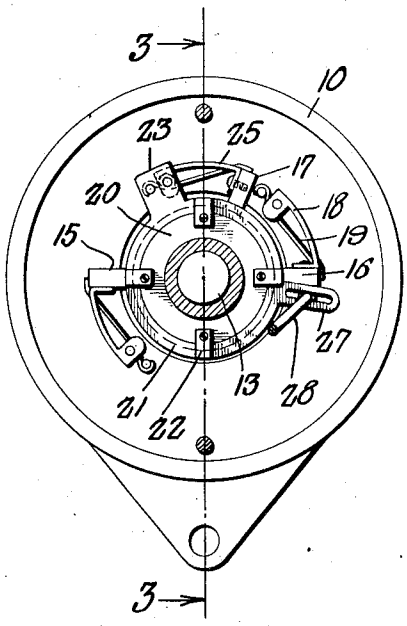
March 3, 1931. A. E. STUART 1,795,267

CHARGING RATE CONTROL FOR GENERATORS

Filed April 15, 1929 2 Sheets-Sheet 1

Fig. 1.



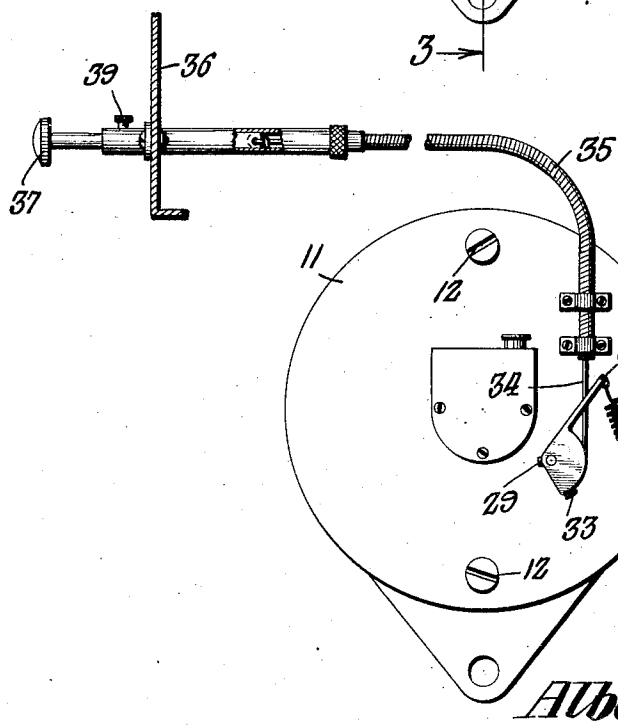


Fig. 2.

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CHARGING RATE CONTROL FOR GENERATORS

Filed April 15, 1929 2 Sheets-Sheet 2

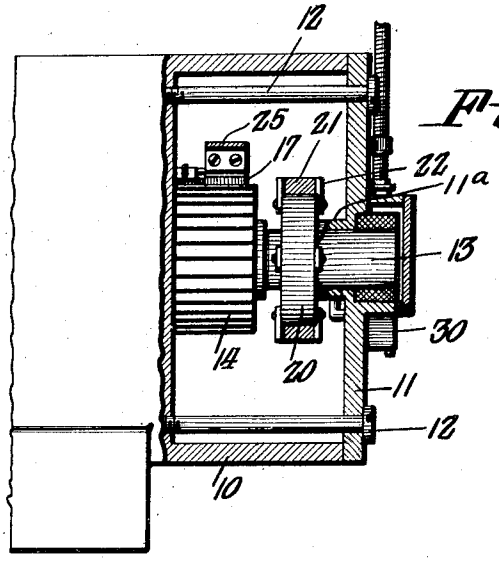


Fig. 3.

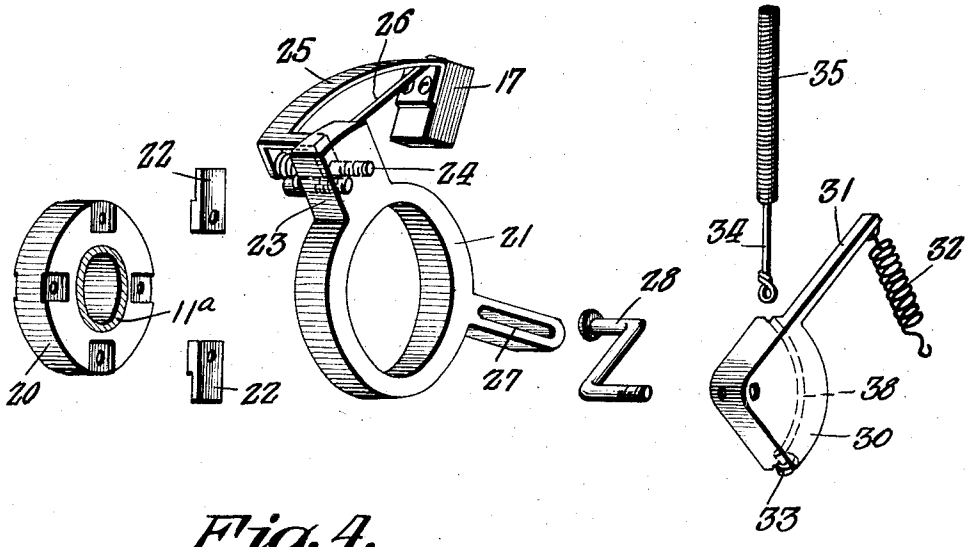


Fig. 4.

