L. S. LARSON & C. E. JONES.

COUPLING.

APPLICATION FILED OCT. 2, 1914.

1,177,638.

Patented Apr. 4, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

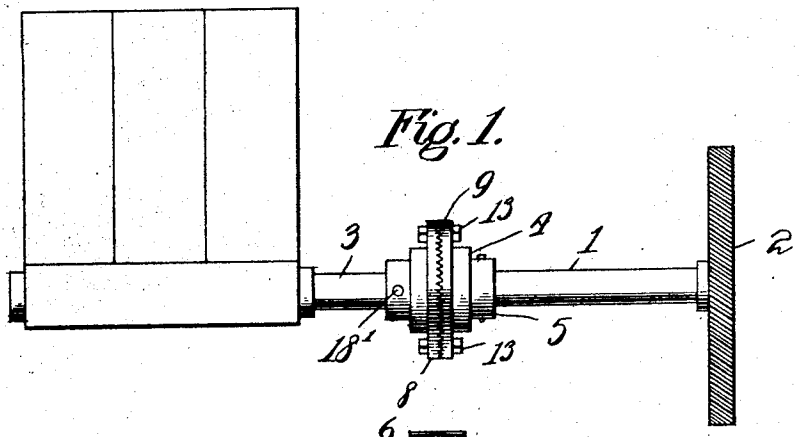


Fig. 2.

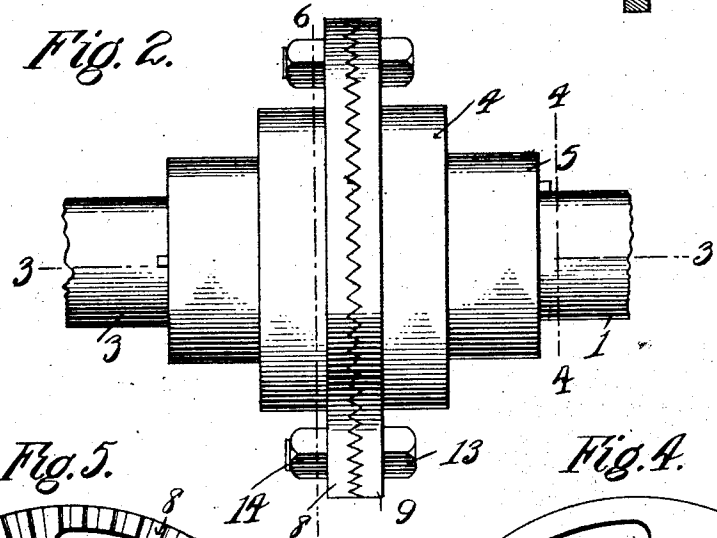


Fig. 5.

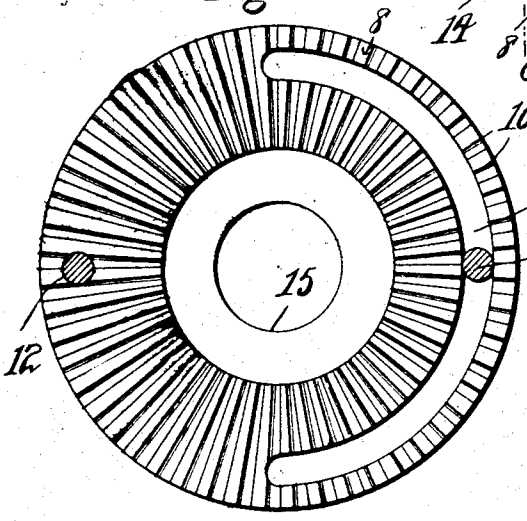
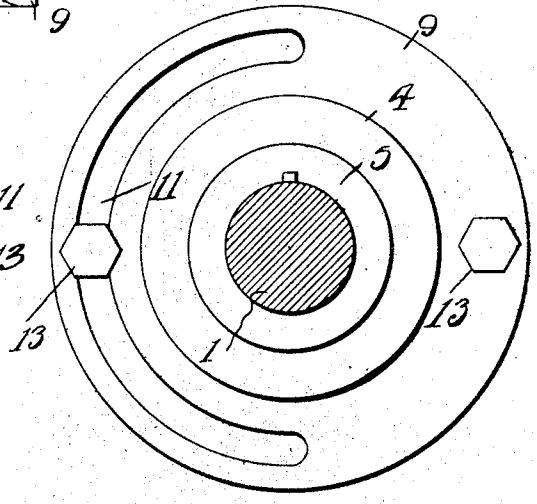


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 3.

