

W. S. LEE.
MAGNETO MOUNTING.
APPLICATION FILED NOV. 24, 1911.

1,043,116.

Patented Nov. 5, 1912.
2 SHEETS-SHEET 1.

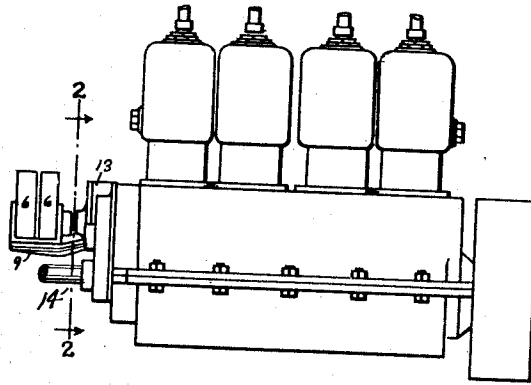


Fig. 1.

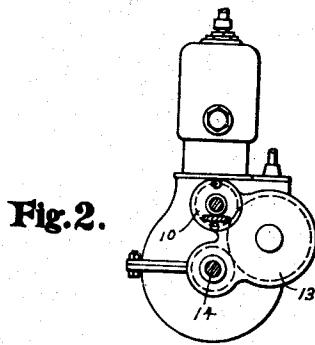


Fig. 2.

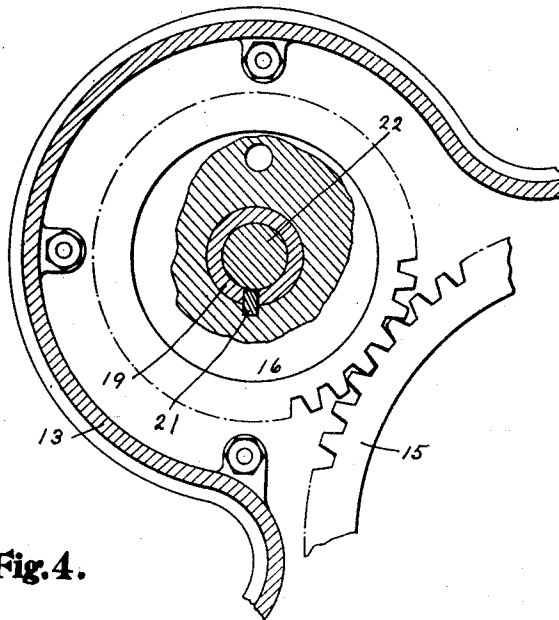


Fig. 4.

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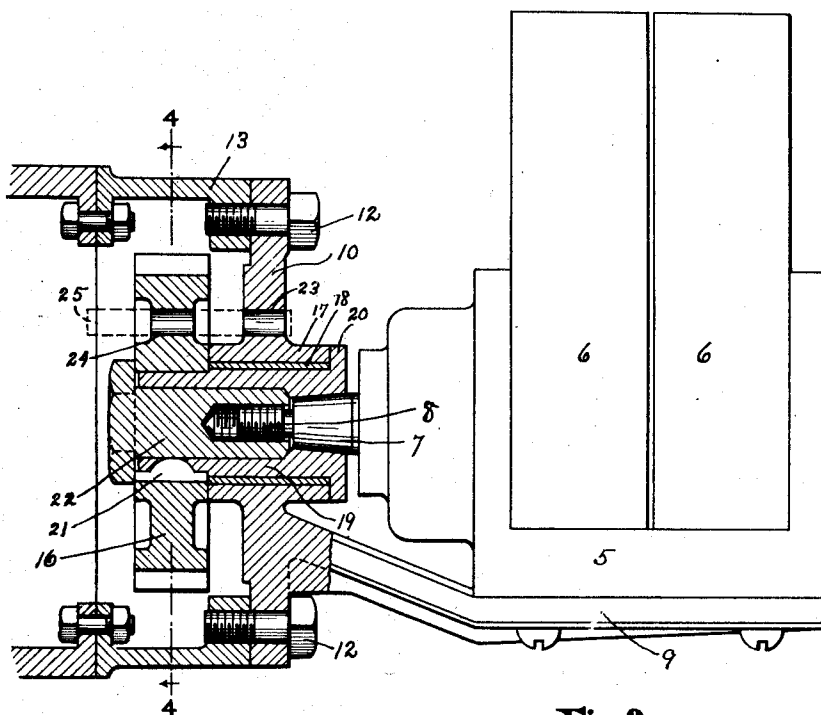


Fig. 3.

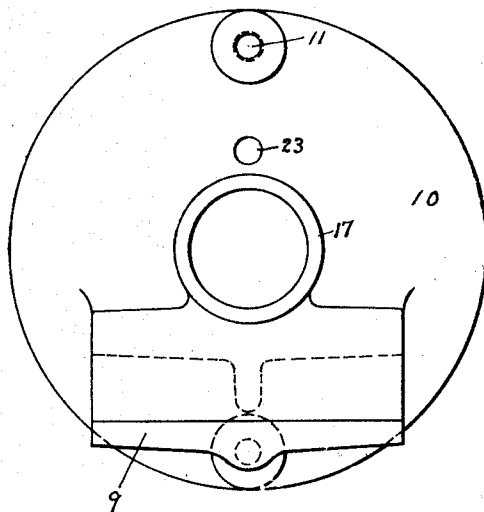


Fig. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM S. LEE, OF DETROIT, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
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MAGNETO-MOUNTING.

