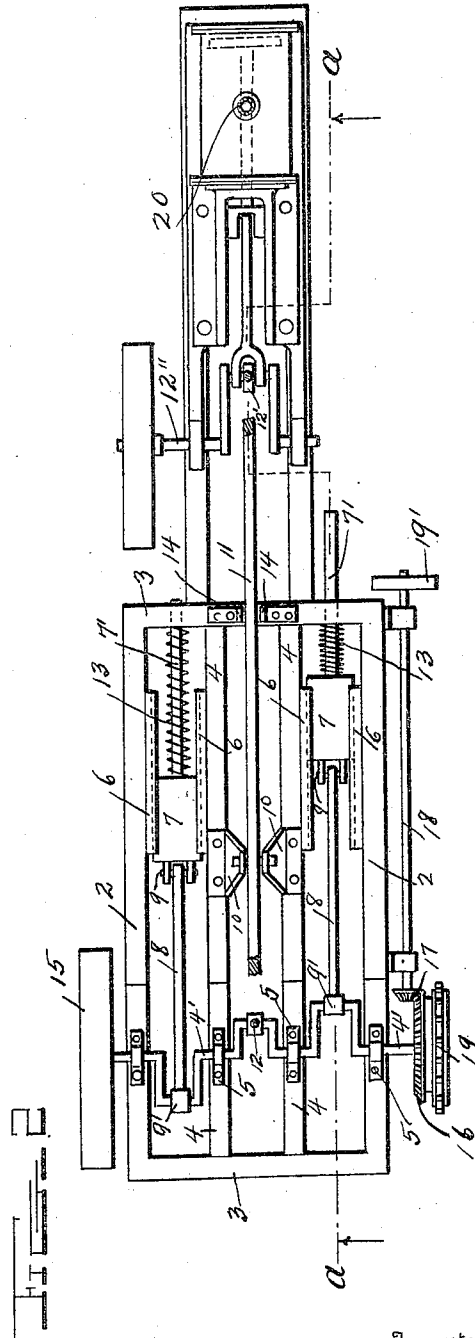
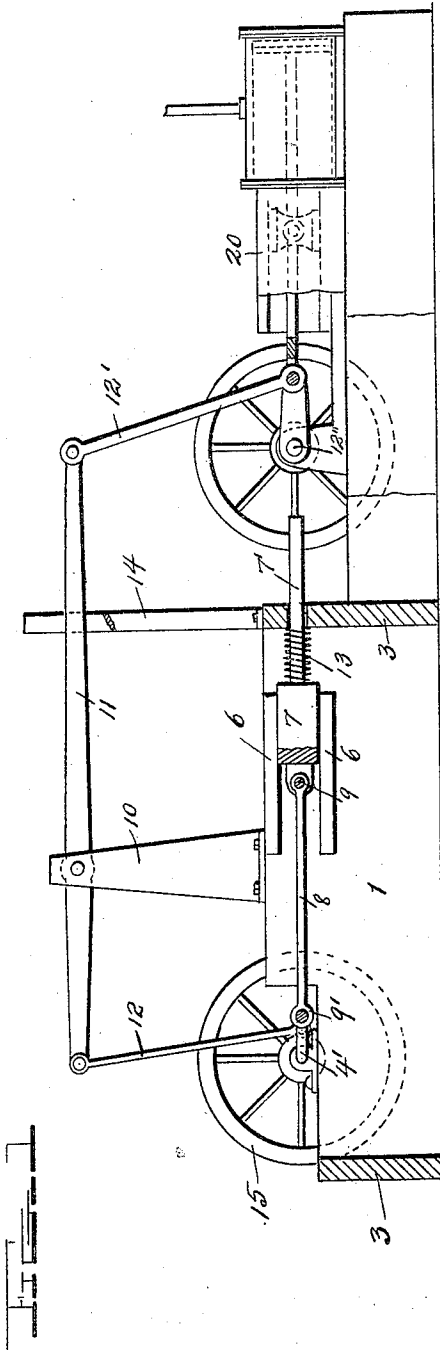


W. H. H. BAKER.
POWER DEVICE.
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942,534.

Patented Dec. 7, 1909.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. H. BAKER, OF SCIOTA MILLS, ILLINOIS.

POWER DEVICE.

942,584.

Specification of Letters Patent.

Patented Dec. 7, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM H. H. BAKER, a citizen of the United States, residing at Sciota Mills, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Power Devices, of which the following is a specification.

This invention relates to power devices, and more particularly to a mechanism adapted to be attached to and used in connection with a gas, or other similar engine, whereby the impulses and any unevenness in the motion of the same shall be corrected and caused to be steady and even and to further decrease the amount of power necessary to cause operation of the driven shaft.

The object of the invention is to improve the construction and provide a device of the above nature which will be mechanically strong, simple in construction and very effective in operation.

