

No. 805,968.

PATENTED NOV. 28, 1905.

E. T. GREENFIELD.

JUNCTION BOX.

APPLICATION FILED OCT. 24, 1904.

Fig. 1.

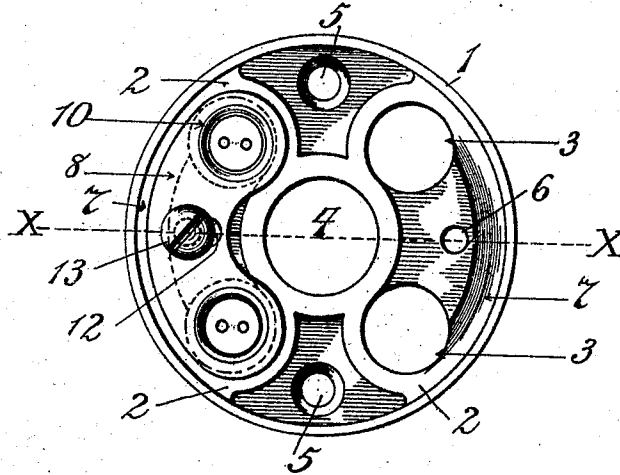


Fig. 2.

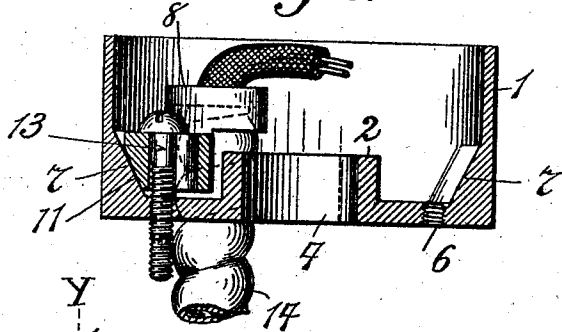


Fig. 3.

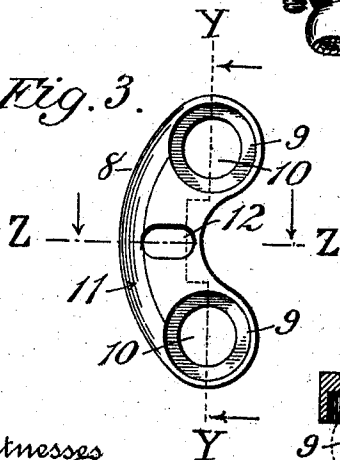


Fig. 5.

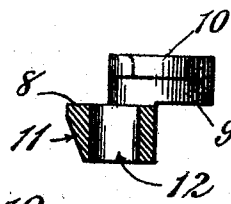
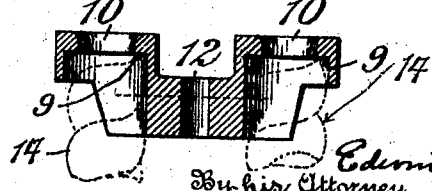


Fig. 7.



Witnesses
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UNITED STATES PATENT OFFICE.

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JUNCTION-BOX.

No. 805,968.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed October 24, 1904. Serial No. 229,724.

To all whom it may concern:

Be it known that I, EDWIN T. GREENFIELD, a citizen of the United States, residing at Monticello, county of Sullivan, and State of New York, have made a new and useful invention in Junction-Boxes, of which the following is a specification.

My invention is directed particularly to improvements in junction-boxes designed for use in connection with armored conduits or cables for electric wiring; and it has for its objects, first, the provision of means whereby the ends of the conduits or cables may be clamped to the box by exerting lateral pressure between one side of the inlet and a detachable clamping device located within the box and acting upon the other side of the armor; second, to combine with such means for clamping the ends of the inleading conduits means for covering or protecting the ends of the same and in such manner as to avoid abrasure of the insulation to the conductors when the same are drawn into or out of position.

My invention will be fully understood by referring to the accompanying drawings, in which—

Figure 1 is a plan view of the interior of a ceiling conduit-box, showing my novel clamping means and the ends of two inleading conduits as secured to the box thereby. Fig. 2 is a sectional view taken through Fig. 1 on the line X X and as seen looking thereat from the bottom toward the top of the drawings, showing in elevational view a part of an inleading armored conduit secured in position within the box. Fig. 3 is a plan view of the under side of the detachable clamp, and Fig. 4 is a sectional view taken through Fig. 3 on the irregular line Y Y and as seen looking thereat from right to left in the direction of the arrows. Fig. 5 is a transverse sectional view taken through Fig. 3 on the line Z Z and as seen looking from the top toward the bottom of the drawings in the direction of the arrows.

Referring now to the drawings in detail, in all of which like numerals represent like parts wherever used, 1 represents the body part of a ceiling-box, which may be provided with any preferred form of detachable lid or cover, (not shown,) and 2 an internal curvilinear extension cast integral with the box, and in such manner as to constitute at one and the same time a cylindrical neck for securing the box to a gas-pipe from the ceiling

through an opening 4 in the base of the box and part circular necks or extensions adapted each to constitute a means of support for one side of each of the inleading conduits or cables when held in position in the inleading openings 3 3 3 3 by the clamping means to be hereinafter described.

