Dec. 20, 1932. F. B. WIEGAND ET AL 1,891,253

CABLE OUTLET

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Fig. 1.

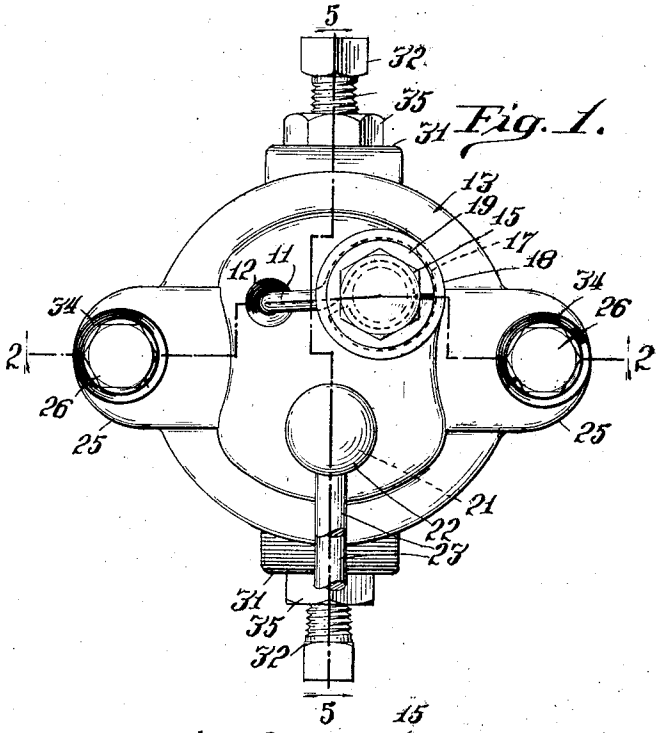


Fig. 3.

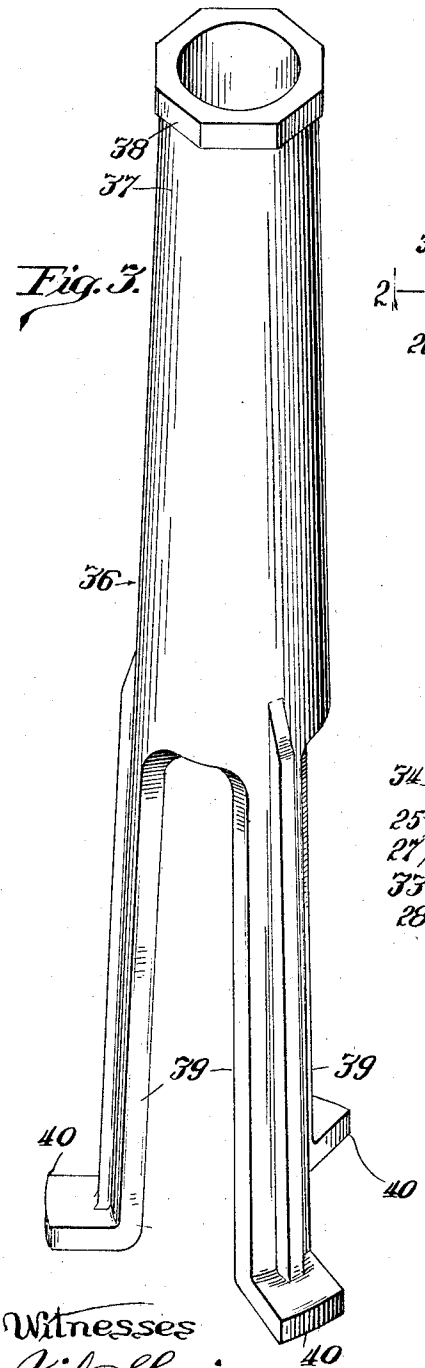
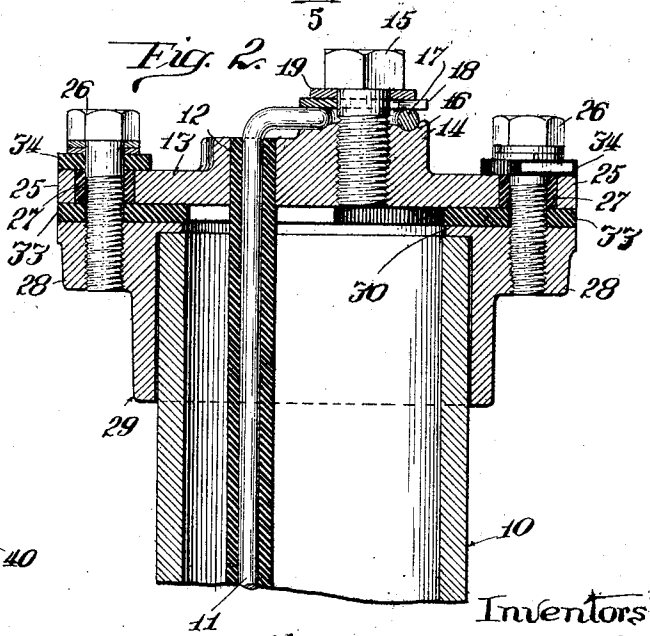


Fig. 2.



