No. 793,593. PATENTED JUNE 27, 1905.

H. A. KNOENER.

ELECTRIC CURRENT COLLECTOR RING.

APPLICATION FILED FEB. 20, 1905.

2 SHEETS—SHEET 1.

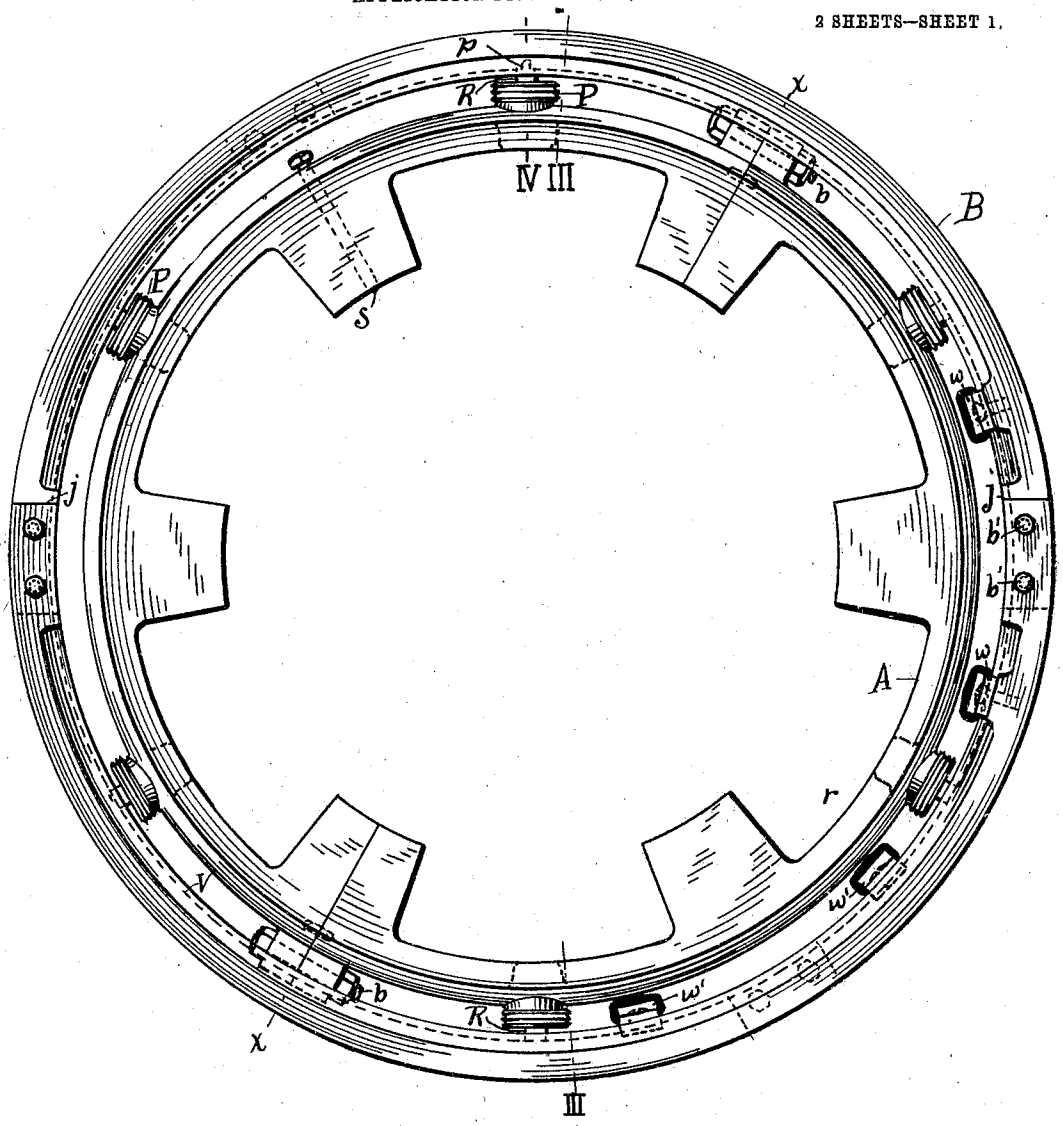


Fig. 1.

