No. 702,895. Patented June 17, 1902.

C. O. WHITE.

SPARKING DEVICE.

(Application filed Feb. 12, 1902.)

(No Model.)

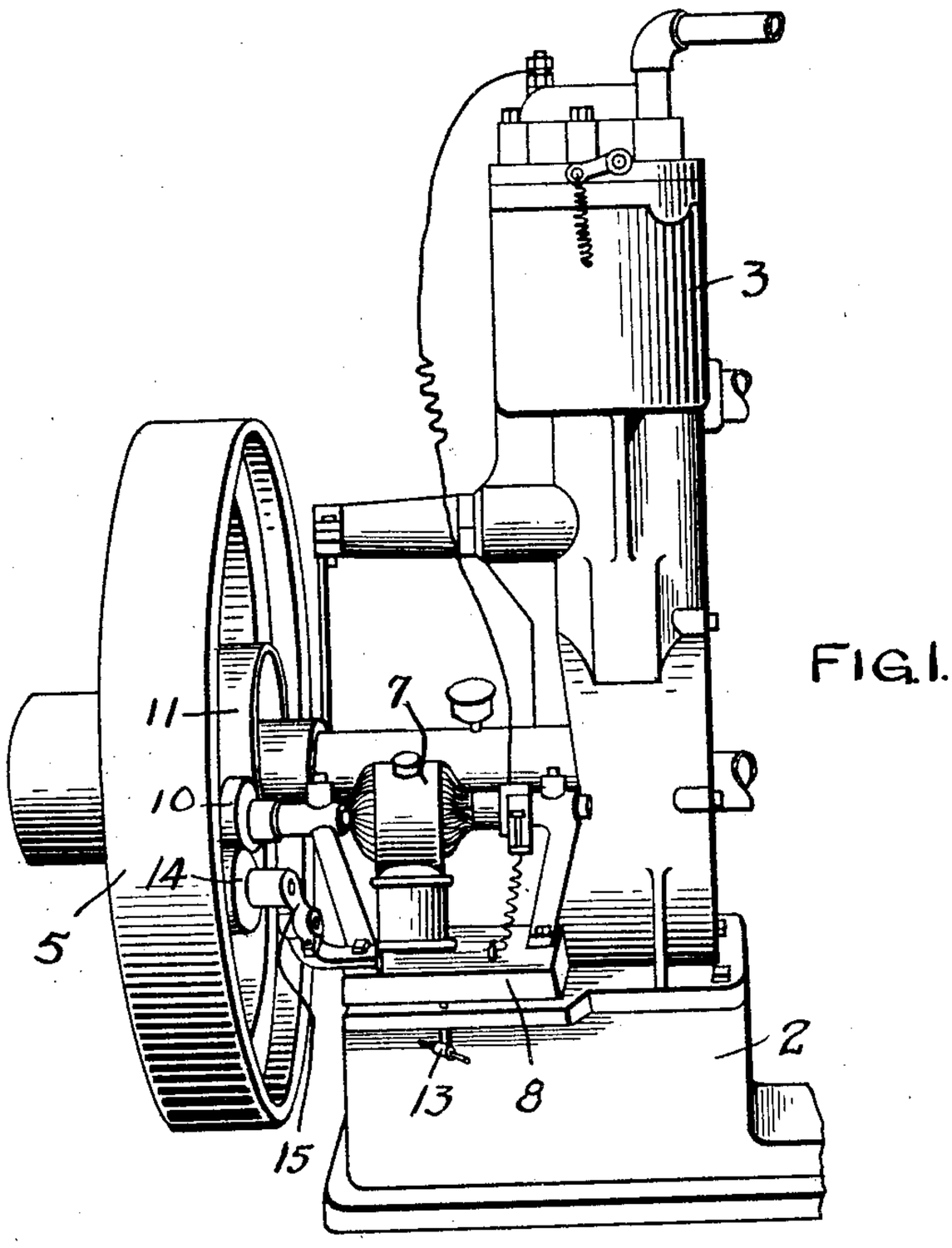


FIG. 1.

