(No Model.)

G. T. HATCH & F. W. RIESENBERG.

CUT-OFF VALVE GEAR.

No. 294,036. Patented Feb. 26, 1884.

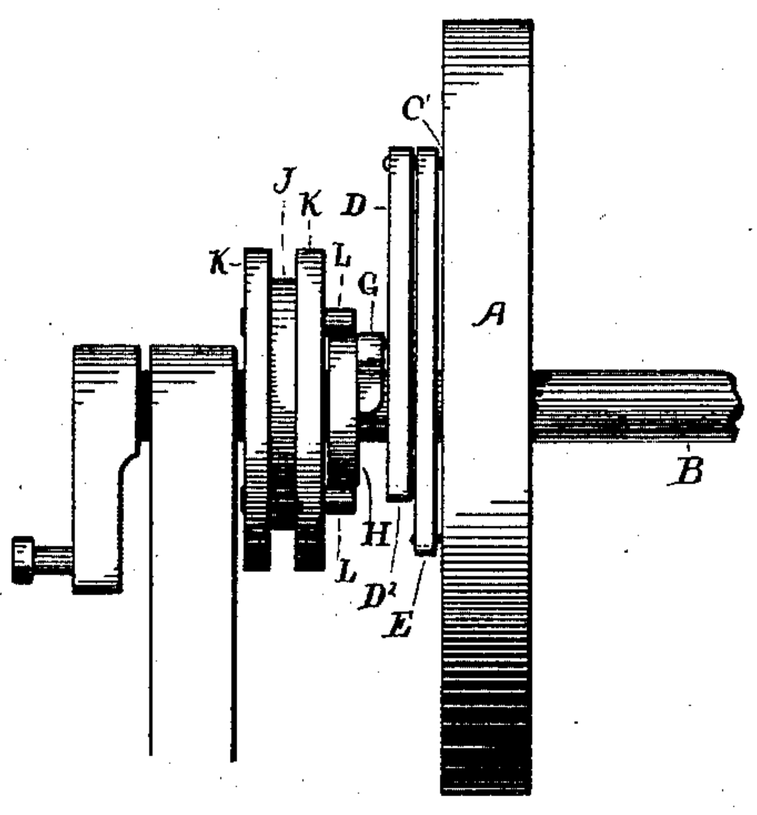

Fig. 1.

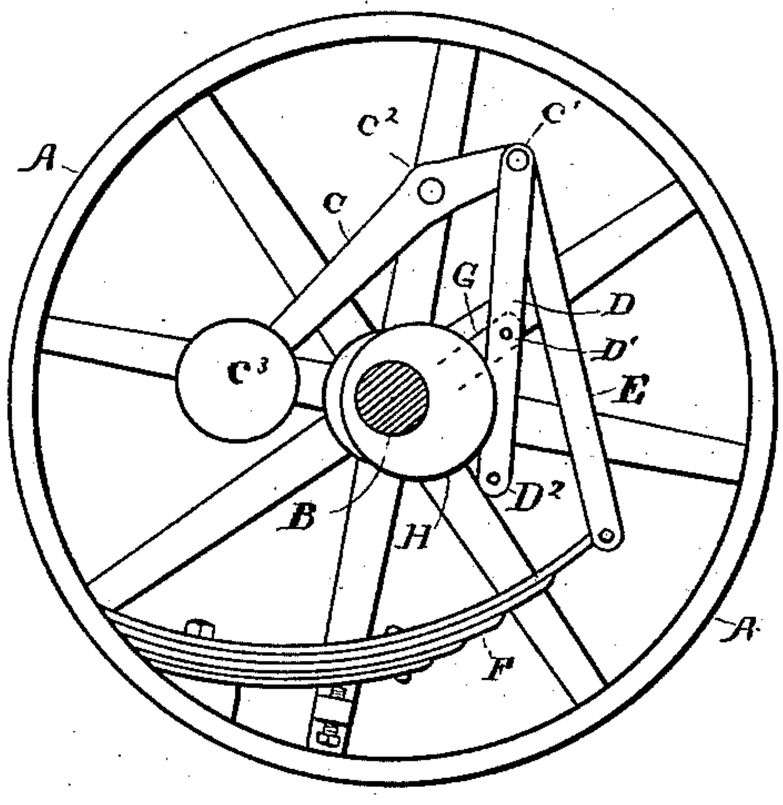

Fig. 2.

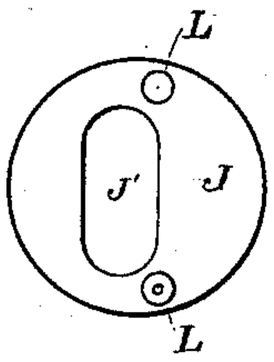

Fig. 3.

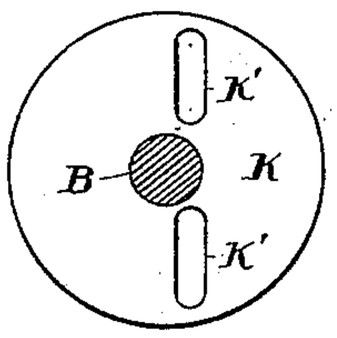

Fig 5.

