

No. 878,167.

PATENTED FEB. 4, 1908.

J. E. WEBSTER.
COMMUTATOR COVER.
APPLICATION FILED FEB. 6, 1906.

Fig. 1.

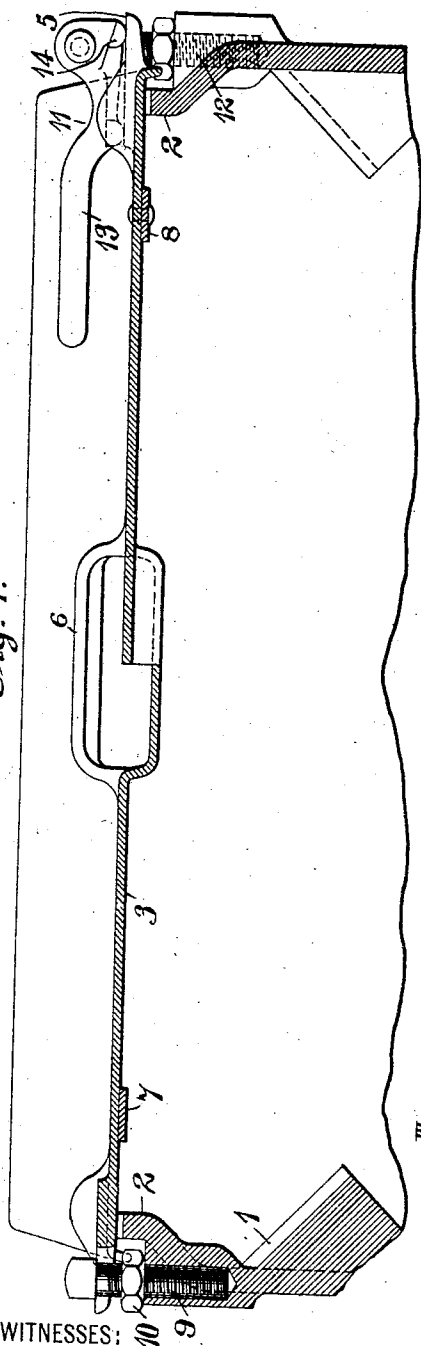
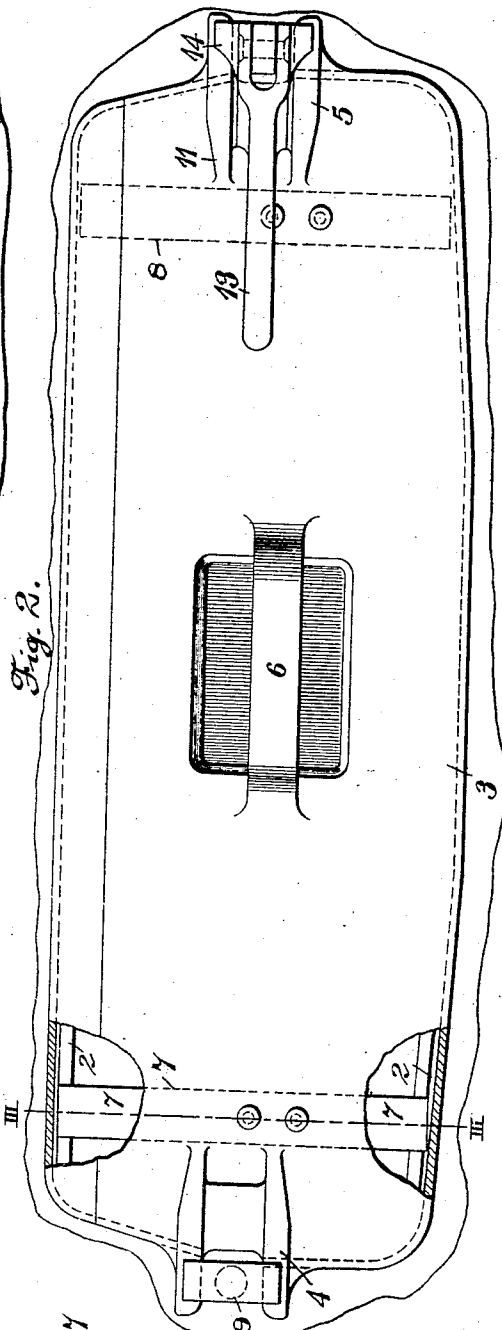


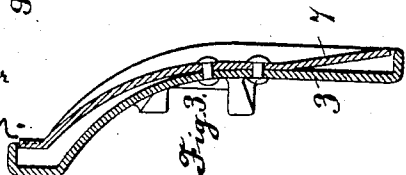
Fig. 2.



WITNESSES:

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Fig. 3.



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COMMUTATOR-COVER.

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Specification of Letters Patent.

Patented Feb. 4, 1908.

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To all whom it may concern:

Be it known that I, JOHN E. WEBSTER, 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 Commutator-Covers, of which the following is a specification.

My invention relates to commutator covers or similar parts for dynamo-electric machines and it has for its object to provide means for effecting suitable ventilation when the cover is in position and for preventing chattering when the machine on which the cover is applied is in operation.

