

Aug. 12, 1930.

J. G. GIAMPAOLI

1,772,829

CYLINDER POSITION LOCATOR

Filed July 25, 1929

2 Sheets-Sheet 1

Fig. 1.

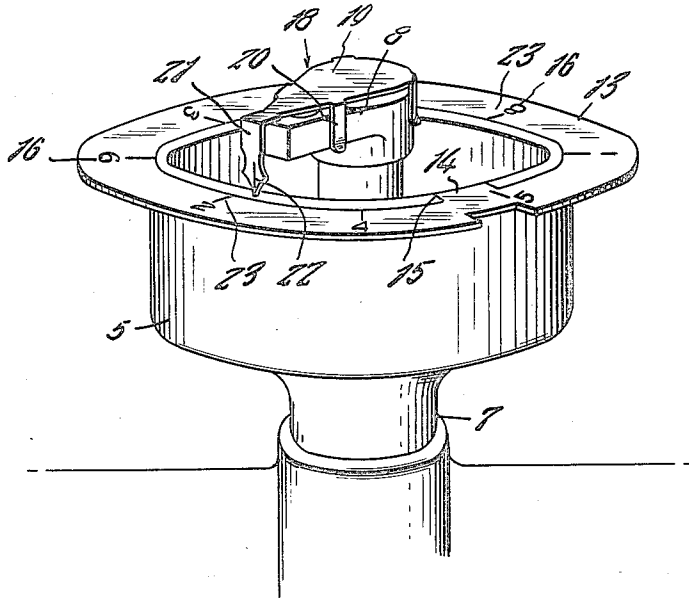
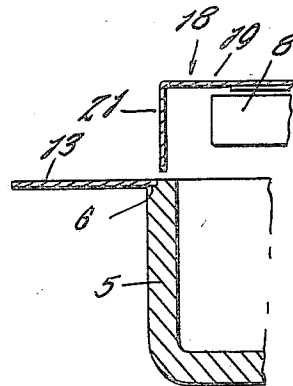


Fig. 4.

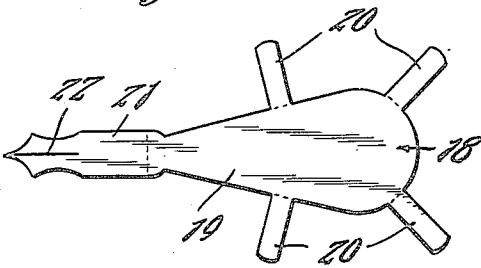


Fig. 3.

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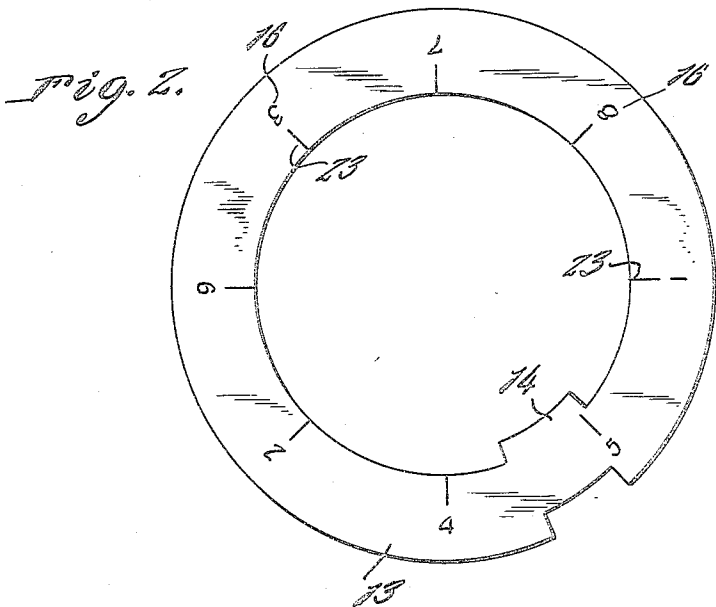
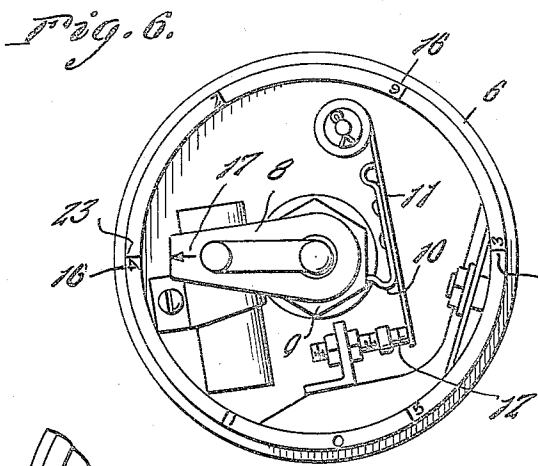
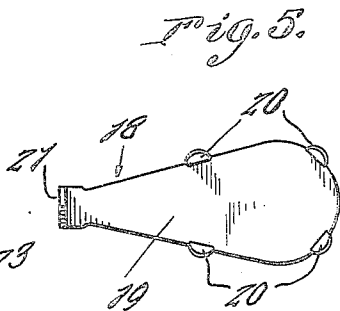
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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CYLINDER-POSITION LOCATOR

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This invention appertains to improvements in automobile appliances, and more particularly to a device for use in conjunction with distributors to ascertain the firing order of the cylinders, with the end in view, that the valves may be adjusted more readily and accurately, and in a much shorter period of time than is at present required, where the motor must be turned over slowly by one person, while another is engaged in the act of locating the firing cylinder.