1,043,116.

Specification of Letters Patent.

Patented Nov. 5, 1912.

Application filed November 24, 1911. Serial No. 662,241.

To all whom it may concern:

Be it known that I, WILLIAM S. LEE, a citizen of the United States, and a resident of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Magneto-Mounting, of which the following is a specification.

This invention relates to means for supporting magnetos, to means for properly connecting the driving mechanism to the armature shaft of the magneto, and to means for properly adjusting said driving mechanism before it is locked to the shaft.

At present, much time is lost in properly connecting magnetos to the cam-shafts or crank-shafts of explosion engines, because there is no proper system for first positioning the gear connected to the armature shaft of the magneto. It is now necessary to make many adjustments and experiments before the proper position is attained. The present construction is designed to obviate these experiments by furnishing means whereby the position of the armature shaft can be absolutely determined so that the magneto can be secured in proper position without any difficulty.

In the accompanying drawings, Figure 1 is an elevation of an engine with the armature in position. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is an elevation of a magneto with the driving mechanism and supporting device in vertical section, on a larger scale. Fig. 4 is a section on the line 4—4 of Fig. 3. Fig. 5 is a rear view of the bracket.

Similar reference characters refer to like parts throughout the several views.

The magneto shown in the drawings may be of any desired construction. I have shown a bed 5, and permanent magnets 6. The armature shaft 7 is formed tapering, with a screw-threaded end 8. A supporting bracket is formed with a horizontal portion 9 to receive the bed of the magneto, and a disk 10 having holes 11 for the screws 12, by means of which this bracket may be attached to the gear casing 13. This casing 13 incloses the gear on the crank-shaft 14, and the gear 15 on the cam-shaft, as indicated in Fig. 4. The gear 16 on the end of the armature shaft is shown meshing with this gear 15 on the cam-shaft, although it may mesh with the gear on the crank-shaft if desired. The gear casing and the gears

on the cam-shaft and crank-shaft form no part in this invention. The casing 13 may be secured to the frame of the engine in any desired manner.

The disk 10 is formed with a hub 17 in which is an antifriction lining 18, to furnish a bearing for the sleeve 19. This sleeve is formed with a collar 20, and its inner end is tapered to fit the portion 7 of the armature shaft. On the outer end of this sleeve is mounted the gear 16, a key 21 supplying the connection between the gear and sleeve. A long nut 22 engages the thread 8 at its inner end. The disk 10 is formed with a hole 23 and the gear 16 is formed with a hole 24, through which holes a pin 25, shown in dotted lines in Fig. 3, may extend.

When the magneto has been properly assembled, it will be secured to the plate 6 with the sleeve 19 extending into the bearing 17. The workman then places the gear 14 on the sleeve 19 and screws the nut 22 a portion of its distance onto the thread 8, but not sufficiently far to lock the sleeve 19 onto the shaft. He then experiments by turning the armature shaft until he determines the exact position at which a spark is generated. When this is learned, the armature is stopped at that exact point, and the pin 25 is passed through the holes 23 and 24 to hold the gear 16 in position. The nut 22 is then screwed down hard to lock the sleeve 19 to the armature shaft.

When it is desired to mount the magneto on any desired multi-cylinder engine, the crank-shaft of the engine is turned so that a predetermined piston is at the explosion end of its stroke. At this position, the cylinder of this selected piston is ready to receive a spark, and the gear 15 on the cam-shaft is in proper position to engage the gear 16 when the holes 23 and 24 register. Any magneto may be taken out of stock, a pin 25 inserted through the holes 23 and 24 so as to properly position the gear 14, the pin removed, and then the disk 10 is secured to the casing 13 by means of the screws 12, care being taken to avoid turning either of the gears 15 or 16. No further adjustment of the magneto is then necessary. The pin 25 may be replaced by any other desired means for insuring the position of the gear 16 being the same as that selected by the workman when he determined the exact sparking point of the armature.

I claim.

1. The combination with the gear case and driving gear of an internal combustion engine, of a disk and bracket adapted to be
5 secured thereto, a bearing mounted on said disk, a sleeve revoluble in said bearing and having the bore at one end tapered to fit the tapering end of a magneto shaft, a gear
10 mounted on said sleeve of proper size to mesh with a gear connected to the engine, and a nut extending through said sleeve in engagement with the threaded end of the
armature shaft of the magneto, said gear
15 and disk having apertures to receive a tool to position the gear relative to the disk.

2. The combination with an internal combustion engine and a driving gear mounted thereon, of a bracket for supporting a magneto, and comprising a vertical and a hori-

zontal plate, said vertical plate formed with
20 a bearing, a magneto mounted on said horizontal plate and having a shaft extending through the bearing of the vertical plate, said shaft being formed tapering and
25 threaded at its outer end, a sleeve mounted in said bearing and having its bore formed to fit the tapering end of said shaft, means to secure said sleeve in position, a gear secured to the outer end of said sleeve and
30 means to determine the position of said gear relative to said armature shaft.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM S. LEE.

Witnesses:

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