

(No Model.)

G. H. HELVEY.  
VALVE GEAR CLUTCH.

No. 534,793.

Patented Feb. 26, 1895.

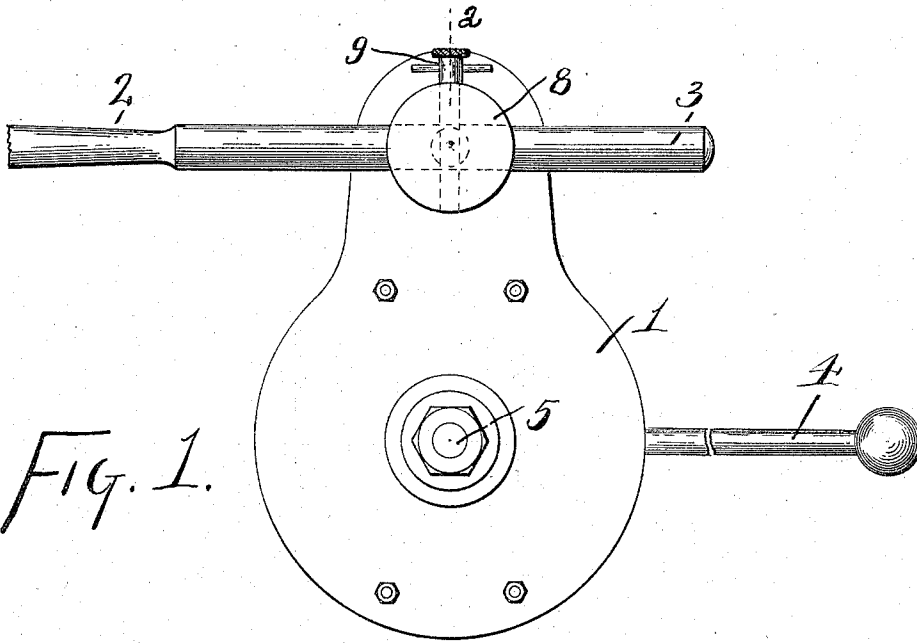


Fig. 1.

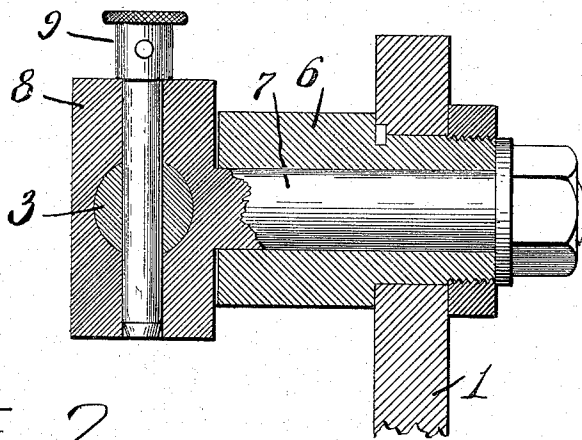


Fig. 2.

Witnesses:

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Inventor

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# UNITED STATES PATENT OFFICE.

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OWENS & RENTSCHLER COMPANY, OF SAME PLACE.

## VALVE-GEAR CLUTCH.

SPECIFICATION forming part of Letters Patent No. 584,793, dated February 26, 1895.

Application filed December 11, 1894. Serial No. 531,514. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE H. HELVEY, of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Valve-Gear Clutches, of which the following is a specification.

This invention pertains to improvements in devices by means of which, in steam engine valve gear, the eccentric rod is engaged with and disengaged from the valve part which it drives, devices of this class being often broadly termed "cam-hooks" and "gabs."

My improvement will be readily understood from the following description taken in connection with the accompanying drawings, in which—

Figure 1, is a front elevation of the wrist plate of a Corliss engine with its eccentric rod connected thereto by means of my improved clutch; and Fig. 2, a vertical section of a portion of the same, enlarged, the section being taken in the plane of line *a* of Fig. 1.

In the drawings:—1, indicates a rocker-arm, illustrated as the wrist-plate of the ordinary Corliss valve gear; 2, the eccentric rod whose reciprocations are to oscillate the rocker-arm; 3, a cylindrical portion formed at the end of the eccentric rod and having a length equal at least to twice the stroke of the rod; 4, an exemplifying handle for oscillating the rocker-arm by hand when the eccentric rod is unclutched; 5, the pivot on which the rocker-arm oscillates; 6, a bearing formed at the free extremity of the rocker-arm with its axis parallel with that of pivot 5; 7, a journal-stud free for angular motion in the bearing 6; 8, a head formed upon the front end of journal 7 and having through it a horizontal hole fitting the cylindrical portion 3 of the eccentric rod with such freedom that the rod may slide freely in the hole; and

9, a clutch-pin removably inserted vertically through the head 8 and through a hole in the cylindrical portion of the eccentric rod. 45

When pin 9 is in place then head 8 and journal 7 form in effect a journal projecting rigidly and rearwardly from the eccentric rod into engagement with bearing 6 of the rocker arm, and in this condition the reciprocation 50 of the eccentric rod will force the rocker arm into oscillations. If pin 9 be withdrawn then the head and journal will be no longer locked to the eccentric rod and the eccentric rod will be free to reciprocate through head 8 while 55 the rocker-arm remains stationary, or the rocker-arm may be oscillated by hand regardless of the eccentric rod, and by starting the pin into place in the head it will, at proper time, engage the hole in the eccentric rod and 60 will settle down into ultimate working position, or it may be pushed down and will retain its working position at any working speed of the parts.

I claim as my invention— 65

In a valve gear clutch, the combination, substantially as set forth, of a rocker-arm having in its free end a bearing with its axis parallel to the axis of its pivot of oscillation, a journal in said bearing and provided with 70 a head having a pair of intersecting holes in a plane at right angles to the axis of the journal, an eccentric rod having a cylindrical portion fitted to slide in one of said holes in the head and having a transverse hole adapted 75 to register with the other hole in the head, and a removable pin engaging the second hole in said head and the transverse hole in the eccentric rod.

GEORGE H. HELVEY.

Witnesses:

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