

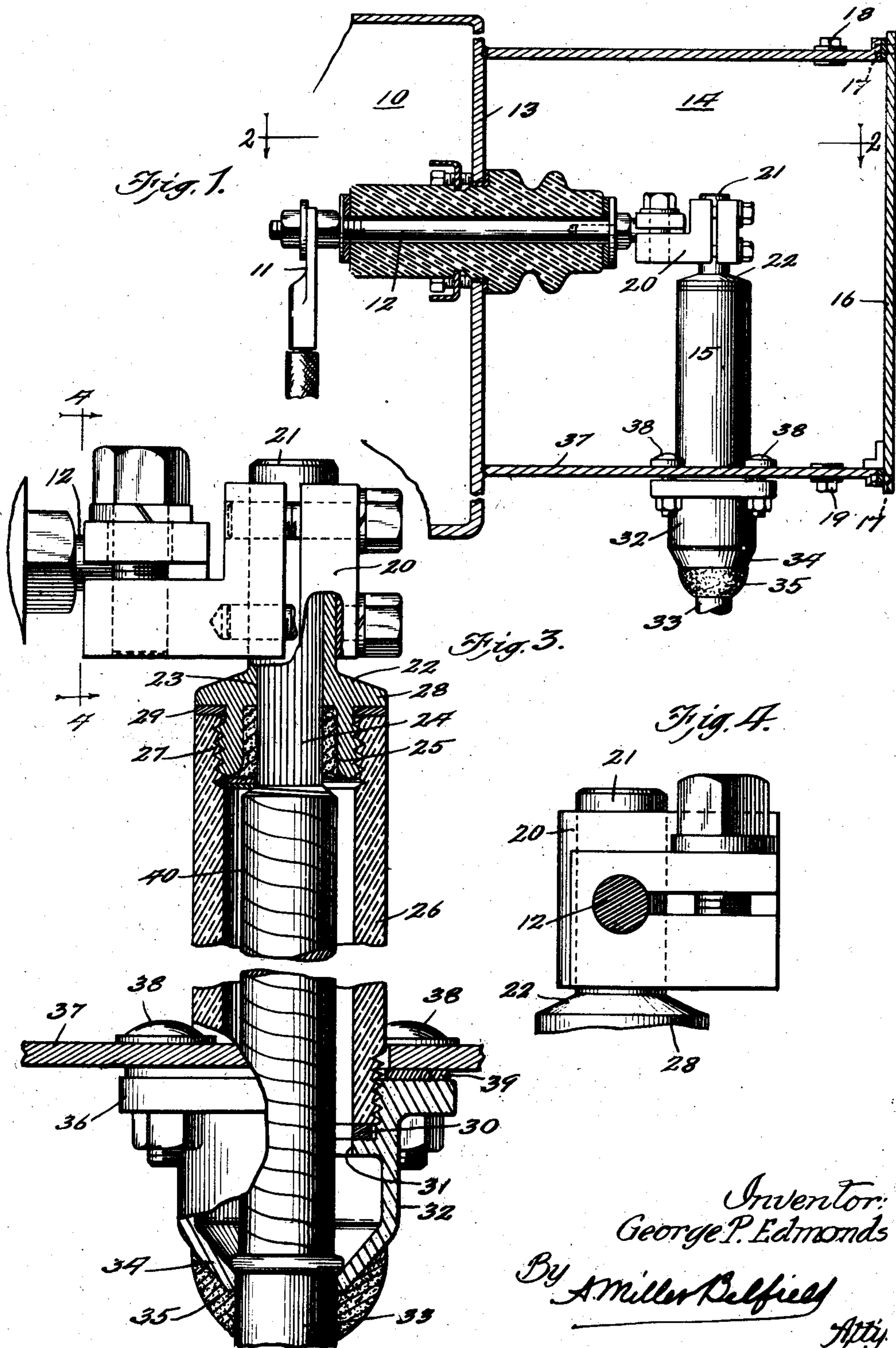
Nov. 26, 1935.