Witnesses

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Fig. 4.

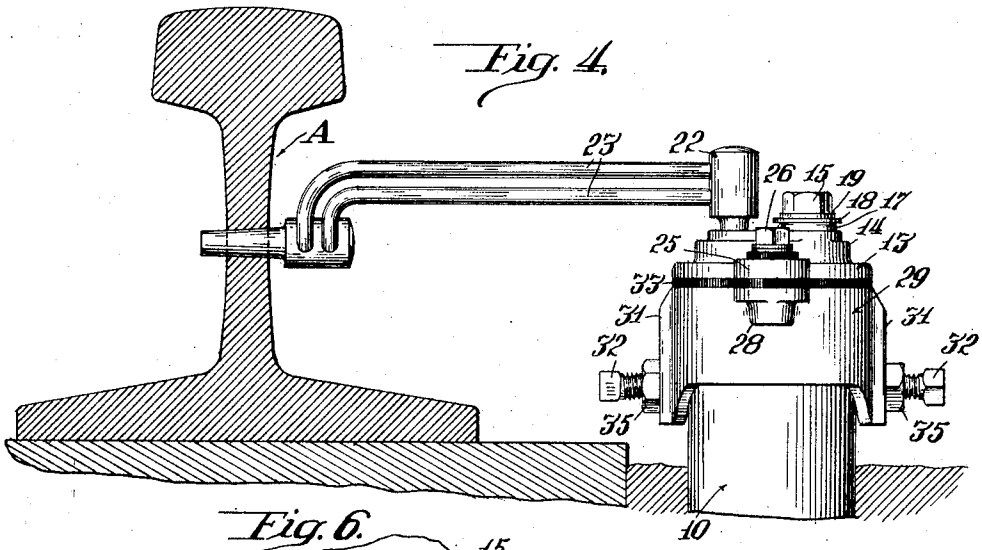


Fig. 6.

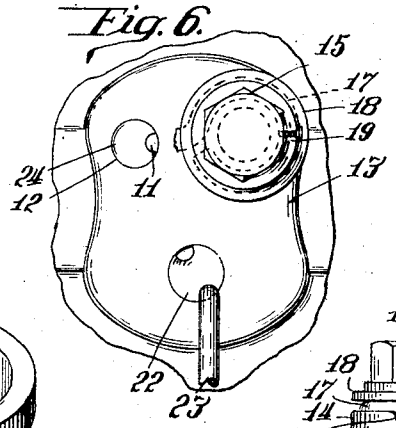


Fig. 7.

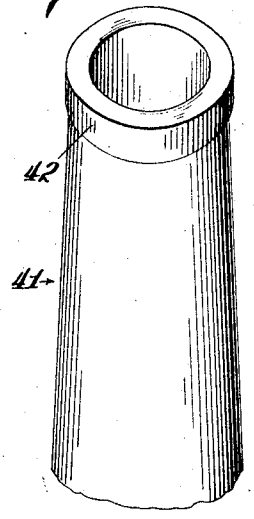
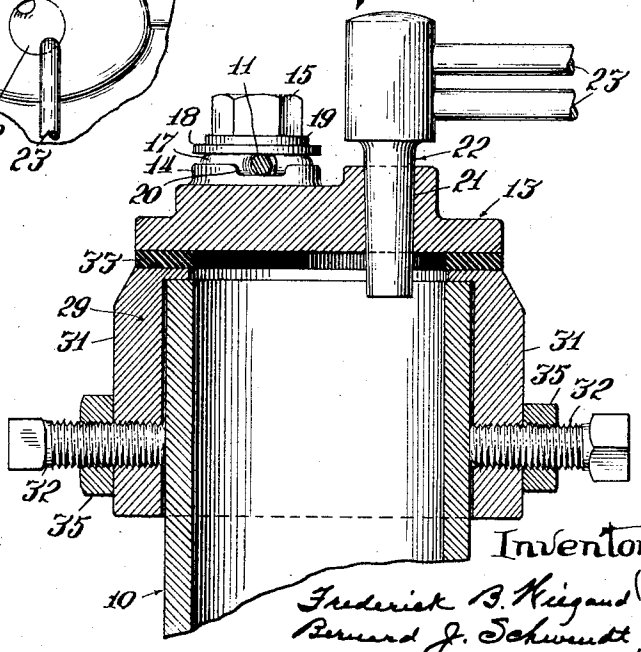


Fig. 5.



