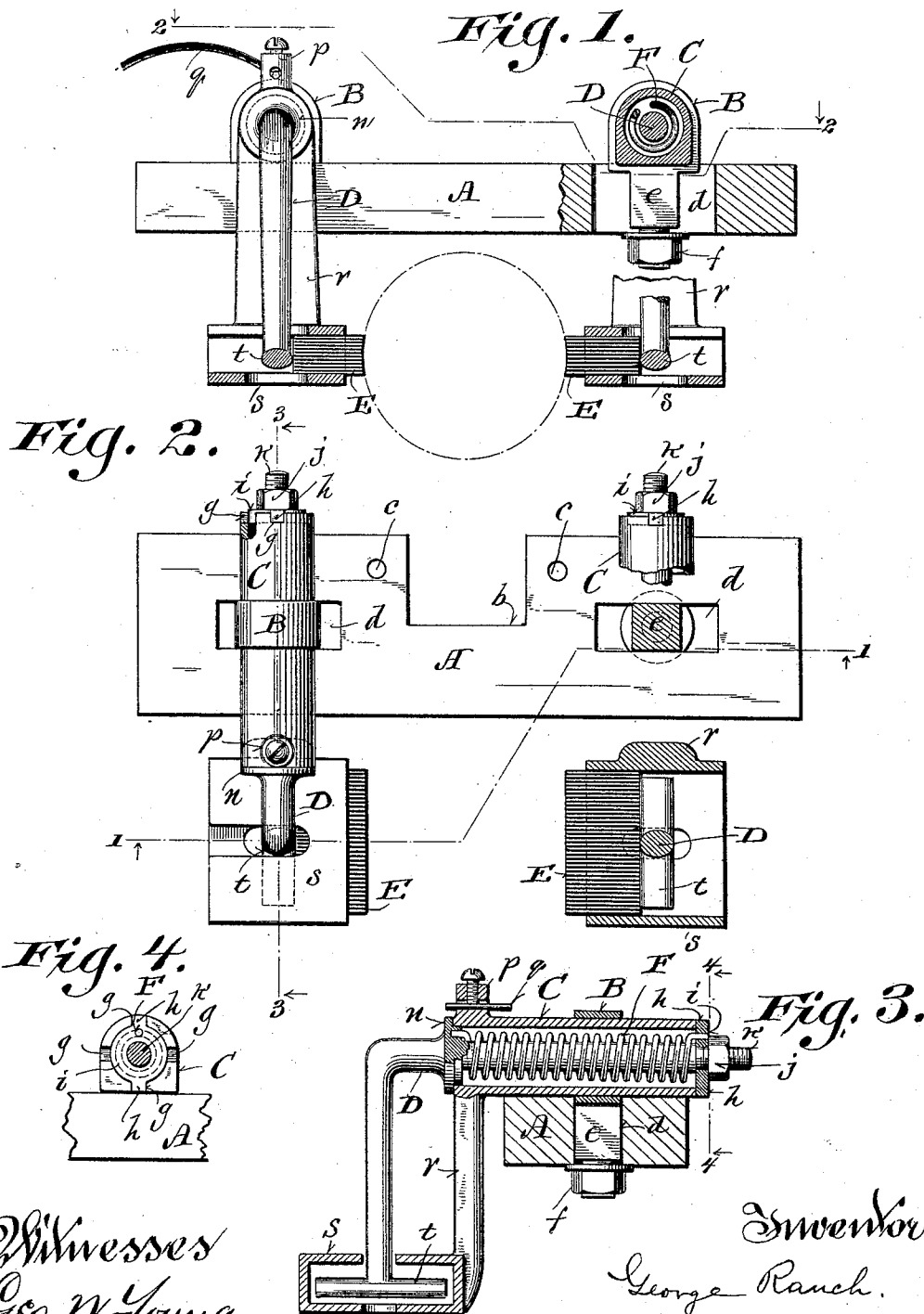


(No Model.)

G. RAUCH.
COMMUTATOR BRUSH HOLDER.

No. 527,127.

Patented Oct. 9, 1894.



Witnesses
Geo. W. Young
H. E. Chipman

Inventor
George Rauch.
By H. G. Underwood.
Attorney

UNITED STATES PATENT OFFICE.

GEORGE RAUCH, OF MILWAUKEE, WISCONSIN.

COMMUTATOR-BRUSH HOLDER.

SPECIFICATION forming part of Letters Patent No. 527,127, dated October 9, 1894.

Application filed April 28, 1894. Serial No. 509,290. (No model.)

