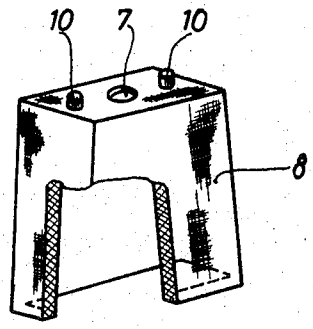
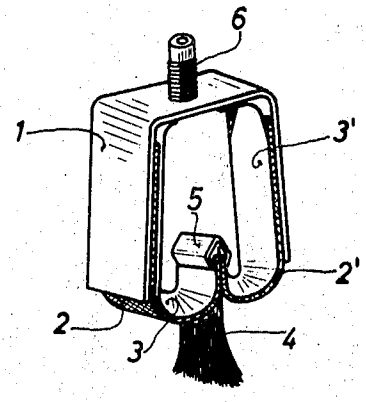
Jan. 21, 1969 H. DRESCHER 3,423,715

COLLECTOR BRUSHES FOR SLIP CONTACTS

Filed Sept. 15, 1966







INVENTOR.
HEINZ DRESCHER

BY

Frank R. Trifari

AGENT

United States Patent Office

3,423,715

Patented Jan. 21, 1969

3,423,715

COLLECTOR BRUSHES FOR SLIP CONTACTS

Heinz Drescher, Hamburg, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 15, 1966, Ser. No. 579,540

U.S. Cl. 339—1 5 Claims

Int. Cl. H01r 39/38

ABSTRACT OF THE DISCLOSURE

The invention is directed to an assembly for a collector brush suitable as a sliding contact for motors and the like. The brush assembly comprises a U-shaped yoke, the arms of which extend into two flexible conductive straps. The ends of the straps are folded inwardly in confronting relationship and a contact brush is secured between the confronting ends. The flexible straps are made conductive preferably by means of superposed metal foils. An insulating casing houses the assembly.

The invention relates to a contact brush for slip contacts in particular for contact strips or rings varying their direction of movement.

For transmitting low voltages, for example, of measured values, wire hair brushes have proved of particular advantage since they ensure a low and in particular constant contact resistance with the slip ring. Of course the wires of the brush in such collectors assume an inclination which corresponds to the relative motion. In these known brushes difficulties are experienced when the direction of movement is reversed as a result of which the wires run "against the grain" and are upset until, usually accidentally, they tip over and consequently adapt, although deformed, to the new direction of movement with a decreased frictional resistance.

It will be clear that as a result of this, in particular when the direction of movement varies frequently, the lifetime of the brushes is strongly reduced.

This drawback is avoided according to the invention in that the brush is secured inside a brace so as to be resilient and movable in the axial direction.

In order that the invention may readily be carried into effect, it will now be described in greater detail, by way of example, with reference to the accompanying drawing.

In the curves of a brace **1** which preferably consists of metal, two strips **2**, **2'** of a soft, flexible material, for example, rubber or the like, are secured which are provided with conductive surface **3**, **3'**. Such surfaces may consist for example of thin copper foil or may be provided in a different manner. At the open end of the brace **1**, the strips **2**, **2'**, the foils **3**, **3'**, and the brush **4** are secured together so as to be conductive, for example, by soldering, and are held together, if required, by a clamp **5**.

At the transverse portion of the brace **1** a threaded tag **6** is provided which is passed through the aperture **7** of the protective cap **8** and is secured by the nut **9**. The supply lead can be connected to the threaded tag **6**. Two guide pins **10** serve for securing the assembly in the collector device, the construction of which, however, does not form part of the present invention.

If during a reversal of the direction of movement between the sliding ring and the brush, or as a result of an unevenness of the sliding ring, an axial force acts upon the brush **4**, said brush, as a result of its flexible suspension, is capable of moving into the brace **1**, the strips **2**, **2'** rolling up on the inside of the brace limbs. As a result of the long spring path, the pressing force of the brush against the sliding ring remains substantially constant.

What is claimed is:

1. A collector brush assembly comprising a substantially U-shaped frame member having a yoke portion and two arm portions, first and second flexible strip members each extending from the extremity of a respective arm portion, said strip members being arranged with their extending ends in spaced confronting relationship, and a collector brush member interposed between the said extending ends of said strip members.

2. A collector brush assembly as claimed in claim **1** wherein said strip members each comprise a flexible rubber-like band and an electrical conductive coating on said band.

3. A collector brush assembly as claimed in claim **2** wherein said conductive coating consists of a metal foil.

4. A collector brush assembly as claimed in claim **1** wherein the said extending ends of said strip members are positioned with their outer surfaces in confronting relationship with the said brush member interposed and extending beyond the said confronting portions.

5. A collector brush assembly as claimed in claim **1** further comprising a housing member enclosing said frame member and electrical terminal means secured to said frame member and extending through said housing member.

References Cited

UNITED STATES PATENTS

466,448	1/1892	Sprague	310—244
1,878,323	9/1932	Quist	339—1
2,905,924	9/1959	Peterson	339—1
3,172,982	3/1965	Reed	339—1
3,252,248	5/1966	Zalkind	339—1
2,242,273	5/1941	Taylerson	339—8
2,742,617	4/1956	Bondley	339—9

FOREIGN PATENTS

357,362	9/1931	Great Britain.

RICHARD E. MOORE, *Primary Examiner.*

U.S. Cl. X.R.

339—149; 310—248

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,423,715 January 21, 1969

Heinz Drescher

It is certified that error appears in the above identified patent and that said Letters Patent are hereby corrected as shown below:

In the heading to the printed specification, between lines 6 and 7, insert -- Claims priority, application Germany, Nov. 13, 1965, P26241 --.

Signed and sealed this 10th day of March 1970.

(SEAL)
Attest:

Edward M. Fletcher, Jr.
Attesting Officer

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents