

No. 678,964.

Patented July 23, 1901.

F. A. MERRICK.
COMMUTATOR FOR DYNAMO ELECTRIC MACHINES.

(Application filed Nov. 14, 1900.)

(No Model.)

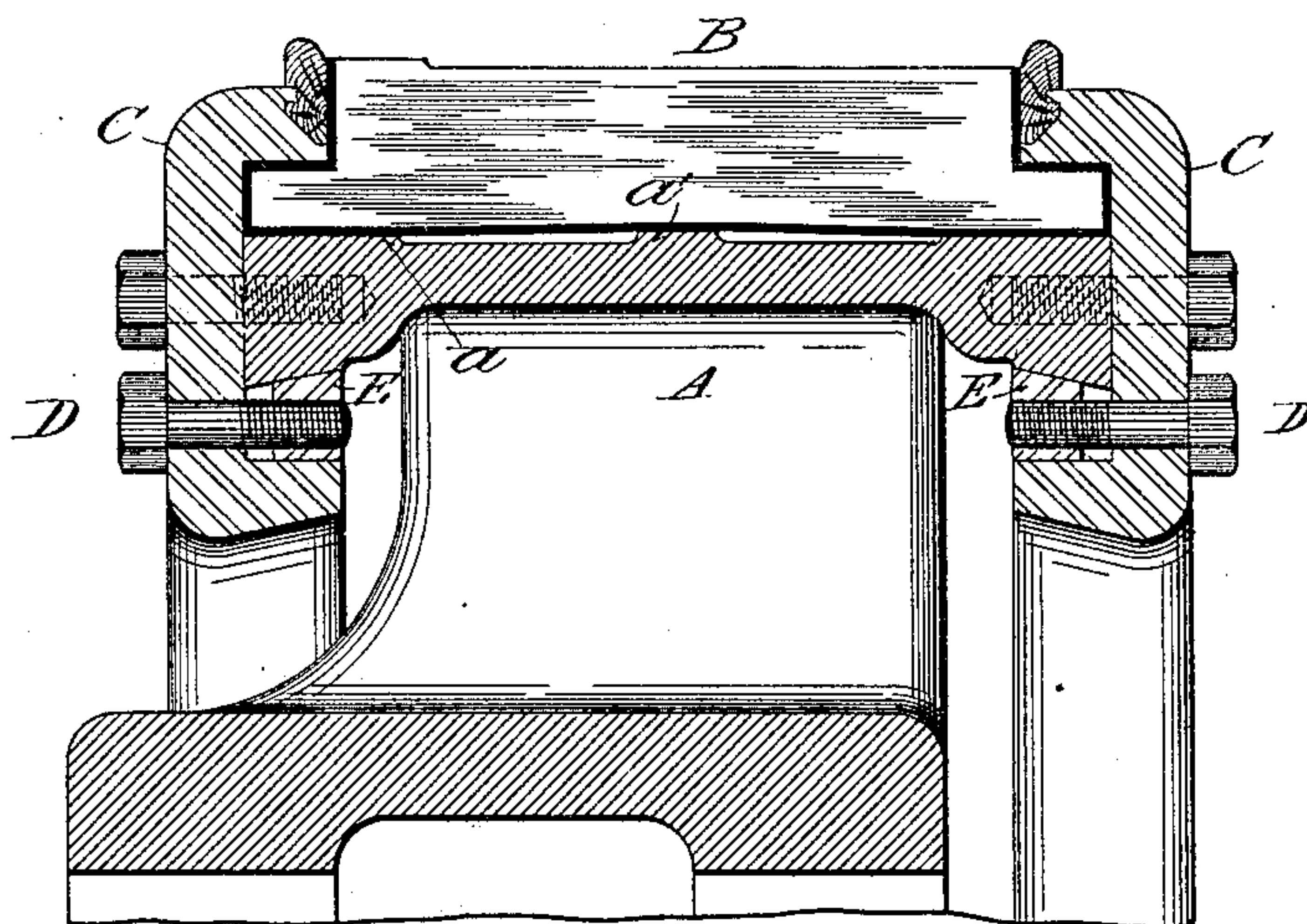


Fig. 1.

