April 23, 1946. J. R. HARKNESS 2,399,022

DISTRIBUTOR

Filed Nov. 23, 1942

Fig. 1.

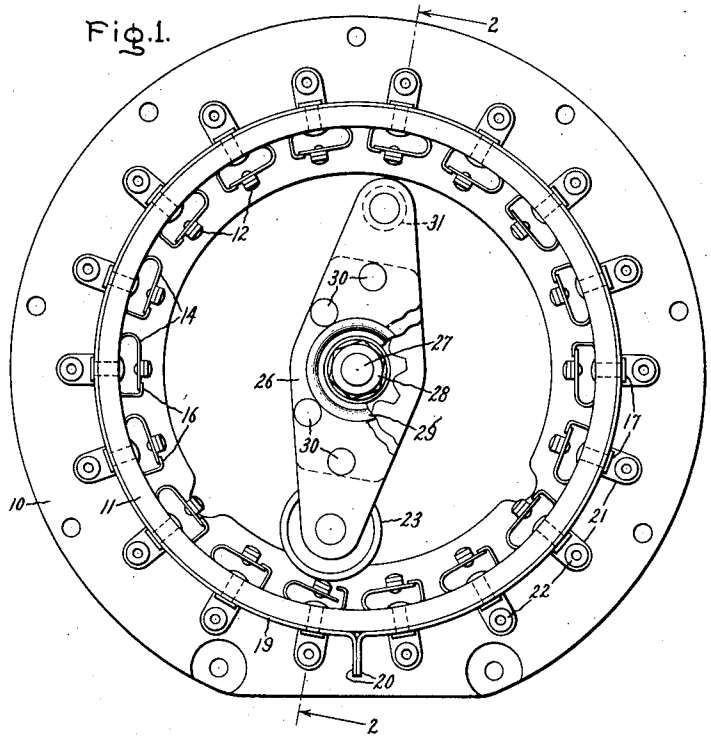
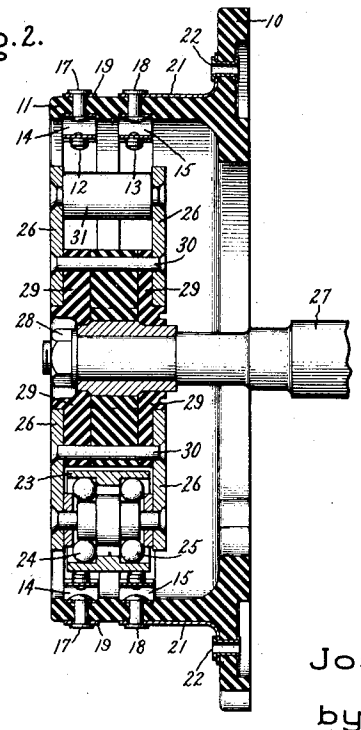


Fig. 2.



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2,399,022

DISTRIBUTOR

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Application November 23, 1942, Serial No. 466,607

2 Claims. (Cl. 200—26)

This application relates to ignition system distributors.

An object of my invention is to provide an improved ignition system distributor of the contact type.

Further objects and advantages of my invention will become apparent and my invention will be better understood from the following description referring to the accompanying drawing, and the features of novelty which characterize my invention will be pointed out with particularity in the claims annexed to and forming part of this specification.

In the drawing, Fig. 1 is a plan view of an ignition distributor including an embodiment of my invention; and Fig. 2 is a sectional view taken along line 2—2 of Fig. 1.

Referring to the drawing, I have shown an ignition system distributor including an insulating supporting member 10 provided with an axially extending hub 11 on which two sets of axially spaced apart distributor contacts 12 and 13 are mounted. The contacts 12 and 13 are resiliently supported by yieldable spring elements 14 and 15 in circumferentially spaced apart relationship on the supporting member hub 11, and these spring members are provided with outwardly extending stop elements 16 which limit the outward movement of the springs 14 and 15. Rivets 17 and 18 secure the spring members 14 and 15 to the supporting hub 11, and the rivets 17 also secure a connecting strip 19 of electrically conductive material to each of the contacts 12, thereby electrically connecting together all of the contacts 12 of this set. The ends 20 of the strip 19 extend outwardly to provide a terminal arranged to be connected to a suitable source of electrical power supply, such as the terminal of a magneto. The rivets 18 secure each of the contacts 13 to separate electrically conductive strips 21 which are secured by rivets 22 to the insulating supporting member 10, and each of the rivets 22 is adapted to form an electrical contact with a separate distribution lead which is suitably connected to an ignition spark plug unit. The distributor leads are adapted to be electrically connected to the source of electrical power supply through the distributor contacts 12 and 13 by a contactor roller 23 formed of electrically conductive material which is rotatably supported by bearings 24 and 25 on a distributor contactor supporting arm 26. This arm is mounted on a shaft 27 and is rigidly secured thereto by a nut 28 such that the arm 26 is rotated on rotation of the shaft 27. This shaft 27 is adapted to be driven in a predetermined speed relationship to the speed of the engine to which the distributor contacts are connected, such that the proper electrical impulse is sent to the desired spark plug unit in a predetermined sequence. In order to prevent the passage of electric currents from the contactor roller 23 through the bearings 24 and 25 to the shaft 27, the arm 26 is insulated from the shaft 27 by a set of bushings 29 of insulating material which are secured to the arm 26 by rivets 30. In order to provide the desired dynamic balance of the contactor supporting arm, a balance weight 31 is secured to the end of the arm 26 opposite the end of the arm to which the contactor roller 23 is secured. Rotation of the shaft 27 causes the contactor roller 23 to engage each of the contacts 12 sequentially and to engage a corresponding separate predetermined contact 13 so as to provide for sequentially electrically connecting together each contact of one of the sets to a separate predetermined contact of the other set.

While I have illustrated and described a particular embodiment of my invention, modifications thereof will occur to those skilled in the art. I desire it to be understood, therefore, that my invention is not to be limited to the particular arrangement disclosed, and I intend in the appended claims to cover all modifications which do not depart from the spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. An ignition system distributor including an insulating supporting member, two sets of axially spaced apart contacts, means for resiliently mounting said contacts in circumferentially spaced apart relationship on said supporting member, means for electrically connecting one of said sets of contacts to a source of electrical power supply, the contacts of the other of said sets being adapted to be connected to separate distribution leads, a contactor supporting arm, means including a contactor roller of electrically conductive material for sequentially electrically connecting together through said contactor each contact of one of said sets to a separate predetermined contact of the other of said sets, means for rotatably supporting said roller on an end of said contactor supporting arm, and a balance weight secured to the other end of said supporting arm.

2. An ignition system distributor including an insulating supporting member, two sets of axially spaced apart contacts, means for resiliently mounting said contacts in circumferentially

spaced apart relationship on said supporting member, means for electrically connecting together one of said sets of contacts and for connecting said set of contacts to a source of electrical power supply, the contacts of the other of said sets being adapted to be connected to separate distribution leads, a contactor supporting arm, means for supporting and rotating said arm, means for insulating said arm from said supporting means, means including a contactor roller of electrically conductive material for sequentially electrically connecting together through said contactor each contact of one of said sets to a separate predetermined contact of the other of said sets, means for rotatably supporting said roller on an end of said contactor supporting arm, and a balance weight secured to the other end of said supporting arm.

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