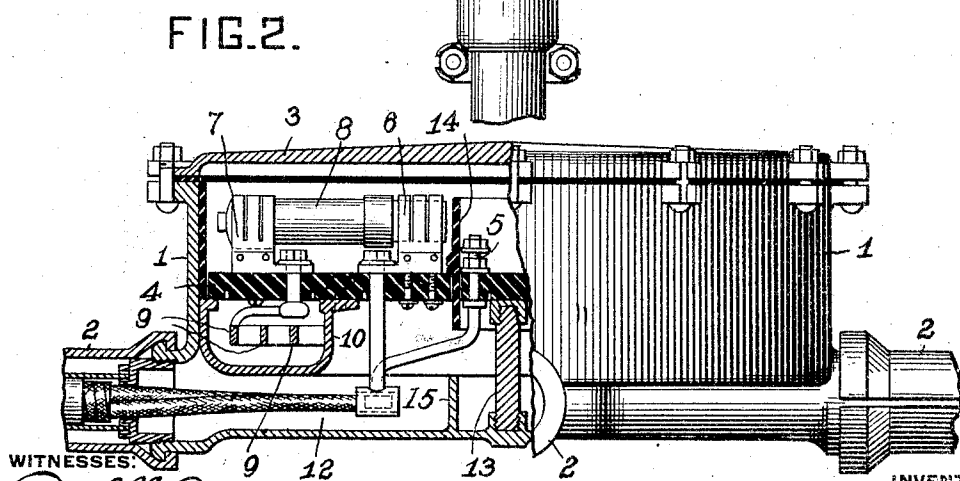
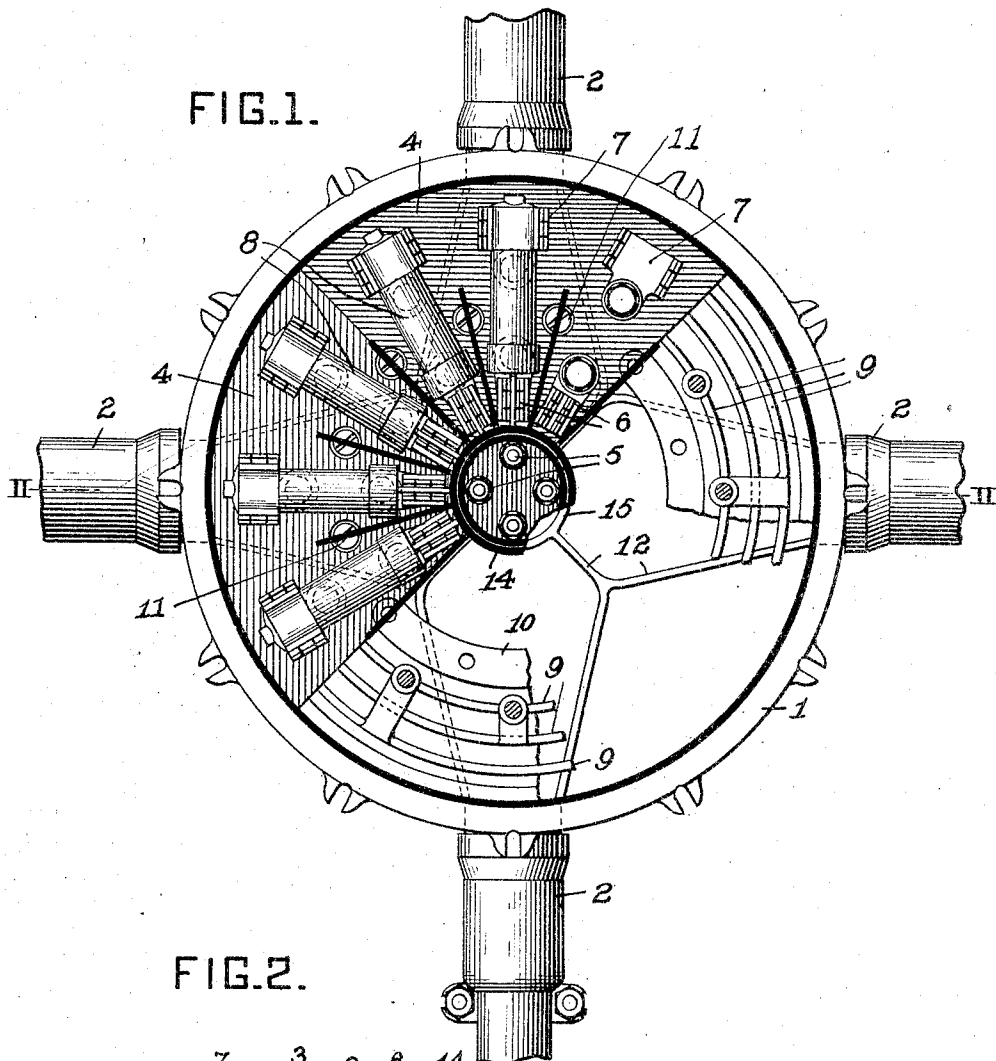


