

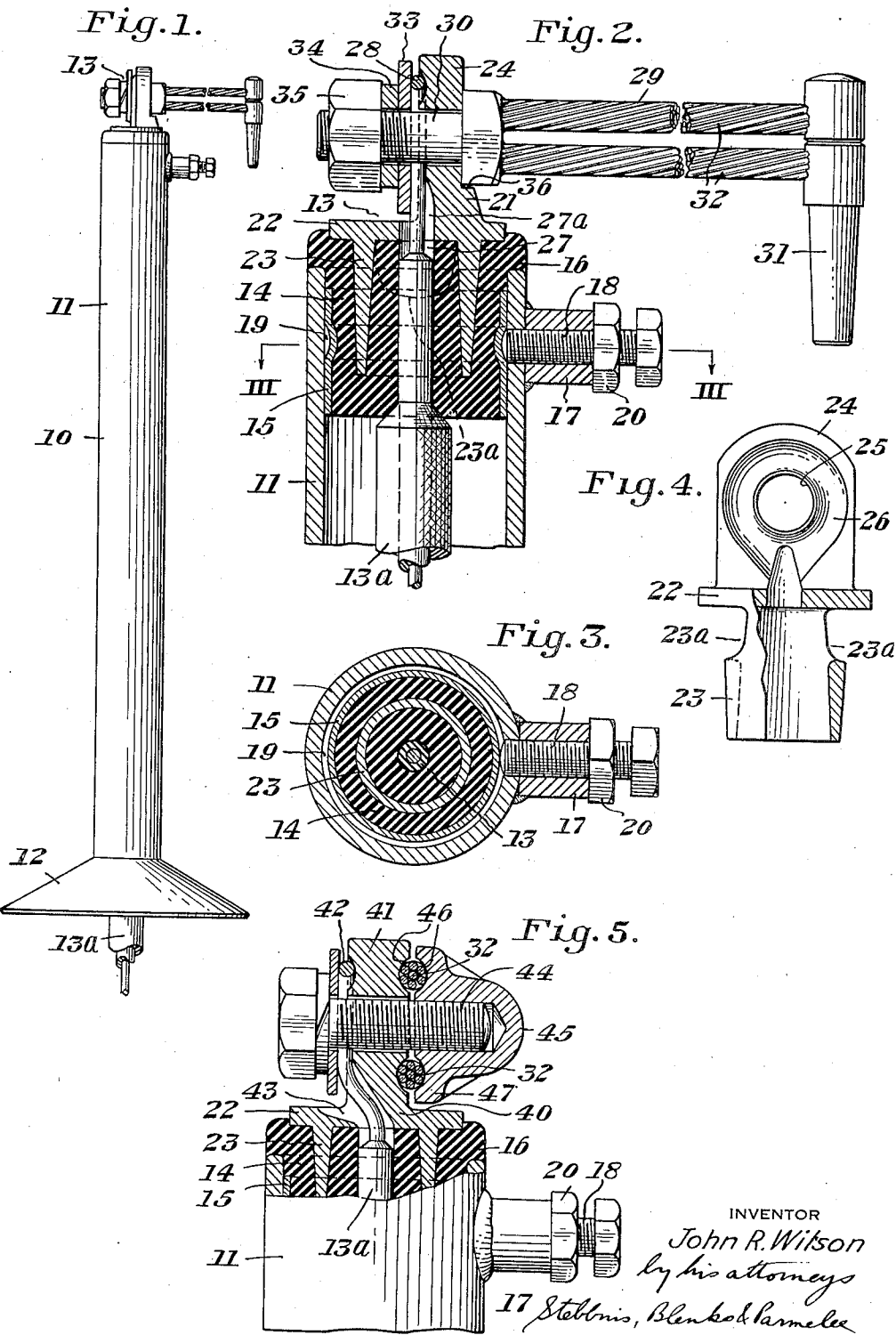
March 4, 1941.