The principal object of the invention is to provide a device of the character described for association with a distributor to indicate the location of the cylinder at, or approaching firing position.

Another object of the invention is to provide indicating means on an operating part of an engine whereby the firing positions of its cylinders may be readily ascertained.

During the course of the following specification and claims, other important objects and advantages will become apparent to the reader.

In the drawings:—

Fig. 1 represents a perspective view of a distributor equipped with the novel attachment.

Fig. 2 represents a top plan view of the indicating annulus.

Fig. 3 represents a fragmentary vertical sectional view.

Fig. 4 represents a plan view of the blank from which the pointer may be formed.

Fig. 5 represents a bottom plan view of the pointer after having been bent from the blank for engagement on the block of the distributor.

Fig. 6 represents a top plan view of a distributor with its cap removed and showing the top edge thereof with characters placed thereon in lieu of the indicating annulus shown in Fig. 1.

Fig. 7 is a fragmental plan view of a distributor casing showing graduations formed thereon.

Referring to the drawings wherein like numerals indicate like parts, it will be seen that numeral 5 denotes the casing of a distributor, of the type having an open top with

its edge portion reduced to provide the shoulder 6 for supporting the usual cap (not shown in the drawings).

Fig. 1, shows the casing 5 supported by conventional means 7 through which the shaft is journalled and equipped with the usual block 8 at its upper end. The shaft also has a cam 9 thereon for engagement with the finger 10 on the spring arm 11, which arm is adapted for alternate make and break engagement with the adjustable contact 12. The foregoing describes such conventional features of a distributor as may be associated with and cooperate with the elements of the invention, which is to be fully described immediately hereinafter.

The invention includes an annulus 13 of suitable width and having an inner diameter sufficient to permit a snug fit of the same over the upper edge portion of the casing 5 for rest upon the aforementioned shoulder 6. This annulus is provided with an inwardly disposed tongue 14 for engagement within the usual cover key slot 15 in the upper edge portion of the casing (see Fig. 1). The annulus has a plurality of characters 16 on the top surface thereof, and these may be applied in any manner found suitable. By way of exemplification, Fig. 2, shows eight such characters arranged at equal circumferentially spaced intervals, starting with cylinder number 1, and proceeding in firing order.

In lieu of the annulus, Fig. 6, shows the characters stamped or otherwise placed on the upper edge of the casing, this being a permanent feature of the distributor. In connection with this form of the invention an arrow or some other indicating symbol 17 is applied to the block 8.

For association with either the annulus or the characters on the edge portion of the casing is a pointer generally indicated by numeral 18. This pointer in blank includes a tapering plate 19 of spring metal, stamped out to provide a plurality of fingers 20, which may be bent for engaging the block in the manner shown in Figure 1, while a pointed head 21 is provided at the reduced end and bent downwardly for close disposition with respect to the annulus or edge portion of the

casing (as the case might be) when properly mounted upon the block 8. The spring fingers 20 are adapted to snugly grip the block to prevent movement or displacement of the pointer with respect to the block. The head 21 is provided with a gauge line 22, which may be alined with the lines 23 on the annulus 13, or edge portion of the casing.

Fig. 7, discloses a modification of the invention, wherein the open edge portion of the casing 5 is provided with an inwardly disposed protuberance 24 at each indication 16 thereon. The transversely extending lines 23 extend from the outside of the casing across the edge portions of the casing to the inner extremities of the protuberances, so that the arrow 17 on the pointer 21 may be more accurately alined with said lines 23, due particularly to the closer disposition of the parts.

It will thus be seen that the invention may be applied to new cars in the manner shown in Figs. 6 and 7, while the detachable elements of the invention shown in Figs. 1 to 5 inclusive are especially devised for cars not primarily equipped with the device.

While the foregoing specification sets forth the structure in definite terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what I claim as new is:—

1. A cylinder position indicator comprising in combination, a spark operating part of the engine, and indicating intelligence chart disposed adjacent the operating part to indicate the firing order of the cylinders thereof.

2. A cylinder firing order indicator comprising a pointer on a movable part of the spark controlling means of an internal combustion engine, and a cylinder position indicating chart disposed adjacent the pointer whereby the firing order of the cylinders may be ascertained.

3. In combination, the commutation block of an internal combustion engine, and indicating intelligence chart disposed adjacent the block to ascertain the position of some concealed element operably connected to said first mentioned element by gauging the said first mentioned element with the said indicating intelligence.

4. In combination, the commutator of an internal combustion engine including a moveable element, and a chart disposed adjacent said moveable element, said moveable element being gaugeable with the said chart to indicate the position of the electrical device affected by the distribution of current thereby.

5. In combination, a distributor for multiple cylinder engines, said distributor including a moveable element, a cylinder position chart for disposition adjacent the move-

able element, and means on the moveable element gaugeable with the chart to indicate the location of the firing cylinder.

6. The combination with the commutator casing and distributor block of an internal combustion engine, of an intelligence chart disposed on the casing of the commutator and a pointer carried by the distributor block in association with the chart.

7. An article of manufacture, in the form of an intelligence indicator for the spark timing mechanism of an internal combustion engine, comprising a sheet of material having arms and a pointer bent approximately at right angles to the body portion thereof.

In testimony whereof I affix my signature.

JOSEPH G. GIAMPAOLI.