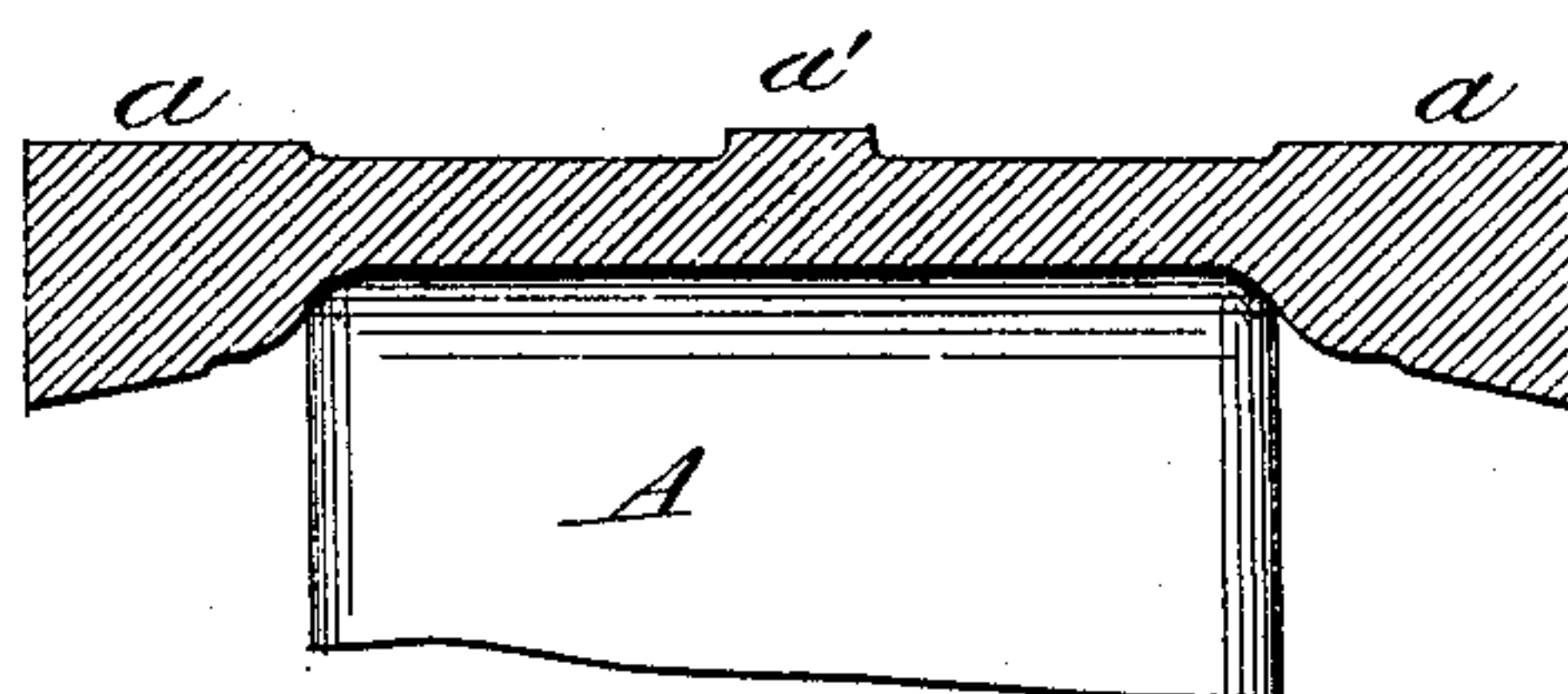


Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK A. MERRICK, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR TO THE
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COMMUTATOR FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 678,964, dated July 23, 1901.

Application filed November 14, 1900. Serial No. 36,475. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. MERRICK, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and
5 useful Improvement in Commutators for Dynamo-Electric Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

10 My invention has relation to certain new and useful improvements in commutators for dynamo-electric machines, and is designed to provide means of simple and effective character for preventing the commutator-bars
15 from working loose or buckling under continued use. I attain this object by providing the spider or support for the bars with a bearing-surface of such character that when they are secured by the end clamps they are put
20 under a bending stress of such character as to securely bind them in place.

My invention also consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the ap-
25 pended claims.

In the accompanying drawings, illustrating my invention, Figure 1 is a longitudinal section of a portion of a commutator, and Fig. 2 is a longitudinal section of a similar portion
30 of the spider or support with the bars and clamps removed and showing the center bearing for the commutators slightly exaggerated in height.

The letter A designates the usual spider-
35 support for the commutator-bars B, and C designates suitable clamps which engage the shouldered ends of the said bars and clamp them in place.

D designates screws which actuate clamping-wedges E, by means of which the end
40 clamps C are drawn down into engagement with the commutator-bars B.

The bearing-surface of the support A is shaped to provide end bearings *a* for the bars

B and also a central bearing *a'*, which is 45 slightly higher than the end bearings *a*. The effect of this slightly-higher central bearing when the end clamps are tightened is to put the commutator-bars under a bending stress and bind them firmly in place, so that they 50 do not tend to work loose or buckle or warp in operation.

The invention is of particular utility in large sizes of commutators and where bars of considerable length are employed, but may 55 also be used to advantage in smaller sizes.

I do not wish to limit myself to the use of my invention in connection with the particular form of end clamps which I have illustrated, since it is obvious that various forms 60 of these clamps may be employed.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a commutator, a support for the com- 65 mutator-bars having a raised center bearing therefor, in combination with suitable end clamps.

2. In a commutator, a support for the commutator-bars, having end and center bearings 70 for said bars, the center bearing being slightly elevated with respect to the end bearings, in combination with suitable end clamps for the bars.

3. In a commutator, a support for the bars 75 having its peripheral surface provided with a raised central bearing for said bars.

4. In a commutator for dynamo-electric machines, the combination with the commutator bars or segments, of means for securing 80 them in a state or condition of bending stress.

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

FRANK A. MERRICK.

Witnesses:

CORA G. COX,
H. W. SMITH.