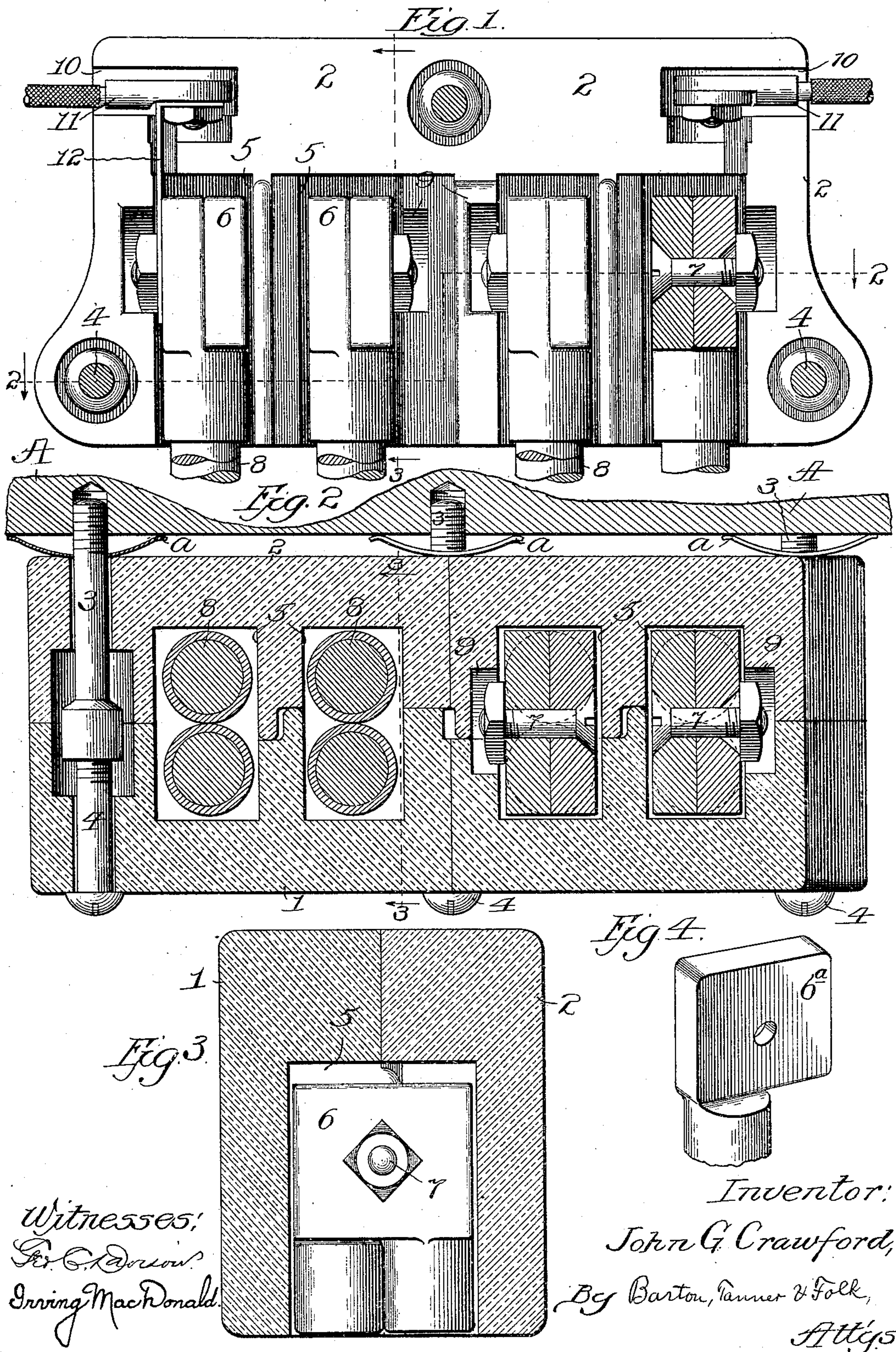


J. G. CRAWFORD.
 CONNECTION BOARD FOR ELECTRIC MACHINES.
 APPLICATION FILED SEPT. 8, 1906.

931,573.

Patented Aug. 17, 1909.



Witnesses:
 Geo. C. Brown
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UNITED STATES PATENT OFFICE.

JOHN G. CRAWFORD, OF LA GRANGE, ILLINOIS, ASSIGNOR TO WESTERN ELECTRIC COMPANY,
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CONNECTION-BOARD FOR ELECTRIC MACHINES.

No. 931,573.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed September 8, 1906. Serial No. 333,748.

To all whom it may concern:

Be it known that I, JOHN G. CRAWFORD, citizen of the United States, residing at La Grange, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Connection-Boards for Electric Machines, of which the following is a full, clear, concise, and exact description.

My invention relates to a connection board for electric machines, and its object is to provide a device of simple construction, which can be cheaply and easily manufactured, and which possesses a high degree of efficiency.

