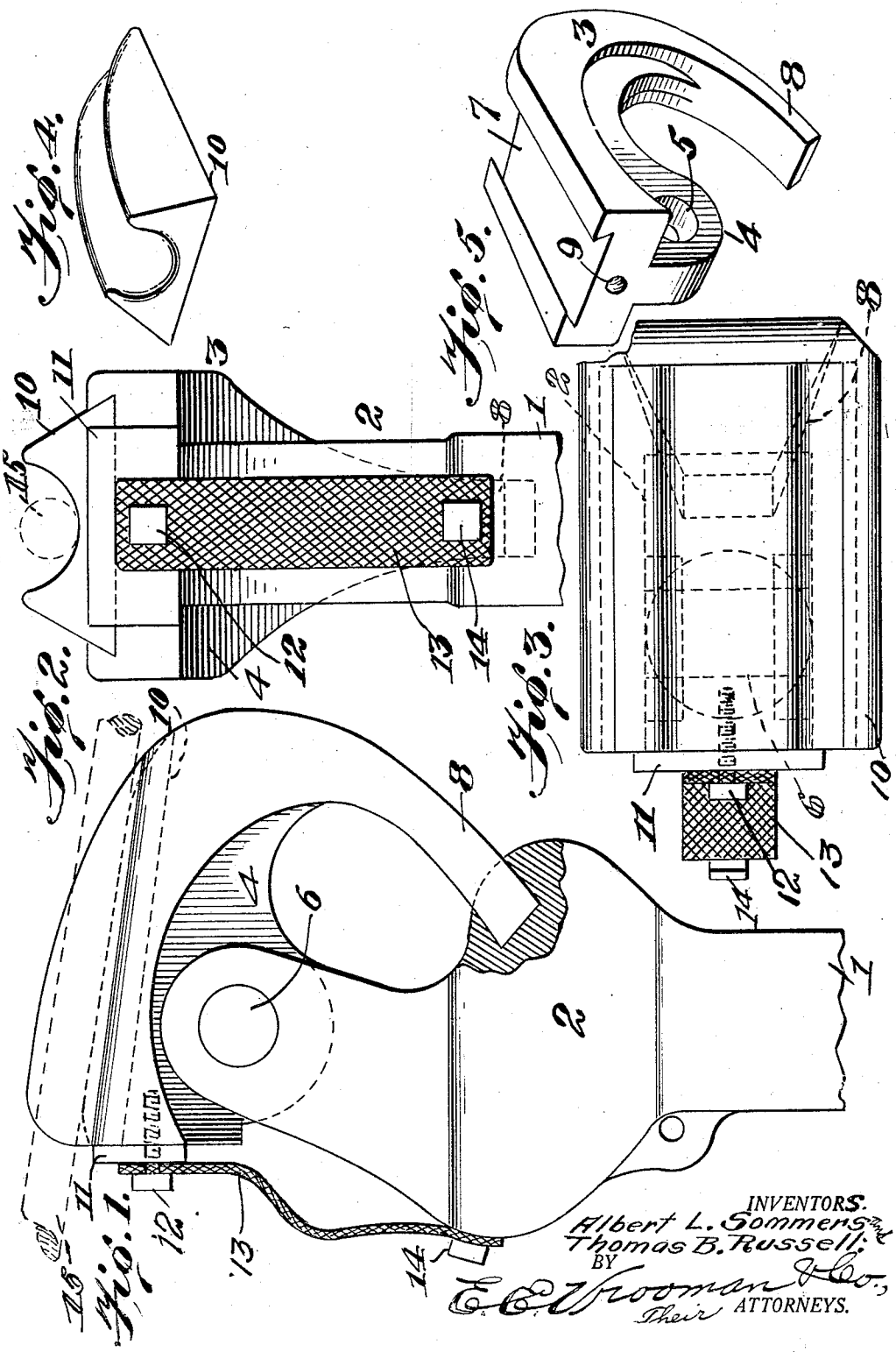
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TROLLEY POLE HEAD STRUCTURE

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UNITED STATES PATENT OFFICE

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TROLLEY POLE HEAD-STRUCTURE

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This invention relates to a trolley pole head-structure.

The object of our invention is the construction of a simple and efficient shoe-feature, whereby an old shoe can be quickly removed and a new shoe placed on the head.

Another object of our invention is the provision of simple and efficient fastening means on a head for securing the contact shoe in place.

With the foregoing and other objects in view, our invention comprises certain new and novel constructions, combinations and arrangements of parts as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a view in side elevation of a device constructed in accordance with our invention, while

Figure 2 is a rear view of the same.

Figure 3 is a top plan view of our device.

Figure 4 is a perspective view of the contact shoe.

