

(No Model.)

W. O. WEBBER.
STEAM ENGINE GOVERNOR.

No. 477,344.

Patented June 21, 1892.

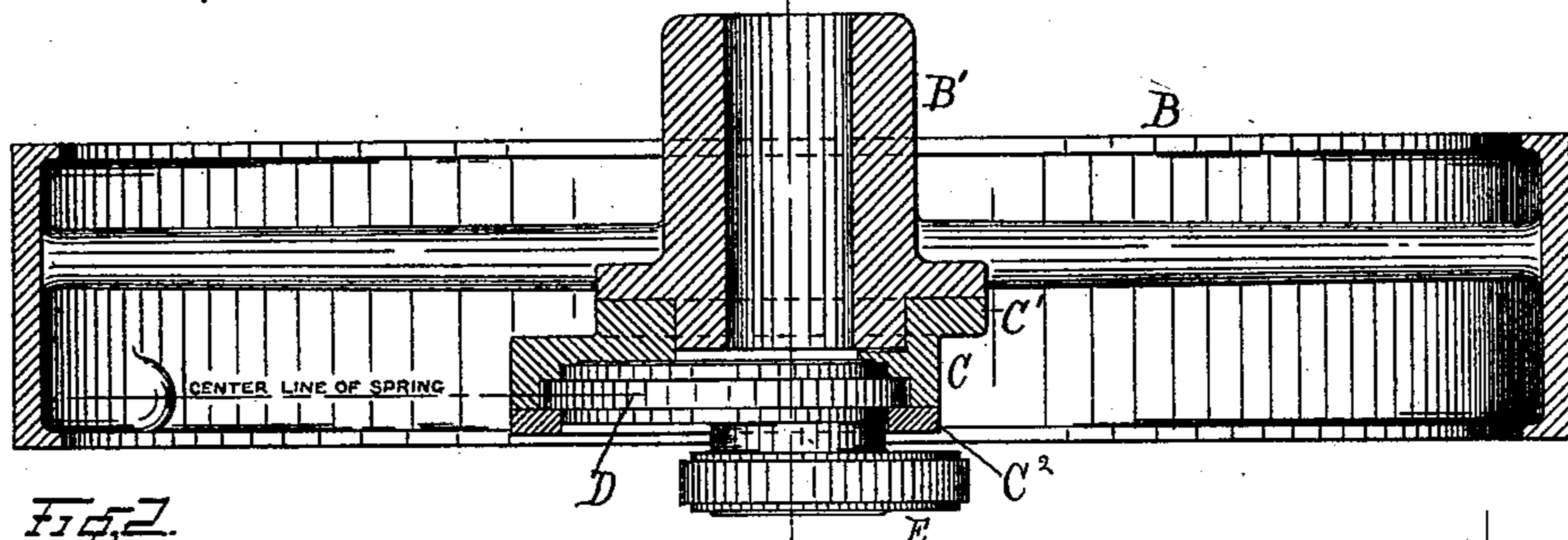


Fig. 2

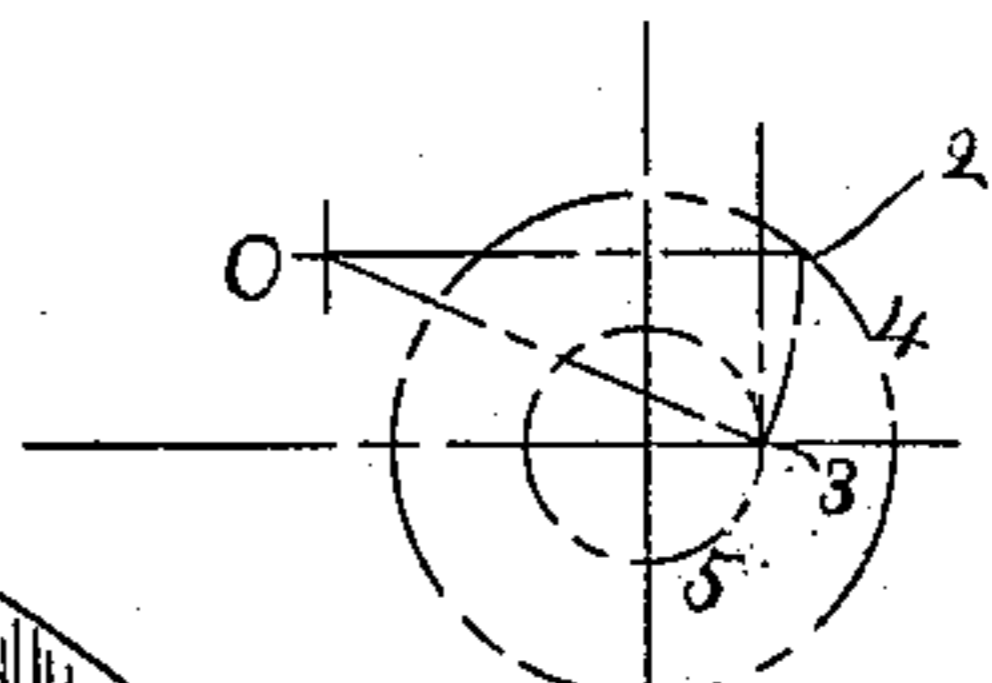


Fig. 3

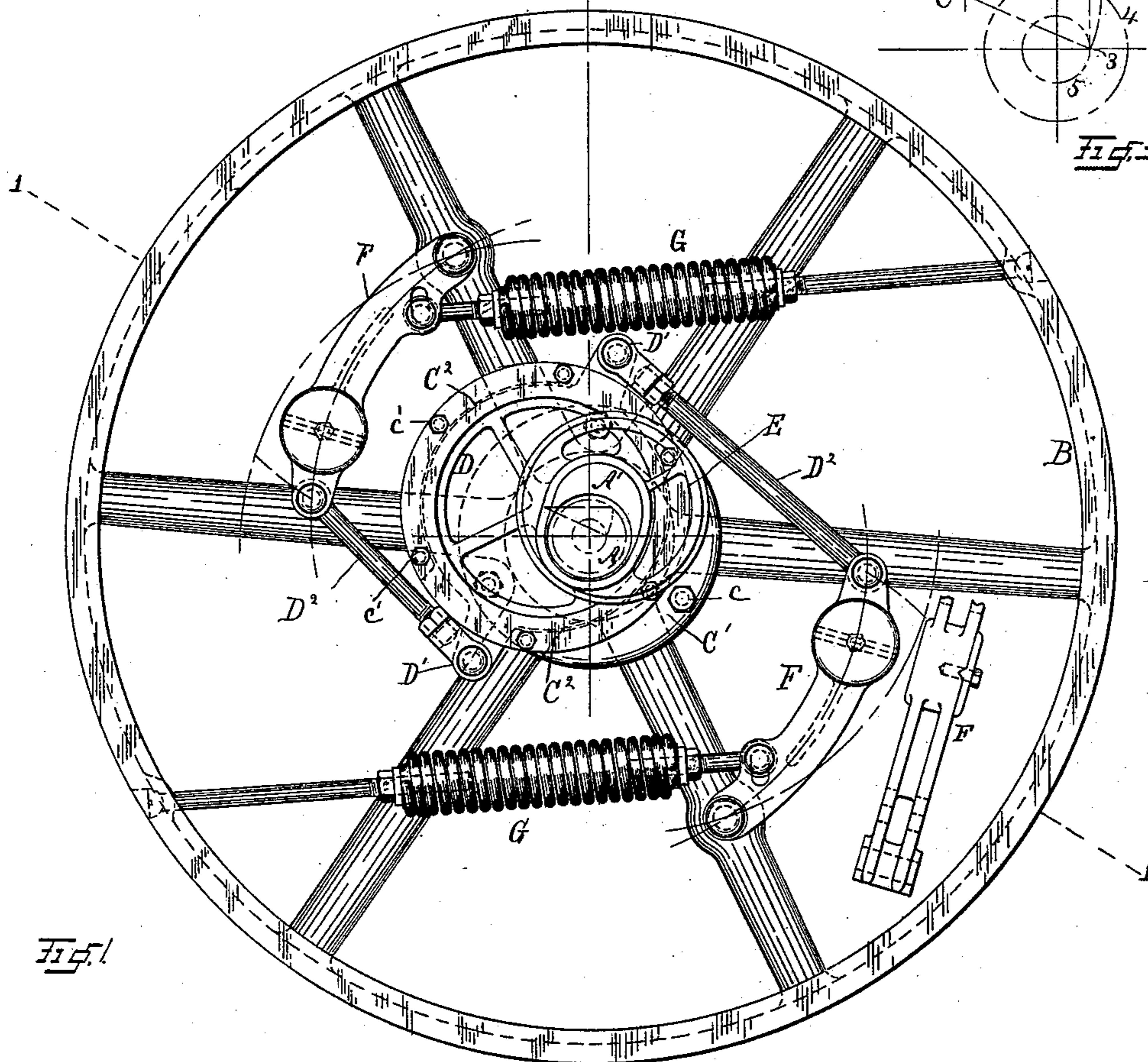


Fig. 1

WITNESSES:

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WILLIAM O. WEBBER, OF ERIE, PENNSYLVANIA.

STEAM-ENGINE GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 477,344, dated June 21, 1892.

