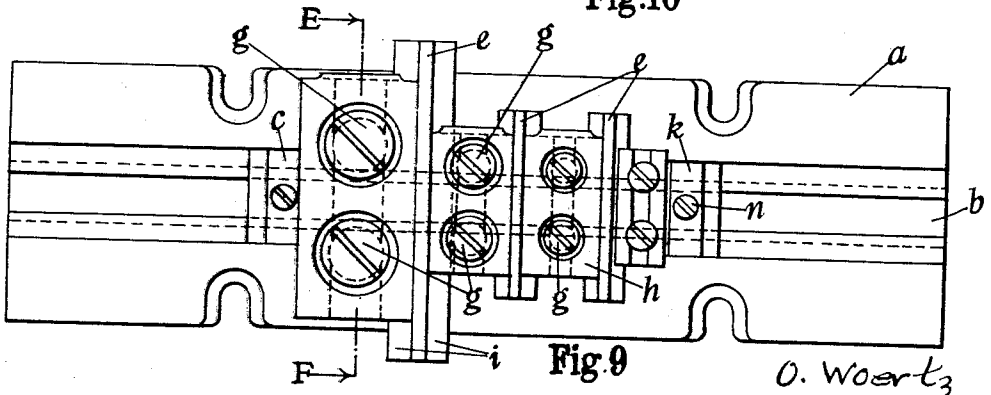


Fig.9

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UNITED STATES PATENT OFFICE

1,926,927

ELECTRICAL JUNCTION BOX

Oskar Woertz, Basel, Switzerland

Application March 31, 1932, Serial No. 602,251, and in Switzerland November 20, 1931

10 Claims. (Cl. 175—369)

This invention relates to electrical junction boxes and has for its object to provide an improved construction of junction box in which any desired number of terminals within the capacity of the box may be secured therein in a simple and efficient manner, different sizes of terminal can be used side by side, the means which fasten the leads to the terminals are separate from the means which fasten the terminals to the junction box or base, the terminals can be removed from the box without releasing the leads from the terminals and in which where desired the leads can be passed right through the terminals.

The invention comprises a base piece having a dovetailed or undercut slot therein, the terminals and the insulation members between the terminal having parts entering said slot, and slidable therein, and a securing member comprising a part also entering said slot and adapted to grip the base so holding the terminal and insulation members firmly in position upon the base.

The invention further comprises the arrangement of a raised part upon the base adjacent the slot to form a fixed abutment for the terminal and insulation members held in the slot upon the base, a movable abutment member adapted to enter the slot and grip the sides thereof serving to hold the terminal and insulation members against the fixed abutment.

The invention further comprises the formation of the terminal members of U form through which the leads or conductors can be passed, with clamping screws in the slot between sides of each U, the latter having at their closed ends a part adapted to fit the dovetailed or undercut slot in the base.

The invention further comprises the formation of the insulation members with a part adapted to fit the dovetailed or undercut slot in the base and with laterally projecting parts with sloping upper sides extending over the base above the slot, the sloping sides fitting into the correspondingly shaped sides of the closed ends of the U terminal members.

Referring to the accompanying sheet of explanatory drawing:—

Figure 1 is a plan view of one form of my improved junction box.

Figure 2 is an elevation of the junction box.

Figure 3 is a sectional elevation on the line A—B of Figure 2.

Figure 4 is a detail view of a double type of terminal member.

Figure 5 is a detail view of one of the insulation members.

Figure 6 is an elevation, Figure 7 an inverted plan and Figure 8 a sectional view on the line C—D of Figure 7 showing the locking member of Figure 1.

Figure 9 is a plan view of a modified construction of junction box and Figure 10 a sectional view on the line E—F of Figure 9.

The same reference letters in the different views indicate the same or similar parts.

In Figures 1—8, *a* is a base piece made of porcelain, vulcanite, or other insulating material and having extending diagonally across it a dovetailed or undercut slot *b*. At one end of the slot, the base has raised portions *c* which act as abutments for a terminal member or the first of a series of terminal members having parts entering said slot. Each terminal member *d* and insulation member *e* has a part *f* shaped to correspond with the shape of the dovetailed slot *b* so that such part can be slid along the slot. The remainder of each terminal member is of U form and is threaded to receive screws *g* in the slot of the U so that the leads or conductors can be passed through the said slot and gripped by the screws. The top or open end of each U member (or of the larger sizes of the latter) may have a cap *h* thereon engaging dovetailed sides of the U so as to prevent the legs of the U opening out under the pressure of the screws *g* when they are binding upon the leads or conductors.

Each insulating member has laterally projecting parts *i* (Figure 5) with inclined upper faces which come against the correspondingly bevelled parts *j* of the sides of each U terminal member.

When all the terminal members *d* and the intermediate insulation members *e* have been placed in position on the base *a*, a securing piece *k*, shown in Figures 6, 7 and 8, is slid into the slot *b* so that it abuts against the end terminal member. This securing piece has a movable part *m* operated by a screw *n* which can be tightened against the sides of the slot *b* so as to hold the securing piece against displacement.

