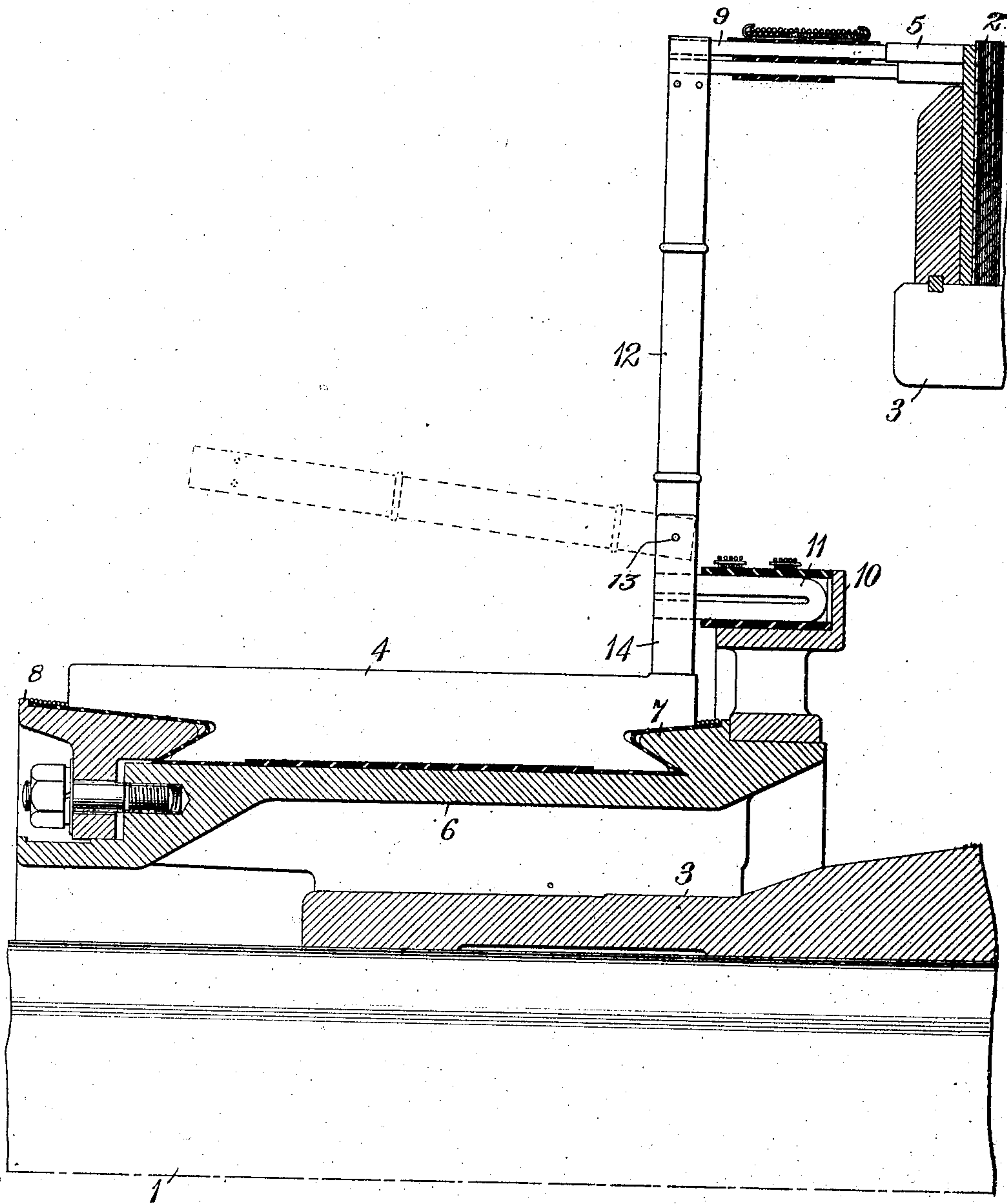


W. A. DICK.
COMMUTATOR.

APPLICATION FILED NOV. 8, 1907.

935,300.

Patented Sept. 28, 1909.



WITNESSES:

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WILLIAM A. DICK, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, OF EAST PITTSBURG, PENNSYLVANIA.

COMMUTATOR.

935,300.

Specification of Letters Patent. Patented Sept. 28, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM A. DICK, a citizen of the United States, and a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Commutators, of which the following is a specification.

My invention relates to dynamo-electric machines, and it has special reference to the commutators of direct current machines of relatively large size.

The object of my invention is to provide an improved commutator neck or strip whereby the cross connectors and other portions of the winding, which are usually inaccessible, may be readily uncovered for repairs. The necks or connecting strips which radiate from the commutator bars are so close together that it is usually impossible to get at the cross connectors and other parts of the winding without entirely removing the commutator after disconnecting all of the bars. In order to avoid this great labor and expense, I have provided a hinge joint in the commutator neck or bar, so that, if a few bars are disconnected from the winding and the outer sections of the necks are rotated about their hinge pins, the cross-connectors and a portion of the winding become accessible.

The single figure of the accompanying drawing is a longitudinal section of a portion of a dynamo-electric machine embodying my invention.

Referring to the drawing, the machine illustrated comprises a shaft 1, a magnetizable core 2, a spider 3 on which said core is supported, a commutator cylinder 4 and a winding 5. The bars of the commutator cylinder 4 are mounted upon a spider 6 having a V-projection 7 and are held in position by a clamping V-ring 8, in accordance with well-known practice. The winding 5 comprises a plurality of coils, the ends of which are joined to the commutator bars by necks or strips 9.

On the inner end of the commutator spider an annular bracket 10 is provided which supports cross-connectors 11 that join equi-potential points in the winding, in the

usual manner. It will be observed that a portion of the winding and the cross-connectors are located between the commutator necks and the spider and core. Access may be had to these parts by disconnecting a number of commutator necks from the extremities of the windings with which they are associated and rotating a section 12 of each commutator neck about a hinge pin 13, as indicated by broken lines in the drawing. By making the hinge joints in the commutator necks close to the commutator bars; the best results will obviously be secured. The portions 14 of the necks may be integral parts of the bars or they may be rigidly secured to the bars by any suitable means.

I desire that my invention shall not be restricted to the arrangement shown and described, and that only such limitations shall be imposed as are indicated in the appended claims.

I claim as my invention:

1. A commutator neck comprising a plurality of hinge-connected parts.
2. A commutator bar having a neck or strip comprising two parts connected together by a hinge joint.
3. The combination with a commutator bar, of a neck or connecting strip comprising a part rigidly secured to the bar and an extension secured to said part by a hinge joint.
4. The combination with a commutator bar, of a two-part neck or connecting strip the parts of which are connected together by a hinge joint, said joint being relatively near to the junction of the neck and the bar.
5. In a dynamo-electric machine, the combination with a magnetizable core, a winding and a commutator cylinder comprising a plurality of bars or segments, of connecting strips or necks which join the winding and the bars and severally comprise a plurality of hinge connected parts.

In testimony whereof, I have hereunto subscribed my name this 28th day of Oct., 1907.

WILLIAM A. DICK.

Witnesses:

G. F. PACKARD,
BIRNEY HINES.