5 5 are screw-holes in the bottom of the box for additionally securing it to the ceiling or other point of support, and 6 6 are screw-holes for securing the clamping means.

7 7 are inclined surfaces, preferably of a curvilinear form, corresponding to the outer contour of the box when of cylindrical form, and 8 is a duplex clamp also curvilinear in form, having openings 10 10 at its opposite ends, and internally-projecting cylindrical ledges 9, which constitute protecting means for the ends of the armor, said ledges being rounded on their inner surface, as clearly shown in Figs. 4 and 5.

11 is a curvilinear inclined surface which is similar in every respect to the corresponding inclined surface 7.

12 is a transverse slot at the center of the clamp, and 13 is a screw adapted to be located in position in said slot and secured to the box in one of the screw-holes 6.

14 represents the armor of the conduit or cable, which is here shown to be of the well-known flexible type.

The box illustrated in the drawings is adapted for use with four conduits or cables, there being four inlets or openings 3 3 3 3, symmetrically disposed with relation to each other and to the inclined surfaces 7 7 in the bottom of the box, two duplex clamps 8 8 and corresponding clamping-screws 13 13 and screw-holes 6 6 for securing the parts together. In putting the box in position the parts are assembled as follows: It is first secured to the ceiling either by a set-screw and a gas-pipe extending through the opening 4 in a manner which will be obvious or by screws through the screw-holes 5 5. The ends of the armored conduits or cables 14 14 are then inserted and the clamps 8 slipped into position with the openings 10 10 thereof surrounding the insulating-cables secured therein and in such manner that the interiorly-rounded ledges 9 constitute protecting means for such jagged edges of the armor as are usually found at the ends of the armor 14. The screws 13 are then put in place in the slots 12 and screw-holes 6 with the curvilinear inclined surfaces 11 of the clamps resting

against the corresponding inclined curvilinear surfaces 7 7 of the box. As the screws are driven home there is a lateral clamping action between the sides of the armor and the inner surfaces of the clamps, owing to the wedge-like action of the inclined surfaces 11 and 7 upon each other, so that when all of the parts are firmly secured together the ends of the conduits or cables are held immovably within the box and the jagged ends of the armor are effectually prevented from effecting any abrading action upon the insulation of the cables or conductors protected by the armor. The integral nature of the clamps 8 and the rounded protecting-opening 10 gives at one and the same time to those parts the double function of effectually clamping the armor to the box against movement in any direction and also the feature of protecting the insulation from the abrading effects of the usually jagged ends of such armor.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A junction-box provided with an internal curvilinear extension in its bottom and one or more pairs of inleading conduit-openings surrounding the same; in combination with a single clamp for each pair of conduits, said clamps being provided with means for effecting lateral pressure between the inner wall of the box, the ends of the conduit and the internal extension.

2. A junction-box provided with an internal curvilinear extension in its bottom; pairs of inleading conduit-openings surrounding the same; pairs of curvilinear clamps provided with means for giving to the same a clamping action between the ends of the conduits, the inner wall of the box and the internal extension.

3. A junction-box provided with an internal curvilinear extension and an inclined surface between the inner wall and the bottom, and a series of inleading openings; in combination with pairs of clamps provided each on one side with a curvilinear inclined surface and on the other with a cylindrical surface corresponding to the contour of the conduit; together with means for adjustably securing said clamps to the bottom of the box.

4. A junction-box made in one integral piece having an internal curvilinear extension and an inclined surface between the bot-

tom and the inner wall of the box; in combination with one or more openings between the extension and lower end of the inclined surface; together with one or more clamps provided each with an inclined surface corresponding to the first-named inclined surface and means for securing the same adjustably with relation to the bottom of the box.

5. A junction-box provided with an internal curvilinear extension in its bottom; an inclined surface between the inner wall and the bottom of the box; a series of inlets or openings between said inclined surface and the extension; a series of curvilinear clamps each provided exteriorly with a curvilinear inclined surface and interiorly with a cylindrical surface corresponding to the contour of the conduit or cable to be clamped; in combination with a corresponding set of adjusting-screws for adjustably securing said clamps to the bottom of the box.

6. A junction-box provided with an internal curvilinear extension and an inclined surface between the interior wall and the bottom of the box; a series of inlets or openings between the inclined surface and the extension; pairs of curvilinear clamps having each an exterior surface contour corresponding to the inclined surface in the bottom of the box; an interior semicylindrical contour corresponding to the curvature of the conduit or cable to be clamped; a transverse slot and adjusting-screws adapted to secure said clamps directly to the bottom of the box.

7. A junction-box provided with inlets or openings for armored conduits or cables and clamps located wholly within the box, said clamps being provided with means for surrounding the ends of the armor.

8. A junction-box provided with inlets or openings for armored conduits or cables and clamps located wholly within the box; together with means for giving to the clamps lateral movement so as to grip the ends of said conduits or cables, and additional means integral with the clamps for surrounding the ends of the armor.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWIN T. GREENFIELD.

Witnesses:

C. J. KINTNER,
M. F. KEATING.