J. R. WILSON

2,233,905

BOOTLEG

Filed Jan. 29, 1940



UNITED STATES PATENT OFFICE

2,233,905

BOOTLEG

John R. Wilson, Forest Hills, Pa., assignor to
Hanlon & Wilson Company, Wilkensburg, Pa., a
corporation of Pennsylvania

Application January 29, 1940, Serial No. 316,178

3 Claims. (Cl. 174—75)

This invention relates to a bootleg and, in particular, to the terminal or outlet portion thereof.

Bootlegs are subject to very severe service conditions, being installed close to railroad tracks in exposed locations. They are subject to the vibration and shock from passing trains and may even receive violent blows from dragging portions of defective rolling stock. For these reasons, numerous forms of bootlegs have been proposed heretofore but none of them, so far as I am aware, has been found in practice to withstand satisfactorily the abuse to which bootlegs are subjected.

I have invented a novel bootleg having numerous advantages over those previously known, which is particularly adapted to withstand hard use and, at the same time, to maintain permanently a good electrical connection to the rail. In addition to being exceedingly sturdy, the bootleg of my invention is very simple and can, therefore, be readily produced at relatively low cost.

In a preferred embodiment, the bootleg of my invention comprises a tubular support with an insulating bushing inserted in its upper end. A terminal post is incorporated in the bushing, having an integral skirt depending therefrom and embedded in the bushing which is preferably of molded material. A bore through the bushing and the post admits a conductor passing upwardly through the support for attachment to the post. Suitable means is provided to connect the post to the rail.

The aforementioned preferred embodiment of the invention and a modification thereof are illustrated in the accompanying drawing. In the drawing—

Fig. 1 is an elevation of the complete bootleg;

Fig. 2 is a central, vertical section through the upper end of the bootleg showing parts in elevation;

Fig. 3 is a sectional view taken along the plane of line III—III of Fig. 2;

Fig. 4 is an elevation of the terminal post with a portion broken away; and

Fig. 5 is a view similar to Fig. 2 illustrating a modification.

Referring in detail to the drawing, a bootleg 10 comprises a tubular riser 11, a bottom supporting flange 12 secured thereto as by welding, and a terminal structure indicated generally at 13 mounted in the upper end of the riser. A conductor 13a extends upwardly through the bootleg 55 and is connected to the terminal structure which

includes means in electrical contact with a track rail.

The terminal structure 13, in the preferred form of the invention, comprises a bushing or plug 14 preferably of molded insulating material 5 such as "Bakelite" or the like. The bushing has a metal collar 15 surrounding the lower portion thereof and is of such size as to fit snugly within the upper end of the riser 11. The bushing also has a shoulder 16 adapted to seat on the extreme 10 end of the riser. A radial hole is formed in the riser 11 near its upper end and an internally threaded sleeve 17 is welded to the riser in alignment therewith. The sleeve 17 is adapted to receive a clamping screw 18 for engagement with 15 the collar 15. The latter is grooved as at 19 to prevent removal of the bushing 14 when the screw 18 is turned home. The screw is provided with a jam nut 20. The collar 15 is permanently bonded to the bushing 14 during the molding of the latter.

A terminal post 21 includes a disk portion 22, a skirt 23 depending therefrom which is also permanently bonded to the bushing 14 in the molding of the latter, and an upstanding lug 24. The skirt has openings 23a whereby the material of which the bushing 14 is formed extends integrally therethrough, thereby permanently uniting the post 21 and the bushing. The lug 24 has an eye 30 or a hole 25 therethrough surrounded by a groove 26.

The bushing 14 has an axial bore 27 therethrough and the disk portion 22 of the terminal post has a hole 27a in alignment therewith 35 whereby the bared end of the conductor 13a may be inserted through the bushing and the terminal post and formed into a loop adapted to lie in the groove 26 as indicated at 28.

A rail connection 29 includes a bolt 30, a 40 tapered pin 31 adapted to be driven into a hole through the rail, and connecting cables 32 welded to the pin and to the head of the bolt. The bolt is provided with a bearing washer 33 and a lock washer 34 whereby, when the nut shown at 35 45 is turned home, the conductor 13a will be permanently secured to the post 21 and in direct electrical contact with the rail through the connection 29. The post 21 is provided with a shoulder 36 adapted to be engaged by the head of the 50 bolt 30, thereby preventing turning of the latter when the nut 35 is applied.

