Sept. 29, 1936. T. PILLA 2,055,880

IGNITION DISTRIBUTOR FOR COMBUSTION ENGINES

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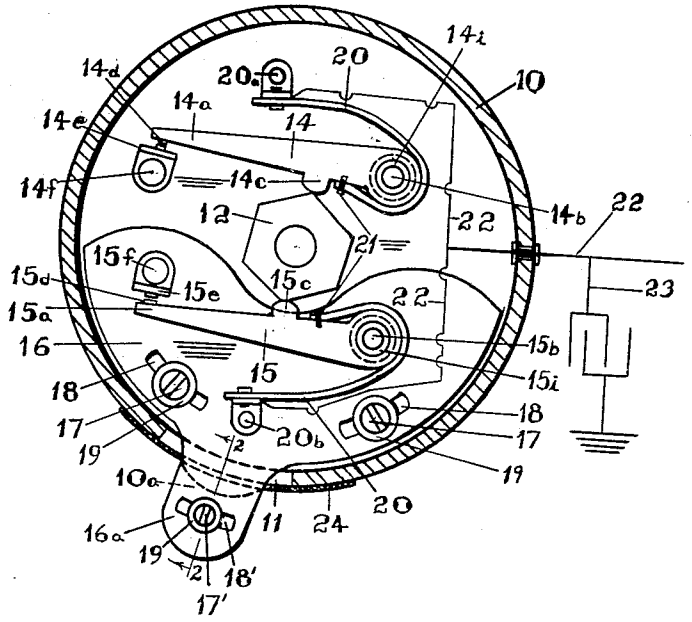


Fig 1

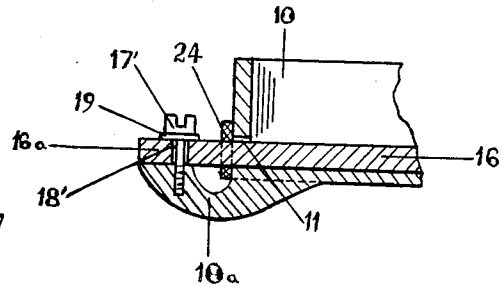


Fig 2

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IGNITION DISTRIBUTOR FOR COMBUSTION ENGINES

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3 Claims. (Cl. 200—27)

This invention relates to new and useful improvements in an ignition distributor for combustion engines.

The invention has for an object the construction of an ignition distributor which is particularly adapted for dual ignition and is capable of being accurately timed while the engine is running.

More specifically, the invention contemplates the arrangement in an ignition distributor of a plate movably mounted and supporting a breaker point assembly, said plate to be adjustably held in various positions to synchronize the breaker point assembly operation with a dual breaker point assembly fixedly mounted in the distributor housing.

A further object of the invention resides in the provision of a lug portion projecting from said plate and extending out through an opening in the distributor housing so that the plate may be adjusted from the exterior of the housing while the engine is running.

Still further the invention proposes the provision of a simple and efficient means for holding the plate in various adjusted positions.

Another object of the invention is the construction of a device as mentioned which is simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention and of the objects and advantages thereof reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:—

Fig. 1 is a horizontal sectional view of an ignition distributor constructed according to this invention, with some schematic wiring applied.

Fig. 2 is a fragmentary sectional view taken on the line 2—2 of Fig. 1.

The ignition distributor, according to this invention, includes a distributor housing 10 which has a side wall formed with a slot 11. The conventional driven cam 12 is disposed within the distributor housing and is adapted to operate the conventional breaker point assembly units 14 and 15. A plate 16 is movably mounted within the housing 10 and supports one of the breaker units assembly, namely, the unit 15. The dual unit 14 is mounted upon the housing 10.

The plate 16 has a lug portion 16*a* which projects through the opening 11. A means is associated with the plate and the distributor housing for fixedly holding the plate in various adjusted positions concentric with the cam 12. This means comprises several screws 17 extending through arcuate slots 18 formed in the plate 16. The lug portion 16*a* is also formed with an arcuate slot 18′ through which a fastening screw 17′ passes.

