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W. H. FRANK

2,361,536

COLLECTOR

Filed July 21, 1943

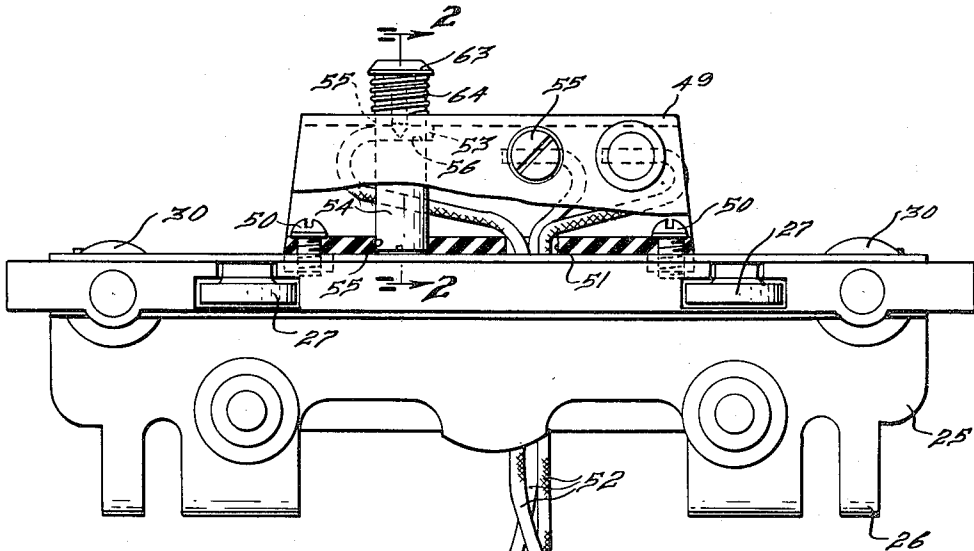


FIG. 1.

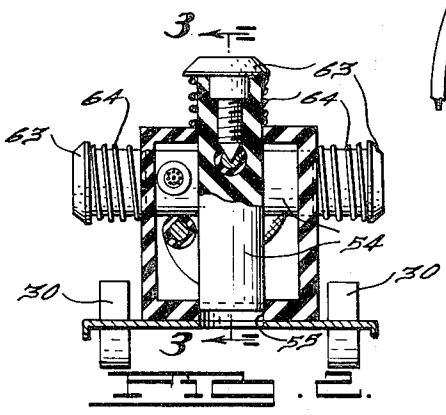


FIG. 2.

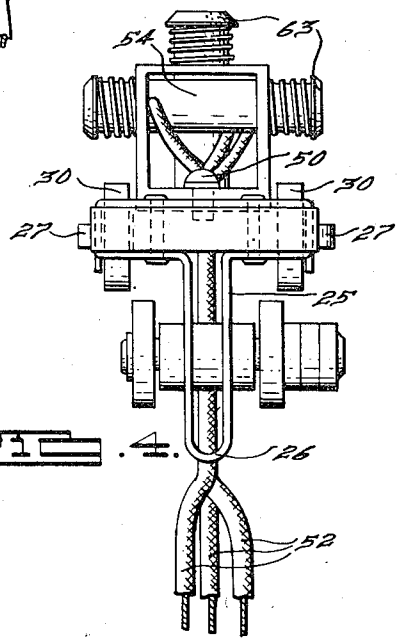


FIG. 4.

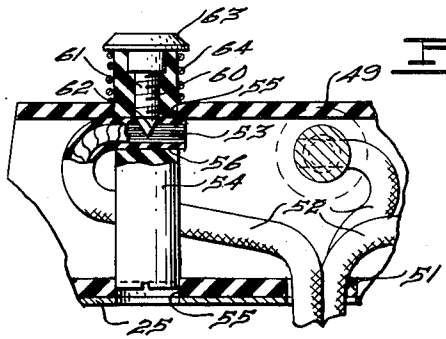


FIG. 3.

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2,361,536

COLLECTOR

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Application July 21, 1943, Serial No. 495,590

2 Claims. (Cl. 191-45)

This application relates to improvements in collectors useful with electrical distribution systems.

A prior Patent No. 2,170,296 of August 22, 1939, shows a collector having a T shaped roller carriage upon which is mounted and supported a collector head. The present application relates particularly to improvements in the head per se, and, except insofar as the carriage forms part of the combination shown herein, and considered as part hereof, the carriage per se forms no part of the present invention.