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Patented Dec. 20, 1932 1,891,253

UNITED STATES PATENT OFFICE

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CABLE OUTLET

Application filed September 10, 1930. Serial No. 480,988.

Our invention relates especially to parkway cable outlets for use in connection with the current conducting cables employed by railroads along the right-of-way for receiving the cables leading from some distant point and to effect electrical connection with the track rails.

The invention involves a suitable stand adapted to be partially sunk or buried below the surface; the upper end being provided with a suitable sleeve or member whereby a top or conductor plate is insulatably secured to the stand or support; the conductor plate being formed to receive the cable or conductor leading from a distant source of electromotive force or electrical energy without improper exposure, and to also provide means for proper and easy application of the usual bond wire or conductors which transmit the current to the track-rails; the construction being such that ready access to the various elements may be had when occasion requires.

The objects and advantages of our invention will be readily comprehended from the detailed description of the accompanying drawings, wherein:—

Figure 1 is a top plan view of our improved device.

Figure 2 is a cross sectional view taken substantially on the off-set line 2—2 of Figure 1, as viewed by the arrows.

Figure 3 is a perspective view of one form or type of support or stand to be used with our device.

Figure 4 shows the device applied to the upper end of a support or stand which is buried in the ground, and also shows the connection with a track rail which is shown in section.

Figure 5 is a cross sectional view taken substantially on the line 5—5 of Figure 1, as viewed by the arrows.

Figure 6 is a partial top plan view of the device illustrating a modified application.

Figure 7 is a perspective view of the upper end of a modified form of support or stand.

The invention involves a suitable support or stand on which the outlet head is removably mounted; the supports or stands being either in the nature of stock pipe or malleable castings.

In Figures 2, 4 and 5 the supports or stands 10 are in the form of stock pipe of proper length and diameter to permit the stand to be buried in the ground as shown in Figure 4 to a sufficient extent and to freely receive the conducting cable or cables which are buried in the ground, one of which is shown at 11 in Figure 2; the cable being usually properly insulated as shown. The heavy conductor wire 11 extends upwardly through the stand 10 and passes through a suitable opening 12 in a top or conductor plate 13, which is preferably removably secured in place.

This conductor plate 13, which is of a good conducting metal, is preferably provided with a boss portion 14 having a threaded aperture to receive the bolt 15. The boss 14, about the threaded aperture, is provided with a groove 16 to receive the end of the heavy conductor wire 11 which is bent in circular manner throughout the groove 16 as shown at 17; the noninsulated curled end 17 of the wire being snugly held down in the groove and therefore in electrical contact with the conductor plate 13 by a proper washer 18 of copper or other conducting metal, through which bolt 15 extends; a well known type of lock washer 19 being also employed for holding the bolt against accidental turning. In order to permit the wire 11 to properly seat in the groove 16, the outer rim of the groove at the side disposed toward hole 12 is dished or cut away as shown at 20 in Figure 5.

The conductor plate is also provided with a straight or uniformly drilled hole at 21 for the purpose of receiving a tapered channeled pin or tapered driving pin 22. This pin 22 receives conducting wires 23 which lead to and are electrically connected with the webs of the track rail A, as shown in Figure 4; the wires being either welded to the pin 22 or otherwise electrically connected therewith.

The pin 21 is made slightly tapering so as to permit a snug fit to be made in the hole 21; this being possible with the quality of metal used in the making of the conductor plate 13.

We have shown two conducting wires 23 leading from pin 22 to the rail, but it will be understood that either a single or duplex wire may be employed.

In Figures 1 to 4 we have shown the manner of installation or wire arrangement employed. In the event of a broken wire leading to bolt 15 and it is impossible to easily remove the bolt because it may be frozen in place, a temporary outlet arrangement may be made as shown in Figure 6, at which time the end of the conductor wire 11 may be held in the hole 12 by a single grooved pin 24, with the wire 11 arranged in the groove of the pin 24 and the pin firmly driven into the hole 12 thereby making an electrical connection with the conductor plate 13; the pin 24 preferably being of copper.

The current, like in the previously described construction, passes through conductor plate 13 to the pin 22, which is provided with a single longitudinal groove if a single rail wire 23 is used, or a double longitudinal groove in the pin 22 when a duplex wire is employed.