To all whom it may concern:

Be it known that I, GEORGE RAUCH, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Commutator-Brush Holders; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide simple, economical, well insulated, self-feed and adjustable holders for commutator-brushes; and it consists in certain peculiarities of construction and combination of parts hereinafter set forth with reference to the accompanying drawings and subsequently claimed.

In the drawings: Figure 1 represents an elevation of the assembled parts involved in my invention partly in section on line 1—1 of the succeeding figure; Fig. 2, a plan view of the same as viewed on line 2—2 of the preceding figure; Fig. 3, a section on line 3—3 of the second figure, and Fig. 4, a section on line 4—4 of the third figure.

Referring by letter to the drawings, A represents an insulating base that is preferably hard-wood because of the cheapness of the material, this base being designed for attachment to the frame in which the commutator rotates. The insulating base herein shown is provided with a central notch *b* for engagement with a grease box for a commutator-shaft or journal and is held in place by screws or bolts also employed to retain the grease box in position, openings *c* being made in said base for the passage of said screws or bolts. This form of insulating base is particularly designed for use in connection with certain street-car motors, it being desirable to have the insulation as far as possible out of the way of any water on the surface over which a car travels as well as to do away with the paper insulations in common use. Engaging longitudinal slots *d* in the insulating base are the shanks *e* of sleeves B, and run on screw threaded extremities of said shanks are clamp-nuts *f* that impinge against the under side of said insulating base. Engaging the sleeves B are shells C that rest on the insulating base transverse of the latter. One end of each shell is provided with notches *g*

for engagement with lugs *h* on a washer *i* held in place by a nut *j* run on the screw-threaded extremity *k* of the horizontal portion of a crank D, the latter being provided with a cap-like flange *n* that closes the other end of said shell. The top of the shell is provided with a binding post *p* for an electrical conductor *q* and depending from said shell 60 is an arm *r* terminating in a guide *s* for a commutator-brush E, this guide being slotted to permit play of the vertical arm of the crank above specified, and this arm of said crank is provided with a horizontal foot *t* 65 that bears against the outer end of said brush. The brush-guide is also provided with a bottom opening to facilitate the withdrawal of brush-stubs.

In order to keep the brush up to the commutator and compensate for wear the crank is given the requisite tension by means of a spiral spring F joining the cap and washer at opposite ends of the shell C, the regulation of said tension being effected by the rotary adjustment of the washer *i* above specified. 75

From the foregoing it will be seen that the shells C are adjustable laterally in the sleeves B and the sleeves are adjustable longitudinally of the insulating base. Consequently 80 the brush-holders may be readily adjusted in two directions at right angles one to the other, either or both adjustments being determined by the diameter of the commutator or its distance from said insulating base.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is— 85

1. An insulating base attachable to a commutator supporting frame, and brush-holders 90 connected to said base, each holder comprising a shell provided with a binding-post and brush-guide, a crank having a flanged arm run through the shell and its other arm loosely engaged with the brush-guide a rotarily adjustable washer on that arm of the crank engaging, said shell, and a spiral-spring connecting the washer and arm-flange, substantially as set forth. 95
2. An insulating base attachable to a commutator supporting frame, sleeves adjustable longitudinally of the base, shells adjustable in the sleeves transversely of the base, a binding-post and brush-guide on each shell, a 100

crank having a flanged arm run through the shell and its other arm loosely engaged with the brush-guide, a rotarily adjustable washer on that arm of the crank engaging said shell, 5 and a spiral-spring connecting the washer and arm-flange, substantially as set forth.

3. An insulating base centrally notched to fit a grease-box for a commutator shaft or journal and provided with openings for en- 10 gagement of bolts or screws employed to retain said grease-box in position, sleeves adjustable longitudinally of the base, shells adjustable in the sleeves transversely of the base, a binding post and brush-guide on each 15 shell, and a crank that has one arm thereof under spring-tension within said shell and its other arm loosely engaged with the adjacent brush-guide, substantially as set forth.

4. An insulating base attachable to a commutator supporting frame, sleeves adjustable 20 longitudinally of the base, shells adjustable in the sleeves transversely of the base, a binding-post and brush-guide on each shell, and a crank that has one arm thereof under spring-tension within said shell and its other arm 25 loosely engaged with the adjacent brush-guide, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Elmore, in the county of Fond du Lac and State of Wisconsin, 30 in, in the presence of two witnesses.

GEORGE RAUCH.

Witnesses:

GUSTAV RAUCH,
ULRICH SENN.