ELECTRICAL JUNCTION BOX AND CONNECTION THEREFOR

Original Filed April 25, 1930  2 Sheets—Sheet 2
This invention relates to electrical junction parts and is intended for use in high tension current installation, the combination of parts as here shown making it possible to use a metal distributing cabinet instead of some sort of fragile material such as porcelain or the like which is commonly used in pot-heads and like devices, which this invention, in many instances, will supersede.

One of the objects of this invention is to provide means whereby a cabinet or junction box may be made of substantial material, without regard to its insulating properties, but may be made of metal and the inleading cables so fitted that they may be attached to and supported by the cabinet without fear of short-circuiting the current.

Another object of the invention is to provide a cable terminal that will have insulating properties but will preferably be made of non-frangible material.

Another object of the invention is to provide a cable terminal that will be easily and safely handled while making connections.

Another object of the invention is to provide a structure which will afford access to any individual connection without disturbing the remainder.

In the drawings:

Fig. 1 is a vertical cross section through a cabinet embodying the invention;

Fig. 2 is a section at the line 2—2 on Fig. 1;

Fig. 3 is an enlarged view of a cable terminal; and

Fig. 4 is a detail of a clip for making connection to the binding post of the terminal, section being taken at the line 4—4 on Fig. 3.

Where electric wire terminals are grouped for distributing current from a central point it is quite common to construct a terminal box of porcelain or some such material, and it has been found unsatisfactory on account of the difficulty of making mechanical connections that would involve the cutting of threads and use of gaskets for making the device moisture-proof and also for retaining the insulating oils and greases generally used in devices of the general nature of pot-heads and the like.

The problem indicated then, is to avoid the use of porcelain or material of like nature and produce a distributing box or cabinet preferably of metal and also provide means for so insulating the termini of the inleading conductor-cables that they may be successfully associated with such a non-insulating cabinet and that the terminal fitting also will provide means for protecting the exposed oiled end of the cable, at a point beyond the usual lead sheath, at the same time providing means for supporting the end of the cable.

To this end is provided a main cabinet 10 which might be a transformer case, containing the wires 41—41 for distributing the service. These wires are connected to insulated conductors 12—12 mounted in the wall 13 of the cabinet 10. Secured to the wall 13 is a chamber 14 into which is introduced the transformer cabinet 10. This chamber is provided with a removable cover 16 which is secured in position as by the screws 17—17. Screw threaded pipe plugs 18 and 19 18 are provided for introducing and draining insulating grease or oil into and from the chamber 14.

A clamp fitting 20 serves to connect conductors 12 to the respective binding posts 21 of the terminals 16.

The binding post 21 rises from a cap 22 which is bored at 23 to receive the exposed cable strands 24 which are soldered in position. The counterbore 25 facilitates the pouring of the solder, the 25 cap 22 being inverted for this operation.

An insulating sleeve 26 is provided, preferably made of such material as will readily receive a substantial thread as at 27 to cooperate with corresponding threads of the cap 22. The cap 22 20 has a flange 28 between which and the upper end of the sleeve 26 is a gasket 29. At the lower end of the sleeve is another gasket 30 clamped in position between the lower edge of the sleeve and an annular flange 31 in a fitting 32. This 35 fitting, which may be characterized as a wiping sleeve, serves as a means of supporting the member 26 as well as the cable 33 which is attached to the lower reduced portion 34 of the fitting 32 as by a wiped lead joint indicated at 35.

This wiping sleeve has a bolting flange 36 which provides means for bolting it to the bottom plate 37 of the chamber 14 by bolts 38—38, whereby the gasket 30 may be clamped between the plate 37 and the flange 38. The sleeve 26, surrounding the cable end, serves to protect the oiled fabric wrapping 40, which would otherwise be exposed where the lead sheath is terminated.

It will be seen by this means an electrical distributing unit may be made of non-insulating material and the inleading cable terminus may be protected and insulated from the unit cabinet or box and assembled and connected so that all parts may be easily accessible.

It is to be understood that changes and modifi-
The combination of a metallic electric cable junction box, a binding post formed at the end of a cable extending therein, an electrically insulated tubular housing supporting said binding post, a metal transformer case formed integral with said junction box, a conductor extending therein from said binding post and a tubular insulator surrounding said conductor and extending into both the transformer case and the junction box.

2. In combination, a metallic electric cable junction box, a binding post formed at the end of a cable extending therein, a cylindrical fitting secured to said box, an electrically insulated tubular housing extending therefrom and supporting said binding post, a metal transformer case formed integral with said junction box, a wall between, a conductor extending through said wall from said binding post and a tubular insulator surrounding said conductor and extending through said wall into both the transformer case and the junction box.

3. In combination, a cabinet or junction box construction of the type described comprising a metallic electric cable junction box, a cable extending through one of the walls thereof, a binding post formed on the end of said cable, a cylindrical fitting for supporting said cable secured to said box, an electrically insulated tubular housing extending inwardly therefrom and supporting said binding post therein, a metal transformer case formed integral with said junction box, a wall between, a conductor extending through an opening in said wall from said binding post, a tubular insulator surrounding said conductor and extending through the same opening and lying in both the transformer case and the junction box, said insulator rigidly fastened to said wall to rigidly support said binding post.

4. The combination with a junction box of a tubular insulator passing through a wall thereof, a cable entering the outer end of the insulator and extending substantially to the inner end thereof, a terminal mounted upon and secured to the inner end of the insulator and having a tubular portion into which the end of the cable conductor enters, clamping means for clamping the tubular portion of said terminal where it surrounds the cable conductor end, said tubular insulator having a packing material joint connecting its outer portion with the wall through which it passes, and said tubular insulator having a projecting outer end which is screw-threaded and has a threaded connection with the exterior housing enclosing the portion of the cable about to enter the insulator.

GEORGE P. EDMONDS.