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Four-step motor starting end cover assembly

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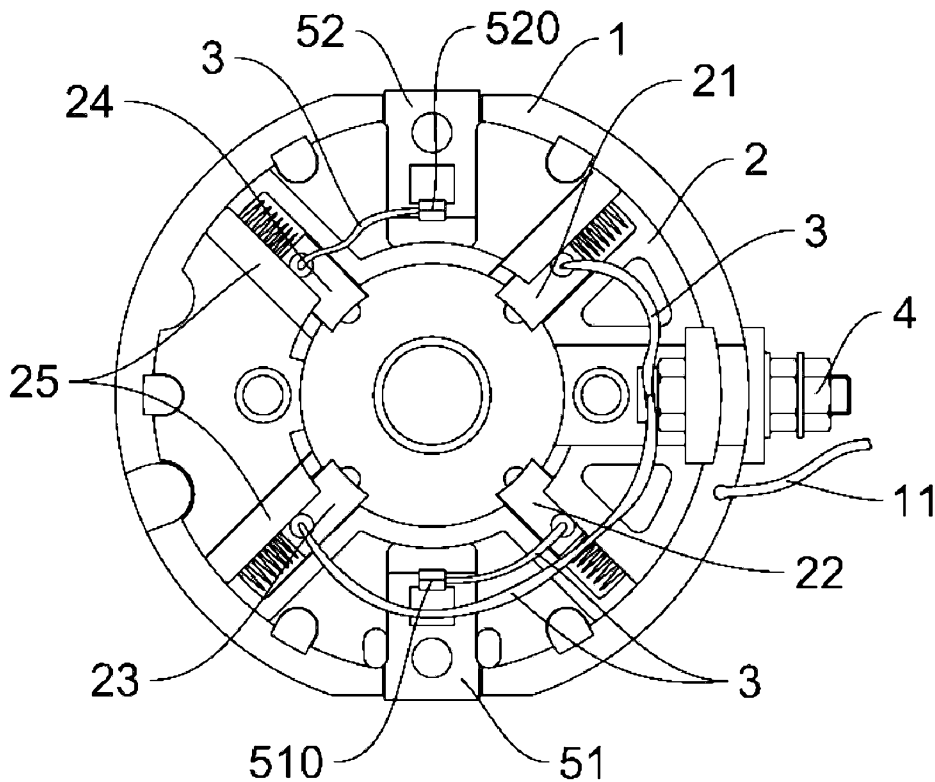
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Title: Four-step motor starting end cover assembly

Abstract

The invention discloses a starting end cover assembly of a four-pole motor, which comprises a cover plate, wherein a brush frame plate is arranged on the cover plate, an electric brush I, an electric brush II, an electric brush III and an electric brush IV are uniformly distributed on the brush frame plate, the electric brush I and the electric brush III are oppositely arranged, the electric brush II and the electric brush IV are oppositely arranged, an electrode connector connected with an external circuit is arranged on the brush frame plate, two leading-out wires are respectively connected on the electric brush I and the electric brush III for connecting onto the electrode connector, a conductive connection structure which is used as the other electrode connecting end for connecting with the external circuit is further arranged on the brush frame plate, the two leading-out wires are respectively connected on the electric brush II and the electric brush IV for connecting onto the conductive connection structure, the conductive connection structure comprises the metal cover plate and metal connecting sheets, the conductive cover plate is used as one electrode connecting end, the leading-out wires are shortened, and the material waste is reduced, thereby not only reducing the production cost, but also being convenient for spatial layout, enabling the overall structure to be simpler and clearer and being convenient for mounting and checking.