FIG. 2

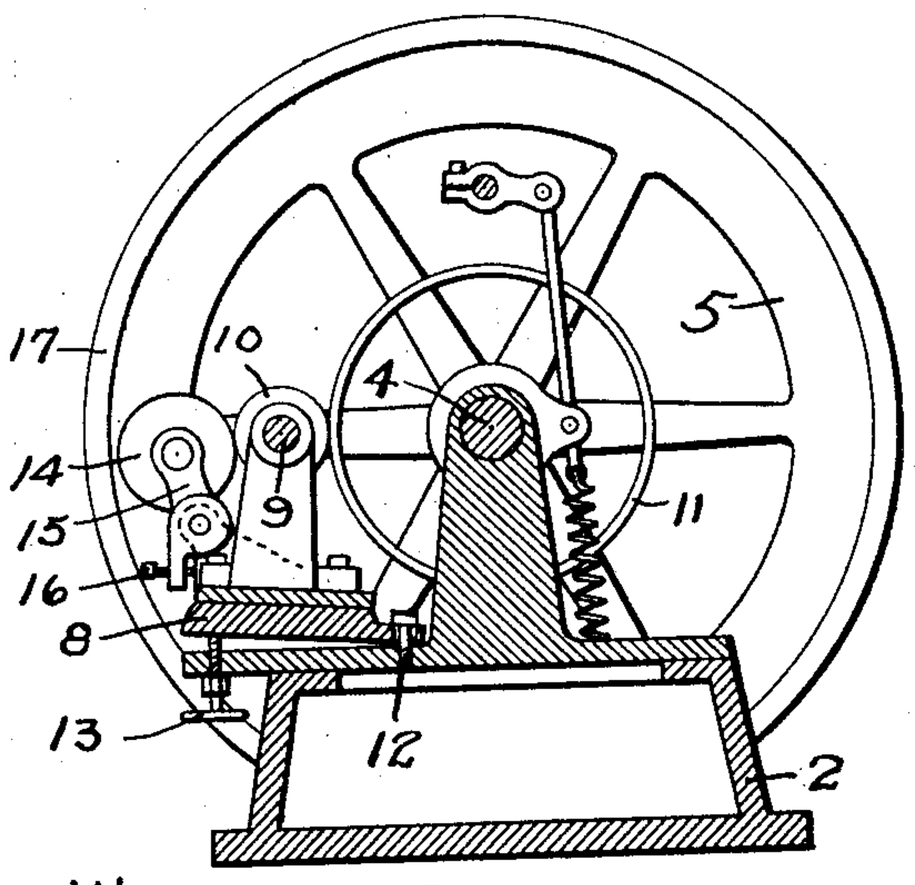
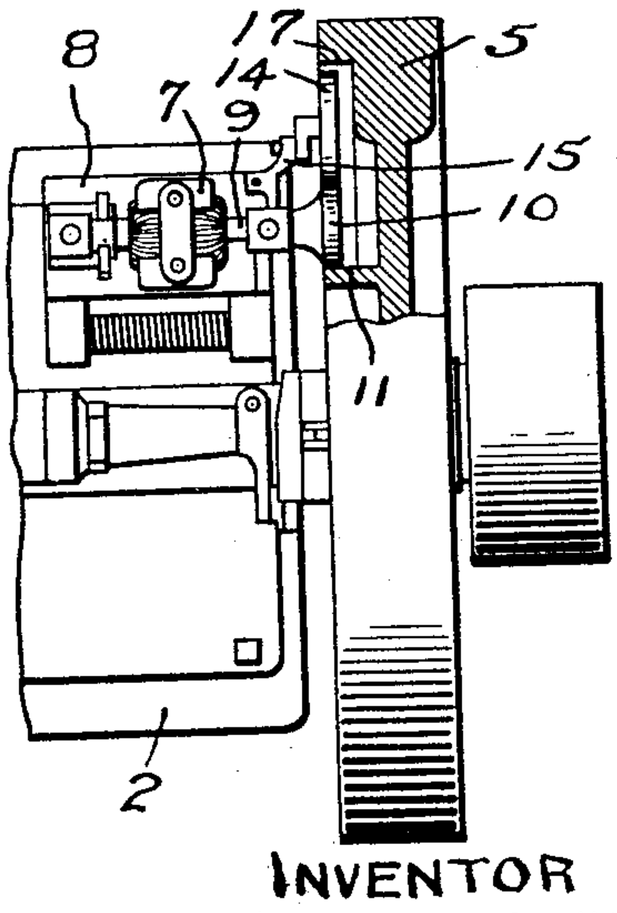


FIG. 3.



WITNESSES
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HIS ATTORNEYS.

UNITED STATES PATENT OFFICE.

CLARENCE O. WHITE, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO GLOBE IRON WORKS, OF MINNEAPOLIS, MINNESOTA, A CORPORATION OF MINNESOTA.

SPARKING DEVICE.

SPECIFICATION forming part of Letters Patent No. 702,895, dated June 17, 1902.

