

(No Model.)

W. STANLEY, Jr.

CURRENT COLLECTOR FOR ELECTRIC MACHINES.

No. 383,832.

Patented May 29, 1888.

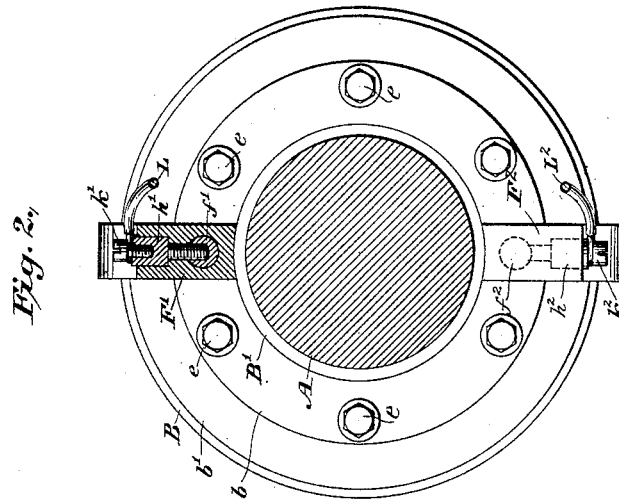
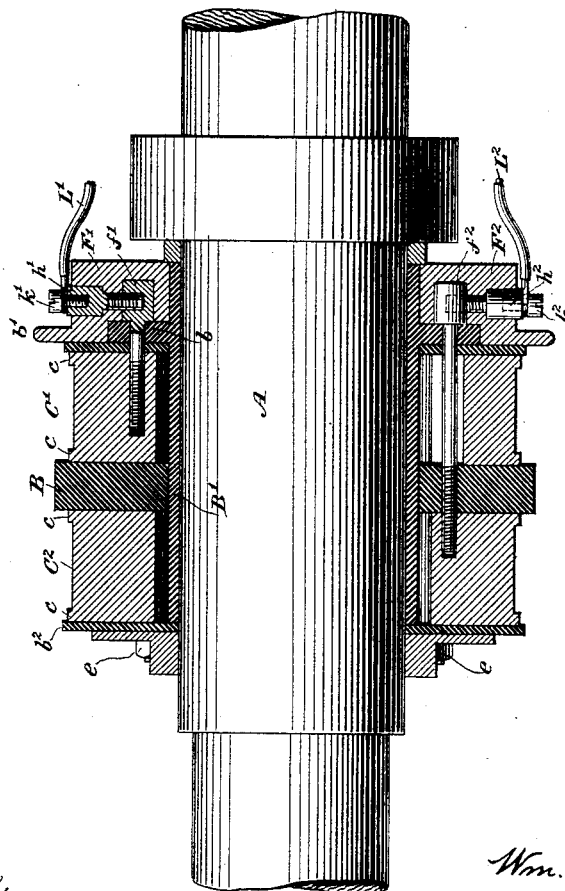


Fig. 1,



Witnesses.

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# UNITED STATES PATENT OFFICE.

WILLIAM STANLEY, JR., OF GREAT BARRINGTON, MASSACHUSETTS.

## CURRENT-COLLECTOR FOR ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 383,832, dated May 29, 1883.

Application filed September 1, 1887. Serial No. 248,485. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM STANLEY, JR., a citizen of the United States, residing in Great Barrington, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Current-Collectors for Electric Machines, of which the following is a specification.

The invention relates to the construction of commutators or collectors for electric machines, and is designed especially for alternate-current machines.

In carrying out the invention two continuous rings of metal are formed with outer bearing-surfaces for receiving the contact or collecting brushes, and these are mounted and insulated in the following manner: Between the two rings is placed an annular washer of non-conducting material, within which passes a cylinder or spool of similar material. Insulated bolts extend through both rings and the washer, binding the parts together. At the ends are placed other insulating-rings. For the purpose of obtaining electrical connections with the respective rings bolts extend from one end of the commutator into the respective rings, the one passing to the farther ring being insulated or separated from the nearer ring. The connections are then made with the heads of these bolts.

The invention will be more particularly described in connection with the accompanying drawings, in which—

Figure 1 is a transverse section of the commutator, and Fig. 2 is an end view.

Referring to the figures, A represents the armature-shaft of an electric machine, and C' C<sup>2</sup> the respective commutator rings. These are of metal—such, for instance, as brass—and are preferably constructed with projecting flanges *c c* at their edges, and between these flanges it is designed that the brushes shall rest. The rings are separated from each other by a washer, B, of vulcanized fiber or other suitable insulating material. The rings are insulated from the shaft by a spool, B', of insulating material. Against the respective ends of the commutator are placed insulating-rings *b' b'*. The spool B' is preferably provided at one end with a flange, *b*, which projects outward over the inner edge of the ring

*b'*. The entire device is held together by bolts *c c* extending through both rings *c'* and *c<sup>2</sup>*, but insulated therefrom.

Electrical connections are formed in the following manner: A bolt, *f'*, is screwed through the plate *b'* into the ring C'. A block, F', of non-conducting material, is then placed over the head of the bolt *f'*, a suitable opening being left in the block for this purpose. A screw-threaded hole is then cut or drilled into the head of the bolt *f'* at right angles to its length through an opening left in the block F', as shown, and through this there is passed a second bolt, *h'*. This serves to continue the electrical connections of the bolt *f'*, and at the same time to prevent the latter from being loosened by the operation of the machine. A binding-screw, *k'*, may be set into the head of the screw *h'*, for the purpose of securing an electrical conductor, L'. In like manner a bolt, *f<sup>2</sup>*, extends through a suitable opening in the ring C<sup>2</sup> and screws into the ring C', forming electrical connection therewith. The head of this bolt is set into a block, F<sup>2</sup>, and connections are made therewith by a bolt, *h<sup>2</sup>*, and binding-screw *k<sup>2</sup>*, receiving the conductor L<sup>2</sup>, as described with reference to the bolt *f'*. The entire structure is thus compact and solid and the electrical connections with the respective rings are such that the parts cannot easily get out of order.

I claim as my invention—

1. The combination of the rings C' and C<sup>2</sup>, the bolts *f'* and *f<sup>2</sup>*, terminating in the respective rings, the blocks F' and F<sup>2</sup>, receiving the heads of the respective bolts, and the bolts *h'* and *h<sup>2</sup>*, entering the heads of the bolts *f'* and *f<sup>2</sup>*.

2. The combination of the rings C' and C<sup>2</sup>, the bolts *f'* and *f<sup>2</sup>*, terminating in the respective rings, the blocks F' and F<sup>2</sup>, receiving the heads of the respective bolts, the bolts *h'* and *h<sup>2</sup>*, entering the heads of the bolts *f'* and *f<sup>2</sup>*, and the binding-screws *k'* and *k<sup>2</sup>*, for securing electrical connections with the respective rings.

3. A collector for electric machines, consisting of two rings of conducting material placed side by side and insulated from each other, two conductors for forming electrical connections with the respective rings, one of said conductors extending into one of the rings



and the other extending through that ring into  
the second ring, but insulated from the first-  
named ring, and conducting-bolts screwing  
into the first-named conductors and extending  
5 at an angle therefrom, substantially as de-  
scribed.

In testimony whereof I have hereunto sub-

scribed my name this 19th day of August, A.  
D. 1887.

WILLIAM STANLEY, JR.

Witnesses:

CHARLES A. TERRY,  
JOSEPH B. BRAMAN.