C. W. DAVIS.
JUNCTION BOX.
APPLICATION FILED JAN. 11, 1913.

1,130,482.

Patented Mar. 2, 1915.



WITNESSES:

Paul M. Critchlow
Francis J. Tomarow.

INVENTOR

Charles W. Davis
by Christy & Christy
Atty's

UNITED STATES PATENT OFFICE.

CHARLES W. DAVIS, OF EDGEWORTH, PENNSYLVANIA, ASSIGNOR TO STANDARD UNDERGROUND CABLE COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

JUNCTION-BOX.

1,130,482.

Specification of Letters Patent.

Patented Mar. 2, 1915.

Original application filed March 24, 1909, Serial No. 485,476. Divided and this application filed January 11, 1913. Serial No. 741,574.

To all whom it may concern:

Be it known that I, CHARLES W. DAVIS, residing at Edgeworth, in the county of Allegheny and State of Pennsylvania, a citizen of the United States, have invented or discovered certain new and useful Improvements in Junction-Boxes, of which improvements the following is a specification.

My present application is a division of my pending application, Serial No. 485,476, matured into Patent No. 1,093,607, April 21, 1914.

My invention relates to junction-boxes consisting of a casing into which a plurality of electrical cables are led, and the conductor thereof interconnected for the purpose of equalizing the currents carried thereby and for the further purpose of introducing a feed line where necessary.

The object of my invention is to provide a compact junction-box which may be easily installed, and to which access may be readily had for purposes of repair or alteration.

In the accompanying drawings, which form part of my specification, Figure 1 is a plan view of a junction-box illustrating an embodiment of my invention, the cover and half of the dividing partition being removed in order to show the full interior construction; and Fig. 2 is a combined section and elevation of such box, the sectional portion thereof being taken on the line II—II, Fig. 1.

Like numerals are used to designate like parts.

In the illustrative embodiment of my invention I show a cylindrical casing 1, provided with a plurality of cable-receiving orifices 2, and with a suitable lid 3. Within such casing I mount a transversely-extending removable partition 4, which divides the space therein into two chambers. The said partition is formed of a plate of insulating material, such as porcelain, and is preferably divided into separately removable portions as will be explained hereinafter. Mounted upon said plate 4 and extending therethrough are a plurality of electrical studs 5, 6 and 7 arranged in three circumferential lines. In the inner line the studs 5 are adapted to be electrically inter-connected on the upper side of said partition 4, and each is provided with a downwardly extend-

ing stem adapted to be sweated upon a neutral conductor of an electrical cable. In the middle line the studs 6 are provided on the upper side of the partition 4 with yokes or spring-jacks adapted to receive knife blade contacts of the radially arranged cartridge fuses 8, and said studs 6 are also provided with downwardly extending stems adapted to be sweated upon cable conductors. In the outer line the studs 7 are also provided on the upper side of the portion 4 with suitable yokes to receive the outer end of the fuses 8, and are provided on the lower side of said partition with stems adapted to be connected to bus-bars 9.

