March 20, 1962 E. L. VERHAGEN 3,026,434

ELECTRIC MOTOR BRUSH CONNECTION

Filed Sept. 6, 1960

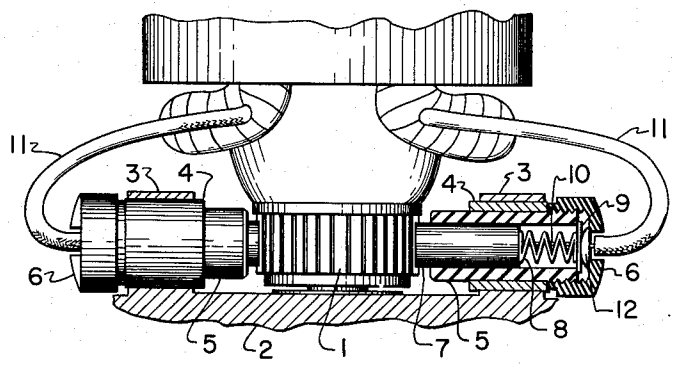


Fig. 1

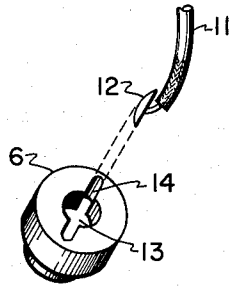


Fig. 2

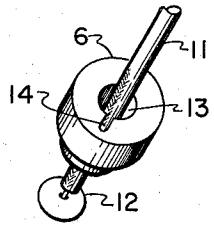


Fig. 3

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ELECTRIC MOTOR BRUSH CONNECTION

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1 Claim. (Cl. 310—249)

This invention relates to an electric motor brush connection particularly small motors used in household appliances.

Heretofore in small, electric motors various brush connecting means have been used. My United States Patent Number 2,617,952 is an illustration of one such means.

The object of my present invention is to provide less expensive means for making brush connections.

Another object is to permit easier assembly and disassembly of brush holders and their connections. Still another object is to have the connections on the outside rather than on the inside of the motor housing.

Referring to the drawings in which the same reference numeral refers to the same or a similar part:

FIGURE 1 is a top view of the commutator end of an electric motor with the external view of one brush holder and a sectional view of the other.

FIGURE 2 shows a lead wire preparatory to being inserted in the end cup of a brush holder.

FIGURE 3 shows the lead wire inserted in the end cap of a brush holder.

In FIGURE 1, commutator **1** rotates on a shaft journalled in housing wall **2**. Mounted on wall **2** are brackets **3** which hold sleeves **4** and carbon brush holders **5**.

Each brush holder **5** is a cylinder threaded at its outer end to receive cap **6**. Holder **5** and cap **6** are made of non-conducting material. Within holder **5** is carbon brush **7** which bears against commutator **1** under the urging of coiled spring **8**. Disc **9**, acts as a spring retainer and as an electrical contact, being connected to brush **7** by conductor **10**.

Cap **6** has a hole **13** in its top, crossed by slot **14**. Lead **11** to brush **7** is topped by contact button **12** and as seen in FIGURES 2 and 3 is readily inserted in slot **14** and thereafter held within cap **6** by button **12** which is pressed upon by disc **9**.

The assembly of the brush lead **11** to the brush within the brush holder **5** is apparent. Lead **11** is inserted in cap **6** as described. With brush **7**, spring **8** and disc **9** within brush holder **5**, cap **6** is screwed in place and button **12** and disc **9** are in contact and the connection is made.

Various modifications may be made in the connection described and I do not therefore intend to limit the scope of my invention thereby.

What I claim is:

An electric motor brush connection comprising a cylinder of non-conducting material open at one end and closed at the other end by a detachable non-conducting cap; a carbon brush slidable within the cylinder; a coiled spring within the cylinder; a spring retaining disc interposed between the spring and the cap electrically connected to the carbon brush; an aperture in the cap of the cylinder; a brush lead wire through such aperture and terminating within the cylinder in a button bearing against the spring retaining disc; the said aperture in the cap of the cylinder being a hole transversed by a slot whose length is greater than the diameter of such button and whose width is smaller than such diameter but greater than the thickness of the button.

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