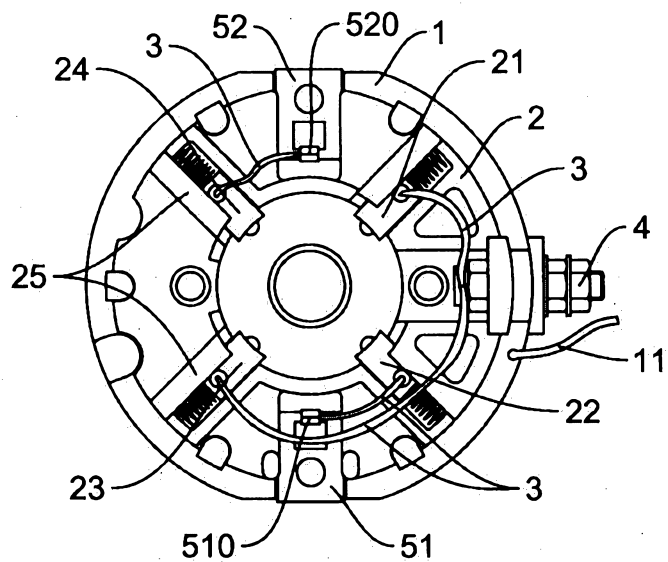


FIG. 1

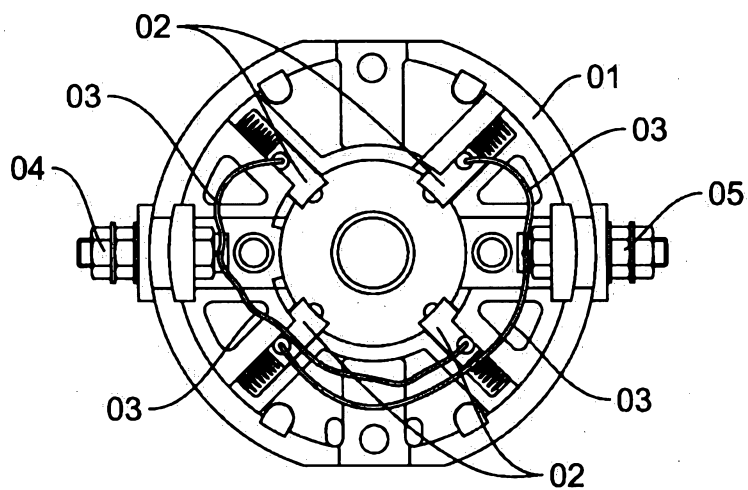


FIG. 2

Description

Four-step motor starting end cover assembly

Technical Field

The invention relates to a component part of a motor, in particular to a starting end cover assembly of a four-pole motor.

Background of the Invention

For a common four-pole motor, each of four electric brushes on a starting end cover is respectively connected with a leading-out wire, the leading-out wires on the two opposite electric brushes are connected onto a same connector, as shown in Figure 2, the four electric brushes 02 are uniformly distributed and embedded on the end cover 01, the leading-out wire 03 is connected on each electric brush 02, two of the leading-out wires 03 are converged and collected onto the connector 04 on the left side, the other two leading-out wires 03 are converged and collected onto the connector 05 on the right side, the structure is troublesome to process and manufacture, the more leading-out wires are further used, and the spatial layout is not easy; furthermore, the copper price is higher and higher on the current market and the price of copper wires also becomes higher and higher, thereby increasing the cost and being unfavorable to development of the industry.

Summary of the Invention

The problem to be solved by the invention is to provide a starting end cover assembly of a four-pole motor, which is simple in structure and convenient and fast to mount, and can save the manufacturing material of leading-out wires, reduce the manufacturing cost and simultaneously enable the overall layout of an end cover to be easier.

In order to solve the technical problem, the invention adopts the following technical scheme: the starting end cover assembly of the four-pole motor comprises a cover plate, wherein a brush frame plate is arranged on the cover plate, an electric brush I, an electric brush II, an electric brush III and an electric brush IV are uniformly distributed on the brush frame plate, the electric brush I and the electric brush III are oppositely arranged, the electric brush II and the electric brush IV are oppositely arranged, and the starting end cover assembly of the four-pole motor is characterized in that an electrode connector connected with an external circuit is arranged on the brush frame plate, two leading-out wires are respectively connected on the electric brush I and the electric brush III for connecting onto the electrode connector, a conductive connection structure which is used as the other electrode connecting end for connecting with the external circuit is further arranged on the brush frame plate, and the two leading-out wires are respectively connected on the electric brush II and

the electric brush IV for connecting onto the conductive connection structure.

Further, the conductive connection structure comprises the cover plate, a metal connecting sheet I and a metal connecting sheet II, wherein the metal connecting sheet I and the metal connecting sheet II are arranged on the brush frame plate and in contact with the cover plate, the cover plate is a metal plate, the metal connecting sheet I is arranged on the side edge of the electric brush II, the metal connecting sheet II is arranged on the side edge of the electric brush IV, the leading-out wire on the electric brush II is connected onto the metal connecting sheet I, the leading-out wire on the electric brush IV is connected onto the metal connecting sheet II, and a conducting wire connected with the external circuit is connected on the cover plate. The leading-out wires are shortened and the material consumption is reduced.