In order to suitably protect the bars 9 I form a supplementary chamber for them by means of an annular chambered member 10, which is open-mouthed toward the lower side of the plate 4, as shown, and which is connected thereto by means of screws 11. In case the junction box is employed in connection with high voltage cables, the chambered member may be filled with an insulating compound independently of the other part of the junction-box. Said chamber, as well as the stud-provided partition 4 is preferably supported by a plurality of compartment-forming walls 12, extending from the bottom of the casing 1, and formed integrally therewith.

The box shown herein is particularly adapted to unite, electrically, like potential conductors of four cables, each having a neutral and three current-carrying conductors. To such an end the casing is provided with four cable orifices 2, and the arrangement of the parts within the casing is such that the electrical conductors of the several cables are carried toward the central portion of the box and there united to the studs 5 and 6, the neutrals to the studs 5, and the current-carrying conductors to the studs 6; and the three bus-bars 9, being ring-like in form, are each electrically connected, through a stud 7, fuse 8 and stud 6 to one conductor of each cable.

To the end that the entire structure may be assembled, and also that after being assembled it may be easily accessible for alterations or repairs, I divide the partition 4 into a central circular portion, and a surrounding ring-like portion as shown

in the drawings. Furthermore, the outer portion of said partition is again divided into four segments each of which carries the three fuse bars that are electrically connected to the conductors of a single cable. The central portion of said partition is preferably supported by a post 13 extending from the bottom of the casing 1, while the outer portions, as described above, are borne indirectly by the walls 12. Between the lines of studs 5 and 6, I provide an annular leakage-preventing screen 14, which extends between the inner and outer portions of the partition 4 and on each side thereof.

After the conductors are assembled, as shown and described, those in the lower part of the box are embedded in a suitable insulating compound. To the end that the conductors of each cable may be separately immersed in such compound, I form, by means of the walls 12 and 15, compartments in the bottom of the box corresponding in number to cables leading therein. These insulation-containing compartments are also formed with a view to accomplish a saving in the compound, and to such an end the walls 12 are of irregular form rather than being radial, and the cylindrical wall 15 keeps the compound from the central portion of the casing where such compound is not needed.

I claim as my invention:

1. In a junction box structure, the combination of a casing, a removable transversely extending partition mounted within said casing and dividing it into two chambers, electrical conductor studs extending through said partition, a supplementary chamber-forming member secured to the lower side of said partition and provided with conductors having electrical connection to some of said studs, and electrical conductors entering said casing beneath said partition and connected to other studs of said partition.

2. In a junction box structure, the combination of a casing, a removable transversely extending partition mounted within said casing and dividing it into two chambers, electrical conductor studs extending through said partition, an annular trough-shaped

member below said partition and having its open side adjacent to the face thereof, conductors within said annular member electrically connected to some of said studs, and electrical conductors entering said casing beneath said partition and connected to other studs thereof.

3. In a junction-box structure, the combination of a cylindrical casing provided interiorly with a plurality of compartment-forming walls, a transversely-extending removable partition provided with a plurality of electrical studs arranged in inner and outer circumferential lines and having contact portions adapted to receive radially-arranged fuses, a peripheral chamber-forming member secured to the lower side of said partition and removable therewith, said chambered member and said partition being supported by said walls, a bus-bar within said chambered member electrically connected to said outer studs, and means for connecting said inner studs to electrical cable conductors.

4. In a junction-box structure, the combination of a circular casing, a transversely-extending partition mounted within said casing and dividing it into two chambers, said partition consisting of separately supported central and peripheral portions each provided with electrical studs, and electrical conductors entering said casing beneath said partition and connected to the studs of each portion of said partition.

5. In a junction-box structure, the combination of a circular casing, a transversely extending partition mounted within said casing and dividing it into two chambers, said partition consisting of separately supported and separately removable central and peripheral portions each provided with electrical studs, electrical conductors entering said casing beneath said partition, and connected to the studs of each portion of said partition, and a leakage-preventing screen between said partition portions.

In testimony whereof I have hereunto set my hand.

CHARLES W. DAVIS.

Witnesses:

ARTHUR A. ANDERSON,
RALPH B. WILCOX.