

(No Model.)

S. MORSE.

CARBON BRUSH CLAMP FOR DYNAMOS.

No. 463,748.

Patented Nov. 24, 1891.

FIG. 1.

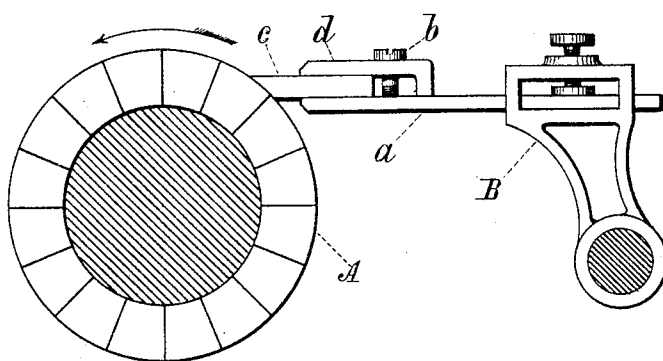
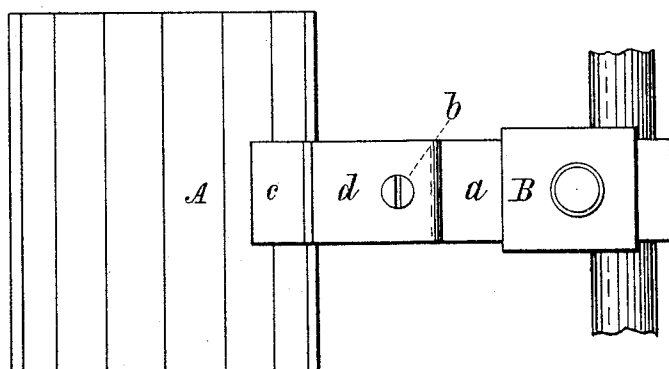


FIG. 2.



Witnesses

H. Lewis.
W. H. Miller.

Inventor

Sherburne Morse.

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UNITED STATES PATENT OFFICE.

SHERBURNE MORSE, OF ARKANSAS CITY, KANSAS.

CARBON-BRUSH CLAMP FOR DYNAMOS.

SPECIFICATION forming part of Letters Patent No. 463,748, dated November 24, 1891.

Application filed July 25, 1891. Serial No. 401,013. (No model.)

To all whom it may concern:

Be it known that I, SHERBURNE MORSE, of Arkansas City, in the county of Cowley and State of Kansas, have invented a new and Improved Carbon-Brush Clamp for Dynamos; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in carbon-brush clamps for dynamos, my object being to provide a brush-clamp of such construction that small pieces of waste carbon may be used for contact with the commutator instead of the ordinary thin copper plates generally employed.

The difficulty heretofore experienced in using carbon instead of thin copper plates has been that, though the carbon did not, like the copper, wear into a wire-edge, and thus cause waste of electric current by sparking, it had the serious defect, by reason of the jarring of the dynamo, of rapidly crumbling away at the edges, thereby reducing the surface in contact with the face of the commutator to such an extent as to cause the brush to wear away with such rapidity as to render it, owing to the expense of maintenance, quite impracticable. This objection I effectually overcome by substituting for the ordinary rigid brush-holder a spring or flexible clamp, between the jaws of which the carbon is securely held, as hereinafter more fully described.

In the drawings, Figure 1 is a side elevation of the clamp and brush shown in connection with the sustaining arm or holder and a transverse sectional view of the commutator. Fig. 2 is a plan view of the same.

Referring to the drawings, A represents a section of a dynamo-commutator; B, a brush-holder of the ordinary form provided with one of my carbon-brush clamps, consisting of a thin flexible copper bar or plate *a*, adapted for insertion in the holder B, as shown in the drawings.

d represents a plate adapted to form with the forward end of the flexible copper bar or plate *a* a clamp the upper and lower jaws of which are brought toward each other by means of a tightening-screw *b*, which passes freely through the clamping-plate *d* and is threaded in the plate or bar *a*, thus forming a clamp in which the carbon *c* is firmly secured and held with the required pressure in steady contact with the convex face of the commutator. Matters being thus, it will be readily seen that the objectionable effect of the jar or tremor of the dynamo due to its rapid motion will be so far mitigated, if not totally done away with, as to prevent the crumbling away of the carbon at its edges by reason of the elasticity and consequent yielding of the bar *a* along that part of its length between the rear of the clamping-plate *d* and where it enters the holder B.

An important advantage attending the use of my device is that it affords means for utilizing small pieces of carbon that are usually thrown away.

I am aware that the use of carbon for dynamo-brushes is not new, and therefore I do not claim such.

What I do claim, and desire to secure by Letters Patent, is—

A carbon-brush clamp for dynamos, comprising a flexible bar or plate, the rear part thereof adapted to be secured in an ordinary holder, the forward part of said flexible bar or plate being provided with a clamping-plate *d* and tightening-screw *b*, adapted, in combination with the forward end of the flexible plate *a*, to clamp the carbon-brush, all constructed and adapted to operate substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 31st day of March, 1891.

SHERBURNE MORSE.

Witnesses:

E. W. ARNOLD,

A. R. SATTERTHWAITE.