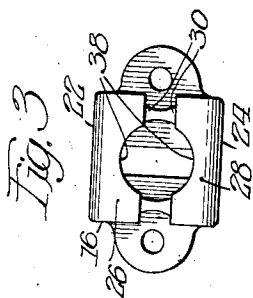
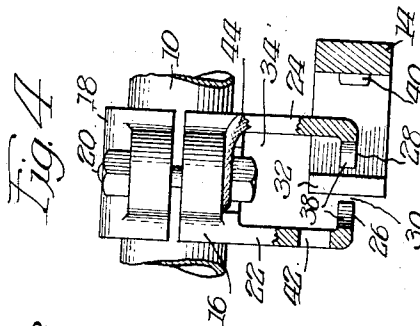
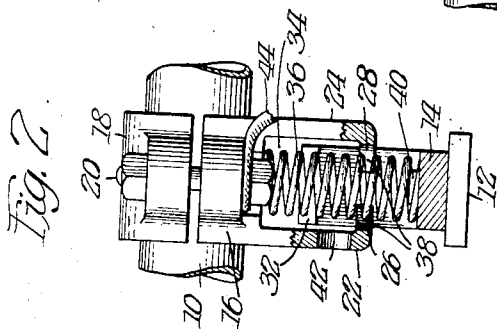
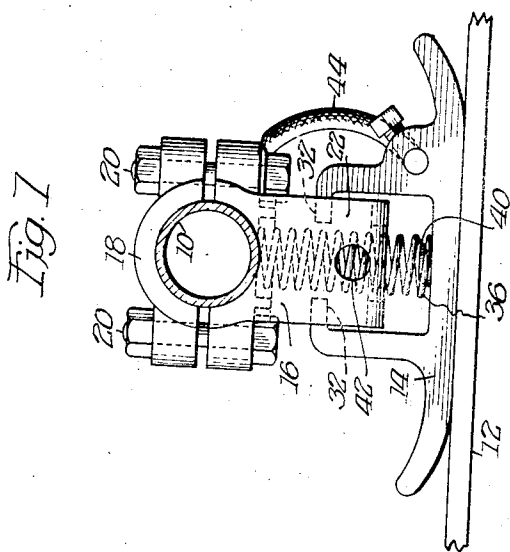


B. H. WHITING.
SUPPORT FOR ELECTRIC CURRENT COLLECTOR SHOES.
APPLICATION FILED MAY 2, 1919.

1,354,790.

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UNITED STATES PATENT OFFICE.

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SUPPORT FOR ELECTRIC-CURRENT-COLLECTOR SHOES.

1,354,790.

Specification of Letters Patent.

Patented Oct. 5, 1920.

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To all whom it may concern:

Be it known that I, BRADFORD H. WHITING, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Supports for Electric-Current-Collector Shoes, of which the following is a specification.

In a traveling crane having electrical propelling and lifting mechanism, it is common practice to have a trolley mechanism traveling on top of the crane to take its current from a plurality of parallel collector bars extending along the crane bridge, there being a collector shoe for each bar. These conditions require that the shoes be attached to a rod, pipe or the like, extending downward from the trolley mechanism and running at right angles to the lengths of the collector bars on the crane bridge.

This invention relates to a suitable support for attaching the collector shoes to such a rod or pipe at right angles to the collector bar or bars.

The object of the invention is to make such a support which is relatively short, compact in form, which can be readily applied to a sustaining rod or pipe, which will hold a shoe in suitable position on the collector bar, permit of its movement under spring control with reference to the bar as the conditions of work may require and permit its ready removal for repair or replacement.

The invention consists in a device capable of carrying out the foregoing objects made of only two parts; one carrying the collector's shoe, the other an embracing or clamping member for attaching it to the rod or pipe, the parts being therefore convenient to cast and readily fittable together to make one complete device. More particularly the invention consists in the features and details of construction hereafter more fully set forth in the specification and claim.

Referring to the drawings in which like numerals represent the same parts throughout the several views.—

Figure 1 is a side view of a completely assembled support, the shoe, and the adjacent collector bar, illustrating this invention in its preferred form.

Fig. 2 is an end view partially in section of the parts shown in Fig. 1.

Fig. 3 is a bottom view of the main sup-

port member disassembled from other parts of the device.

