L. M. THORESON.

IGNITION DEVICE.

APPLICATION FILED APR. 10, 1914.

1,172,408. Patented Feb. 22, 1916.

FIG. 1.

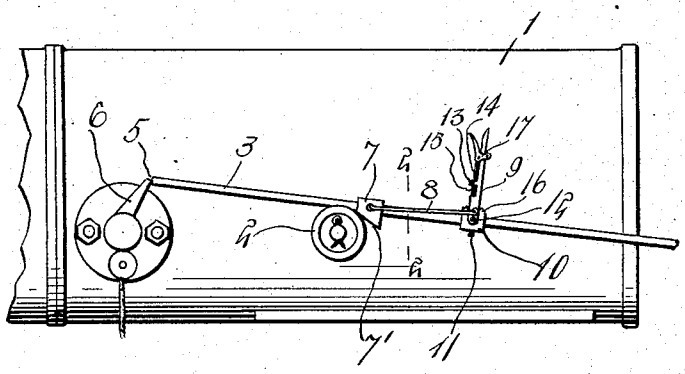


FIG. 3.

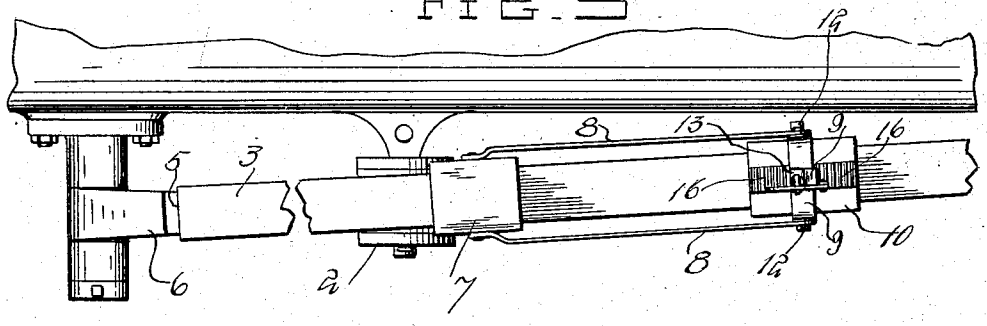


FIG. 2.

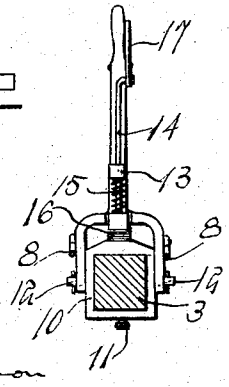
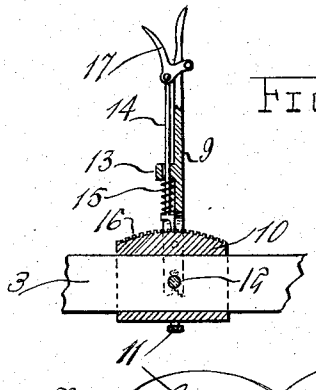


FIG. 4.



Witnesses

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IGNITION DEVICE.

1,172,408. Specification of Letters Patent. Patented Feb. 22, 1916.

Application filed April 10, 1914. Serial No. 831,037.

To all whom it may concern:

Be it known that I, LAURITZ M. THORESON, a citizen of the United States, residing at Twin Valley, in the county of Norman, State of Minnesota, have invented certain new and useful Improvements in Ignition Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an ignition device, and more particularly to a device wherein the timing of the spark may be regulated.

An object of the invention is to provide for the timing of the spark while the engine is running.

A further object of the invention is to facilitate for the adjusting of the said device.

With the above and other objects in view, such as will appear as the description progresses, my invention comprises the combination and arrangement of parts as herein set forth and subsequently claimed.

Referring to the drawing: Figure 1 is a side elevation of my device with the parts of a gas engine shown so that its relation thereto may be readily understood. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a plan view. Fig. 4 is a detail of the lever controlling mechanism.

Reference may be had to the drawing by reference characters wherein similar characters indicate similar parts throughout the several views.

Mounted on the side of the cylinder 1 is a roller bearing 2 on which is slidably mounted the igniter trip rod 3 which has eccentric connection to, and is operated by the main shaft. The end 5 of the said trip rod is adapted to trip the igniter by engagement with the arm 6 on each forward stroke of the rod. The length of time that the rod is in engagement with the said arm 6 controls the time between the sparks, that is the longer the member 3 is in engagement with the arm 5 the greater the time between the sparks. In order that this time may be varied at will and also that it may be varied conveniently while the engine is running I have provided the following mechanism: Slidably mounted upon the rod 3 is a controlling member 7 which has pivotal connection with a pair of rods 8 extending therefrom and connected to a lever 9 which is pivoted to a collar 10 slidably mounted on the rod 3 and held in fixed relation thereto after having been adjusted by a set screw 11. This member 9 is pivotally mounted on the member 10 at 12 and extends upwardly therefrom and has on its forward face a projection 13 in which is slidably mounted a bolt 14 normally pressed downwardly by a spring 15. The lower end of this bolt is formed so as to be engaged and pressed into engagement with the rack teeth 16 formed on the upper side of the collar 10 so as to hold the lever 9 in any of its adjusted positions. Operatively connected to this member 14 at its upper end is an operating handle 17 which may be gripped at the same time that the handle of the lever 9 is gripped to lift the bolt 14 out of engagement with the rack teeth and allow adjustment of the said lever 9. By moving the lever 9 about its pivot and holding it in such adjusted position the controlling member 7 is operated through the links 8 that is when the lever 9 is moved forwardly the controlling member 7 is likewise moved in that direction upon the rod 3. The farther this controlling member 7 is moved forwardly on the rod 3 the greater distance down the inclined surface 7′ the roller 2 will engage the said member 7 and the higher up on the arm 6, the end 5 of the member 3 will initially contact therewith and therefore less time will be consumed in moving the end 5 of the member 3 off of the arm 5 of the igniter during the reciprocation of the said member 3. It may be thus seen that by moving the said controlling member 7 either forwardly or backwardly upon the member 3 the length of time that the end 5 of the said member engages the projection 6 of the igniter may be varied, and in as much as during the engagement of the said rod with the igniter, the said igniter is being moved into such position that when the arm 6 thereof is released it will produce a spark. The adjustment of the said controlling member will therefore determine the interval between the sparks.

From the foregoing description it may be seen that I have provided a simple and efficient device which may be placed upon the igniter trip rod and which will alone control the spark while the engine is in motion.

I do not wish to be limited to the particular construction of my device shown, for

it is obvious that numerous changes may be made within the scope of the invention.

What is claimed is:—

In a gas engine, an igniter, a trip rod therefor supported by a projection from the cylinder, a controlling member slidably mounted on the trip rod and having an inclined lower face adapted to coöperate with the said projection to lift the free end of the trip rod during its reciprocation, means for adjusting said controlling member comprising a sleeve fixedly mounted on the trip rod, a lever pivoted thereto, an arcuate rack bar on the upper side of said sleeve, a spring pressed bolt mounted longitudinally of the lever and arranged to engage the teeth of the rack bar, links pivoted to the said lever and to said controlling member for operating the same.

In testimony whereof, I affix my signature, in the presence of two witnesses.

LAURITZ M. THORESON.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."