Original application filed December 3, 1900, Serial No. 38,448. Divided and this application filed February 12, 1902. Serial No. 93,658. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE O. WHITE, of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Sparking Devices, of which the following is a specification.

This invention relates to improvements in internal-combustion engines, and particularly to that type of internal-combustion engines that are commonly known as "gasolene-engines."

The object of my present invention is to provide an improved sparking device by means of which the vapor in the cylinder of the engine may be exploded in the operation of the engine.

The invention will be more readily understood by reference to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a perspective view of a gasolene-engine embodying my invention. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a detail of the fly-wheel, showing the arrangement of the dynamo and its relation thereto.

In the drawings, 2 represents the engine-base; 3, the cylinder; 4, the main shaft, and 5 the engine fly-wheel. These parts may be of any ordinary or preferred construction.

I have here shown an engine of the general construction described and claimed by me in application Serial No. 38,448, filed December 3, 1900, of which this application is a division; but I make no claim herein to the construction of the engine, having claimed the same either in my said application serially numbered 38,448 or another application of even date herewith.

The engine that I have herein shown is provided with a suitable dynamo 7, that is mounted upon a suitable base 8, that is in turn arranged upon the base 2 of the engine. This dynamo is electrically connected with a suitable igniter projecting into the cylinder or explosion-chamber of the engine. The dynamo-shaft 9 is provided with a suitable friction-pulley 10, that engages a ring or pulley 11, that is connected to or formed integrally with the fly-wheel 5. The rear edge of the base-plate 8 is connected to the base 2 by any suitable means, preferably by suitable bolts 12, and the forward edge of the base is provided with an adjusting-screw 13, by means of which said forward edge may be raised or lowered, thereby bringing the friction-pulley 10 into contact with the ring 11 or out of contact with said ring. A friction-pulley 14 is mounted upon a standard 15, said standard being pivotally supported upon the base-plate 8. An adjusting-screw 16 is provided, by means of which said pulley 14 may be adjusted toward or from the pulley 10. When the engine is in operation, the base-plate 8 is adjusted, so as to bring the pulley 10 into contact with the rim or ring 11, and thereby the dynamo will be driven by frictional contact of the pulley 10 and the rim or ring 11. In starting an engine of this kind it is customary to take hold of the fly-wheel by hand and to whirl it around. This operation would turn the dynamo-shaft quite slowly, and therefore the desired current would not be generated. The pulley 14, as shown, comes inside of the outer rim or ring 17 of the fly-wheel. (See Fig. 3.) By means of the screw 13 the forward edge of the base-plate 8 may be raised or lowered, thereby bringing the pulley 14 into contact with the inner surface of the rim 17, while the pulley 10 will simultaneously be moved out of contact with the rim or ring 11. By this means when it is desired to start the engine, the pulley 14 being in contact with the inner surface of the rim 17, the fly-wheel may be whirled by hand and the dynamo-shaft rotated at the proper speed through the contact of the rim of the fly-wheel with the pulley 14 and through contact of the pulley 14 with the pulley 10 and the dynamo-shaft. As soon as the engine has gotten under way the base-plate 8 is adjusted so as to move the pulley 14 out of contact with the rim 17 and the pulley 10 into contact with the ring or rim 11.

I do not limit myself to the details of the construction herein shown and described, as the same may be varied without departing from my invention.

I claim as my invention—

1. The combination, in an internal-combustion engine, with a fly-wheel provided with the ring 11 and with the internal rim 17, of

a dynamo mounted upon a movable base and provided with friction-wheels 10 and 14, and means for bringing one of said wheels in contact with said ring, or the other wheel in contact with said rim, for the purpose set forth.

2. The combination, with the fly-wheel, provided with ring-surfaces of different diameters, of a dynamo provided with a movable base and with friction driving-pulleys adapted to be brought into contact with one or the other of the ring-surfaces upon said fly-wheel, substantially as described.

3. The combination, with a fly-wheel having ring-surfaces of different diameters, the dynamo provided with a vertically-movable base, carrying standards in which the dynamo-shaft is mounted, a friction-wheel upon the dynamo-shaft, a friction-wheel mounted upon a movable support, and means for raising or lowering said base, whereby one of said wheels may be brought in contact with the smaller ring-surface or the other wheel may be brought in contact with the larger ring-surface, substantially as described.

In testimony whereof I have hereunto set my hand, this 2d day of December, 1901, at Minneapolis, Minnesota.

CLARENCE O. WHITE.

In presence of—
A. C. PAUL,
M. C. NOONAN.