Fig. 4 is a view corresponding to Fig. 2 showing the method of removing the shoe from the support.

Figs. 1 and 2 show a pipe 10, referred to in the introductory statement, at right angles to the collector bar 12 along which the collector shoe 14 travels and the problem of this invention is to securely flexibly support the shoe from the pipe 10 in contact with the bar with a minimum expenditure of space and metal of construction and yet have the shoe readily removable when necessity therefor occurs.

This is accomplished by making the support in two parts comprising a main support proper 16 adapted to fit on one side of the pipe 10 and a supplemental cap 18 adapted to fit on the other side of the pipe the two securable together by any suitable means such as bolts 20 in the obvious manner shown in the drawing.

The main support member 16 is of special design adapted to carry out the objects of this invention. It consists of two parallel spaced apart side walls 22 and 24 at right angles to the axis of the pipe 10 having at their bottoms as shown in the drawings inwardly turned flanges 26 and 28 approaching each other but separated from each other in the open ended space or slot 30 through which the interfitting teeth 32 on the collector shoe 14 are adapted to pass when the shoe is rotated through 90 degrees to the position shown in Fig. 4. The side walls 22 and 24 are not connected together at their ends with the result that an open ended chamber 34 is formed within the support entered by the teeth 32 as shown in Fig. 1 and containing the expansion spring 36 clearly appearing in Figs. 1 and 2. The members 26 and 28, heretofore referred to are also recessed at the center of the support in the curved lines 38 so that the spring 36 passes through the opening thus formed and engages a knob 40 provided for the purpose on the collector shoe 14.

One of the side walls of the support 16, as for instance, wall 22 is provided near its bottom with an opening such as 42 through which a nail, or the like, may be passed to engage the spring 36 and hold it after it has been compressed by hand into a con-

tracted position, as compared to that shown in the drawing, which disengages it from the collector shoe and thus permits the shoe to be turned to the position shown in Fig. 4 for removal.

In practice electric current is supplied to the bar 12 from which it first passes to the shoe 14, thence by any suitable connecting devices, as for instance, the wire 44 provided for the purpose, to the upper portion of the clamping device, as for instance in one of the screws 20 and thence to the pipe or rod 10.

In the operation of the device assume the parts are assembled in position shown in Figs. 1 and 2. In this position, mechanism to which the device is applied moves the pipe or rod 10 transversely to itself and lengthwise of the collector bar 12. In so doing the teeth 32 play up and down within the chamber 34 something over an inch and in the construction, here shown and described, they are made sufficiently long to permit of this movement taking place without there being any danger of the collector shoe slipping out of the support. The spring 36 presses the shoe 14 into engagement with the collector bar and normally prevents the shoe's movement to any position where it can be removed. When, for any reason, it is necessary to replace a shoe, the operator takes hold of the lower end of spring 36 as shown in the drawing, moves it upward as far as it will go, locks it in that position by inserting a nail or the like through opening 42, heretofore described, thus releasing the shoe 14 from the collector bar 12 and allowing the operator to take hold of the shoe 14 and rotate it to the position shown in Fig. 4 where it can be removed through the passage 30 in the manner shown in Fig. 4. To assemble the parts in

the first place or to reassemble at any time, the operation, just described, is reversed.

It will be noticed that by the construction of this invention, herein described, the entire connecting mechanism between the pipe 10 and the collector bar 12 consists of only four parts, viz., the parts 16 and 18 of the support, the shoe 14, and the spring and that they are all of very simple construction, easy to make and readily assembled and disassembled.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is:—

In combination a sustaining rod extending in one direction, a collector shoe extending in a direction at right angles thereto and provided with relatively wide thin teeth pointing toward each other adjacent to the center of the shoe, a support between the rod and shoe extending from the rod to a point adjacent to the shoe, the support being recessed in the direction of the length of the shoe and open at its ends to receive the ends of said teeth upon the collector shoe, there also being in the bottom of the support, a slot of substantially less width than the width of said recess and less than the width of the collector shoe but wide enough to permit the passage of said teeth of the shoe when the shoe is turned at right angles to its normal position for the purposes set forth, and a spring engaging the support and shoe forcing them apart.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

BRADFORD H. WHITING.

Witnesses:

T. S. HOWARD,
LEONA COYLE.