In Figures 1 and 2, the terminal member which comes against the abutment pieces *c* is of a double type comprising two slots with screws therein to hold leads or conductors.

Instead of bringing the first terminal member inserted in the base against a fixed abutment, I may use a movable abutment or securing piece for the purpose. This arrangement is shown in Figure 9 and it will be seen that it enables the terminals to be placed at any desired position in the length of the slot *b*. The slot *b* in this fig-

ure is also shown parallel with the length of the base piece instead of diagonal as in Figure 1.

It will be noted that terminal members of various sizes can be placed upon the one base. As the securing of the said members in the base is effected independently of the means which secure the leads in the members, the latter can, if desired, be removed from or inserted in the base with the leads secured therein.

What I claim is:—

1. In an electrical junction box, a base piece having a dovetailed or undercut slot therein, terminal and insulation members having parts entering said slot and slidable therein, and a securing member comprising a part also entering said slot and adapted to grip the base so holding the terminal and insulation members firmly in position upon the base.

2. In an electrical junction box, a base piece having a dovetailed or undercut slot therein, terminal and insulation members having parts entering said undercut slot and slidable therein, a raised part upon the base adjacent said undercut slot to form a fixed abutment for said terminal and insulation members, and a securing member comprising a part also entering said undercut slot and adapted to grip the sides thereof serving to hold said terminal and insulation members against said raised part.

3. In an electrical junction box, a base piece having a dovetailed or undercut slot therein, terminal members of U or slot form through which the leads or conductors can be passed, a clamping screw in the slot between the sides of each U, the said terminal members having at their closed ends parts fitting said undercut slot and slidable therein, insulation members having parts entering said undercut slot and slidable therein, and a securing member comprising a part also entering said undercut slot and adapted to grip the base so holding said terminal and insulation members firmly in position upon the base.

4. In an electrical junction box, a base piece having a dovetailed or undercut slot therein, terminal members of U or slot form through which the leads or conductors can be passed, a clamping screw in the slot between the sides of each U, the said terminal members having at their closed ends parts fitting said undercut slot and slidable therein, insulation members having parts entering said undercut slot and slidable therein, a raised part upon the base adjacent said undercut slot to form a fixed abutment for said terminal and insulation members, and a securing member comprising a part also entering said undercut slot and adapted to grip the sides thereof serving to hold said terminal and insulation members against said raised part.

5. In an electrical junction box, a base piece having a dovetailed or undercut slot therein, terminal members of U or slot form through which the leads or conductors can be passed, a clamping screw in the slot between the sides of each U, the said terminal members having at their closed ends parts fitting said undercut slot and slidable therein, a cap upon the open ends of the side members of each U to hold said side members against opening under the pressure of said clamping screws, insulation members having parts entering said undercut slot and slidable therein, and a securing member comprising a part also entering said undercut slot and adapted to grip the base to holding said terminal and insulation members firmly in position upon the base.

6. In an electrical junction box, a base piece having a dovetailed or undercut slot therein, terminal members of U or slot form through which the leads or conductors can be passed, a clamping screw in the slot between the sides of each U, the said terminal members having at their closed ends parts fitting said undercut slot and slidable therein, a cap upon the open ends of the side members of each U to hold said side members against opening under the pressure of said clamping screws, insulation members having parts entering said undercut slot and slidable therein, a raised part upon the base adjacent the slot to form a fixed abutment for said terminal and insulation members, and a securing member comprising a part also entering said undercut slot and adapted to grip the sides thereof serving to hold said terminal and insulation members against said raised part.

7. In an electrical junction box, a base piece having a dovetailed or undercut slot therein, insulation members having parts entering said undercut slot and slidable therein and with laterally projecting parts with sloping upper sides extending over the base above said undercut slot, terminal members having parts entering said undercut slot and slidable therein and laterally projecting parts correspondingly shaped so that said sloping upper sides fit thereinto, and a securing member comprising a part also entering said undercut slot and adapted to grip the base to hold said terminal and insulation members firmly in position.

8. In an electrical junction box, a base piece having a dovetailed or undercut slot diagonally thereacross, terminal and insulation members having parts entering said undercut slot and slidable therein, and a securing member comprising a part also entering said undercut slot and adapted to grip the base to hold said terminal and insulation members firmly in position.

9. In an electrical junction box, a base piece having a dovetailed or undercut slot diagonally thereacross, terminal and insulation members having parts entering said undercut slot and slidable therein, a raised part upon the base adjacent said undercut slot to form a fixed abutment for said terminal and insulation members, and a securing member comprising a part also entering said undercut slot and adapted to grip the sides thereof serving to hold said terminal and insulation members against said raised part.

10. In an electrical junction box, a base piece having a dovetailed or undercut slot therein, a terminal member with two slots therein, two sets of clamping screws in said slots, an insulation member, said terminal and insulation members having parts entering said undercut slot and slidable therein, and a securing member comprising a part also entering said undercut slot and adapted to grip the base to hold said terminal and insulation members firmly in position upon the base.

OSKAR WOERTZ.