Sept. 12, 1950 H. F. CLAYTON 2,522,478

IGNITION TIMING SWITCH

Filed March 17, 1948

Fig. 1.

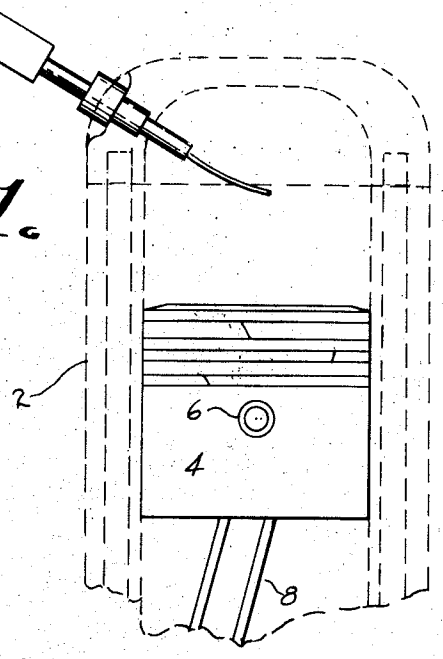


Fig. 2.

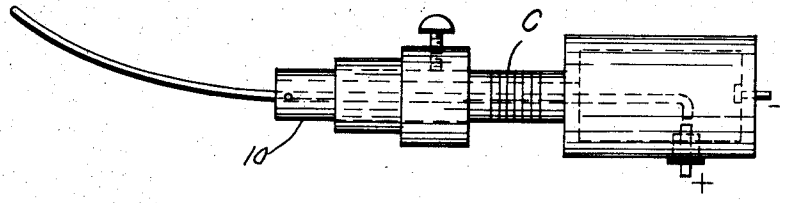


Fig. 3.

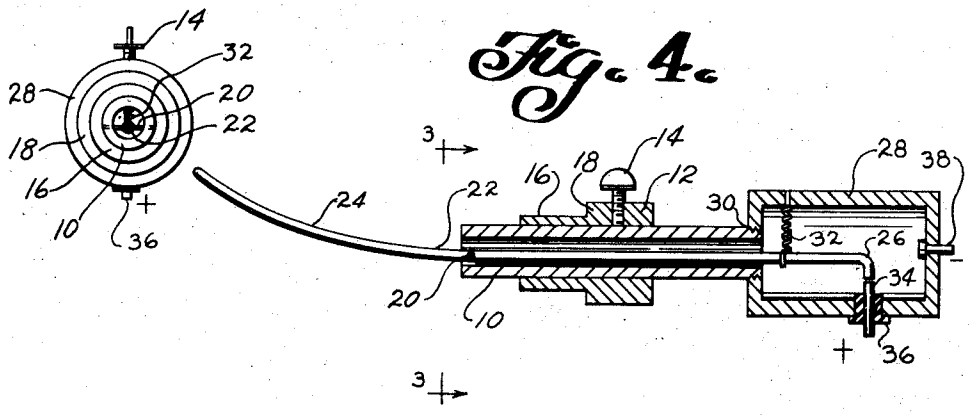


Fig. 4.

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IGNITION TIMING SWITCH

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1 Claim. (Cl. 200—52)

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My present invention relates to an improved ignition timing switch of the type especially adapted for use in checking the timing of the spark plug timing in internal combustion engines and being simple in construction and use will enable any mechanic to check the ignition timing in a short time saving time and labor in the operation.

According to my invention it is necessary only to remove the plug from the cylinder to be tested, insert my indicator through the plug opening, secure the current connections, and by raising the piston on compression stroke to the proper firing degree previously determined whereupon the circuit will be closed actuating the visual indicator.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention according to the best mode I have thus far devised, but it will be understood that various changes and alterations may be made in the exemplified structure within the scope of the appended claim.

In the drawings:

Figure 1 is a fragmentary view of a cylinder and piston, the timing indicator being shown in operative position in the cylinder, the cylinder and piston being shown in dotted lines.

Fig. 2 is a side elevational view of the timing indicator, according to the present invention.

Fig. 3 is a sectional view at line 3—3 of Fig. 4.

Fig. 4 is a longitudinal vertical sectional view.

Referring now to the drawings wherein I have illustrated the present preferred embodiment of my invention, I have shown a cylinder 2 of an internal combustion engine, and a piston 4 having a pin 6 and connecting rod 8.

For checking the ignition timing, the indicator is moved to the position shown in Figure 1, and the indicator of my invention consists in a cylinder or sleeve 10 of suitable metal having indicia or graduations C exterior thereof showing the crank degree for most efficient firing. A collar 12 is slidable on the sleeve and has a set screw 14 which may be tightened to secure the collar at the proper position on the sleeve. A reduced portion 16 on the collar fits into the usual spark plug opening of the cylinder and the shoulder 18 will abut the outer end of the plug bore.

By means of a transverse pivot pin 20 in the sleeve, I fix the movable contact element 22 which is curved forwardly at 24 and bent rearwardly at 26.

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The rear portion is confined in housing 28 threaded to the sleeve at 30 and the contact element is urged by coil spring 32 away from the fixed contact 34 which is insulated at 36 from, and secured in, the housing.

A second terminal 38 in the housing provides a circuit through the pivot pin and the movable element when the portion 26 and contact 34 engage.

With the crank degree determined and the collar set, the device is inserted into the cylinder through the plug opening and the piston is raised until the top bears against the curved portion 24 thus pivoting the element 22 and closing the contacts. With a continuity light or ohmmeter connected through the contacts, the firing position may be determined and the ignition set accordingly.

The collars may of course be varied in size to fit different plug openings and other changes in degree may be made within the scope of the claim. The collar 12 serves to insure that the indicator is properly positioned in the spark plug opening in the cylinder.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:

In a timing indicator for insertion in an opening of a cylinder, a housing, a fixed contact supported by said housing, a sleeve projecting from said housing and secured thereto, a collar slidably arranged on said sleeve for insertion in the opening in said cylinder, means for maintaining said collar immobile on said sleeve, an arm projecting through said sleeve and housing, said arm being pivotally connected to said sleeve and mounted for movement into and out of engagement with the fixed contact on said housing, and resilient means for urging said arm out of engagement with said contact.

HASSELL F. CLAYTON.

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The following references are of record in the file of this patent:

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