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Patented Mar. 3, 1931 1,795,267

UNITED STATES PATENT OFFICE

ALBERT E. STUART, OF UTLEYVILLE, COLORADO

CHARGING-RATE CONTROL FOR GENERATORS

Application filed April 15, 1929. Serial No. 355,295.

This invention relates to improvements in electric generators, an object being to provide means operated from a remote point to regulate the charging rate of a generator, the invention being especially adapted for use in automobiles.

Another object of the invention is the provision of means of the above character which are simple in construction, reliable in operation, and may be applied to various types of generators now in use.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claim.

In the drawings:—

Figure 1 is an end view of the generator with the end plate of the housing removed and the attaching screws therefor shown in section.

Figure 2 is an end view of the generator illustrating the means for controlling the position of the adjustable member, parts being shown in section.

Figure 3 is a fragmentary elevation partly in section showing one end of the generator.

Figure 4 is a view illustrating the invention, the parts being shown in perspective and in separated relation.

Referring to the drawings in detail wherein like characters of reference denote corresponding parts, the reference character 10 indicates the housing of the generator which is provided at one end with a removable plate 11, the latter being held in place by screws 12. The shaft of the generator is indicated at 13 and has mounted thereon the usual commutator 14 which is engaged by brushes 15, 16 and 17, the latter being the third or adjustable brush which regulates the charging rate. The brushes 15 and 16 are mounted for movement toward and away from the commutator as shown at 18 and are yieldingly forced into engagement with the commutator by means of springs 19. The foregoing may be of the usual or any preferred construction, the construction illustrated conforming to the type of generator used in an automobile of popular make.

The invention has to do with the mounting and adjustment of the brush 17, by means of which the charging rate of the generator is controlled. For this purpose there is mounted upon the shaft 13 a stationary collar 20 and rotatable about the periphery of this collar is an annulus 21. The collar 20 is rigid with the plate 11 through a sleeve 11*a*, which sleeve may be integral with said plate. In order to hold the annulus upon the periphery of the collar, the latter has secured thereto a plurality of spaced pairs of lugs 22 which engage opposite edges of the annulus 21 so that the latter may be adjusted circumferentially about the collar. Extending from the annulus is a lug 23 and pivotally secured to this lug as shown at 24 is one end of an arm 25, the brush 17 being secured to the opposite or other end of this arm. The arm 25 is offset with respect to the annulus and the spring 26 yieldingly forces the brush 17 into contact with the commutator.

Extending radially from the annulus 21 is a slotted arm 27 and movable within the slot of this arm is one end of a crank arm 28. The opposite end of this arm extends through the end plate 11 of the generator housing and has secured thereon by means of a set screw 29, a segmental member 30. This member has extending therefrom an arm 31 which is yieldingly held against movement in one direction by means of a spring 32.

The segmental member 30 has secured thereto as shown at 33, one end of a Bowden wire 34. This wire passes through a flexible tube 35 and is adapted to extend through the instrument board 36 of the automobile and is provided with a knob 37. The wire 34 is seated within a groove 38 provided in one edge of the member 30.

By pulling the knob 37 outward, the member 30 may be moved against the action of the spring 32 so that the crank arm will be locked to rotate the annulus in one direction. This rotation of the annulus will adjust the brush 17 circumferentially of the commutator so as to adjust the charging rate. The brush may be held in adjusted position by means of

a set screw 39. Movement of the brush in an opposite direction to adjust the charging rate may be accomplished through the medium of the spring 32.

It will be apparent from the foregoing description and accompanying drawings that the charging rate of the generator may be controlled from the instrument board of the automobile so that the rate may be conveniently adjusted. This enables the driver to increase the charging rate for night driving or to decrease the charging rate for protracted operation such as long trips. It also enables the use of the battery for the operation of a radio receiving apparatus, the charging rate being set up when the battery is used in an automobile so as to compensate for the current used in the set.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claim.

Having described the invention what is claimed is:—

A controlling means for effecting adjustment of an annular brush-carrying member of a current generator comprising, in combination, a slotted arm extending from the said brush-carrying member, a crank arm having an angular end engaging in the slot in the arm, a segmental head from which the crank arm extends, means mounting the said arm for rocking movement, a spring connected to the head at one end of the arcuate side thereof and yieldably restraining the head from movement in one direction, a Bowden wire connected at one end to the head at the other end of the arcuate side thereof and, the said side of the head being provided with a groove to accommodate the said wire, the said Bowden wire constituting means whereby the head may be angularly adjusted against the tension of the spring, a sleeve, a stem slidably mounted therein and provided with a finger knob, the other end of the Bowden wire being connected to the stem, and a set screw threaded through the sleeve and adjustable to hold the stem in its positions of adjustment.

In testimony whereof I affix my signature.

ALBERT E. STUART.