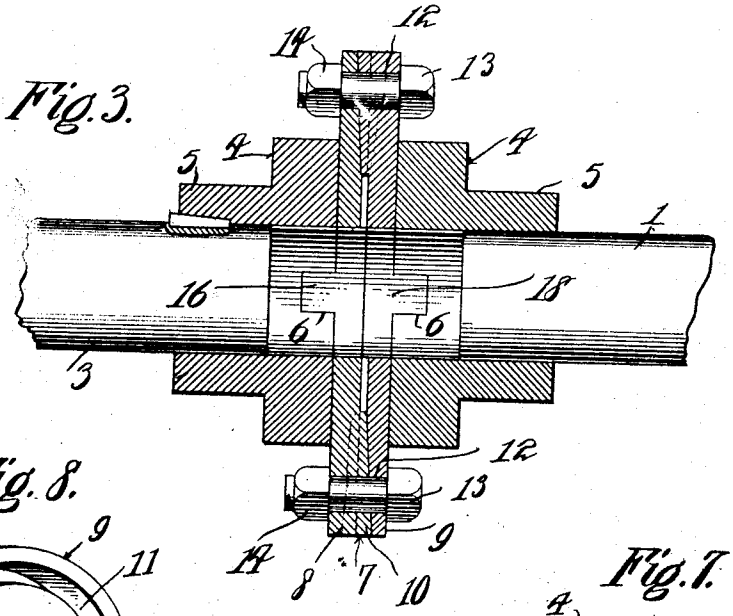


Fig. 8.

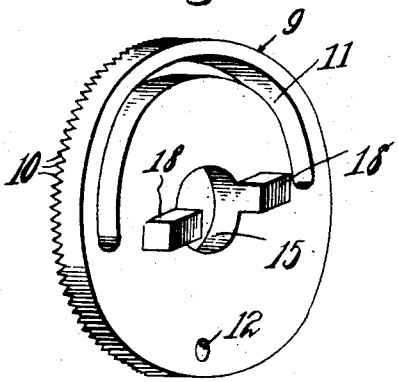


Fig. 7.

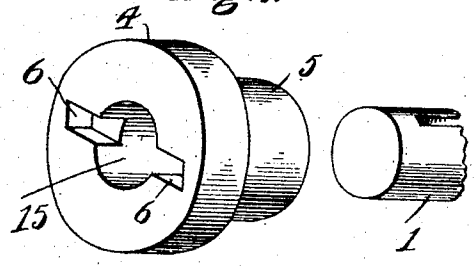
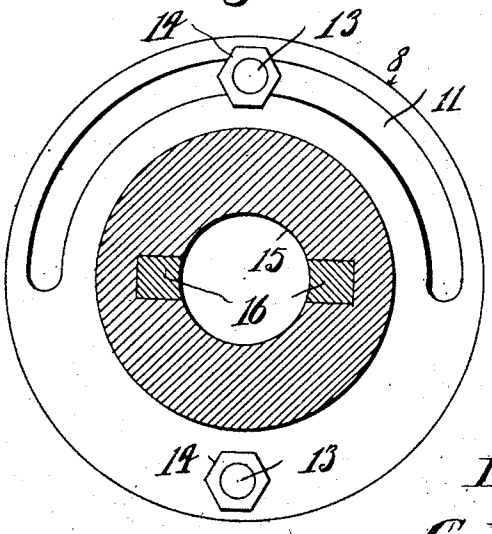


Fig. 6.



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UNITED STATES PATENT OFFICE.

LAWRENCE S. LARSON AND CHARLES E. JONES, OF TOLEDO, OHIO.

COUPLING.

1,177,638. Specification of Letters Patent. Patented Apr. 4, 1916.

Application filed October 2, 1914. Serial No. 864,659.

To all whom it may concern:

Be it known that we, LAWRENCE S. LARSON and CHARLES E. JONES, citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented new and useful Improvements in Couplings, of which the following is a specification.

The present invention relates to an adjustable shaft coupling, the object being to simplify and improve the existing art by providing a coupling between the drive and the driven shaft of a magneto whereby the setting of a magneto spark may be timed without interfering with the mechanism or uncoupling the shafts.

A still further object of the invention is the provision of a coupling upon the shafts of a magneto whereby either of the said shafts may be adjusted, one with relation to the other or whereby either of said shafts may be removed without interfering with the second shaft.

Other objects and advantages will appear as the nature of the invention is more fully understood, reference being had to the accompanying drawings in which there is illustrated a simple and satisfactory reduction of the improvement to practice, and in which:

Figure 1 is an elevation illustrating the drive and driven shaft of a magneto constructed in accordance with the present invention, Fig. 2 is a similar view taken on a greatly enlarged scale illustrating only the ends of the shaft coupler, Fig. 3 is a sectional view on the line 3—3 of Fig. 2, Fig. 4 is a sectional view on the line 4—4 of Fig. 2, Fig. 5 is a face view of one of the disks, the connecting bolt being shown in section. Fig. 6 is a sectional view on the line 6—6 of Fig. 2, Fig. 7 is a perspective view of a sleeve or similar coupling employed upon the end of the shafts, and Fig. 8 is a perspective view looking toward the rear of one of the adjustable coupling members.

