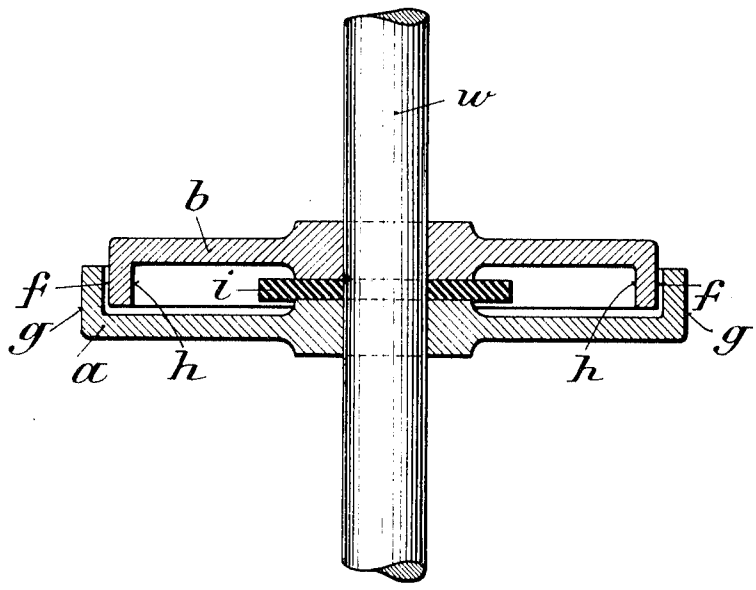
K. SCHMIDT.

SPARK GAP APPARATUS.

APPLICATION FILED APR. 25, 1918.

1,314,152. Patented Aug. 26, 1919.



INVENTOR

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KARL SCHMIDT, OF STUTTGART, GERMANY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AMERICAN BOSCH MAGNETO CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SPARK-GAP APPARATUS.

1,314,152. Specification of Letters Patent. Patented Aug. 26, 1919.

Application filed April 25, 1918. Serial No. 230,840.

To all whom it may concern:

Be it known that I, KARL SCHMIDT, a subject of the German Emperor, residing at and whose post-office address is Stuttgart, Hoferstrasse 2, Germany, have invented certain new and useful Improvements in Spark-Gap Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to spark gaps and more especially to quenching spark gaps such as used in the charging stations for sounding sparks.

Heretofore the electrodes employed in such stations usually had the form of plates or rings of a material of superior heat conductivity, two such plates or rings facing each other in a parallel position at a very small distance apart. In order to keep this distance constant, layers of mica disks or rings were inserted between the electrodes. It has proved difficult, however, to keep the electrodes parallel for a long time, as owing to the rise of temperature they become warped so that the distance between them is changed in some places and the quenching effect greatly reduced. If mica rings are inserted between the electrodes, the material must be selected with the greatest care as besides the great electrical stress placed on it the mica has also to withstand high temperatures. In consequence thereof the mica rings are frequently damaged, the cost of maintenance is increased and the security of service is reduced accordingly.

In the spark gap according to the present invention the electrode surfaces are kept in a position parallel to each other in spite of the rise in temperature. To this end flanged or cup shaped electrode disks of different diameters are employed, the flange of the larger disk encircling the flange of the smaller disk, so that the two substantially cylindrical electrode surfaces are separated by a small annular gap. The distance between two such surfaces can easily be kept unaltered by turning them carefully on the lathe.

In the drawings affixed to this specification and forming part thereof the preferred form of a spark gap according to the present invention is shown. *a* and *b* are the disk shaped electrodes of different diameter mounted centrally on the support or rod *w*, *g* and *h* are the annular flanges overlapping each other, and *f* is the annular gap separating them. *i* is an insulating piece serving to keep the disks apart. However, as the width of the gap *f* is not dependent upon the thickness of the insulating piece *i*, this latter need not be dimensioned with special care.

By disposing a plurality of such pairs of disks on the rod *w* of insulating material, a compound spark gap is formed.

I claim:

1. In spark gap apparatus, a support, two disks mounted on the support and having telescoped peripheral flanges providing a gap therebetween, and means for insulating said disks from each other.

2. In spark gap apparatus, a support, a disk mounted on said support and having a peripheral flange, a second disk mounted on said support and having a peripheral flange surrounding the other flange to provide a gap therebetween, and insulating material mounted on said support between the disks.

3. In spark gap apparatus, a support, two disks mounted centrally on the support and having telescoped concentric peripheral flanges providing an annular gap therebetween, and means for insulating said disks from each other.

4. In spark gap apparatus, a support, a disk mounted centrally on the support and having a peripheral flange, a second disk mounted centrally on said support and having a peripheral flange concentrically surrounding the other flange to provide an annular gap therebetween, and insulating material mounted on said support between the disks.

In testimony whereof I affix my signature in presence of two witnesses.

KARL SCHMIDT.

Witnesses:

ADOLF LEBHERZ,

FREDERICK HERMANN.