P. VAN S. KOLFF.

ADJUSTABLE SUPPORT FOR COMMUTATOR BRUSHES.

APPLICATION FILED DEC. 10, 1915.

1,270,957. Patented July 2, 1918.

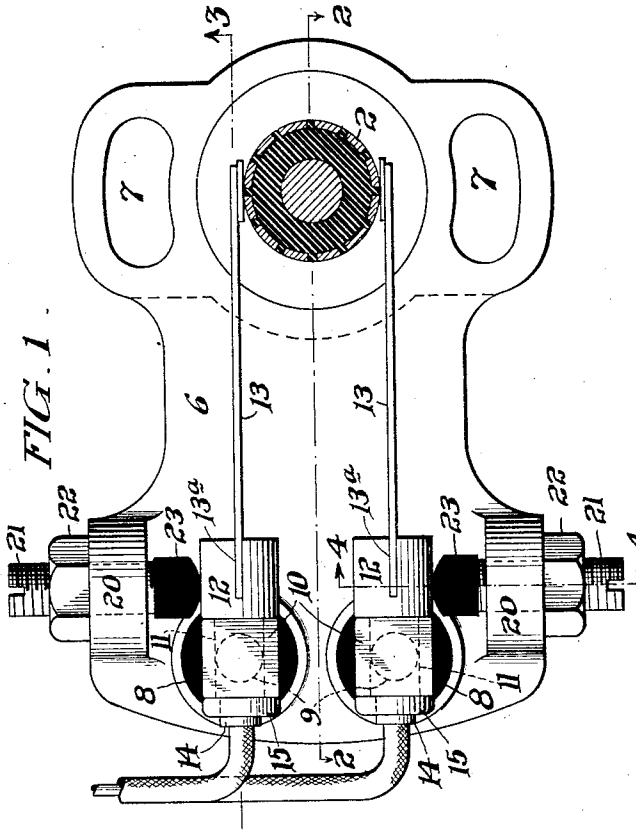


FIG. 1.

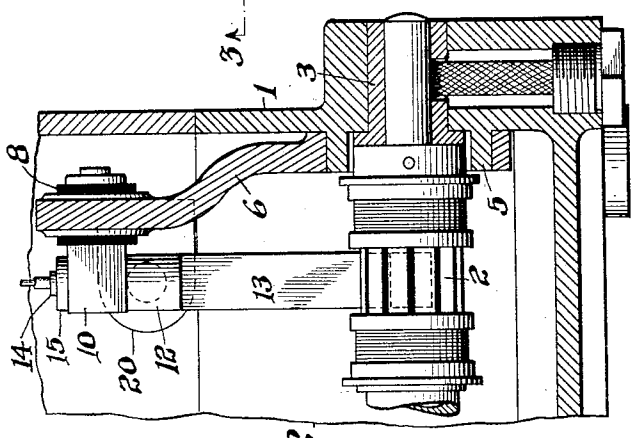


FIG. 2.

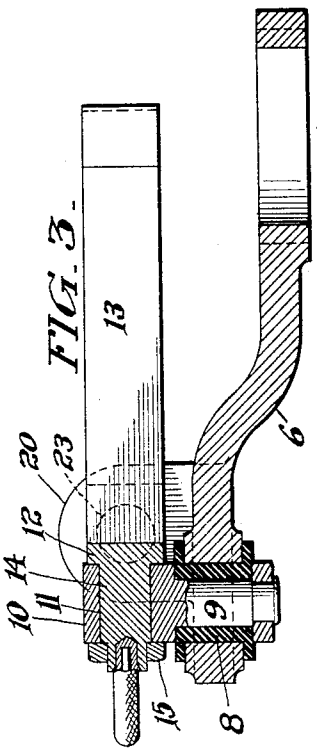


FIG. 3.

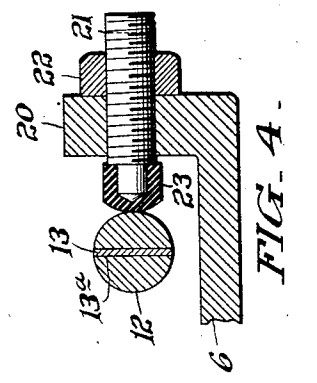


FIG. 4.

Witness

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UNITED STATES PATENT OFFICE.

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ADJUSTABLE SUPPORT FOR COMMUTATOR-BRUSHES.

1,270,957. Specification of Letters Patent. **Patented July 2, 1918.**

Application filed December 10, 1915. Serial No. 66,054.