The magneto shaft comprises a pair of members which for the sake of convenience will be referred to as the driving shaft 1 (which is connected with one of the cam shaft driving gears 2 of an automobile) and the driven shaft 3, (which is connected with the magneto). Each of the shafts has arranged upon its end a removable head 4, the same being provided with a rearwardly extending sleeve 5 which is passed over the end of the shaft and is secured thereto through the medium of a suitable key, passing in a longitudinal key-way in both the sleeve and shaft or by a removable pin inserted transversely through the said sleeve and shaft. The outer face of the head is provided with an elongated slot 6, and the said slot 6 upon the head 4 of the drive shaft is arranged opposite the slot 6 of the head 4 of the driven shaft.

The adjustable coupling is broadly designated by the numeral 7, and comprises two similar disks 8 and 9 respectively. The adjacent faces of the disks are formed with radially disposed teeth 10 which interlock when the disks are arranged one against the other. Each of the disks is provided with a coaxially arranged slot or opening 11, the slot 11 of one of the said disks being disposed opposite the slot 11 of the second disk when the disks are connected. The slots 11 terminate preferably in a line with the central portion of each of the disks so that each of said slots is of a length equal to approximately one-half of the circumference of the disk adjacent the periphery thereof.

The numerals 12 designate openings which are provided in the disks and which are disposed to intersect each one of the slots 11, a bolt 13 passing through each of the openings and through one of the slots 11 of each of the disks, while nuts 14 are provided for each of said bolts. Each of the disks 8 and 9 is provided with a central opening 15 of an area equaling the cross sectional area of the magneto shafts, and the outer face of each of the said disks is further provided with lugs or keys 16 and 18 respectively, the same extending from the diametrically opposite walls provided with the openings 15, and the said lugs or keys are disposed at a right angle to the two disks 8 and 9, so that the key will be received within the slot 6 of the head 4 of the drive shaft 5, and likewise the lugs or keys 16 will be received within the slot 6 of the head 4 of the driven shaft 3.

By removing the securing pins, indicated by the numerals 18′, from the sleeve 5 and either of the shafts it will be apparent that the said sleeve and its head 4 may be slid longitudinally of the shaft upon which it is arranged, bringing its groove out of engagement with the lug or key and permitting the nuts 14 to be loosened upon the bolts 13 so that one of the disks of the adjustable

coupler may be rotated upon the other disks, and again secured by the nuts and bolts and locked by the replacement of the head 4 upon the shaft, and so the timing of the sparking of the magneto may be readily facilitated. It will be also apparent that by adjusting the device upon one of the shafts the second shaft may be removed without interfering with the first mentioned shaft or with the mechanism with which it is connected. The grooves in the head are of a greater area than the lugs or keys formed upon the coupling disks, so that the shafts may be permitted to be arranged a slight distance out of alining register as well as permitting an easy and quick connection between the coupling disks and the heads 4.

Having thus described the invention, what we claim is:—

1. The combination with the driving and driven shafts of a magneto, of slidable heads upon the ends of said shafts and interlocking rotatably adjustable disks between the heads and connected with the heads.

2. The combination with the shafts of a magneto, of longitudinally adjustable heads secured upon the ends of the shafts, an adjustable coupling comprising two disks having interlocking faces connected together and arranged between the heads, there being a connection between the disks and said heads.

3. The combination with the drive and driven shafts of a magneto, of a headed member provided with a sleeve removably secured upon the end of each of the shafts, each of the heads having its outer face provided with a groove, an adjustable coupling comprising a pair of disks arranged between the heads, and means for adjustably securing the disks, said disks having their outer faces formed with lugs received within the grooves of the head.

4. The combination with the driven and the drive shaft of a magneto, of headed members provided with sleeves arranged upon the ends of the shafts and connected thereto, each of the heads having its outer face provided with a centrally arranged elongated groove, a coupling arranged between the heads, said coupling comprising a pair of disks having their inner faces formed with radially disposed interlocking teeth, the outer faces of each of the disks being provided with centrally arranged lugs which are arranged to engage within the grooves of the respective heads, the disks having concentrically arranged slots, a bolt passing through each of the disks and through the concentric slot in the adjacent disk, and nuts for the bolts.

5. The combination with the drive and the driven shafts of a magneto having heads upon the adjacent ends thereof, of a coupler having lugs entering slots in the heads, said coupler comprising two removably connected members having interengaging elements to permit of the circumferential adjustment of one of said members with relation to the other member.

In testimony whereof we affix our signatures in presence of two witnesses.

LAWRENCE S. LARSON.
CHARLES E. JONES.

Witnesses:
H. J. ROBERTS,
GEO. EHRMANN.