Dec. 18, 1956 H. FORWALD 2,774,851

ELECTRIC HIGH TENSION CIRCUIT BREAKERS

Filed Aug. 17, 1954

Fig. 1

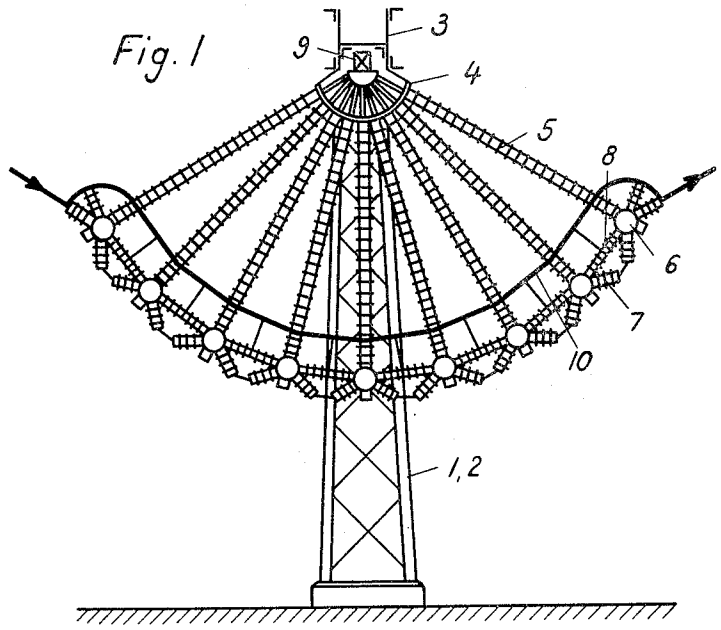
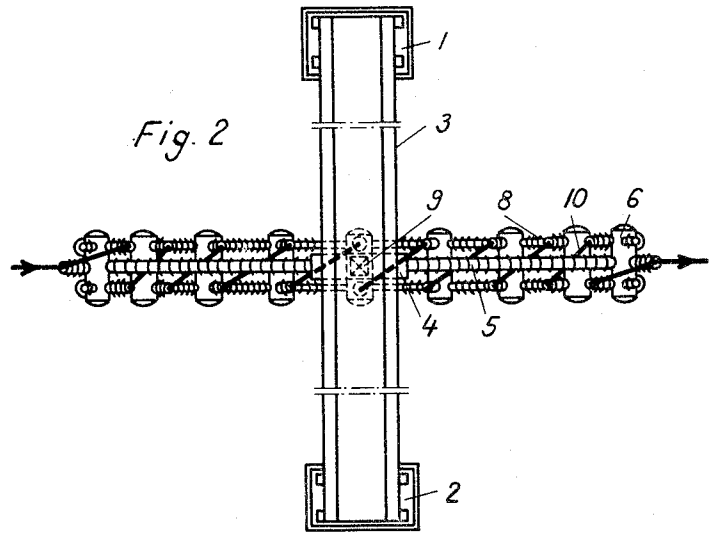


Fig. 2



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ELECTRIC HIGH TENSION CIRCUIT BREAKERS

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5 Claims. (Cl. 200—148)

In high tension electric circuit breakers it is absolutely necessary that the interruption be divided on a plurality of different breaking gaps, but in order to get an effective interruption, it is also necessary that these breaking gaps be opened simultaneously. In hitherto known devices the simultaneous opening of the interruption gaps has encountered with difficulties, due to the varying distance from the operating valve.

The present invention concerns a circuit breaker in which this disadvantage is avoided, and the invention consists mainly in arranging the different breaking gaps in a circle or part of a circle around a central point, in which the operating valve common for all interruption gaps is arranged. From this operating valve operating pipe lines carrying compressed air extend radially to the different breaking gaps.

The invention is on the accompanying drawing, in Fig. 1 and Fig. 2, schematically illustrated by two views perpendicular to each other, which drawing shows the application of the invention to a high tension circuit breaker comprising a plurality of compressed air containers, in which the different contact members are arranged.

On the drawing, **1** and **2** designate two frame-work pillars, which at the top are joined by a horizontal frame-work beam **3**, on which a circularly bent bar **4** is attached and carries a plurality of tubular insulators **5** in such a way that they radially project from said arc formed bar **4**. At the outer ends of these radially projecting tubular insulators **5** there are attached compressed air containers **6**, which are arranged in an arc of a circle and contain the breaking contacts and in some cases also the breaking contacts for parallel resistances, which latter, however, are arranged in leading through insulators **7**. Between the compressed air containers **6** there are insulators **8**, which may contain condensers necessary for the control of the voltage distribution. **9** designates an

operating valve for the delivery of operating compressed air to the breaking members, and further one of the radially extending insulators **5** contains a pipe line for the delivery of extinguishing compressed air to one of the compressed air containers, from which the extinguishing compressed air then is distributed to the other compressed air containers by separate pipe lines **10**. These pipe lines may suitably be copper pipes and serve both for the distribution of the extinguishing compressed air to the different containers and also for the series connection of the different breaking elements.

In order to improve the stability of the device, the radially extending insulators **5** may be arranged in two planes forming small angles to the vertical plane and so that the arc shaped bar **4** is broadened in the direction of the horizontal beam **3** and the radially extending insulators are arranged somewhat in the same manner as the spokes on a bicycle wheel.

I claim as my invention:

1. An electric high tension circuit breaker comprising a plurality of containers spaced from each other and arranged in the arc of a circle and enclosing series connected breaking gaps, a valve located at the center of said arc for controlling the delivery of operating air to the different gaps simultaneously, and separate tubular members of equal length for conveying the operating air from said valve to the said breaking gaps.

2. A circuit breaker according to claim 1 in which the said tubular members are of insulated material.

3. A circuit breaker according to claim 1 comprising an arc shaped member located close to said center and serving to support the inner ends of said tubular members, and insulators inserted between adjacent containers.

4. An electric high tension circuit breaker comprising two pillars spaced from each other, a horizontal beam mounted upon the said pillars, an arc shaped member carried by the beam, tubular insulating members extending radially from the arc shaped member, breaking gap containers carried on the outer ends of the said insulating members, and a common valve for controlling the delivery of operating air through all said tubular members simultaneously to the breaking gaps.

5. A circuit breaker according to claim 4 comprising insulators inserted between the adjacent containers.

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