

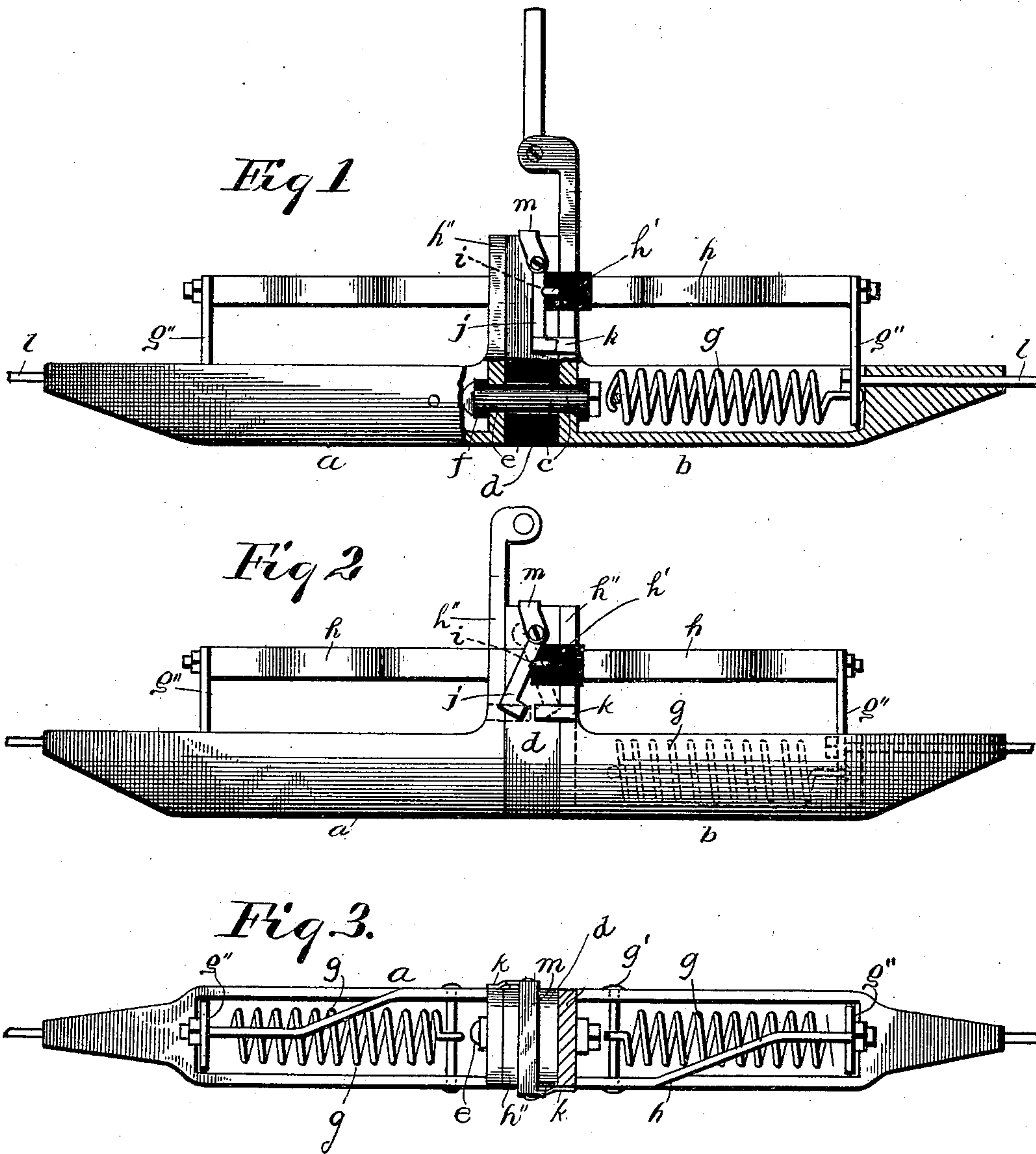
(No Model.)

