

M. PFATISCHER.
COMMUTATOR.
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1,014,253.

Patented Jan. 9, 1912.

Fig. 2.

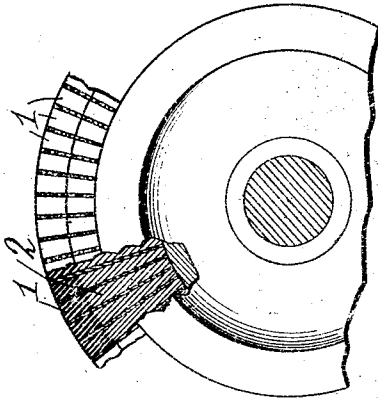


Fig. 4. Fig. 5.

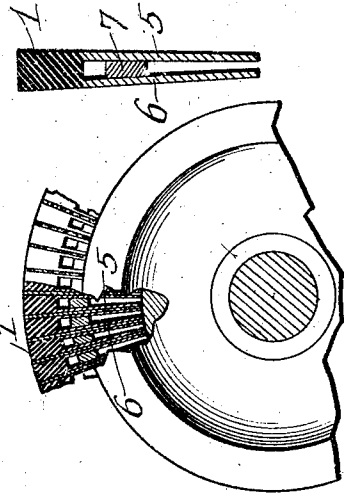


Fig. 1.

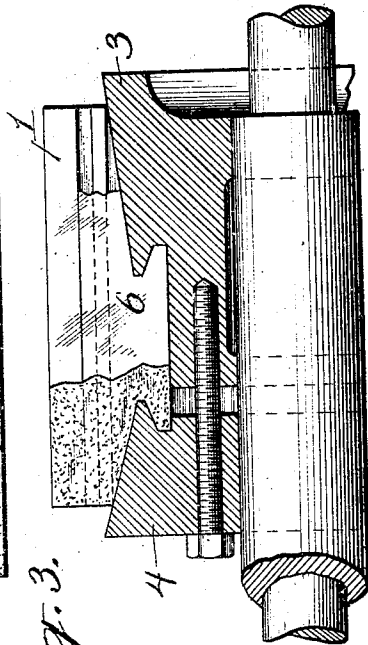
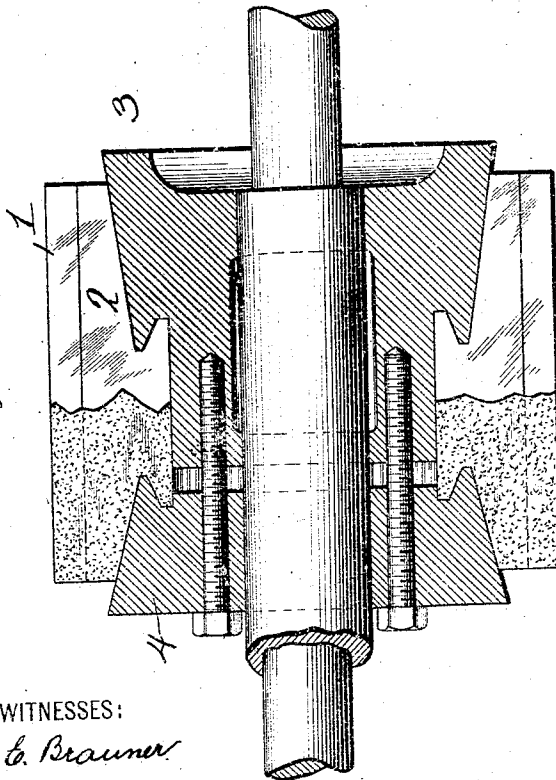


Fig. 3.

WITNESSES:
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COMMUTATOR.

1,014,253.

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To all whom it may concern:

Be it known that I, MATHIAS PFATISCHER, a citizen of the United States, residing at Bayonne, county of Hudson, State of New Jersey, have invented certain new and useful Improvements in Commutators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of the invention is to improve the mechanical construction and reduce the cost of commutators for dynamo-electric machinery, and the improvements relate particularly to the construction of the commutator bars, which are made up of a contact piece, made of metal having a high conductivity, and a supporting structure made of a material which is cheaper than the contact piece and which preferably is better capable of resisting mechanical strains.

Referring to the drawings which illustrate preferred constructions, Figure 1 is a central section of a commutator made up of commutator bars constructed in accordance with my invention; Fig. 2 is a cross-section of the same, the parts being broken away for simplicity; Fig. 3 is a central longitudinal section of a commutator having bars of a modified form; Fig. 4 is a cross-section of the same, and Fig. 5 is a cross section of a single commutator bar of this form.

In Figs. 1 and 2 the commutator is made up of bars having an outer conducting contact strip 1 upon which the current collecting brushes rest, and which is preferably made of copper and of sufficient depth to serve the purposes of conduction and to allow for a reasonable amount of wear and trimming. This conducting strip is welded to a supporting strip 2, preferably of steel, which is shaped to be engaged by the clamps 3 and 4 on the shaft of the commutator. It will be understood that these commutator bars are placed in position, separated by suitable insulation, and clamped in any manner known to the art; and that their manner of support and clamping and insulation forms no part of the present invention.

In the construction illustrated in Figs. 3,

4 and 5, the same contact conducting strip 1 is used, but in place of the strain resisting supporting strip 2 made in a solid piece, I have substituted a supporting structure made up of two pieces of metal 5 and 6 sufficiently thin to be stamped, and separated by a spacing piece 7, the pieces 5 and 6 being welded to the conducting strip as before. This construction is sufficiently rigid for all purposes and besides being light is extremely cheap, since the pieces 5 and 6 may be stamped in appropriate shapes and the necessity for machine tooling is done away with.

What I claim is:—

1. A composite commutator bar for dynamo-electric machines made up of an outer contact section of a material having good conductivity, joined at its base to a plurality of thin metallic plates forming an inner supporting structure, substantially as described.

2. A composite commutator bar for dynamo-electric machines made up of an outer contact section of a material having good conductivity, joined at its base to a plurality of thin metal plates forming an inner supporting structure and shaped for locking engagement with the commutator clamps, substantially as described.

3. A composite commutator bar for dynamo-electric machines made up of a contact section of copper supported by two thin metallic plates spaced apart and shaped for locking engagement with the commutator clamps and welded to the copper, substantially as described.

4. A composite commutator bar made up of the copper contact section 1, the supporting plates, 5 and 6, welded thereto, and the spacing piece 7, substantially as described.

5. A composite commutator bar for dynamo-electric machines made up of an outer contact section of a material having good conductivity, joined at its base to a plurality of stamped metal plates forming an inner supporting structure, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

MATHIAS PFATISCHER.

Witnesses:

BURGESS A. CRUDEN,
AUG. TREADWELL, Jr.