

J. E. GILES.
VALVE-GEAR.

No. 178,054.

Patented May 30, 1876.

Fig. 1.

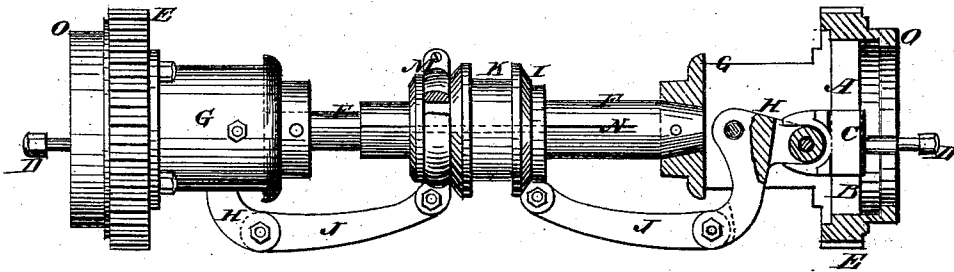
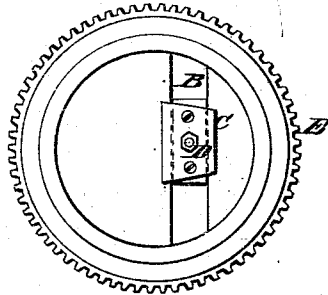


Fig. 2.



WITNESSES:

John Goethals.
Alfred Sarcott.

INVENTOR:

J. E. Giles
Wm. H. [Signature]

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN E. GILES, OF HAZLETON, PENNSYLVANIA.

IMPROVEMENT IN VALVE-GEARS.

Specification forming part of Letters Patent No. **178,054**, dated May 30, 1876; application filed February 5, 1876.

To all whom it may concern:

Be it known that I, JOHN E. GILES, of Hazleton, in the county of Luzerne and State of Pennsylvania, have invented a new and Improved Valve-Motion, of which the following is a specification:

The crank-pin which works the valve is carried in a block in a slotted disk which slides along the disk for shifting the valves, and to the opposite side of the axis for reversing, and is worked by a sleeve on the shaft of the disk to which the shifting-lever is connected. The disk is geared by a toothed rim with a wheel on the crank-shaft, which gears will in practice be eccentric, by which the irregularities of the crank will be overcome; and, for a lap-valve, the slot in the disk for carrying the crank-pin is arranged out of the center of the line of the axis of the disk just the measurement of the lap and lead of one end of the valve.

Figure 1 is a side elevation of my improved valve-gear arranged in double contrivance for two engines. Fig. 2 is an end elevation.

Similar letters of reference indicate corresponding parts.

A represents the disk, in which is a slot, B, extending from side to side either in the axis on which the shaft turns or a little to one side of it, and in which slot is a block, C, carrying a crank-pin, D, for working the valve. The disk is connected to a toothed rim E, which gears with the crank-shaft to revolve the disk and work the pin, and a shaft, F, is connected

to the disk and the toothed rim by the slotted hub G, in which is pivoted a bell-crank, H, for shifting a crank-pin, the crank being shifted by the sleeve I on the shaft, said sleeve being connected to the crank by the bar J, and having the shifting-lever connected to it by the groove K. The slot B for the crank-pin block is in this example arranged a little to one side of the center of the disk as when employed for a lap-valve, but when the valve is not adjusted for lap the slot will be in the center. Where two valves are geared together the shaft F of one of the disks will be fitted loosely in the other shaft, so as to turn freely, and the bell-crank will be connected to the sleeve I by a yoke, M, arranged to turn on it. The sleeve I is fitted by a key and key-way, N, so as to revolve with the shaft at the same time that it slides on it. The rings O represent the bearings on which the disks revolve.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a double motion for two engines, the combination, with one shaft, of one disk fitted to bear on the other shaft, and the bell-crank of said disk connected to the sleeve I by a yoke, M, free to turn on said sleeve, substantially as specified.

J. EDWIN GILES.

Witnesses:

CHAS. SCHUETTER,
T. J. FOLEY.