A. L. JOHNSTON.

AUTOMATIC DISCONNECTOR FOR OVERHEAD CONDUCTORS.

No. 459,839.

Patented Sept. 22, 1891.



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UNITED STATES PATENT OFFICE.

ANDREW LANGSTAFF JOHNSTON, OF RICHMOND, VIRGINIA.

AUTOMATIC DISCONNECTOR FOR OVERHEAD CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 459,839, dated September 22, 1891.

Application filed January 19, 1891. Serial No. 378,334. (No model.)

To all whom it may concern:

Be it known that I, ANDREW LANGSTAFF JOHNSTON, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Automatic Disconnectors for Overhead Conductors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is intended as an improvement on my prior patent, No. 435,098, granted August 26, 1890; and the object sought to be accomplished is to provide a more simple and desirable device.

With this purpose in view my invention consists in the peculiar features and combinations of parts more fully described hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side view, partly in section, of my invention; Fig. 2, a similar view of the opposite side, in which the switches are shown open; and Fig. 3, a top view in which the switches are shown closed.

The reference-letters *a* and *b* represent two hollow sections preferably made of metal and formed alike in order to form a bridge at the junction of two sections of overhead line-wire. These sections are fastened rigidly together by a bolt *c*, with insulating material *d* interposed, so that no current can pass from one section to the other excepting by the way of the exterior visible switches, to be presently described. The bolt *c* is insulated from the metal sections *a b* by a non-conducting sleeve *e* and washers *f*. As both sections are alike, a description of one will suffice. The section *b* contains a coil-spring *g*, which has one end fastened by a pin or staple *g'* to the section, and the opposite end, which is free, to a vertical bar *g''*, which is in turn attached to horizontal push-rod *h*, adapted to open an exterior visible switch *j* by means of a lug *i*. The switch *j* is stiffly pivoted upon the side of the hanger or upright portion *h''*. An insulating-sleeve *h'* prevents the rod *h* from

making electrical connection with the metallic section. Both sections are provided with metallic contact-points *k*, which receive the free ends of the switches to close the circuit, as shown in Fig. 1. A metallic strap *m* connects the two switches, and when the latter are closed forms a part of the circuit. The ends of the two sections of line-wire *l* are fastened to the vertical bar *g''*, and the weight or tension of the wires will be sufficient to keep the springs *g* drawn out, as in Figs. 1 and 3.

In operating the mechanism described the two independent sections *l l*, forming the line-wire, are drawn up taut against the tension of the springs *g*, as seen in Figs. 1 and 3, whereupon the rods *h* will be moved clear of the switches *j*, thereby leaving the latter open, so that no current can possibly pass over the wires, which are now left disconnected, dead, and harmless. The current will be permitted to pass over the wires only by closing the switches *j*, as shown in Figs. 1 and 3. When the wires are slackened by accidental breakage or otherwise, the springs *g*, which are of a predetermined strength, will recoil and carry with them the bar *h*, and the lugs *i* will push open the switches *j*, as seen in Fig. 2. The switches, being stiffly hinged, will remain open and the wires remain dead, so that if the wires are inadvertently drawn up taut no harm will ensue. Hence it will be seen that a splice can be made or the loose ends of the wires handled with perfect safety.

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

1. In an automatic disconnector for overhead wires, a pair of hollow metallic sections containing springs and insulated from each other, in combination with a pair of switches electrically connected with each other, line-wires and push-rods secured to move with the free ends of said springs, whereby the switches are pushed open upon the slackening of the wires, in the manner and for the purpose set forth.

2. In an automatic disconnector for overhead wires, the combination of a pair of hol-

low metallic sections containing springs and insulated from each other, line-wires connected to the free ends of said springs, and switches adapted to be opened and to remain
5 open by the action of the springs when the wires are slackened, in the manner and for the purpose substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW LANGSTAFF JOHNSTON.

Witnesses:

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A. H. SPEAKE,