(No Model.) 2 Sheets—Sheet 1.

L. DAFT.

CARBON BRUSH FOR MOTORS.

No. 427,674. Patented May 13, 1890.

Fig. 1.

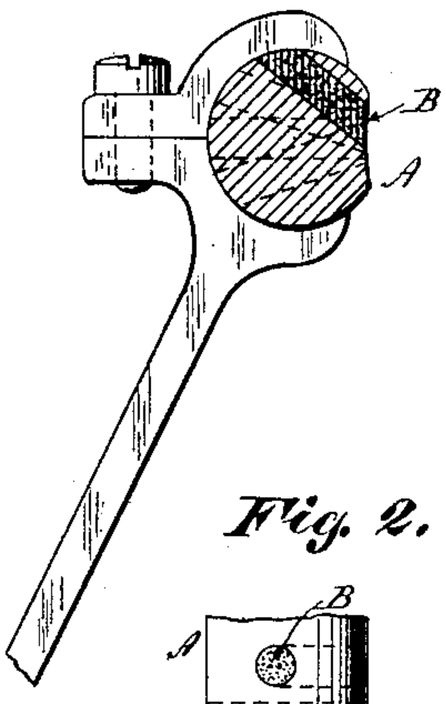


Fig. 2.

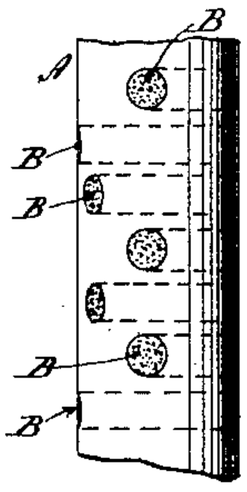


Fig. 3.

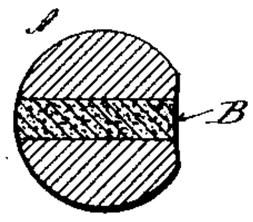


Fig. 4.

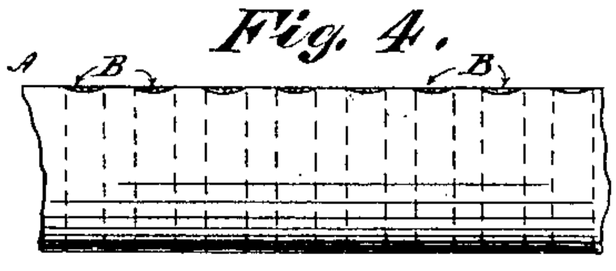


Fig. 5.

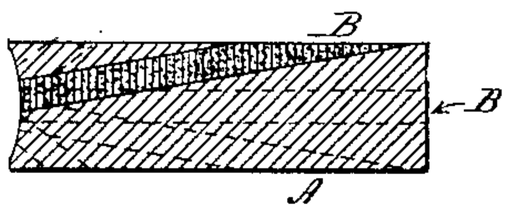


Fig. 6.

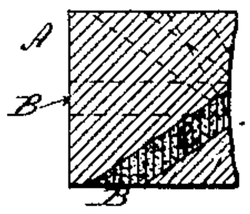


Fig. 7.

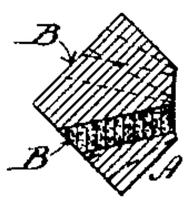


Fig. 8.

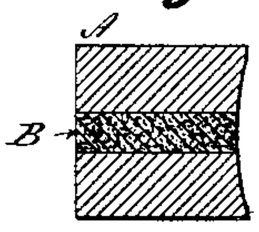
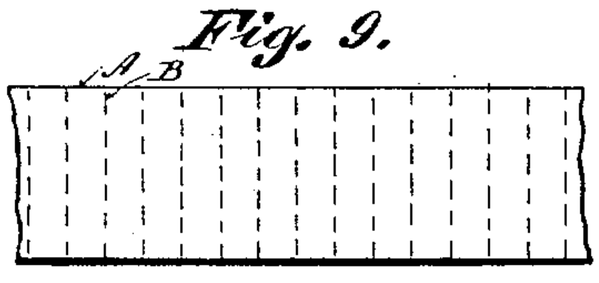


Fig. 9.



