

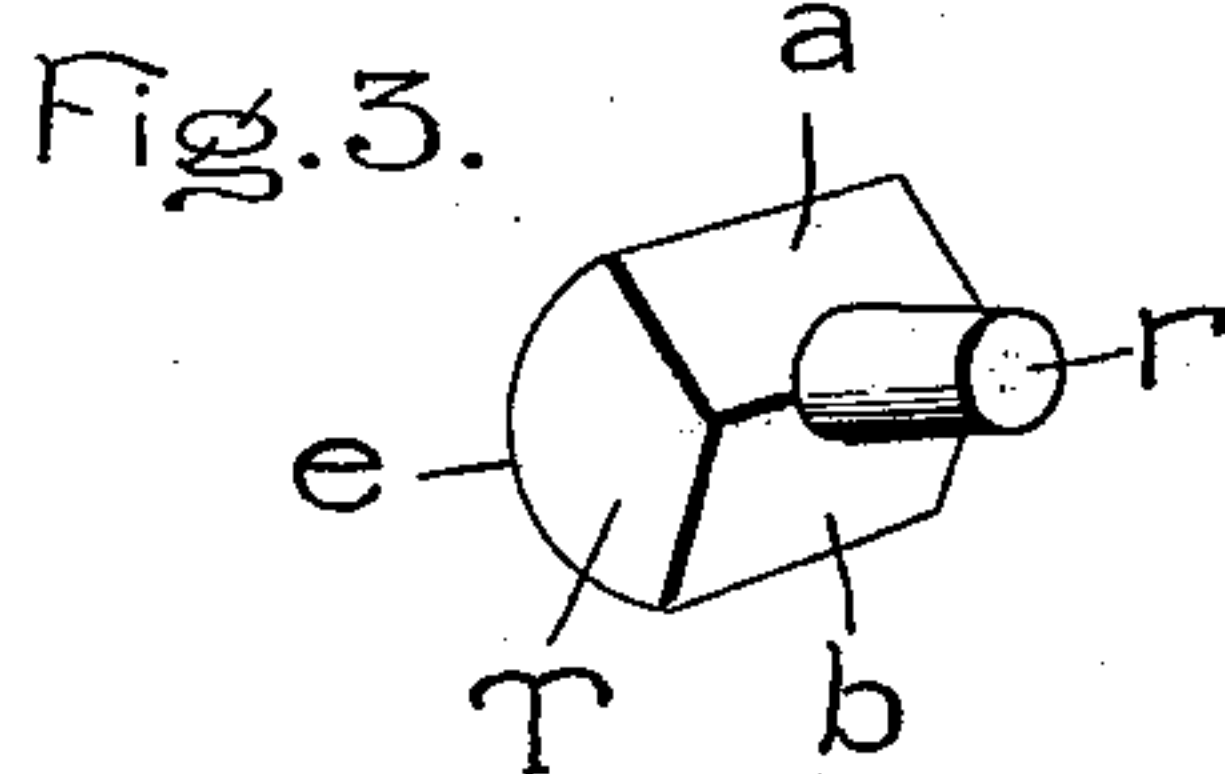
