Aug. 11, 1925. 1,548,875

K. B. FERGUSON

GENERATOR

Filed Jan. 14, 1925

Fig. 1.

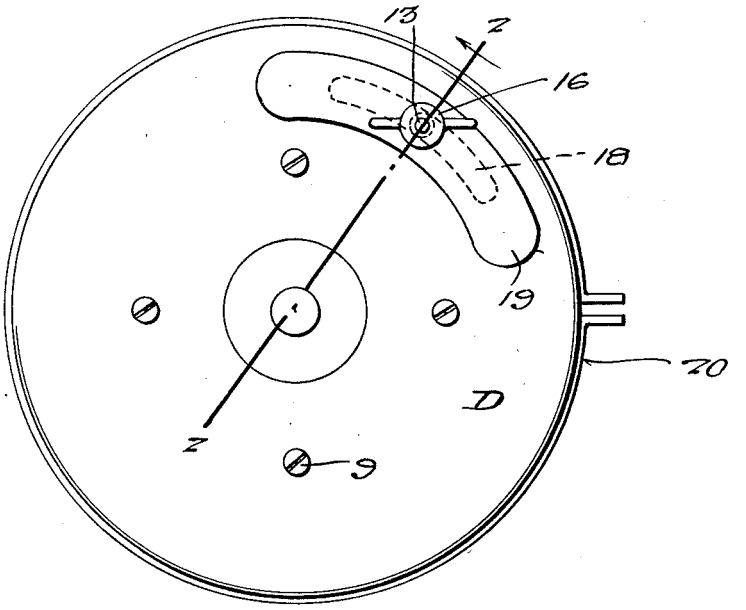



Fig. 2.

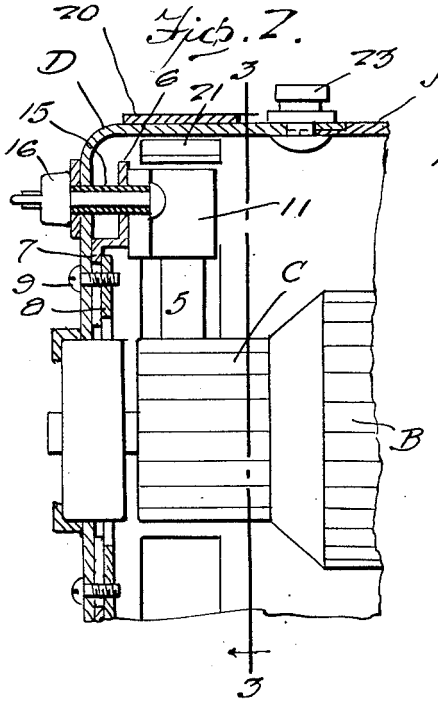
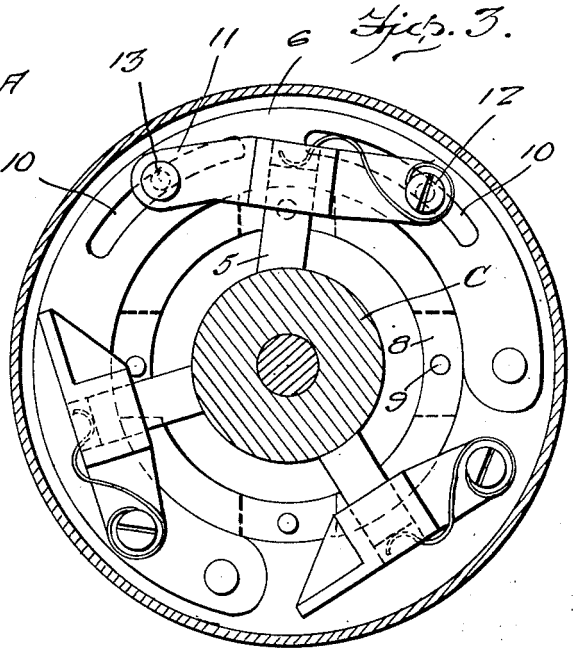



Fig. 3.

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# UNITED STATES PATENT OFFICE.

KING B. FERGUSON, OF BRANDON, TEXAS.

## GENERATOR.

Application filed January 14, 1925. Serial No. 2,330.

*To all whom it may concern:*

Be it known that I, KING B. FERGUSON, a citizen of the United States, residing at Brandon, in the county of Hill and State of Texas, have invented certain new and useful Improvements in Generators, of which the following is a specification.

The present invention relates to a generator and more particularly to that type which is used upon Ford automobiles.

The prime object of the invention is to provide improvements whereby the adjustable brush associated with the commutator of the generator may be easily and readily adjusted from the exterior of the generator housing or casing without the necessity of opening or taking apart the same.

