July 27, 1954 G. C. J. MOL 2,685,075

CONTACT RING FOR CIRCULAR ELECTRODE SUPPLY CONDUCTORS

Filed April 12, 1950

Fig. 1.

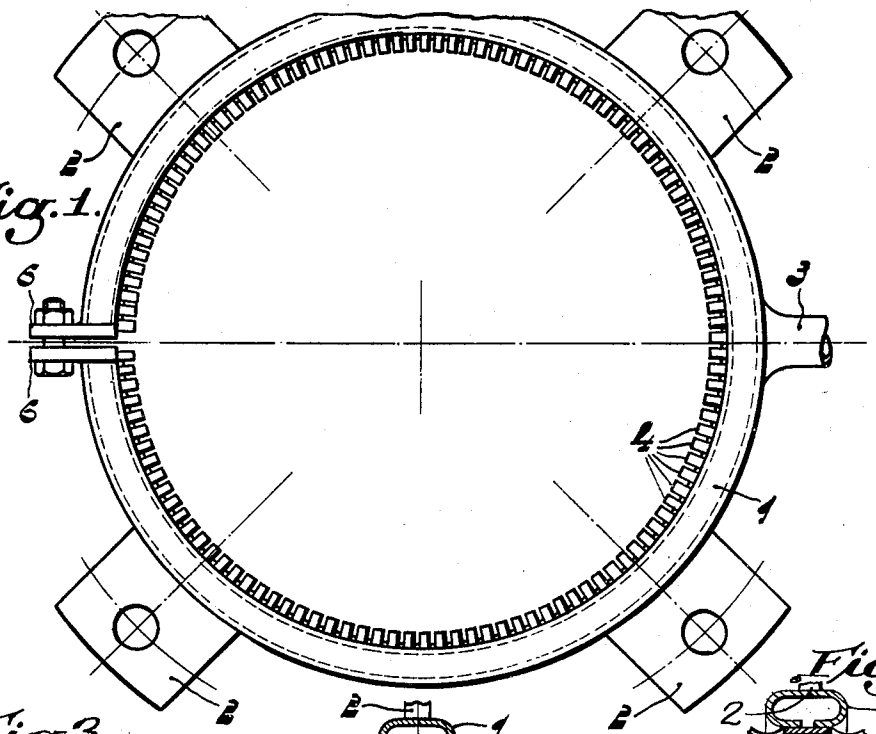


Fig. 3.

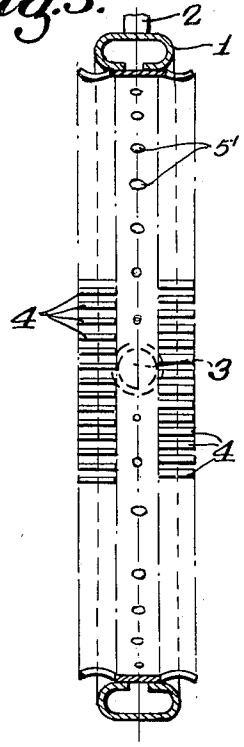


Fig. 2.

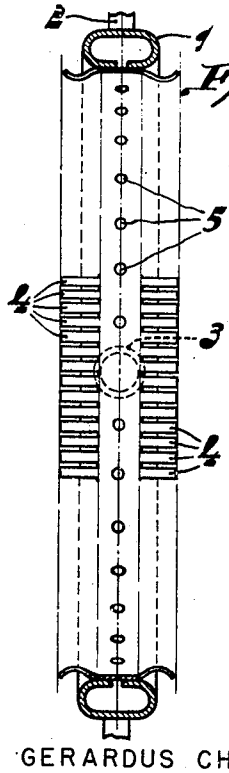
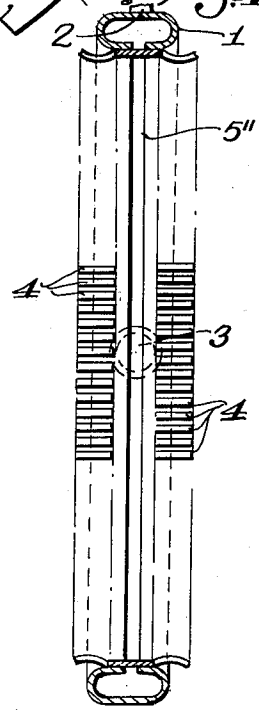


Fig. 4.



Inventor,

GERARDUS CHRISTIANUS JACOBUS MOL

BY

AGENT

Patented July 27, 1954 2,685,075

UNITED STATES PATENT OFFICE

2,685,075

CONTACT RING FOR CIRCULAR ELECTRODE SUPPLY CONDUCTORS

Gerardus Christianus Jacobus Mol, Eindhoven, Netherlands, assignor to Hartford National Bank and Trust Company, Hartford, Conn., as trustee

Application April 12, 1950, Serial No. 155,395

Claims priority, application Netherlands May 18, 1949

4 Claims. (Cl. 339—251)

1

This invention relates to contact rings for circular, electrode supply conductors.