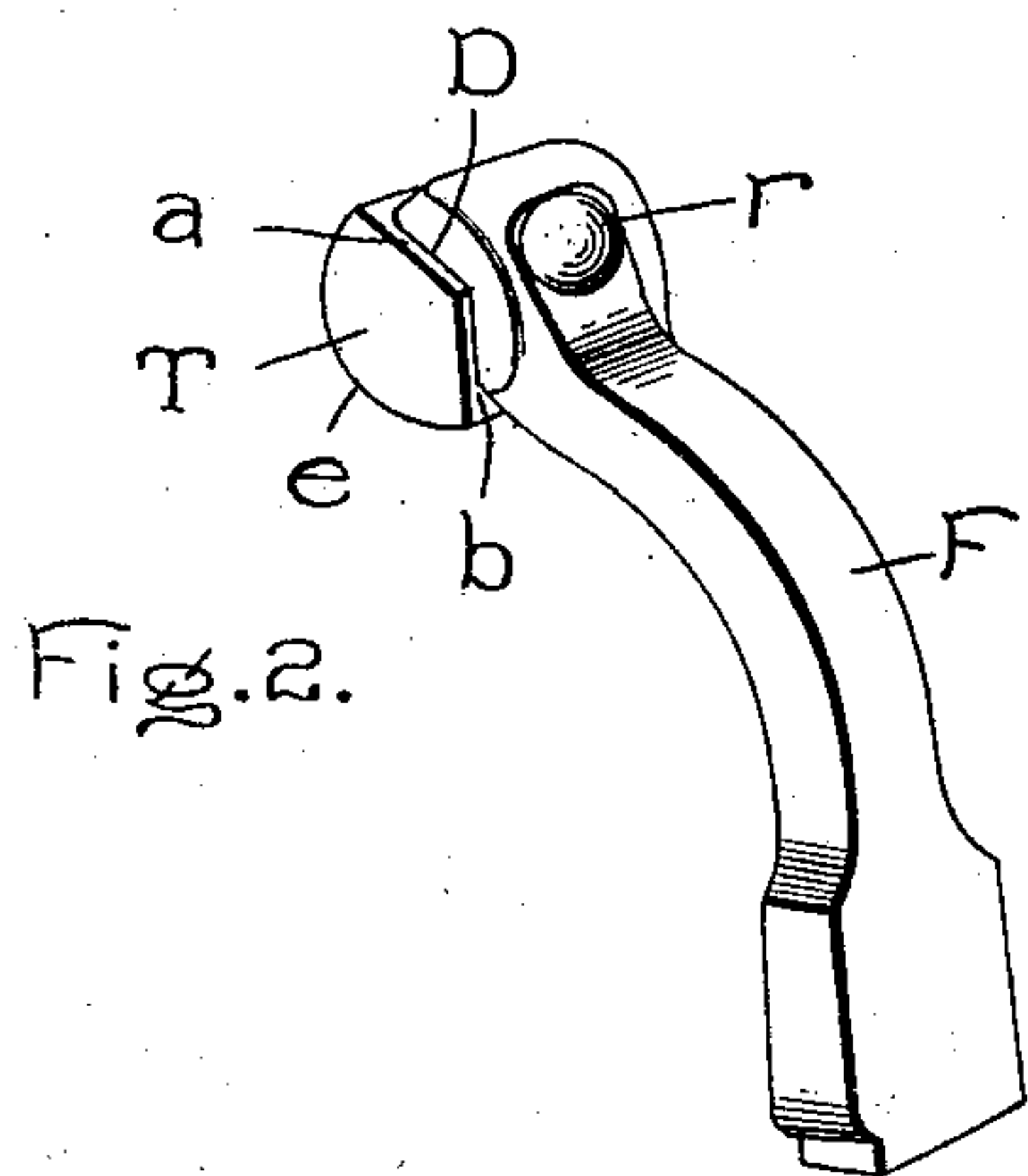