Lock washers 19 are disposed beneath the heads of the screws 17 and 17′. These lock washers are capable of holding the plate 16 with sufficient friction so that it may be manually moved, while the screws are slightly loose. It is thus possible to shift the plate 16 and correctly time the engine. After the correct timing has been established the screws 17 and 17′ are turned down as far as is possible.

The breaker point assembly 14 comprises a breaker arm 14*a* mounted at one end upon an insulation bushing 14*i* which is pivotally mounted by a pintle 14*b*. Intermediate of its ends the arm is formed with a projection 14*c* which engages against the cam 12. The extremity of the arm 14*a* is provided with a contact 14*d* which is adapted to engage a stationary contact 14*e*. This latter contact is connected with a terminal 14*f*.

The breaker unit assembly 15 comprises an arm 15*a* mounted at one end upon an insulating bushing 15*i* which is pivotally mounted upon a pintle 15*b*. Intermediate of its ends the arm 15*a* is provided with a projection 15*c* which engages the cam 12. The free end of the arm 15*a* is provided with a contact 15*d* which is capable of engaging a stationary contact 15*e*. This latter contact connects with a terminal 15*f*. The pintle 15*b* is mounted on the plate 16. The terminal 15*f* is also mounted on the plate 16.

Springs 20 are mounted by brackets 20*a* and 20*b* on the housing 10 and plate 16 and engage the arms 14*a* and 15*a* and are secured thereto by clips 21. These springs act to urge the arms so that the projections thereon engage the cam 12, and when the cam permits, so that the contacts engage each other. The leads from the coil are indicated by reference numerals 22. These leads are shown connected with the conventional condenser 23.

The arcuate slots 18 and 18′ in the plate 16 are concentric with the center of the cam 12. Thus, when the plate 16 is shifted, its distance from the cam is not altered but merely the position relative to the actuating portions of the cam. A shield 24, preferably fine wire gauze or other type of air filters, is mounted upon the lug portion 16*a* and extends over the opening 11. This filter material prevents dust from entering the distributor. A boss 10*a* projects from the housing 10 and extends

to a position beneath the lug 16*a*. The screw 17 threadedly engages into this boss.

To synchronize the breaker points it is necessary that the screws 17 and 17' be backed off slightly. There should be sufficient tension between the lock washers 19 and the plate 16 to prevent the plate from accidentally shifting. The engine is then operated and with conventional apparatus such as a synchroscope timing light the plate 16 is moved into correct position. It is then locked in this position by turning down the screws. This method of synchronization while the engine is running makes it possible to obtain a more accurate timing and thus smoother running of the engine. It goes without saying that the engine will then have more power and be capable of delivering more mileage for a fixed quantity of gasoline or other fuel.

While I have illustrated and described my invention with degree of particularity, I realize that in practice various alterations therein may be made. I therefore reserve the right and privilege of changing the form of the details of construction or otherwise altering the arrangement of the correlated parts without departing from the spirit or the scope of the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:—

1. An ignition distributor for combustion engines comprising a distributor housing, a driven cam within said housing, a breaker point assembly fixedly mounted within said housing and operated by said cam, a plate movably mounted within said housing, a dual breaker point assembly mounted upon said plate, and means for holding said plate in adjusted positions, said plate being limited to be moved concentric with said cam, and a lug portion projecting from said plate through an opening in the distributor housing.

2. An ignition distributor for combustion engines comprising a distributor housing, a driven cam within said housing, a breaker point assembly fixedly mounted within said housing and operated by said cam, a plate movably mounted within said housing, a dual breaker point assembly mounted upon said plate, and means for holding said plate in adjusted positions, said plate being limited to be moved concentric with said cam, and a lug portion projecting from said plate through an opening in the distributor housing, an air filter element mounted upon said lug portion and extending over said opening.

3. An ignition distributor for combustion engines comprising a distributor housing, a driven cam within said housing, a breaker point assembly fixedly mounted within said housing and operated by said cam, a plate movably mounted within said housing, a dual breaker point assembly mounted upon said plate, and means for holding said plate in adjusted positions, comprising screws engaging through slots in said plate and engaging into said housing, and lock washers beneath the heads of said screws, said plate having a lug portion extending through a slot in said housing, and a screw engaging through an opening in said lug portion and threadedly engaging a boss from said housing, a lock washer being disposed beneath a head of said latter-mentioned screw.

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