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2,021,912

ELECTRICAL JUNCTION BOX AND CONNECTION THEREFOR

Original Filed April 25, 1930 2 Sheets-Sheet 1



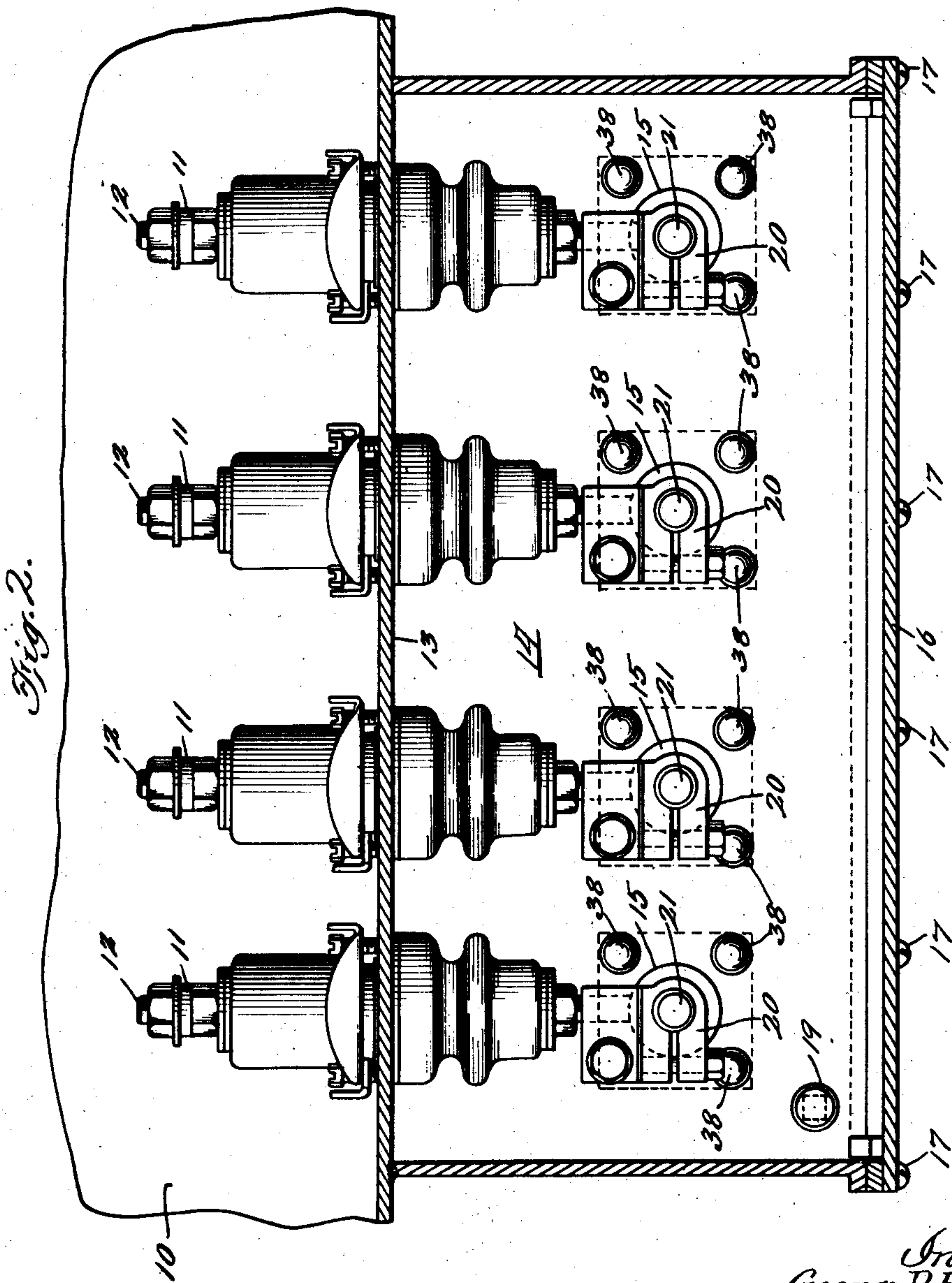
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# ELECTRICAL JUNCTION BOX AND CONNECTION THEREFOR

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## UNITED STATES PATENT OFFICE

2,021,912

ELECTRICAL JUNCTION BOX AND  
CONNECTION THEREFORGeorge P. Edmonds, Chicago, Ill., assignor to  
G & W Electric Specialty Co., Chicago, Ill., a  
corporation of IllinoisApplication April 25, 1930, Serial No. 447,357  
Renewed May 10, 1934

4 Claims. (Cl. 247—9)

This invention relates to electrical junction parts and connections therefor 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 grease 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 ter-

minal 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 11—11 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 terminals 15. 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 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 15.

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 counter-bore 25 facilitates the pouring of the solder, the 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 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 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 36. 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 modi-



ifications may be made without departing from the spirit of this invention.

I claim:—

1. In combination, a metallic electric cable  
5 junction box, a binding post formed at the end  
of a cable extending therein, an electrically in-  
sulated tubular housing supporting said binding  
post, a metal transformer case formed integral  
10 with said junction box, a conductor extending  
therein from said binding post and a tubular in-  
sulator surrounding said conductor and extend-  
ing into both the transformer case and the junc-  
tion box.

2. In combination, a metallic electric cable  
15 junction box, a binding post formed at the end  
of a cable extending therein, a cylindrical fitting  
secured to said box, an electrically insulated tubu-  
lar housing extending therefrom and supporting  
said binding post, a metal transformer case  
20 formed integral with said junction box, a wall  
therebetween, a conductor extending through  
said wall from said binding post and a tubular  
insulator surrounding said conductor and extend-  
ing through said wall into both the transformer  
25 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 ex-  
tending through one of the walls thereof, a bind-  
30 ing post formed on the end of said cable, a cylin-

drical fitting for supporting said cable secured to  
said box, an electrically insulated tubular hous-  
ing extending inwardly therefrom and supporting  
said binding post therein, a metal transformer  
case formed integral with said junction box, a  
5 wall therebetween, 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  
10 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  
15 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  
20 surrounds the cable conductor end, said tubular  
insulator having a packing material joint con-  
necting its outer portion with the wall through  
which it passes, and said tubular insulator hav-  
ing a projecting outer end which is screw-thread-  
25 ed and has a threaded connection with the ex-  
terior housing enclosing the portion of the cable  
about to enter the insulator.

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