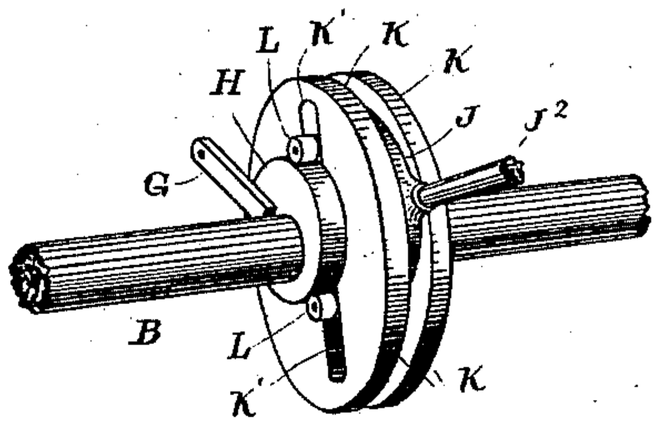

Fig. 4.

Witnesses,

H. W. Wells

Richd. A. Goldsbrough

Inventors;

George T. Hatch,

Frank W. Riesenberg.

per A. B. Upham,
Their Atty.

UNITED STATES PATENT OFFICE.

GEORGE T. HATCH AND FRANK W. RIESENBERG, OF PEORIA, ILLINOIS.

CUT-OFF-VALVE GEAR.

SPECIFICATION forming part of Letters Patent No. 294,036, dated February 26, 1884.

Application filed July 11, 1883. (No model.)

To all whom it may concern:

Be it known that we, GEORGE T. HATCH and FRANK W. RIESENBERG, of Peoria, in the county of Peoria, in the State of Illinois, have invented a Cut-Off-Valve Gear; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a side view of the invention; Fig. 2, a transverse section through X X; Fig. 4, a perspective view of eccentric portion alone; Figs. 3 and 5, details.

The object of this invention is the construction of a governing device whereby the changes in speed of the fly-wheel of the engine shall automatically and proportionally alter the admission of steam to the cylinder by acting directly upon the eccentric, and thereby the slide-valve.

Our invention consists of a weighted lever pivoted to the fly-wheel, a spring to resist the centrifugal force given said weight by the revolution of the fly-wheel, and of an eccentric whose throw is changed by and inversely to the distance said weighted lever is centrifugally moved from the shaft.

In the drawings, A is the fly-wheel; B, the shaft; C, the lever, pivoted at C^2 and weighted at its end C^3. The end C′ of said lever is joined by the connecting-rod E to the spring F, by which the end C′ is pressed away from the shaft, and therefore the end C^3 toward the shaft B. The eccentric J is not connected directly with the shaft B, but is held in place thereon by the disks K K. The slot J′ in this eccentric permits it to slide back and forth upon the shaft, but held rectangularly to said shaft by contiguity of said disks K K. Slots K′ K′ in said disks K and pins L L, projecting from the sides of the eccentric into the same, cause the eccentric to rotate with the disks, and therefore the shaft B. We usually provide the pins L with friction-rollers, to lessen the wear of the same. The pins L L on the side of the eccentric toward the fly-wheel A are elongated and provided with other pin-wheels. Between these pins L L the eccentric H is designed to revolve about the shaft B as its center of rotation. On partially revolving said eccentric the pins L are impressed thereby and the eccentric J made to change its throw, accordingly as its center is moved from or toward the center of the shaft. The arm G, rigidly fastened to this eccentric H, is connected by the rod D to the end C′ of the lever C, and the said eccentric is caused thereby to partially rotate by the centrifugal and centripetal movement of the weighted lever C. About the eccentric J goes the strap by which the connecting-rod is bound thereto, the disks K K serving to retain said strap in position thereon. The slide-valve to which said connecting-rod is joined is of the ordinary kind, and its travel is changed by the throw of the eccentric J being varied by the lever C.

In Fig. 2 it will be noticed that the slot J′ is not in the center of the eccentric J; but the longitudinal center of said slot is between the radial center of said eccentric, and the slide-valve at a distance from said radial center equal to the lead of the slide-valve. This is a most important point, for by this position of the slot J the eccentric is made to keep the correct setting requisite to retaining the same lead of the slide-valve whatever the throw of the eccentric.

What we claim as our invention, and for which we desire Letters Patent, is as follows, to wit:

1. The eccentric J, having non-central slot J′ and pins L L, the disks K K, having slots K′ K′, and the eccentric H, having arm G, in combination with the rod D, weighted lever C, rod E and spring F, the fly-wheel A, and shaft B, substantially as and for the purpose specified.

2. The eccentric J, having non-central slot J′ and pins L L, the disks K K, having slots K′ K′, and the eccentric H, having arm G, in combination with the shaft B and means whereby the variations in the speed of revolution of said shaft shall oscillate said arm G, substantially as and for the purpose specified.

In testimony that we claim the foregoing invention we have hereunto set our hands this 27th day of June, 1883.

GEORGE T. HATCH.
FRANK W. RIESENBERG.

Witnesses:
H. W. WELLS,
RICHD. A. GOLDSBROUGH.