Witnesses:
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Anthony Gref

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By his Attorney
E. N. Dickerson

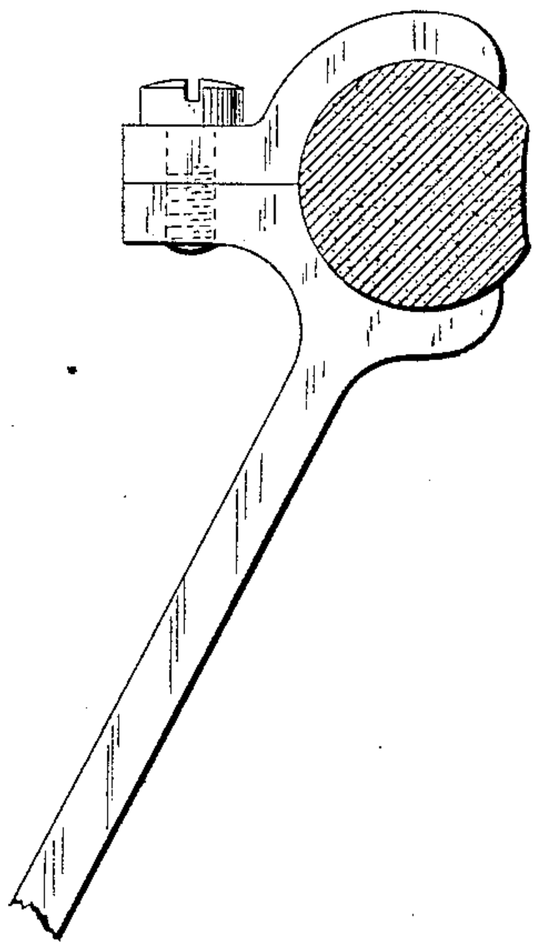
(No Model.) 2 Sheets—Sheet 2.

L. DAFT.

CARBON BRUSH FOR MOTORS.

No. 427,674. Patented May 13, 1890.

Fig. 10.



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Wm. A. Pollock

Inventor:
Leo Daft,
By his Attorney
E N Dickerson Jr

UNITED STATES PATENT OFFICE.

LEO DAFT, OF PLAINFIELD, NEW JERSEY, ASSIGNOR TO THE DAFT ELECTRIC LIGHT COMPANY, OF NEW YORK, N. Y.

CARBON BRUSH FOR MOTORS.

SPECIFICATION forming part of Letters Patent No. 427,674, dated May 13, 1890.

Application filed May 23, 1889. Serial No. 311,773. (No model.)

To all whom it may concern:

Be it known that I, LEO DAFT, of Plainfield, New Jersey, have invented a new and useful Improvement in Combined Carbon Brushes for Electrical Motors and Dynamos, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

My invention relates to an improved contact-maker, or "brush," as it is ordinarily called, consisting of carbon combined with a lubricant in various forms, as hereinafter more fully specified. A carbon contact-maker or brush is a very beneficial construction for carrying a current to the commutator; but by reason of its lack of lubricating quality it possesses an undesirable grinding or wearing action.

By my invention I secure the beneficial results of the surface and conductivity of the carbon, together with a lubricating quality not heretofore united in one conductor.

My invention will be readily understood from the accompanying drawings, in which—

Figure 1 represents a cross-section of my improved brush in its holder; Fig. 2, an elevation of the same; Fig. 3, a cross-section of a modification; Fig. 4, an elevation of the same. Figs. 5, 6, 7, and 8 represent transverse sections of modifications; and Fig. 9, an elevation of Fig. 8; Fig. 10, a cross-section showing the modification, in which plumbago is mixed with powdered carbon.

I propose generally to make suitable openings or perforations in a carbon conductor made, for instance, of compressed ground cemented gas-retort carbon or other form of non-lubricating carbon, and insert therein pencils or pins of plumbago having ends projecting at the wearing-surface. The carbon compound may be of any well-known form, and is shown in the drawings as at A. Pencils of plumbago are inserted in the carbon, as indicated. They may be laid in parallel to each other or at an angle to each other. The surface-contact is generally ground to a circle, as shown, so as to leave a sufficiently large contact-area and permit equal pressure of all its surface, so as to prevent sparking. Instead of inserting the plumbago in pencils, I may mix powdered plumbago with powdered carbon, in proportion, say, from five to fifty per cent., using coal-tar or molasses to hold the mass together during baking. The object of this combination is to form a conductor of a substance of high conductivity and great lubricating power, so as to reduce the wear of the commutator and increase the smoothness of its operation. Where it is desirable to secure a perfectly-noiseless machine for light-running purposes, I sometimes find it beneficial to incorporate one to two per cent., by weight, of finely-powdered silicate of magnesia in addition to the plumbago.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A brush or contact-maker for carrying an electric current to a surface moving thereunder, consisting of non-lubricating carbon and plumbago, substantially as described.

2. An electrical brush or conductor consisting of a non-lubricating carbon body having inserted therein a pencil or pencils of plumbago, substantially as described.

3. The combination of the carbon brush A, having pencils B B passing therethrough at different angles and projecting at the wearing-surface of the carbon, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEO DAFT.

Witnesses:
ANTHONY GREF,
H. COUTANT.