Our invention as shown provides a solderless parkway cable outlet, open to inspection and one which may be easily made whereby proper electrical connection with the rails are obtained.

The conductor plate 13 is shown provided with a pair of ears or lobes 25, 25, which are aperture to receive the bolts 26, 26. The apertures in ears 25 are made somewhat larger than the diameter of the bolts in order that the bolts at their upper ends may each be provided with an insulating collar 27 when desired.

The bolts 26, 26, removably hold the conductor plate 13 in place at the upper end of the supporting stand, by screwing into tapped openings in the lobes or ears 28, 28 of a sleeve member 29 which is adapted to fit about the upper end of the stand 10. The sleeve member 29, at top, is provided with an inwardly disposed circumferential flange 30 adapted to seat on top of the stand 10 as shown in Figures 2 and 5; the flange 30 being such as not to interfere with the size of the stand orifice.

The sleeve 29 is preferably slightly enlarged at diametrically opposite sides, as shown at 31, and provided with tapped openings to receive the set-screws or bolts 32 which effect binding relation with the sides of the stand 10 and prevent accidental removal of the sleeve.

The top or conductor plate 13 is preferably insulated from the sleeve 29, and therefore also from the stand 10, by a fiber plate or suitable insulating disc 33, see Figures 2 and 5, which is preferably of the same general contour as the bottom face of conductor plate 13, with a central opening in keeping with the inside diameter of the flange 30 and of the stand 10, and with apertured ears in keeping with lobes 25 of plate 13, for passage of bolts 26 therethrough. At the same time, the bolts 26 are also preferably provided with insulating washers 34 in order that conductor plate 13 may be completely insulated from the sleeve and the stand against passage of current when desired.

The outlet or top elements of the cable outlet are firmly and insulatedly held in place by capped bolts 32, which are held against accidental rotation by locknuts 35.

In Figure 3, we illustrate a modified form of stand 36 which may be employed instead of the stock pipe type shown in Figure 2. The stand 36 consists of a malleable casting having the upper cylindrical end 37 made to preferably taper toward the top where it terminates in a non-circular flange 38,—shown octagonal in Figure 3—which is of size to permit the sleeve 29 to fit thereover and of thickness to permit set-screws 31 to extend or engage with the stand immediately beneath the flange 38.

The stand at its lower end is of skeleton form to provide the somewhat outwardly flaring leg portions 39, which terminate at bottom in outwardly disposed feet 40.

The cable or conductor 11, like in the construction previously described, is brought through one of the openings between the legs 39 and led upwardly through the cylindrical portion 37 and connected at top to the conductor or top plate 13 in the manner previously explained.

This type of pedestal or stand is preferred in localities where freezing weather is encountered, because the tapered sides and flaring legs, in addition to the foot portions and openings between the legs enable the pedestal to be firmly embedded in the ground and upward movement by reason of frost will be prevented.

In Figure 7 we illustrate the upper end of another type of pedestal or stand 41, which may be identical in general construction with pedestal 36, except that the top is provided with a circular flange 42 instead of the octagonal or non-circular flange 38 of Figure 3.

This pedestal, like that of Figure 3, is preferable, because it remains firmly anchored in the ground.

With our improved outlet, all electrical connections at the parkway cable outlet are of a solderless type which not only permit quicker installation and replacement, but are also open to proper inspection as required by the railroads.

We have described our invention as especially intended as a parkway cable outlet and with the top as preferably insulatedly connected to the sleeve, but it is apparent that our improved outlet may be applied to any kind of insulated or non-insulated conductor or cable having one or more separate or com-

bined conductors, and when desired the top need not be insulatedly mounted in place.

Furthermore, the specific embodiments of the invention have been described in terms employed merely as terms of description and not as terms of limitation, as structural modifications are possible and may be made without, however, departing from the spirit of our invention.

What we claim is:

In a cable outlet, the combination of a hollow cable receiving stand adapted to be vertically arranged in the ground; with a sleeve adapted to encircle the upper end of the stand and having an inturned flange at its top to rest on the upper end of the stand and provided with radially disposed apertured lobes; clamp bolts carried by the sleeve whereby the latter is removably secured to the stand; an insulating disc seatable on the upper face of said sleeve; a conductor plate arranged on the disc provided with radially disposed apertured extensions coincident with the lobes of the sleeve and provided with a cable wire opening therethrough and with a bond wire pin receiving hole, said conductor plate having an upstanding boss provided with a tapped opening, with the upper face of the boss about said opening having an annular cable-end receiving recess; bolt and washer means for clamping the cable in said recess; and insulated bolts disposed through the apertured extensions of the top plate and into the apertured lobes of the sleeve for removably securing said plate to the sleeve.

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