To this end the invention consists in certain novel features and combination of parts as will be fully understood by reference to the following drawings and specification in which:

Figure 1 is a side elevation of the device taken on the line *a— a* of Fig. 2, and Fig. 2 is a plan view of the equalizer in connection with an ordinary type of engine.

In the embodiment illustrated, 1 represents the base of the attachment which comprises a rectangular frame having the sides 2—2, the ends 3, 3 and the stringers 4, 4. A crank shaft 4' is mounted upon the sides 2, 2 and the stringers 4, 4, of the base, by means of suitable journals 5, 5. Mounted between the sides 2, 2, and the stringers 4, 4 are the cross-head guides 6, 6 which are adapted to receive in slidable engagement the cross heads 7, 7 which receive in pivotal engagement the connecting rods 8, 8 by means of the wrist pins 9, 9, carried by the cross-heads 7, 7. The free ends of the connecting rods 8, 8, are connected to the crank shaft as depicted in the drawings at 9' 9'. Carried upon the stringers 4, 4, and secured by suitable bolts are the standards 10, 10, which support between their upper ends a rocker arm 11 one end of which connects to the mid-point of the crank shaft 4' by means of a pitman 12. The other end of rocker arm 11, is adapted to be connected to the crank shaft of an engine by means of a pitman 12'. The opposite ends

of the cross-head 7, 7, carry rods 7', 7', which project through and have slidable movement within bearings in one of the ends 3, 3, of the base 1. Coiled helical springs 13, 13, surround the respective rods 7' 7' and have one of their ends in engagement with the end of the cross head 7, 7, and the other abutting the inner wall of the base ends 3, 3. These springs are adapted to be compressed and released in the operation of the device to provide a means assisting the rotation of the crank causing continuous uninterrupted even motion to the engine as will be hereinafter more fully described.

A fly wheel 15 is secured upon the crank shaft 4'. Upon the opposite end of the crank shaft is secured a bevel gear 16 which meshes with a similar gear 17 carried upon a line shaft 18 suitably bearinged to the frame work of the base 1 and provided with a wheel 19'. This arrangement constitutes a convenient means for transmitting energy at right angles to the direction of rotation of the machine. A sprocket 19 or any other power transmitting device may be secured upon the crank shaft 4'. A gas or similar engine 20 is alined with the base 1, so that the axis of rotation of said engine is parallel with that of the crank shaft 4'. The pitman 12' forms a means of connection between the crank shaft 12'' of the engine and the rocker arm 11.

In operation it will be seen that the impulse of the gas engine 20 will be transmitted through the medium of the rocker arm 11 and connecting rods 12 and 12' to the crank shaft 4' thus causing this shaft to be revolved. It will be further noted that due to the introduction of the connecting rods, cross heads, and spring means that the motion of the engine will be steady, smooth and even. By reference to Fig. 2 it will be obvious that when one of the springs is compressed the other is expanded, which springs not only thereby assist the rotation of crank 4' but equalize or compensate for any tendency toward uneven or jerky travel of the engine.

What is claimed is:

1. In combination with a motor, a base member, a crank shaft carried by said base member, compressible and expansible means operated by said crank shaft, and means for connecting said crank shaft to the crank shaft of the motor.

2. In combination with a motor, a base

- member, a crank shaft carried by said base member, a cross head mechanism carried by said base, compressible and expansible means secured to said cross head, means connecting said cross head and said crank shaft, a rocker arm pivotally carried by the base, and means for connecting said rocker arm with said crank shaft, and with the crank shaft of the motor.
3. In combination with a motor having a crank shaft, a crank shaft spaced from that of the motor, a pair of cross-heads connected to said second crank shaft, a rod carried by each of said cross heads, a coil spring surrounding each rod and engaging the cross head thereof, means to form a bearing through which the free ends of the rods slide and to provide an abutment for the springs, a rocker arm pivotally mounted in the space between the two crank shafts, and a connecting rod connected at each end of said rock-arm and to the respective crank shafts.
4. In combination with a motor having a crank shaft, an attachment for the motor composed of a base formed with sides, ends

and a pair of intermediate stringers, a crank shaft mounted on said sides, a pair of cross heads slidably mounted between the stringers and slides, pitman connecting one end of the cross heads with said second crank shaft, a rod carried by each cross head and extending through an opening provided therefor in one of said end walls, a coil spring surrounding each rod abutting the cross heads at one end and said end of the base at the other end, a pair of standards carried by the stringers, a rocker arm pivoted between the standards, a connecting rod at one end of the rocker arm secured to the second crank shaft, a second connecting rod at the other end of the rocker arm connected to the engine crank shaft, and a second pair of standards carried by the inner end of the base to guide said rocker arm in its travel.

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

WILLIAM H. H. BAKER.

Witnesses:

BENA OHDEN,
ROBERT P. ECKERT.