For an understanding of the details of construction of the collector here shown, reference should be had to the accompanying drawing, disclosing this collector.

In the drawing,

Fig. 1 is a side elevation view.

Fig. 2 is a view in section on line 2-2, Fig. 1.

Fig. 3 is a view in section on line 3-3, Fig. 2.

Fig. 4 is an end view.

The carriage of the collector here shown is the one disclosed in Patent No. 2,170,296. It will not therefore be specifically described. Suffice it to say that it comprises an elongated sheet metal plate 25 bent in the form of a double-walled T, to provide a vertical and a horizontal portion. The vertical portion has load hangers 26. Journaled in the horizontal portion are side thrust rollers 27 and support rollers 30.

The head shown herein includes an elongated support 49 in the form of a tube of insulation, of square cross section, which may be fastened to the carriage by suitable fastening means, such as the screws 50. The bottom wall of the head or support 49 is provided with one or more openings 51 through which insulated conductors 52 which pass through the carriage, may enter the support so that their terminals 53 may be fastened to suitable contact posts 54, which are in the form of rods of insulation slidably disposed in aligned holes 55 of opposite walls of the support. Transverse passages 56 in these posts receive insulated (unstripped) terminals of the conductors.

The exposed portions of the posts have axial bores 60 threaded to receive metal screws 61, whose pointed ends 62 pierce the insulation of the conductor terminals and bind these terminals firmly in place in the posts, and at the same time provide a conducting path from these terminals to the exposed and enlarged heads 63 on ends of these screws. Coil springs 64 around the exposed portions of the posts engage the enlarged heads of the screws to bias the posts outwardly against the rails of the electrical distribution system.

The terminals 53 limit the posts against excessive outward movement.

Each post is mounted in aligned guide or bearing hole of opposite walls of the support and thus is prevented from cocking as the collector moves along the rails.

The simplicity of the arrangement herein disclosed is manifest, and this forms one of the desirable characteristics of the head herein disclosed.

It will also be observed that the use of critical war materials, such as rubber, and metal, has been reduced to an absolute minimum.

The support is rigid, comprising a hollow tube; the contact posts though resiliently mounted with respect to the support and the post holes, nevertheless do not expose the interior of the support during their movement, to any substantial extent, the post holes remaining sealed at all times. This is of importance in that disturbances, due to loose terminals or load conductors, is minimized, for these terminals are always completely enclosed in the support.

The support is shown as open ended. If desired, however, end covers may be applied to the support; however, because of the distance between the ends of the support and the contact posts, it is not likely that disturbances from outside the support can find their way to the contact posts or the conductor terminals inside the support.

Now having described the head hereof, reference should be had to the claims which follow for the determination of the protection sought herein.

I claim:

1. A contact post arrangement comprising a supporting wall having an opening, a contact post slidably disposed in said opening, with ends on opposite sides of the wall, the post having a transverse passage behind the wall receiving a terminal of a conductor behind the wall, the post in front of the wall having a threaded end bore transverse to said passage, a pointed and headed binding screw of conducting material threaded into the bore with its head exposed in front of the wall and with its point engaging a conductor terminal in the passage to bind it in place in the post, and to provide a conducting path from the terminal to the exposed screw head, the latter forming an exposed contactor for the conductor terminal, the screw head being larger than the contact post, and a coil spring in front of the wall around the post, and abutting the wall and the screw head, for biasing it and the post from

the wall, the terminal limiting the post against excessive movement caused by the spring.

2. A contact post arrangement comprising a supporting wall having an opening, a contact post slidably disposed in said opening, with ends on opposite sides of the wall, the post having a transverse passage behind the wall receiving a terminal of a conductor behind the wall, the post in front of the wall having a threaded end bore transverse to said passage, a pointed and headed binding screw of conducting material threaded into the bore with its head exposed in front of the wall and with its point engaging a conduc-

tor terminal in the passage to bind it in place in the post, and to provide a conducting path from the terminal to the exposed screw head, the latter forming an exposed contactor for the conductor terminal, the screw head being larger than the contact post, and a coil spring in front of the wall around the post, and abutting the wall and the screw head, for biasing it and the post from the wall, the terminal limiting the post against excessive movement caused by the spring, and means behind the wall providing a guide or bearing for the post.

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