The invention further aims to provide an improvement of this nature which may be cheaply incorporated with the conventional parts of a generator, and will be thoroughly reliable when once installed.

A further important object of the invention is to provide an improvement of this nature which is possessed of an extremely simple and efficient structure and one well adapted to the purpose for which it is designed.

With the above and numerous other objects in view, as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawing:

Figure 1 is an end elevation of the generator showing my improvement incorporated therein.

Figure 2 is a section, taken substantially on the line 2—2 of Figure 1, looking in the direction of the arrow, and

Figure 3 is a vertical transverse section through the generator, taken substantially on the line 3—3 of Figure 2, looking in the direction of the arrow.

Referring to the drawing in detail, it will be seen that the portions of the well-known form of generator which I have disclosed in the drawing, consists of the usual casing A, having rotatable therein, the rotor B which is provided with the usual commutator C. An end cover D houses the commutator C and the brushes associated therewith. One of the brushes 5 is adjustably supported on insulating supporting ring 6, which is provided with the usual offset flange 7, held in engagement with the end plate of the closure D by locking ring 8, engaged by screws 9. This supporting ring is provided with a pair of arcuate slots 10, the adjacent ends of which are spaced from each other, as is shown to advantage in Figure 3, and a brush holder 11 supporting brush 5, has its ends provided with elements 12 and 13, projecting through the slots, and thus this holder may be moved toward or away from the other holders, so as to vary the distance between the brush 5 and the other brushes, so that the charging rate of the generator may be controlled. The element 12 is of conventional construction and is free to move longitudinally of the slot 10, through which it is projected. The other element 13 comprises a part of my improvement and is in the form of a bolt having its shank covered by an insulating sleeve 15 and a thumb nut 16 on its outer extremity. The bolt 13 with its insulating sleeve 15 projects through the end of the holder 11, the supporting ring 6 and a slot of arcuate formation indicated in dotted lines in Figure 1, at 18, and a dust plate 19, which is held over the slot 18.

In order to adjust the brush 5, it is only necessary to slightly loosen up on the nut 16 and the bolt may then be moved in the proper direction for simultaneously moving the brush holder 11 and its brush 5 with respect to the other brushes about the commutator C. Heretofore it has been necessary to remove a band 20 disposed about the closure cap D, over the usual slots 21 provided therein, in order that an instrument may be inserted through these slots or else it has been necessary to entirely remove the cover D, by releasing fastening means 23. Either of these old methods consumed considerable time, and it was impossible to make an accurate adjustment, because the adjustment could not be made while the charging rate was being observed. With my improvement, it is possible to make the adjustment while observing an ammeter, which registers the rate of charge and thus the adjustment can be made very accurately, at the same time taking into consideration the normal speed of the engine and other features. It will be apparent that the device as now incorporated requires very little skill in the operation thereof, and that the improvements possess very simple and efficient structures which are thoroughly re-

liable, inexpensive to install upon the conventional parts of the generator, and yet strong, durable, not liable to readily get out of order, and otherwise very well adapted to the purpose for which they are designed.

Although I have described the improvements with a certain degree of particularity, it is to be understood that numerous changes in the details of construction, and in the combination and arrangement of parts may be resorted to, without departing from the spirit or scope of the invention as hereinafter claimed, or sacrificing any of its advantages.

Having thus described my invention, what I claim as new is:

1. In combination, a housing having an arcuate slot therein, a supporting ring in the housing having a pair of arcuate slots, a brush holder in the housing, means on the brush holder slidably engaging one slot of the ring, and a bolt on the brush holder passing through the other slot of the ring and through the slot of the housing, so that the brush holder may be adjusted exteriorly of the housing.

2. A generator of the class described including among other elements a commutator, a housing, a plurality of brushes, a plurality of brush holders therefor, a supporting ring having a pair of arcuate slots therein, means on one brush holder projecting through one slot, and a bolt on the last mentioned brush holder extending through the other slot, said housing provided with an arcuate slot through which said bolt projects, and a nut on the end of the bolt.

3. Means for adjusting a commutator brush wherein a housing is provided with an arcuate slot, a supporting ring provided with a pair of arcuate slots, and an adjustable brush holder having means at one end projected through one slot of the ring and movable therein, said means including a member projecting from the brush holder, through the other slot of the ring and the slot of the housing, and means on the end of the member exteriorly of the housing for holding the brush holder in adjusted engagement with the ring, whereby it may be moved to different positions and held therein, as desired.

In testimony whereof I affix my signature.

KING B. FERGUSON.