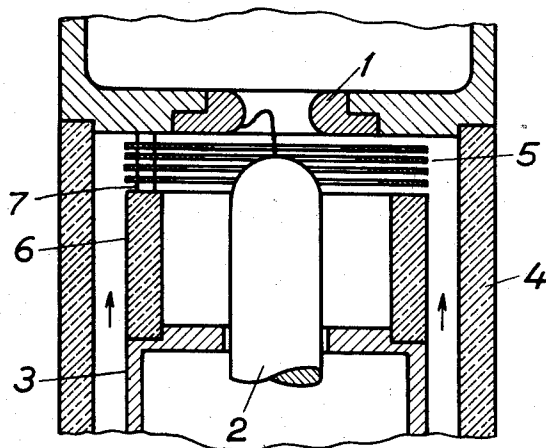


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H. FORWALD
EQUALIZING DEVICE FOR AIR CURRENT
IN AIR BLAST CIRCUIT BREAKERS
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Inventor
HAAKON FORWALD.
By *Eamer Quinn*
Attorney.

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EQUALIZING DEVICE FOR AIR CURRENT IN
AIR BLAST CIRCUIT BREAKERSHaakon Forwald, Valhalla, Sweden, assignor to
Allmänna Svenska Elektriska Aktiebolaget,
Vasteras, Sweden, a Swedish corporationApplication January 17, 1950, Serial No. 139,062
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3 Claims. (Cl. 200—148)

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The present invention has for its object an arrangement in air blast circuit breakers by which an improved extinguishing action is attained. In air blast circuit breakers the compressed air is delivered to the arc, occurring when the circuit breaker is opened, by pipe lines or channels, and in the air currents there are formed whirls which, when they come into the space between the opened contacts of the circuit breaker, decrease the dielectric strength of the air. According to the present invention, this disadvantageous action of the whirl formation is avoided thereby that the extinguishing air current immediately before it comes into contact with the arc is brought to pass a plurality of guide vanes or other members which divide the air current into a plurality of parallel currents, by which step the whirl formation in the air current is suppressed or entirely avoided. These guide vanes may either be of insulating material or of metal, and in the latter case they may be conductively interconnected and connected with one of the contacts. Instead of delivering the air across the said guide vanes, a plurality of narrow channels may be arranged, through which the air is delivered to the arc. On the accompanying drawing, one form of the invention is shown, where 1 designates the stationary contact of the circuit breaker and 2 its movable contact, which latter, when moving downwards, is intended to be drawn into a space limited by a cylinder 3. The space below the stationary contact is surrounded by a cylinder 4, and the compressed air for the extinction is delivered to the arc in the space between the two contacts 1 and 2. Around the arc gap and in the immediate neighbourhood of it, a number of baffles 5 are arranged, which are provided with openings for the passage of the movable contact. These baffles are in a suitable manner arranged at a small distance from each other, and carried by an insulating cylinder 6 attached to the cylinder 3. The air streaming upwards between the cylinders 3 and 4 is by these baffles 5 divided into a plurality of parallel currents directed against the arc. The baffles 5 may either be made of metal as shown or of some insulating material. In the case that they are

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made of metal, they may either be insulated from each other or be conductively interconnected, and in the latter case they may also be connected with one of the contacts as by the connections 7. Instead of making the baffles entirely flat, as shown on the drawing, they may also be cup-formed. Their chief feature is that they are able to perform a division of the air current into a plurality of currents and do not form any obstacle to it. Instead of dividing the compressed air current by means of baffles, the division can also be performed by means of a number of short pipes or channels directed against the arc.

I claim as my invention:

1. An air blast circuit breaker comprising fixed and movable contacts, a casing surrounding one of said contacts and enclosing an annular passage for the supply of extinguishing air to the arc gap between the contacts, and a plurality of air separating members arranged in the form of an annulus and in closely spaced relation to each other to counteract whirling motions in the extinguishing air before such air passes from said annular passage to the arc gap.

2. An air blast circuit breaker according to claim 1, in which said members consist of a series of closely spaced annular baffles.

3. An air blast circuit breaker according to claim 1, in which said members consist of a series of closely spaced annular baffles of metal electrically connected with each other and with one of said contacts.

HAAKON FORWALD.

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