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M. O. CARTER & W. T. DAVIS.

DRIVE GEAR FOR ENGINES.

APPLICATION FILED MAY 28, 1906.

Fig. 1.

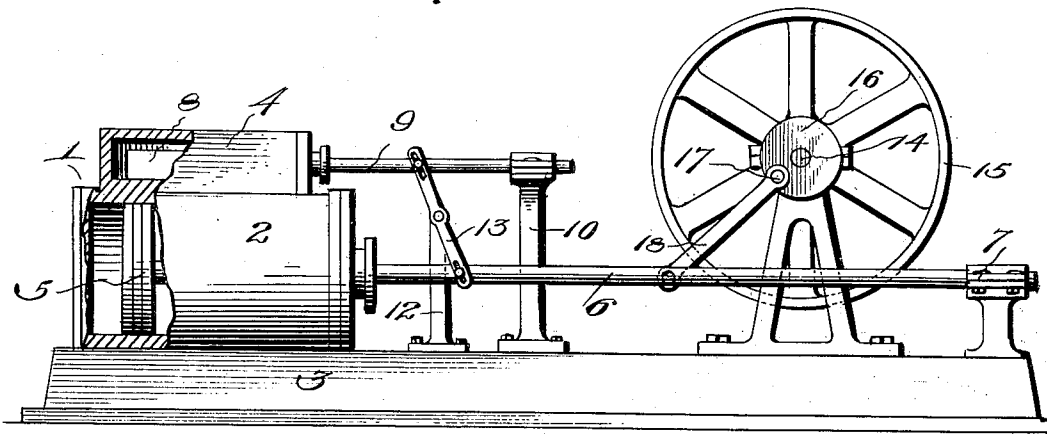
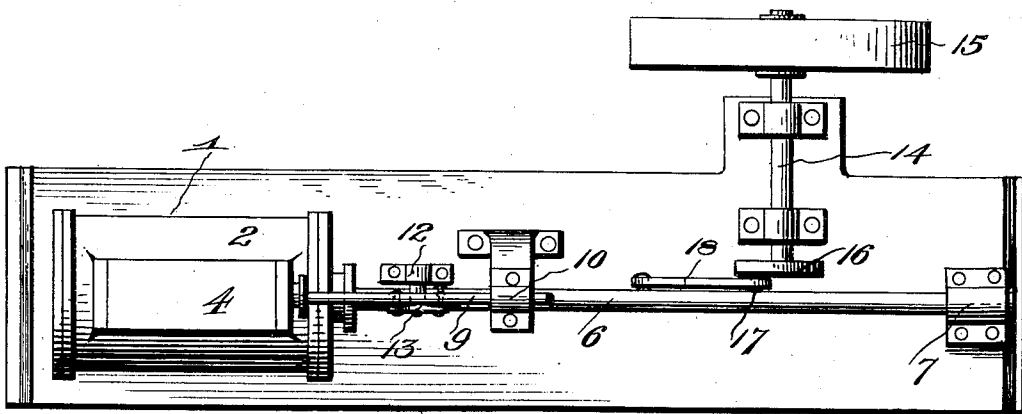


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

MATTHEW O. CARTER AND WILLIAM T. DAVIS, OF TRAVELLERS REST, SOUTH CAROLINA.

DRIVE-GEAR FOR ENGINES.

No. 880,627.

Specification of Letters Patent.

Patented March 3, 1908.

Application filed May 28, 1906. Serial No. 319,200.

To all whom it may concern:

Be it known that we, MATTHEW O. CARTER and WILLIAM T. DAVIS, citizens of the United States, residing at Travellers Rest, in the county of Greenville and State of South Carolina, have invented certain new and useful Improvements in Drive-Gears for Engines; and we do 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 improvements in drive gears for engines.

The object of the invention is to provide a driving gear of this character by which two revolutions will be imparted to the drive shaft and drive wheel of the engine to each stroke of the piston, thereby increasing the speed of the drive shaft.

With the above and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is a side view, partly in section, of an engine, showing the application of the invention thereto; and Fig. 2 is a top plan view of the same.

Referring more particularly to the drawings, 1 denotes the engine which may be of any suitable construction, but which is here shown as a horizontal engine having a cylinder 2 which is supported upon a suitable base 3 and above which is arranged the usual valve casing and steam chest 4. In the cylinder 2 is arranged the usual piston 5 to which is connected the piston rod 6, the outer end of which is slidably mounted in a guide bracket 7 secured to the frame of the engine.

In the valve casing 4 is arranged a slide valve 8, to which is connected a stem 9, the outer end of said stem being slidably mounted in a guide bracket 10, as shown. Pivotaly mounted upon a bearing bracket 12 is a valve shifting lever 13, one end of which is pivotally connected to the valve stem 9 and the other end pivotally connected to the piston rod 6. The arrangement of the valve shifting lever 13 is such that when the piston

rod is reciprocated the valve will be operated at the proper time to supply the cylinder with steam.

Mounted in suitable bearings on the frame of the engine is a drive shaft 14 on one end of which is fixedly mounted a fly wheel 15. On the other end of the drive shaft 14 is fixedly mounted a disk or plate 16, on which is secured an eccentrically arranged wrist pin 17, to which is pivotally connected one end of a link 18, the other end of the link being pivotally connected to the piston rod 6. The length of the link 18 and the arrangement of the same on the plate and on the piston rod is such that at each complete reciprocation of the piston, said plate and the drive shaft 14 will be given two revolutions thereby greatly increasing the speed of the drive shaft.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described our invention, what we claim as new and desire to secure by Letters-Patent, is:—

In a drive gear for engines, supports, a rectilinearly reciprocatory rod mounted therein, a shaft, one end of which is adjacent to said rod and provided with a wrist pin, a link pivotally secured at one end to said pin and at the other to said rod intermediate its ends, the length of the link and the connection thereof with the rod and the pin being such that at each complete reciprocation of the rod the shaft will be given two revolutions, and means for reciprocating the rod.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

MATTHEW O. CARTER.
WILLIAM T. DAVIS.

Witnesses:

J. A. McDANIEL,
E. A. McBEE.