No. 829,403. PATENTED AUG. 28, 1906.

F. E. IMESON.

FINGER CONTACT FOR ELECTRIC CONTROLLERS.

APPLICATION FILED APR. 3, 1906.

FIG. 1.

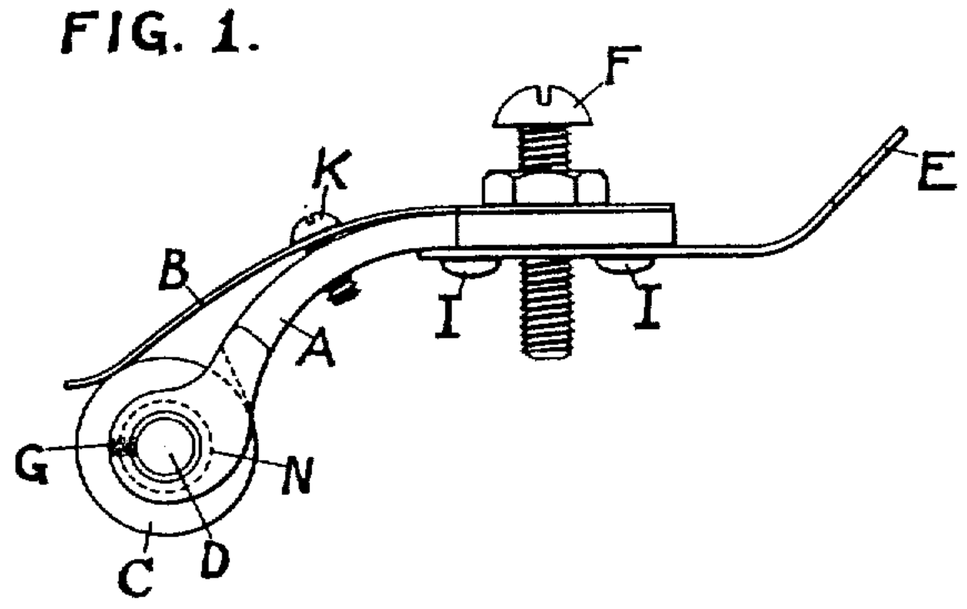


FIG. 2.

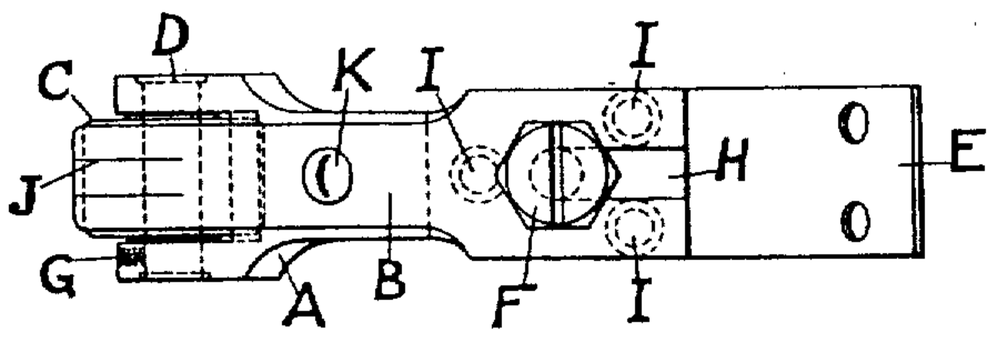


FIG. 3.

FIG. 4.

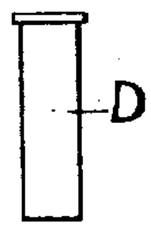
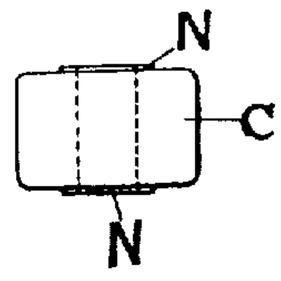


FIG. 5.