Witnesses:
Samuel W. Balch
Hugh H. Senior

Inventor,
Hermann A. Knoener,
by Thomas Ewing Jr
Attorney

No. 793,593. PATENTED JUNE 27, 1905.

H. A. KNOENER.

ELECTRIC CURRENT COLLECTOR RING.

APPLICATION FILED FEB. 20, 1905.

2 SHEETS—SHEET 2.

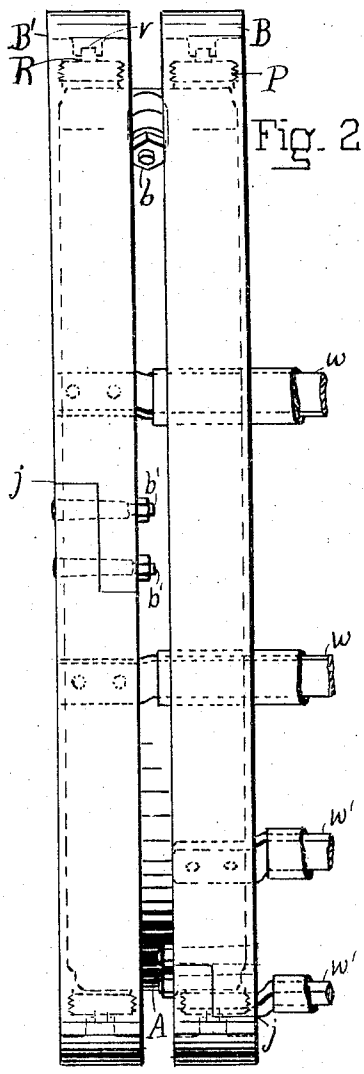


Fig. 2.

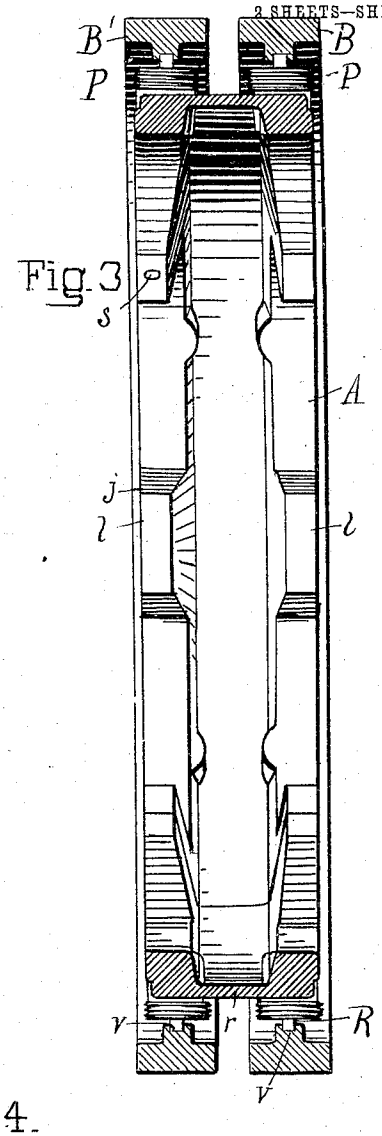
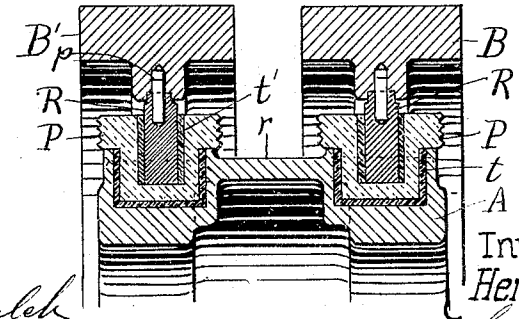


Fig. 3.

Fig. 4.