In discharge tubes of comparatively large size, more particularly in those intended for use in transmitters, the grid is frequently mounted on a circular plate sealed into the wall of the tube, which plate may comprise a cylindrical edge for contact purposes. In order to ensure optimum contact for high-frequency currents, the whole periphery thereof is used for this purpose.

In a known construction, the contact ring is constituted by a cylinder having rounded edges and the whole inner periphery of which is provided with a row of resilient contact strips. Some apertures for natural or forced ventilation are provided in the cylinder.

The disadvantage of the known construction is that the circulation of cooling air is least at the areas of greatest development of heat, viz. at the points at which the strips make contact with the circular, electrode supply conductor.

According to the invention, a contact ring for circular, electrode supply conductors is characterised in that the ring is manufactured from a hollow tube, the whole inner periphery being provided with two rows of contact strips, a plurality of apertures being provided in the hollow tube between the rows and a supply conduit for cooling air being provided.

If the contact ring is provided on a tube suitable therefor and connected to a conduit for compressed air, cooling air is forced through the apertures between the two rows of strips to the exterior, with the result that the cooling of the points of contact is very effective.

If the tube is comparatively narrow, the apertures nearer to the supply conduit may be required to be smaller than those further from the supply conduit. It is evident that a plurality of supply conduits may be provided and furthermore that the apertures may be combined to form a narrow slit between the two rows of strips.

Similarly as in the known contact ring, the ring may be interrupted (the resulting end apertures being closed) and the interruption may be bridged by means of a clamping device to enable the contact ring to be fitted more readily to different tubes.

The invention will now be explained more fully by reference to embodiment shown in the accompanying diagrammatic drawing, in which Fig. 1 is a plan view of a contact ring according to the invention and Fig. 2 is a cross-sectional view thereof, taken along the vertical axis of Fig. 1. Figs. 3 and 4 are cross-sectional views of modifications of a contact ring embodying the present invention.

2

Referring now to the drawing, a hollow tube 1 is bent in the form of a ring and comprises four attachment clamps 2. Soldered to the ring is a supply conduit 3 and two rows of strips 4 are provided on the inner side of the ring. Apertures 5 provided between the strips allow cooling air supplied through the conduit 3 to pass to the exterior. On the side opposite the conduit 3, the ring is interrupted and provided with two tags 6, which may be urged towards one another by means of a bolt.

Figure 3 shows the modification of the apertures wherein the apertures 5' decrease in size as they approach the supply conduit.

Figure 4 is another modification of the apertures showing the combining of the apertures to form a narrow slit 5'' between the two rows of strips.

What I claim is:

1. A contact ring for circular, electrode supply conductors comprising a ring-shaped hollow tube, a plurality of contact strips secured to the inner periphery of said tube and arranged in two spaced rows, said tube encircling said contact strips and having a plurality of apertures in the inner periphery thereof between said spaced rows of contact strips, and supply conduit means connected to said tube for supplying cooling air to said tube and apertures.

2. A contact ring for circular, electrode supply conductors comprising a hollow tube being of split ring construction, a plurality of contact strips secured to the inner periphery of said tube and arranged in two spaced rows, said tube encircling said contact strips and having a plurality of apertures in the inner periphery thereof between said rows of spaced contact strips, supply conduit means connected to said tube for supplying cooling air to said tube and apertures, and clamping means attached to the free ends of said hollow tube for urging said ends together.

3. A contact ring for circular, electrode supply conductors comprising a ring-shaped hollow tube, a plurality of contact strips secured to the inner periphery of said tube and arranged in two spaced rows, said tube encircling said contact strips and having a plurality of apertures in the inner periphery thereof between said rows of spaced contact strips, and supply conduit means connected to said tubes for supplying cooling air to said tube and apertures, said apertures progressively decreasing in size as the distance thereto from the supply conduit means increases.

4. A contact ring for circular, electrode supply conductors comprising a ring-shaped hollow tube, a plurality of contact strips secured to the inner periphery of said tube and arranged in two spaced rows, said tube encircling said contact strips, a circular slit in the inner periphery of said tube between the rows of spaced contact strips, and supply conduit means connected to said tube for supplying cooling air to said tube and circular slit.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,612,318	Riley	Dec. 28, 1926
2,280,728	Streib	Apr. 21, 1942
2,412,987	Hoffman	Dec. 24, 1946
2,523,725	Schmidt	Sept. 26, 1950