WITNESSES:

John R. Walsh

Allan Bennett.

INVENTOR:

Francis Ernest Imeson

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANCIS ERNEST IMESON, OF THORNABY-ON-TEES, ENGLAND.

FINGER-CONTACT FOR ELECTRIC CONTROLLERS.

No. 829,403. Specification of Letters Patent. Patented Aug. 28, 1906.

Application filed April 3, 1906. Serial No. 309,609.

To all whom it may concern:

Be it known that I, FRANCIS ERNEST IMESON, a subject of the King of Great Britain and Ireland, residing at Thornaby-on-Tees, in the county of York, England, have invented a new and useful Improvement in Finger-Contacts for Electric Controllers, of which the following is a specification.

This invention relates to an improved controller finger-contact for transmitting electric current in controllers as used in connection with motors for electric traction and for crane, hoist, mining, and general electrical work.

In controllers of the types hitherto in use the finger-contacts have been found to quickly lose their efficiency, mainly by reason of the excessive friction and of the burning or fusing to which they are liable.

The object of my present invention, therefore, is to provide a controller finger-contact which shall be more durable and efficient in transmitting the current and which shall not be readily liable to such burning or fusing.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of my improved controller finger-contact with terminal roller C, as hereinafter described. Fig. 2 is a plan of same. Fig. 3 is a side view of my improved controller finger-contact with terminal roller C and side protecting-tips L L, as hereinafter described. Fig. 4 is a detail view of pin D, as hereinafter referred to. Fig. 5 is a detail view of the terminal roller C, as hereinafter described.

Similar letters of reference are employed to indicate corresponding parts throughout the several views.

According to my said invention the finger A is provided with a terminal roller C, of any suitable metal, mounted upon a loosely-fitting reversible pin D and adapted to be revolved thereon by contact with the contact-cylinder of the controller, the said finger A being so designed as to permit of the roller C being changed without necessitating the removal of the body of the finger when once fixed in position. The said pin D is fixed by means of a small stud G or by any other convenient device, and the roller C is made with a slight boss N at each side in order to reduce the friction with the end lugs of the finger A. The finger A is also provided with a spring B to assist in collecting and transmitting the current from or to the roller C, the said collector-spring B being slotted at H for adjustment and being split at J to insure perfect contact with the roller C and being adjustable as to its pressure upon the roller C by means of a screw K. This collector-spring B forms an efficient conductor for the current, and therefore prevents any possibility of local heating due to bad connection. In certain cases it becomes necessary that the said terminal roller C shall be protected from sparking, and for this purpose I provide tips or shields L L at each side of the roller C, so that in opening and closing the circuit the said tips intercept and considerably reduce the arc from the roller-surface. The said tips L L may be of copper, carbon, or other suitable material and are supported, preferably, upon the ends of the aforesaid spring B and of a second spring M.

E is the adjustment-spring, attached to the body of the finger A by rivets or screws I, and F is the adjustment-screw.

The use of my improved controller finger-contact is found also to considerably lengthen the life of the contact-cylinder of the controller by reason of the enormous reduction of friction.

I claim—

1. The combination, with a contact-finger provided with an adjusting-screw at one end and having a roller journaled at its other end, of a collecting-spring provided with an adjusting-slot at one end for engaging with the said screw and having its other end arranged to bear on the said roller, and a pressure-adjusting screw engaging with the middle parts of the said spring and finger.

2. The combination, with a contact-finger, of a roller journaled at one end portion of the said finger, a collecting-spring having one end portion secured to the said finger with its middle portion bearing on the said roller, and a protecting-tip secured to the free end portion of the said spring adjacent to the said roller.

3. In an electric controller, the finger-contact having terminal roller or runner C, collecting-spring B, and protecting tips or shields L L, substantially as herein described, for the purpose specified.

FRANCIS ERNEST IMESON.

Witnesses:

JOHN E. WALSH,

ALLAN BENNETT.