Further, the metal connecting sheet I and the metal connecting sheet II are oppositely arranged on the edges of the brush frame plate. The connection between the metal connecting sheets and the cover plate is more direct, and the conductive effect is better.

Further, wire connection clips are respectively arranged on the metal connecting sheet I and the metal connecting sheet II. The connection and the fixation of the leading-out wires are convenient.

Further, the cover plate is riveted and fixed with the brush frame plate. A riveting machine is used for fixing the cover plate and the brush frame plate, thereby being convenient and fast.

Further, a placing groove for embedding the electric brush I, the electric brush II, the electric brush III and the electric brush IV is arranged on the brush frame plate. The electric brushes are convenient to place and take out.

After the technical scheme is adopted, the invention has the following advantages: the conductive cover plate is taken as one electrode connecting end, the leading-out wires are shortened, and the material waste is reduced, thereby not only reducing the production cost, but also being convenient for spatial layout, enabling the overall structure to be simpler and clearer and being convenient for mounting and checking.

Brief Description of the Drawings

In combination of the following figures, the invention is further described.

Figure 1 is a schematic diagram of structure of one embodiment of the invention;

Figure 2 is a schematic diagram of structure of existing starting end cover of four-pole motor.

Detailed Description of the Invention

According to a schematic diagram of the structure of one embodiment of the invention as shown in Figure 1, a starting end cover assembly of a four-pole motor comprises a cover plate 1 made of metal, a brush frame plate 2 is riveted on the cover plate 1, a placing groove 25 is uniformly distributed and arranged on the brush frame plate 2, an electric brush I 21, an electric brush II 22, an electric brush III 23 and an

electric brush IV 24 are respectively embedded in the placing groove, the electric brush I 21 and the electric brush III 23 are oppositely arranged, the electric brush II 22 and the electric brush IV 24 are oppositely arranged, an electrode connector 4 connected with an external circuit is arranged on the brush frame plate 2, two leading-out wires 3 are respectively connected on the electric brush I 21 and the electric brush III 23 for connecting onto the electrode connector 4, a metal connecting sheet I 51 and a metal connecting sheet II 52, which are in contact with the cover plate are further arranged on the brush frame plate 2, the metal connecting sheet I 51 is arranged on the side edge of the electric brush II 22, the metal connecting sheet II 52 is arranged on the side edge of the electric brush IV 24, the metal connecting sheet I 51 and the metal connecting sheet II 52 are oppositely arranged on the edges of the brush frame plate 2, wire connection clips 510 and 520 are respectively arranged on the metal connecting sheet I 51 and the metal connecting sheet II 52, the leading-out wire 3 on the electric brush II 22 is connected onto the wire connection clip 510 of the metal connecting sheet I 51, and the leading-out wire 3 on the electric brush IV 24 is connected onto the wire connection clip 520 of the metal connecting sheet II 52.

In the embodiment, the cover plate 1 and the brush frame plate 2 is riveted through a rivet sheet or a rivet, the rivet sheet is a metal sheet which is stamped on the cover plate 1, and the other connection and fixation ways can also be adopted; in addition, in order ensure the good insulation between the electrode connector 4 and the cover plate 1, a conducting wire 11 connected with the external circuit can be arbitrarily connected on the cover plate 1.

In addition to the preferred embodiment, the invention further has other implementation ways, those skilled in the art can make various changes and transformations according to the invention, and the changes and the transformations shall belong to the range defined by the attached claims of the invention on the premise of not separating from the spirit of the invention.