It will be apparent that the terminal structure of my bootleg is of simple and sturdy construction and is well adapted to withstand any forces 55

to which it may be subjected, as well as the force exerted by the screw 18 which is necessary to firmly anchor the bushing in the riser. The metal collar 15 protects the bushing from wear by the anchoring screw. The skirt 23 extending down into the bushing for nearly its full length provides a rigid anchorage in the bushing for the post 21 whereby any forces applied to the lug 24 are transmitted directly to the riser 11 through the skirt and the bushing. The groove 19 prevents axial removal of the bushing when the screw 18 is turned home. The skirt 23 also serves to reinforce the bushing and prevent any possibility of its being collapsed by the pressure of the screw 18. The entire terminal structure may be raised from the riser 11 for inspection, on backing off the screw 18.

A modification of the invention, shown in Fig. 5, differs from the form already described only in respect to the connection between the terminal structure and the rail. Other parts of the bootleg shown in Fig. 5 are designated by the same numerals used above. As shown in Fig. 5, a terminal post 40 is generally similar to the terminal post 21 but has an upstanding lug 41 thereon. One face of the lug 41 is grooved in about the same manner as the lug 24 is grooved at 25, to receive a loop formed in the bared end of the conductor 14 as shown at 42. The post 40 has an opening 43 therein to admit the end of the conductor extending upwardly through the bushing 14.

A bolt 44 passes through the eye in the lug 41 and is provided with bearing and lock washers as in the case of the bolt 30. The bolt 44, however, has an acorn nut 45 and the cooperating faces of the nut and the lug are grooved as at 46 to receive cables 32 therebetween. The nut 46 has a rectangular flange 47 effective on engagement with the disk portion 22 of the post 40 to prevent rotation of the nut as the bolt 44 is turned.

In other respects, the modified form of the invention is similar to the form first described and is characterized by all the advantages of the latter previously pointed out.

Further advantages characterize both forms of the invention. The conductor 13a is free from sharp bends as it emerges from the riser through the terminal structure. The conductor is straight in the preferred embodiment and subject to only slight curvature in the modified form. The absence of sharp bends eliminates breakage result-

ing from vibration, which has been experienced with bootlegs known heretofore.

The bore through the bushing 14 is of such size as to fit snugly the inner rubber layer on the conductor 13a and the frictional contact therebetween takes a portion of the load imposed by the weight of the depending conductor, off of the metallic core of the conductor itself. This effect may be increased by pouring suitable sealing liquid into the bore through the bushing after the conductor has been inserted therethrough.

Although I have illustrated and described but a preferred embodiment and a modification of the invention, it will be understood that changes in the construction and arrangement of parts disclosed may be made without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A bootleg comprising a tubular riser, an insulating bushing extending into the upper end of said riser, a terminal post on said bushing having a depending skirt embedded in the bushing, the bushing being molded around the skirt and bonded thereto, a bore through said bushing adapted to admit a conductor extending upwardly there-through from below, to be secured to said post, a metallic sleeve surrounding said bushing, and means extending radially through the riser and engaging said sleeve, thereby securing the bushing in said riser.

2. A bootleg comprising a tubular riser, an insulating bushing extending into the upper end of said riser, a disk seated on said bushing, a skirt depending from the disk and embedded in the bushing, the bushing being molded around the skirt and bonded thereto, an upstanding terminal post on said disk, bores through said bushing and disk adapted to admit a conductor extending upwardly through the riser, and means extending through the riser and engaging said bushing, thereby securing the bushing in the riser.

3. A bootleg comprising a tubular riser, and a plug in the upper end thereof, said plug including a body of insulating material and a terminal post having a skirt, said material being molded around said skirt interiorly and exteriorly thereof, and bonded thereto, said plug having a bore admitting a conductor extending upwardly through said riser, and a set-screw extending through the riser and securing said plug therein.

JOHN R. WILSON.