To all whom it may concern:

Be it known that I, PETRUS VAN SANTEN KOLFF, a citizen of the United States, residing in the city of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Adjustable Supports for Commutator-Brushes, of which the following is a specification.

My invention has for its principal object to provide a support for a commutator brush whereby said brush may adjust and accommodate itself to the commutator and so that the said brush may lie flat against the said commutator.

A further object is to provide a support whereby the brushes may be adjusted toward and from the commutator whereby the pressure of the same against the commutator may be varied.

Other objects and advantages of my invention will be pointed out in the description which follows or will be apparent from such description.

In order that my invention may be more readily comprehended and understood reference should be had to the accompanying drawing in which I have illustrated one form of a convenient embodiment thereof but it should be understood that changes in the details of construction may be made within the scope of the claims without departing from my said invention.

In the drawings:—

Figure 1 is a front elevational view of a device embodying my invention, the commutator with which the brushes are shown in contact being shown in transverse section;

Fig. 2 is a central, vertical section taken on the line 2—2 of Fig. 1;

Fig. 3 is a vertical, sectional view taken on the line 3—3 of Fig. 1; and

Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 1.

Referring to the drawings, 1 designates the casing (of a magneto) consisting of brass or other suitable material within which the commutator 2 and other parts are inclosed. The shaft of the commutator is journaled at one end in a bearing 3 of brass secured in a side of the casing 1. The opposite end of said shaft (not shown) is also suitably supported in a bearing. The inner side of one side wall of the casing is provided with an annular flange 5 surrounding the commutator shaft and a portion of the commutator structure on which is movably secured a support 6. The said support 6 is adapted to be secured and held in position by means of binding screws or bolts (not shown) which extend through arcuate slots 7 in the supporting member 6 and are connected with the adjacent side wall of the casing 1. At its upper or outer end the support 6 is provided with bearings 8 of suitable insulating material in which is journaled the cylindrical ends 9 of studs or blocks 10 provided with transverse openings 11 in which are rotatably secured holders 12 for holding the brushes 13, the upper ends of said brushes being secured in slots 13^a in the holders. The said holders 12 are provided with reduced cylindrical portions 14 which extend through the openings 11 in the studs or blocks 10. These holders are secured in place by the nuts 15 secured upon the upper outer ends of the reduced cylindrical portions 14. The cylindrical reduced portions 14 are freely revoluble in the transverse openings 11 so that when the lower ends of the brushes 13 contact with the sides of the commutator 2 they may automatically adjust themselves to any slant or unevennesses of the surface of such commutator.

Adjacent to its upper end and at its opposite edges the adjustable support 6 is provided with lugs or projections 20 having adjusting screws 21 in screw-threaded engagement therewith, such screws being adapted to be locked in position by the binding nuts 22. The inner ends of the said adjusting screws are provided with terminals 23 of insulating material which contacts with the outer sides of the brush holders 12 as shown very clearly in Fig. 1 of the drawings. By adjusting these adjusting screws 21 inwardly or outwardly the distance between the contact portions of the brushes 13 may be varied.

It will be seen that the brushes not only have swinging movements about the axes of the plugs or blocks 10 within the bearings 8 but that they also have an independent pivotal movement about the axis of the holders 12 within the transverse openings 11.

In addition to the independent adjustments of the brushes and their immediate

holders and supports the support 6 is also adjustable about its support, so that both of the said brushes may be simultaneously adjusted bodily with relation to the commutator.

I claim:—

1. In a commutator brush support, the combination of rotatable blocks having cylindrical portions and also having openings extending transversely thereof, the said blocks being arranged in parallel relation to the commutator, bearings in which the said cylindrical portions are secured whereby the said blocks are rotatably supported and commutator brushes extending through the said openings and being rotatably secured therein.

2. In a commutator brush support the combination of an upright supporting member having projections adjacent to its upper end at its opposite edges, rotatable devices supported in said supporting member intermediate said projections, said devices having transverse openings extending therethrough, brush holders rotatably supported in said openings and adjusting devices supported in said projections and contacting with the outer sides of said brush holders to pivotally adjust the same.

3. In a commutator brush support the combination of an adjustable upright supporting member having projections adjacent to its upper end at its opposite edges, rotatable devices supported in openings adjacent to the upper end of said supporting member said devices having openings extending transversely therethrough, brush holders rotatably secured and supported in said transverse openings, and adjustable devices secured in said projections for contacting with the outer sides of said brush holders for adjusting the same.

In testimony that I claim the foregoing as my invention I have hereunto signed my name this 8th day of December, A. D. 1915.

PETRUS VAN SANTEN KOLFF.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."