What is claimed is:

1. A starting end cover assembly of a four-pole motor, comprising a cover plate (1), wherein a brush frame plate (2) is arranged on the cover plate, an electric brush I (21), an electric brush II (22), an electric brush III (23) and an electric brush IV (24) are uniformly distributed on the brush frame plate, the electric brush I and the electric brush III are oppositely arranged, the electric brush II and the electric brush IV are oppositely arranged, and the starting end cover assembly of the four-pole motor is characterized in that an electrode connector (4) connected with an external circuit is arranged on the brush frame plate, two leading-out wires (3) are respectively connected on the electric brush I and the electric brush III for connecting onto the electrode connector, a conductive connection structure which is used as the other electrode connecting end for connecting with the external circuit is further arranged on the brush frame plate, and the two leading-out wires are respectively connected on the electric brush II and the electric brush IV for connecting onto the conductive connection structure.
2. The starting end cover assembly of the four-pole motor according to claim 1, characterized in that the conductive connection structure comprises the cover plate, a metal connecting sheet I (51) and a metal connecting sheet II (52), wherein the metal connecting sheet I (51) and the metal connecting sheet II (52) are arranged on the brush frame plate and in contact with the cover plate, the cover plate is a metal plate, the metal connecting sheet I is arranged on the side edge of the electric brush II, the metal connecting sheet II is arranged on the side edge of the electric brush IV, the leading-out wire on the electric brush II is connected onto the metal connecting sheet I, the leading-out wire on the electric brush IV is connected onto the metal connecting sheet II, and a conducting wire (11) connected with the external circuit is connected on the cover plate.
3. The starting end cover assembly of the four-pole motor according to claim 2, characterized in that the metal connecting sheet I and the metal connecting sheet II are oppositely arranged on the edges of the brush frame plate.
4. The starting end cover assembly of the four-pole motor according to claim 2 or 3, characterized in that wire connection clips (510 and 520) are respectively arranged on the metal connecting sheet I and the metal connecting sheet II.
5. The starting end cover assembly of the four-pole motor according to claim 2, characterized in that the cover plate is riveted and fixed with the brush frame plate.
6. The starting end cover assembly of the four-pole motor according to claim 1 or 2, characterized in that a placing groove (25) for embedding the electric brush I, the electric brush II, the electric brush III and the electric brush IV is arranged on the brush frame plate.

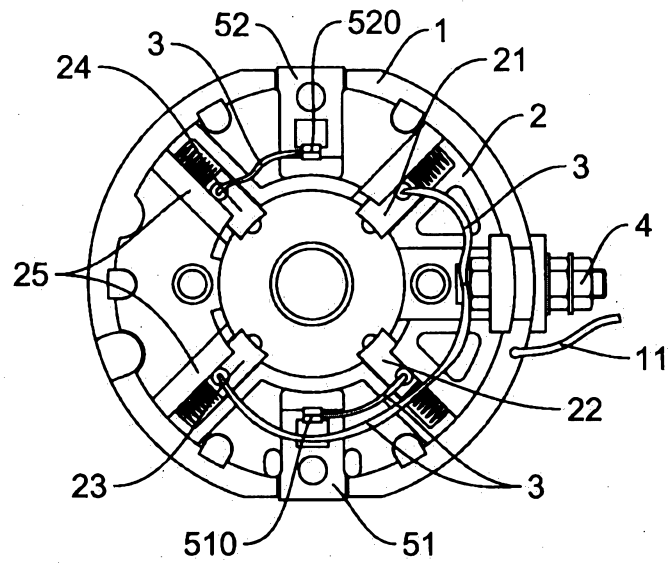


FIG. 1

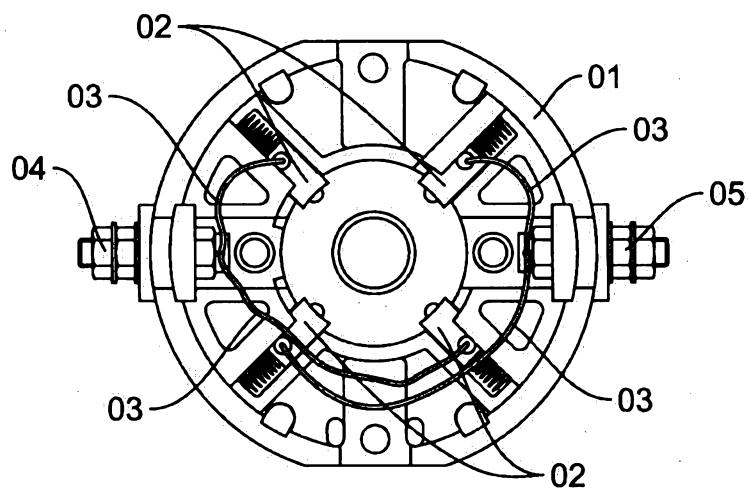


FIG. 2