The device of my invention provides numerous detail improvements, which cooperate to make up a connection board possessing increased utility, which features will be hereinafter more particularly pointed out in the description by reference to the accompanying drawings.

Figure 1 is a front view of the connection board, with its cover removed, parts being shown in section; Fig. 2 is a section on the line 2—2 of Fig. 1; Fig. 3 is a section on the line 3—3 of Fig. 2; and Fig. 4 is a perspective view of one of the halves of a terminal lug, with parts broken away.

Like parts are designated by similar characters of reference throughout the several views.

The frame of the board is preferably of porcelain or similar insulating material, and consists of two similar halves 1 and 2, which can, therefore, be made from the same mold. It will be understood that in actual practice, the rear half 2 may be secured to the frame of the electric machine by means of screws or bolts 3, and that some cushioning means, as for example a spring washer *a*, may be placed between said rear piece and the frame A, in order to prevent breakage of the porcelain block when the bolts are tightened. The head of the bolt 3 is tapped to receive the screw-bolt 4 which secures the front half 1 in position.

The connection board is provided with a series of recesses 5 for receiving the terminal lugs 6. Each of said lugs is preferably composed of two parts 6^a, clamped together by a screw-bolt 7. The parts 6^a each consist of a socket piece and an enlarged flattened face or plate adapted to be clamped by the bolt 7 against the corresponding face of the other half of the terminal, said socket piece being adapted to receive a lead 8. The socket

piece has a cross-section of approximately twice the thickness of the plate, and is so arranged that when the plates are clamped together with the socket pieces lying adjacent and parallel with each other, the sockets are flush with the sides and ends of the plates. Each recess 5 has extending from one side, a recess 9, adapted to receive the nut on the end of the bolt 7. The nut lying in the recess 9 provides a convenient means for retaining the terminals in position, and preventing their withdrawal from the recesses when the parts are assembled. This is an important feature of my invention, since thereby the terminals are not fastened to the porcelain, but fit loosely in recesses formed therein. The ordinarily excessively high breakage, due to the fastening of the metal parts to the porcelain, is thus entirely obviated. The recesses 5 are preferably formed to open downwardly, as shown. The leads 8 enter and leave from below, and no live parts whatever are exposed, thereby eliminating any liability of short circuit due to the accidental laying of tools or other conductors against the terminals or to the accumulation of dust thereon.

Other recesses 10 may be provided. In one of said recesses is shown a terminal lug 11, somewhat similar to the lug 6. The recesses 10 may each communicate with one of the recesses 5 in order that a lead may be tapped off from the lug 6 by means of a metal strip 12, clamped at one end to lug 6 and at the other to the lug 11.

In the connection board above described, the parts are easily accessible for inspection or repair. When the front half is removed, all the parts are exposed and the leads with their terminals can be lifted out for examination.

The connection board of my invention requires no accurate finishing, since rough castings with no polishing or lacquering may be used. The board possesses the additional advantages of simplicity, cheapness and ease of construction, and is entirely non-combustible. In actual practice, it has proven eminently satisfactory.

Having thus described my invention, I claim:—

1. In a connection board for electric machines, the combination with a front and a rear portion provided with recesses between them, of terminal lugs arranged to lie freely

in said recesses and held against removal therefrom when the parts are assembled.

2. In a connection board for electric machines, the combination with a frame comprising two similar castings of insulating material provided with a series of recesses between their adjoining faces, of a series of terminal lugs arranged to lie wholly in said recesses and held freely therein against removal therefrom when the parts are assembled.

3. In a connection board for electric machines, a frame comprising two symmetrical halves, said frame having downwardly-opening recesses, of terminal lugs arranged to lie freely in said recesses and held against removal therefrom when the parts are assembled.

4. The combination with the rear casting of a connection board for electric machines, of a bolt passing loosely through said casting and securing the same to said machine, said bolt having a screw-threaded opening in its head, a front casting fitting over said rear casting, and a screw extending loosely through an opening in said front casting and threading in the opening in said bolt.

5. In a connection board for electric ma-

chines, the combination with a front and a rear casting, providing recesses between them, said recesses each having an extension from one side thereof, of terminal lugs arranged to lie freely in said recesses, said lugs each having a lateral extension lying in the side recess to prevent the removal of said terminal lugs when the parts are assembled.

6. In a connection board for electric machines, the combination with a frame comprising two similar castings of insulating material provided with a series of recesses between their adjoining faces, each of said recesses having an extension from one side thereof, of a series of terminal lugs arranged to lie freely in said recesses, each lug consisting of two similar parts, and a bolt and nut for clamping said parts together, said nut lying in the side recess to hold said terminal lugs in position when the parts are assembled.

In witness whereof, I hereunto subscribe my name this seventeenth day of July A. D., 1906.

JOHN G. CRAWFORD.

Witnesses:

SILAS E. WEIR,
G. M. CAMPBELL.