Witnesses;

Samuel W. Balch

Hugh H. Senior

Inventor,

Hermann A. Knoener,

by Thomas Ewing Jr

Attorney.

No. 793,593. Patented June 27, 1905.

UNITED STATES PATENT OFFICE.

HERMANN A. KNOENER, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO CROCKER-WHEELER COMPANY, OF AMPERE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

ELECTRIC-CURRENT COLLECTOR-RING.

SPECIFICATION forming part of Letters Patent No. 793,593, dated June 27, 1905.

Application filed February 20, 1905. Serial No. 246,372.

To all whom it may concern:

Be it known that I, HERMANN A. KNOENER, a citizen of the United States of America, and a resident of East Orange, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Electric-Current Collector-Rings, of which the following is a specification.

This invention relates to improvements in the construction of collecting devices for various types of alternating-current machines from which brushes take off or supply current to the machine.

The novel elements of the construction reside particularly in the combined insulating and supporting connections between an annular supporting member and a collector-ring and the relation of the supporting connections to these parts, as hereinafter claimed.

Other novel features reside in the form of the annular supporting member, as hereinafter claimed.

The object of this invention is to provide a form of collecting device the parts of which are easily constructed and readily assembled and in which the supporting member and collector-ring are firmly connected mechanically through insulating connections and held in true concentric relation the one to the other with a common axis and at the same time spaced apart to insure adequate insulation and ventilation.

In the accompanying two sheets of drawings, which form part of this application, Figure 1 is a face view of a collecting device embodying my invention. Fig. 2 is an edge view of the device. Fig. 3 is a section through the device on the line III III of Fig. 1. Fig. 4 is an enlarged section through one side of the device on the line IV IV of Fig. 1.

An annular supporting member or hub A, which is conveniently made of cast-iron, has the general form of a circular band or rim r with two rows of inwardly-projecting lugs l l, one row being along each edge of the rim. The inner ends of the lugs are bored or faced to a cylindrical surface and adapted to bear on the shaft of the armature by which the collecting device is supported. One of the lugs is drilled radially and tapped for a set-screw s to secure the device to the armature-shaft. The supporting member is in two parts, meeting on a plane through the axis on the line x x, and the two parts are held together by bolts b b. As illustrated, two collector-rings B B′ are carried by the supporting member, and under each ring in the supporting member is a row of mortises or cylindrical pockets which receive porcelain plugs P P. Type-metal t is run between the shanks of the plugs and the walls of the pockets to secure the plugs therein. The porcelain plugs are formed with holes or pockets sunk in their heads in line with their shanks, and metal studs or pins R R are set in the holes in the porcelain plugs and held in place by type-metal t'. Each collector-ring surrounds the supporting member directly over one of the rows of pockets in the supporting member and the porcelain plugs and studs supported in the pockets. Each collector-ring has a groove v, turned in its inner periphery, which is engaged by and supported on the ends of the studs. A small pin p is set in the end of one stud in each row and engages a hole drilled in the bottom of the groove to keep the ring from circumferential displacement with respect to the supporting member. The rings are each in two parts and connected at diametrically opposite points by rabbet joints j j with bolts b' b'. Each ring is provided with a flat spot in each half on the inner side, to which the lead-wires w w' are attached.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a collecting device, an annular supporting member having mortises in the exterior periphery, insulating-plugs set in the mortises, outwardly-projecting metal studs set in the insulating-plugs, and a collector-

ring having a groove in its inner periphery which is engaged by and supported on the ends of the studs, substantially as described.

2. In a collecting device, an annular supporting member having inwardly-projecting lugs the inner ends of which form parts of a cylindrical surface adapted to bear on an armature-shaft, a collector-ring concentric with and exterior to the supporting member, and insulating supporting connections between the supporting member and the collector-ring, substantially as described.

Signed at East Orange, New Jersey, this 17th day of February, 1905.

HERMANN A. KNOENER.

Witnesses:

EDWIN R. DOUGLAS,

RUSSELL G. CORY.