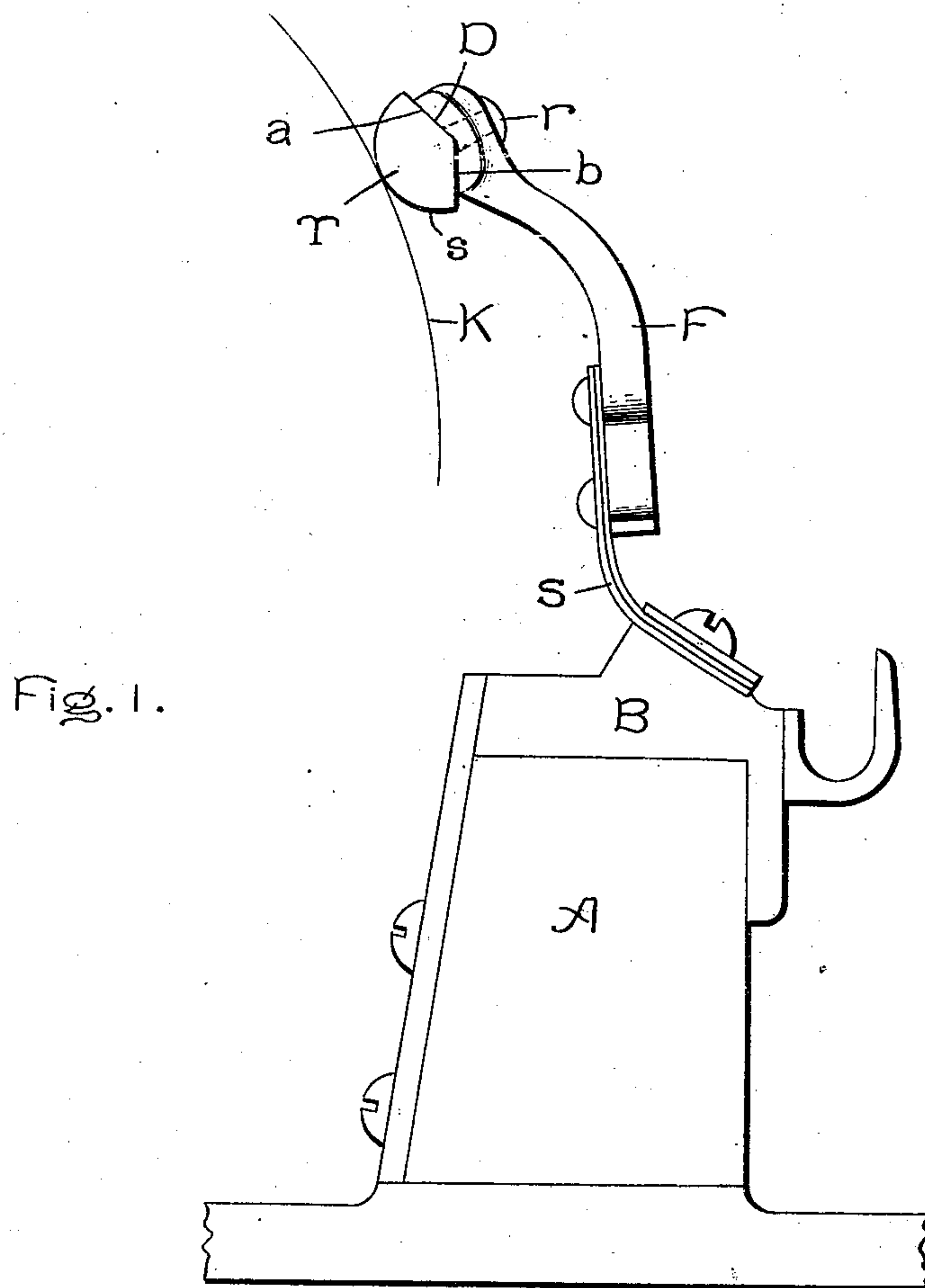
No. 755,743.