Figure 5 is a perspective view of the head of the device.

Referring to the drawings by numerals, 1 designates a trolley pole upon which is secured in any suitable manner a harp 2. A head 3 is provided with a depending heel 4; this heel is provided with an aperture 5. A bearing pin 6 extends through the upper end of the harp 2 and through aperture 5 of heel 4, thereby pivotally mounting the head 3 on the harp 2.

The head 3 is provided with a longitudinally extending dove-tail groove 7; this groove 7 slightly converges from its rear end to its front end, for the purpose hereinafter specified. The tongue 8 extends into the harp 2 in any suitable or conventional manner; we make no claim to this detail. In the rear end of head 6 is a horizontally extending threaded socket 9 for the purpose hereinafter described.

We provide a contact shoe 10 which is preferably dove-tail shaped to fit the groove 7; this shoe 10 will not be displaced off the front of head 3 by reason of the tapering structure of the groove and shoe constituting a wedge, but when the horizontal flat plate 11 is removed from the rear end of head, the shoe 10 can be quickly removed, as when it is worn out and a new shoe is needed.

The shoe-securing plate 11 is laid flat against the rear end of the head, over the rear end of the dove-tail groove 7, and a screw or threaded member 12 extends through plate 11 and into said threaded socket 9. Screw 12 also has the upper end of braided copper cable 13 mounted thereon, whereby screw 12 performs two functions, to wit: it fastens the plate 11 in place as well as supports the cable 13. The lower end of cable 13 is fastened to the harp 2 by medium of the screw 14, whereby the current passes from trolley wire 15 (dotted lines) through contact shoe 10, head 3 and cable 13 to the harp 2, etc.

We have inclined the dove-tail groove 7, as clearly indicated in Figure 1, so that contact shoe 10 assumes the proper position for receiving the trolley wire 15; this inclining of groove 7 is accomplished by inclining the upper end of the head 3, as shown in Figure 1. The novel fastening plate 11 is a simple and efficient arrangement for retaining the contact shoe in place; further it provides a simple means for permitting a worn out or injured shoe to be removed, as the fastening means 12 can be easily removed when the plate is required to be removed off the end of the head.

By our construction, the life of a harp or trolley-head is greatly prolonged, because the principal wear occurs on a contact shoe, and by reason of our simple and efficient structure, the shoe can be easily replaced at a minimum expense.

While we have described the preferred embodiment of our invention and illustrated the same in the accompanying drawings, certain minor changes or alterations may appear to one skilled in the art to which this invention relates during the extensive manufacture of the same, and we, therefore, reserve the right to make such changes or alterations as shall fairly fall within the scope of the appended claims.

What we claim is:

1. In a device of the class described, the combination with a harp, of a head mounted on said harp, said head provided with a groove, a contact shoe in said groove, a fastening plate against said head and one end of said contact shoe, and detachable means fastening said plate to said head.

2. In a device of the class described, the combination with a harp, of a head mounted on said harp, said head provided with an inclined groove converging from one end to its other end, a shoe of similar structure seated in said groove, and fastening means on said head engaging one end of said shoe for holding the shoe against displacement off the head in one direction.

3. In a device of the class described, the combination with a harp, of a head on said harp, said head provided with a longitudinally-extending inclined dove-tail groove, said groove converging from its rear end to its front end, a contact shoe dove-tail in cross section and converging from its rear end to its front end seated in said dove-tail groove, and detachable fastening means over part of said head and said contact shoe holding the shoe from rear displacement off said head.

4. In a device of the class described, the combination with a harp, of a head mounted on said harp, said head provided with a groove, a contact shoe in said groove, said shoe and head provided with means for preventing the contact shoe from being displaced off the forward end of said head, a flat horizontal fastening plate laid against the rear end of said head and partly extending over the rear end of said contact shoe, and removable fastening means extending through said plate into said head for detachably securing said plate upon the head.

5. In a device of the class described, the combination of a harp, a head on said harp, said head provided with a groove, a contact shoe in said groove, a fastening plate against said head and securing said contact shoe in place, a screw extending through said fastening plate and into said head, a second screw extending into said harp, and a cable mounted on both of said screws.

6. In a device of the class described, the combination with a harp, of a head on said harp, a contact shoe on said head, a detachable plate against the head and said contact shoe holding the shoe against displacement off the head in one direction, and fastening means securing said detachable plate on said head.

7. In a device of the class described, the combination with a harp, of a head on said harp, a detachable contact shoe in a wedged condition upon said head, and fastening means on the head and extending across one end of said contact shoe for preventing accidental removal of said shoe off the harp in one direction.

In testimony whereof we hereunto affix our signatures.

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