Dec. 14, 1926. 1,610,845

P. BRINDLE

COMMUTATOR OR DISTRIBUTOR FOR IGNITION SYSTEMS OF INTERNAL COMBUSTION ENGINES

Filed Oct. 4, 1922

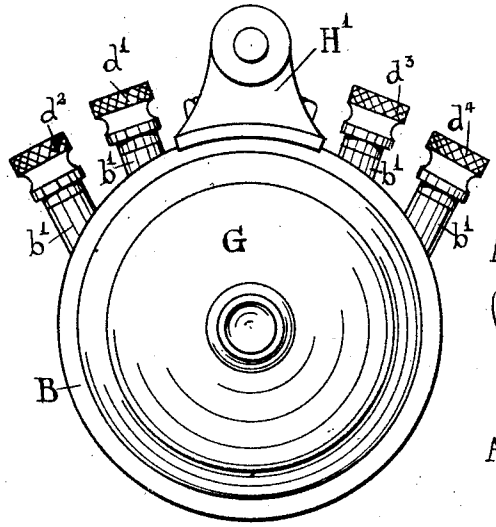


Fig. 1.

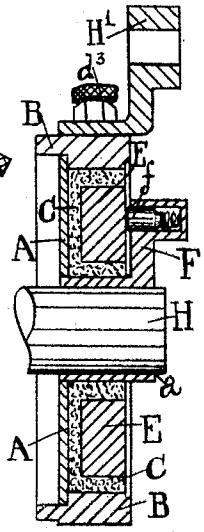


Fig. 4.

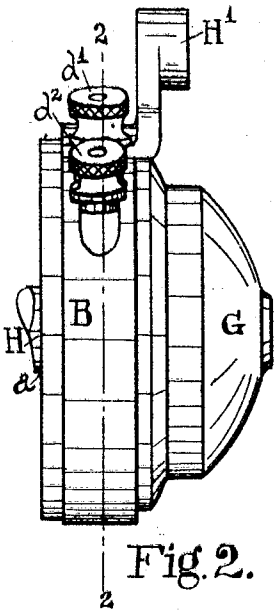


Fig. 2.

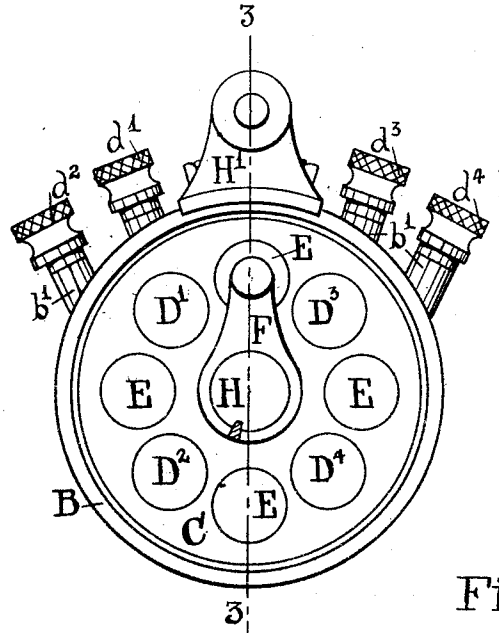


Fig. 3.

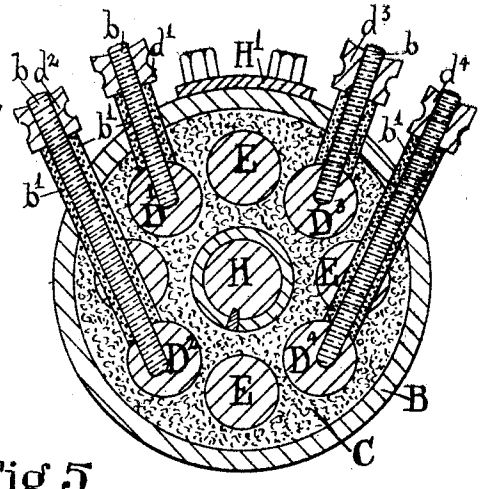


Fig. 5.

INVENTOR

Percival Brindle

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Atty.

Patented Dec. 14, 1926.

1,610,845

UNITED STATES PATENT OFFICE.

PERCIVAL BRINDLE, OF LOSTOCK, BOLTON, ENGLAND.

COMMUTATOR OR DISTRIBUTOR FOR IGNITION SYSTEMS OF INTERNAL-COMBUSTION ENGINES.

Application filed October 4, 1922, Serial No. 592,428, and in Great Britain October 25, 1921.

This invention relates to commutators or distributors for ignition systems of internal combustion engines, such commutators or distributors being of the type in which a number of insulated contact segments are arranged in the face of a plate but insulated therefrom.

The invention is particularly applicable for use on Ford motor vehicles and consists in the combination with the insulated contact segments of dead segments alternating therewith to give an approximately continuous flat metallic path for the contact brush.

The invention will be described with reference to the accompanying drawings:—

Fig. 1 is a front elevation of the commutator or distributor with cover in position.

Fig. 2 is a side elevation of same.

Fig. 3 is a front elevation with cover removed.

Fig. 4 is a section on line 3—3 Fig. 3.

Fig. 5 is a section on line 2—2 Fig. 2.

The commutator or distributor is constructed of metal of cylindrical or circular shape with a flat plate A and an annular flange B. The chamber formed within the flange B is filled with insulating material C into which are fitted four contact segments D′ D^2 D^3 D^4 preferably of brass. Between the contact segments D′ D^2 D^3 D^4 are arranged similar segments E which however are dead and only serve to give a metal track for the contact brush *f*. The whole front of the insulating material C, contact segments D′ D^2 D^3 D^4 and dead segments E are machined perfectly flat to form the face against which the brush *f* rotates. The terminals *d′* d^2 d^3 d^4 are fitted into the flange B and connected by screwed rods *b* with the contact segments D′ D^2 D^3 D^4. The rods *b* are surrounded with a sleeve *b′* of insulating material and pass through holes drilled through the insulating material C and the dead segments E.

The commutator or distributor is fitted with its back to the engine and the end of the cam shaft H carrying the holder F of the carbon brush *f* passes through a centre aperture *a* in the plate A and insulating material C, the brush being against the machined face of the insulating material and segments.

This arrangement prevents oil or grease from the engine collecting on the segment faces and on the brush as any oil or grease would be caught at the back of the plate A.

A removable dust cap or cover G is fitted over the face of the plate A which is held in position by a spring or other catch and which can be easily removed to effect adjustment or renewal of the brush without dismantling the commutator or distributor.

The commutator is moved by a wire or lever attached to the lug H′ screwed to the flange B. The lug H′ is removable so that it can be fitted at the top or bottom to suit either a car with a left hand or a car with a right hand drive.

What I claim as my invention and desire to protect by Letters Patent is:—

A commutator or distributor for the ignition system of internal combustion engines of the type referred to, comprising in combination a flat metal plate provided with an annular flange, a series of eight insulated contact segments set in front thereof but out of contact therewith, alternate segments being dead, an insulating material placed against the flat plate and within the flanges thereof into which the series of insulated contact segments are set all in the same plane, four adjacent connecting terminals passing through the upper portion of the annular flange but insulated therefrom and making contact with the live segments arranged at 90° to each other, the terminals to the two live segments in the lower half of the plate each passing through but insulated from a dead segment, a rotary carbon brush holder and brush adapted to rotate in a vertical plane against the flat approximately continuous metallic face presented by the live and dead segments and insulation, means for varying the position of the commutator with relation to the brush and a dust cap to cover the face of the plate.

In testimony whereof I have hereunto set my hand.

PERCIVAL BRINDLE.