PATENTED MAR. 29, 1904.

F. E. CASE.
REMOVABLE CONTACT FINGER TIP.

APPLICATION FILED JULY 9, 1902.

NO MODEL.



Witnesses:

Marcus L. Byng.
Helin Orford

Inventor:

Frank E. Case
by Allen H. Davis
Att'y.

UNITED STATES PATENT OFFICE.

FRANK E. CASE, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

REMOVABLE CONTACT-FINGER TIP.

SPECIFICATION forming part of Letters Patent No. 755,743, dated March 29, 1904.

Application filed July 9, 1902. Serial No. 114,873. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. CASE, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Removable Contact-Finger Tips, of which the following is a specification.

This invention relates to contact-fingers for electric controllers, and has for its object the provision of removable tips therefor which may be secured immovably to the fingers and will have a large area of contact therewith, but which may be easily and cheaply replaced. The only part of the finger which is subject to deterioration is the contacting portion, which, because of the wear due to friction of the parts and the burning of the metal by the electric arcs at that point, may deteriorate rapidly. As usually constructed the finger is made in one piece, which necessitates that the whole finger be thrown away when the contact portion is no longer fit for service. By the use of my removable tip, which can be cheaply manufactured and applied, the main portion of the finger may be retained.

I have illustrated my invention as applied to a form of finger which is frequently employed in controller construction.

Referring to the attached drawings, Figure 1 is a view in elevation, showing a finger as usually mounted in a controller supplied with my removable tip. Fig. 2 is a perspective view of an unmounted finger also provided with my removable tip, and Fig. 3 is a perspective view of the removable tip itself.

Referring to the drawings in detail, A is an insulated support upon which is mounted a brass casting B. Spring-mounted upon brass castings B by means of spring S is contact-finger F, having in one side a wedge-shaped recess D, in which is secured the removable tip T by means of its rivet portion *r*, said rivet portion being formed integral with said tip. The tip T has a curved contact-surface *s*, and upon the opposite side is a wedge-shaped projection formed by the walls or surfaces *a* and *b*, which is adapted to enter and fit closely into the recess D. This construction gives a large

area of contact between the finger F and tip T, and it will be noted that when riveted in place relative movements of the finger and tip are positively prevented. It is necessary to the successful operation of the finger that such movement be prevented, for otherwise the contacts at the surface S and between the tip and finger may be seriously impaired.

K is a movable contact-surface against which the contact-tip T is pressed by the action of spring S, and when not in contact with that surface it is maintained in position by the rigidity of spring S. It will also be noted that when the contact-tip is in engagement with the moving surface K the strain on the said tip is taken up by one side wall of the recess D and is almost entirely removed from the rivet, since the wedge-shaped recess is formed across the finger F in a direction at right angles to the direction of movement of said contact-surface K.

The tip T may be drop-forged and the finger F manufactured in the manner usually followed in producing fingers of this character. The cost of the finger when constructed in accordance with my present invention will therefore exceed that of the usual integrally-formed finger and tip by a trivial amount; but this will be more than offset by the decreased labor in renewing the fingers.

When desired, the tip may be removed by simply removing the head of the rivet with a cold-chisel. A new tip may then be riveted in position.

Other forms of finger-tips may evidently be employed without departing from my invention, and I do not, therefore, wish to be limited to the specific construction shown in the drawings.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a contact-finger recessed at one end and having a hole extending therethrough, of a removable contact-tip having a projection engaging said recess, and a rivet portion extending through said hole so as to fasten said tip rigidly to said finger.

2. The combination with a contact-finger tip having a contact-face and a wedge-shaped pro-

jection opposite said contact-face, of a contact-finger having a hole therethrough and a wedge-shaped recess extending across said finger at right angles to the axis of said hole, and means for securing the tip to the finger, the said means being adapted to cooperate with said projection in such manner as to prevent relative movement of said tip and finger and to allow the strain on said tip when the latter is in engagement with a moving contact-surface to be taken up by one of the side walls of said recess.

3. The combination with a contact-finger tip having a contact-face and a wedge-shaped projection opposite said contact-face and also a rivet portion extending from said projection, of a contact-finger having a wedge-shaped recess extending across said finger in a direction at right angles to the direction of movement of the contact-surface with which the contact-face of said tip is adapted to engage and also

having a hole extending therethrough for receiving said rivet portion.

4. As an article of manufacture, a contact-finger tip having a curved contact-face, a wedge-shaped projection opposite said face, and a rivet portion formed integral with said tip and extending at right angles from said projection.

5. As an article of manufacture, a contact-finger having upon one side a wedge-shaped recess extending across said finger adapted to receive a removable tip, and a hole extending from said recess to the opposite side of said finger and at right angles to said recess.

In witness whereof I have hereunto set my hand this 3d day of July, 1902.

FRANK E. CASE.

Witnesses:

BENJAMIN B. HULL,
HELEN ORFORD.