Railway motors and other dynamo-electric machines which are entirely inclosed or practically so, have usually been provided with openings through their frames by which access could be had to the commutator. These openings were normally protected by covers which were somewhat larger than the openings and which were usually fastened in position by pairs of latches located at the respective ends to engage forked projections on the cover.

In order to prevent chattering of the cover when the motor was in operation, strips of felt were usually placed between the cover and a flange which was located at the edge of the opening, and the latches were made adjustable in order that the cover might be firmly held in position as the felt strips wore away. With this arrangement, the chattering is temporarily prevented, but in the case of street railway motors, which are subjected to adverse weather conditions it is difficult or impossible to adjust the catch mechanism, except when first put in service, since the bolts soon rust in position.

According to my present invention, I provide means for effectually preventing the chattering of the commutator cover even after it has been in service for a great length of time and without necessitating any adjustment of the catch mechanism or other means for holding the cover in place.

My invention is illustrated in the accompanying drawings in which

Figure 1 is a view in section of a portion of a dynamo-electric machine through the longitudinal center line of its commutator

cover and Figs. 2 and 3 are, respectively, a plan view and a lateral cross-section on a line III—III of Fig. 2 of the cover shown in Fig. 1.

Referring to the drawings, a dynamo-electric machine 1 has an opening through its field magnet frame the outer edges of which are provided with a flange 2 which may be engaged by a cover 3. The cover 3 is provided with similarly forked end projections 4 and 5, a handle portion 6 and a pair of similar cross strips 7 and 8 of resilient material.

The cross strips 7 and 8 are riveted or otherwise attached to the cover at or near their middle points and normally engage the cover only at those points, their extremities being slightly removed from the inner surface of the cover upon which they are mounted unless sufficient pressure is applied to overcome their resilient resistance. At one end of the opening 2 a bolt 9 is tapped into the frame and may be fixed in a predetermined position by a lock nut 10.

The springs 7 and 8 are of such length that their extremities extend over the flange on the edge of the opening so that the cover is prevented from engaging the flange and a small opening is left through which the air may circulate when the cover is held in position. The forked projection on the other end of the cover is engaged by a latch 11 which comprises a bolt 12 that is tapped in the field frame and a handle lever 13 that is pivotally attached to the upper end of the bolt and is provided with projections 14 near the point of attachment to effect downward pressure upon the forked cover projection as the handle lever is moved from a vertical position to a horizontal position.

The cover may be placed in position over the opening in the frame by first placing one of its forked projections under the head of the bolt 9, then forcing the other end down, in opposition to the springs 7 and 8, into engagement with the bolt 12, when the handle lever 13 may be forced down to hold the cover in position.

As the latch mechanism wears, so that the cover is not held as close to the flange on the opening in the frame as at first, the springs 7 and 8 will keep it always in engagement with

the latch 11 and the head of the bolt 9 so that chattering or vibrating movement of the cover is obviated.

I claim as my invention:

- 5 1. A commutator cover for dynamo-electric machines comprising a flanged plate, cross strips of resilient material attached thereto and means for fastening the cover to the frame of the machine.
- 10 2. A commutator cover for dynamo-electric machines comprising a flanged plate of suitable shape and slightly larger than the opening which it covers, and flat cross springs that are attached to the cover and
15 the extremities of which extend over the edge of the opening.
3. A commutator cover for dynamo-electric machines comprising a flanged plate having forked end projections, cross strips
20 of resilient material attached to the plate, a bolt adapted to engage one of said forked projections and a latch mechanism adapted to engage the other of said forked projections.
- 25 4. In a dynamo-electric machine, the combination with a field magnet frame which constitutes an inclosing casing and has an opening, a cover for said opening and means for fastening said cover to the frame, of resilient means interposed between the cover
30 and the frame and serving to hold the cover at a short distance from the frame to allow ventilation of the interior and to prevent chattering.
- 35 5. In a dynamo-electric machine, the combination with a field magnet frame which constitutes an inclosing casing and has an opening surrounded by a flanged edge, a

cover for said opening of such size as to overhang the flange, forked projections on opposite ends of said cover and clamping bolts to
40 engage said projections, of resilient cross springs which are attached to the cover near its extremities and extend over the flange on each side.

6. In a dynamo-electric machine, the combination with a field magnet frame which
45 constitutes an inclosing casing and has an opening, a cover for said opening and a plurality of clamping devices for fastening said cover to the frame, of means for preventing vibrations between the cover and
50 the frame and for permitting the circulation of air through the space between the cover and the frame.

7. In an electric motor, a field magnet
55 frame constituting a casing for the armature and the commutator and having an opening at the commutator end, a cover for said opening, locking means for the cover and yielding, resilient means interposed between
60 the cover and the frame to take up wear and provide ventilating passages.

8. In an electrical machine, the combination with a frame having an opening, of a cover having spring cross strips the free ends
65 of which engage the frame, and means for clamping the cover to the frame.

In testimony whereof, I have hereunto subscribed my name this 30th day of January, 1906.

JOHN E. WEBSTER.

Witnesses:

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BIRNEY HINES.