Application filed February 18, 1892. Serial No. 421,945. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM O. WEBBER, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Steam-Engine Governors; and I do hereby 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 steam-engine governors, and particularly to that class or type thereof known as "shifting-eccentric cut-off governors;" and it consists in certain improvements in the construction thereof, as will be hereinafter fully set forth, and pointed out in the claims.

My invention is illustrated in the accompanying drawings, as follows:

Figure 1 is a side elevation of my device in place in the fly-wheel or band-wheel of an engine. Fig. 2 shows the wheel and the eccentric-case attached to said wheel in transverse section on the line 1 1, with the two eccentrics D and E in side elevation. Fig. 3 is a diagram of movement of parts.

My invention relates wholly to improvements in structure, and not to any new method of government nor to any improvement upon the method of government employed in the Patent No. 466,475, granted to me January 5, 1892.

The objects of my invention appertain to cheapness of construction, durability of parts, facility of adjustment and taking-up wear, strength of parts, stability of action, and improved means for supporting the eccentrics.

The construction is as follows, reference being had to the drawings by letters of reference marked thereon: Attached to the hub of the wheel B by bolts *c* is an eccentric-case C, having an attaching flange *C'*, which is concentric with the shaft A and the eye of the wheel B and eccentric to the said case C. The eccentric-case C is open-sided to receive the eccentric D, which is held in place therein by a cap-ring *C²*, attached to the case by bolts *c'*. The eccentric D, which is held in proper relative position by the case C, has arms *D'*, which extend through the walls of the case C and to which are attached the links *D²* for connect-

ing with the weight-arms F. The valve-moving means (which in this illustration is an eccentric E) is attached to the eccentric D either by bolts or cast integral therein, as shown. Passing through both eccentrics D and E is an elongated or elliptical opening *A'* for the shaft A, which permits the said eccentrics to shift. When the shaft A is not projected through the eccentrics, the slot *A'* will not be employed, and the eccentric E may be reduced to any size desired and the eccentric D can be reduced considerably. The weight-arms F and springs G may be of any desired pattern. I have shown them substantially as constructed in said Letters Patent No. 466,475, issued to me January 5, 1892.

In the diagram in Fig. 3, O represents the center of the eccentric D. 2 represents the position of the center of the eccentric E when the weight-arms are at normal; 3, the same center when the weight-arms are at extension; 4, the path of said center when the weight-arms are at extension, and 5 the path of said centers when the weight-arms are at normal, and hence the arc 2 and 3 represent the path of said center when shifting by the action of the weight-arms.

It will be seen that the eccentrics D and E have no attachment to the shaft or wheel except through their connections to the weight-arms through the arms *D'* and links *D²*, but are held in proper position and in rotatable suspension by the eccentric-case C, which is secured to the hub of the wheel, and thus to the shaft by the flange or boss *C'*.

I am aware of the construction shown in Letters Patent Nos. 454,447 and 454,511, dated January 11, 1891, issued to F. H. Ball. I am also aware of the constructions shown in Letters Patent No. 312,893, dated February 24, 1885, issued to Perrine, and No. 358,296, dated February 22, 1887, issued to Quint. I desire to be understood as not claiming as my own the inventions or constructions therein shown or claimed.

What I claim as new is—

1. In the valve-gear of an automatic-cut-off engine, the combination, with the shaft and governor-wheel, of an eccentric-case secured thereto and moving coincidently therewith, an eccentric journaled in said case and oper-

atively connected with the weight-arms, and the valve-actuating means carried by said eccentric.

2. In the valve-gear of an automatic-cut-off engine, the combination, with the shaft and governor-wheel, of an eccentric-case secured thereto and moving coincidently therewith, an eccentric journaled in said case and operatively connected with the weight-arms, and a valve-moving eccentric attached to or made integral with said incased eccentric and moving coincidently therewith, said connected eccentrics having an elongated shaft-opening A' therethrough.

3. In the valve-gear of an automatic-cut-off engine, the combination of a disk journaled eccentrically to the shaft in a case and movable axially independent of said case and bearing upon its side and moving coincidently therewith, a valve-moving means, and means

for moving said disk axially from the vibratory action of the weight-arms.

4. In the valve-gear of an automatic-cut-off engine, the combination, with the wheel-B, of the case C, having the eccentric boss or flange C', which is attached to said wheel concentrically, thereby holding said case rigidly and eccentrically upon said wheel, a disk D, journaled in said case and retained therein by the cap-ring C² and having arms D', extending outwardly from said case, links D², connecting said arms D' with the weight-arms F, and the valve-actuating means E, carried coincidently by said eccentrically-journaled disk D.

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

WILLIAM O. WEBBER.

Witnesses:

JNO. K. HALLOCK,
JOHN S. RILLING.