

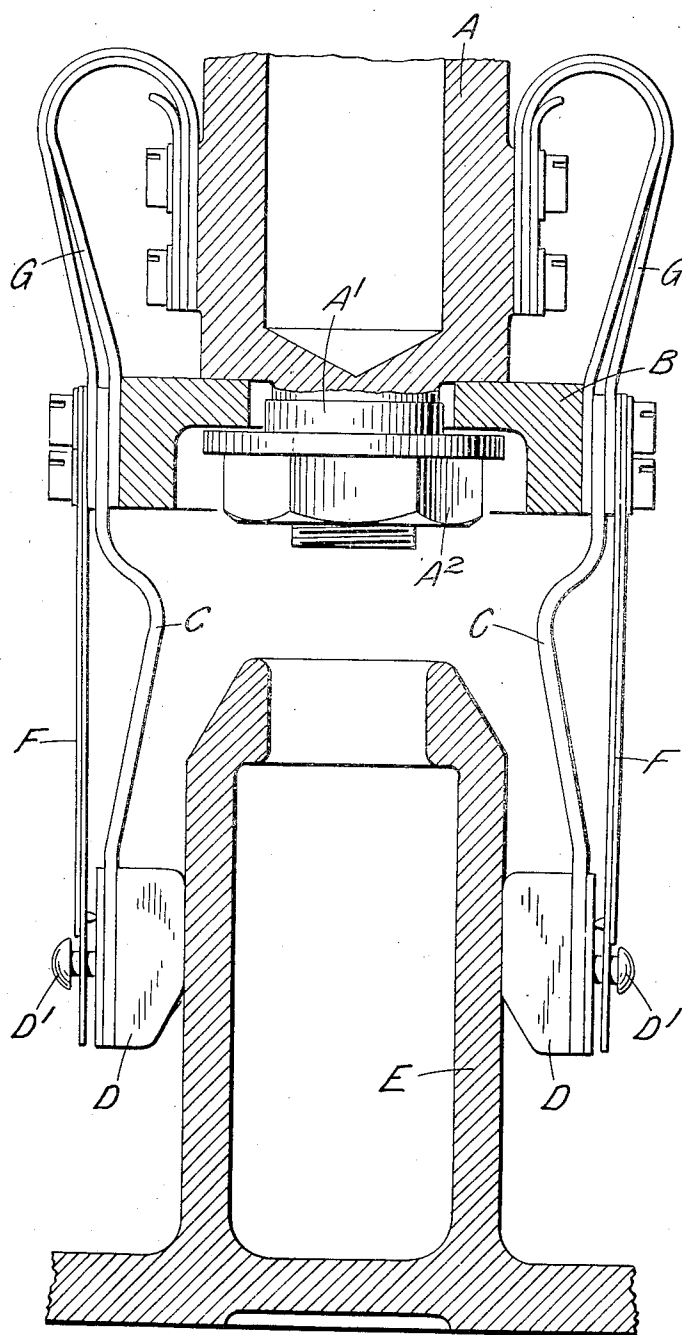
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CONTACT FOR ELECTRIC CIRCUIT BREAKERS AND THE LIKE

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UNITED STATES PATENT OFFICE

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CONTACT FOR ELECTRIC CIRCUIT-BREAKERS AND THE LIKE

Application filed February 25, 1930, Serial No. 431,263, and in Great Britain May 28, 1929.

This invention relates to contacts for electric circuit-breakers and the like, particularly to contacts of the socket type wherein one of the contact-making members is flexibly supported to give a self-aligning action.

In a self-aligning contact according to this invention, the contact blocks are attached by springy arms to a floating ring or collar, for example to a ring mounted so that it is capable of limited transverse movement relative to the axis of the member upon which it is mounted.

This member may be, for instance, a head or bushing forming part of or attached to one of the conductors of a circuit-breaker, and the floating ring may be mounted in a recess on the head the internal diameter of the ring being sufficiently large to allow of limited movement in any direction normal to the axis of the head.

At opposite ends of one or more diameters of the ring are fastened springy arms, for instance metal strips, each carrying at its free end a contact block. There may, for instance, be six of such blocks arranged so that they form together a hexagonal segmental socket suitable for cooperating with a hexagonal plug. The end of the plug and the surfaces of the contact blocks which first engage with it may be tapered or rounded.

Flexible connections are made between the ring and the head upon which it is mounted and preferably such connections are in the form of lengths of copper braid, one end of each length being clamped to one of the springy arms and the other to the head or bushing. Excessive outward or inward movement of the contact blocks, i. e. abnormal flexure of the springy arms may be prevented by plates or strips fixed at one end to the floating ring and provided at their other ends, adjacent to the contact blocks, with slots through which pass headed studs secured to the blocks. These strips may also serve to exert the necessary contact pressure between the contact blocks and the cooperating main contact.

In the accompanying drawing, which is a vertical section of one construction of contact according to this invention, A is a head

or bushing forming part of or attached to one of the conductors of a circuit-breaker. It is formed with a reduced portion or neck at A¹ the end of this part being screwed to take a washer and nut A². Before the nut and washer are screwed on a flanged member B, which constitutes the floating ring or collar, is placed round the reduced portion A¹ and, as shown, it has a central hole of sufficiently large diameter to permit the ring to move radially within limits in any direction.

The ring B carries springy metal arms C having at their ends contact blocks D which bear against the cooperating main contact E. Only two arms C are shown in the figure, but it will be understood that six or any other desired number may be mounted on the ring B. Each arm C is backed by a strip F, preferably of steel, slotted to take a headed stud D¹ fixed into the contact block D. These strips prevent excessive flexure of the arms and also serve to exert the necessary contact pressure. Flexible conductors G, say of copper braid, connect each arm C with the head or bushing A.

The improved construction provides a very efficient form of self-aligning contact for circuit-breakers or parts of switchgear where contact members more or less axially in line have to be separated and brought together again, the floating ring enabling the whole set of contact blocks to move for a limited extent transversely to the axis of the member upon which the ring is mounted.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a self-aligning contact for an electric circuit-breaker, a main contact comprising in combination a head adapted to be connected to one of the conductors of the circuit-breaker, a stem on said head, a ring loosely mounted on said stem, springy arms attached to said ring, contact blocks on said springy arms, a second main contact movable relatively to the first main contact and cooperating with said contact blocks, and flexible connections between said ring and said head.

2. In a self-aligning contact for an electric circuit-breaker, a main contact comprising in combination a head adapted to be con-

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to said ring, contact blocks on said springy
arms, a second main contact movable rela-
tively to the first main contact and cooperat-
ing with said contact blocks, flexible connec-
tions between said ring and said head, and
backing strips attached to said ring and bear-
ing on said springy arms.

10 In testimony whereof I have signed my
name to this specification.

JOHN CHRISTIE.

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