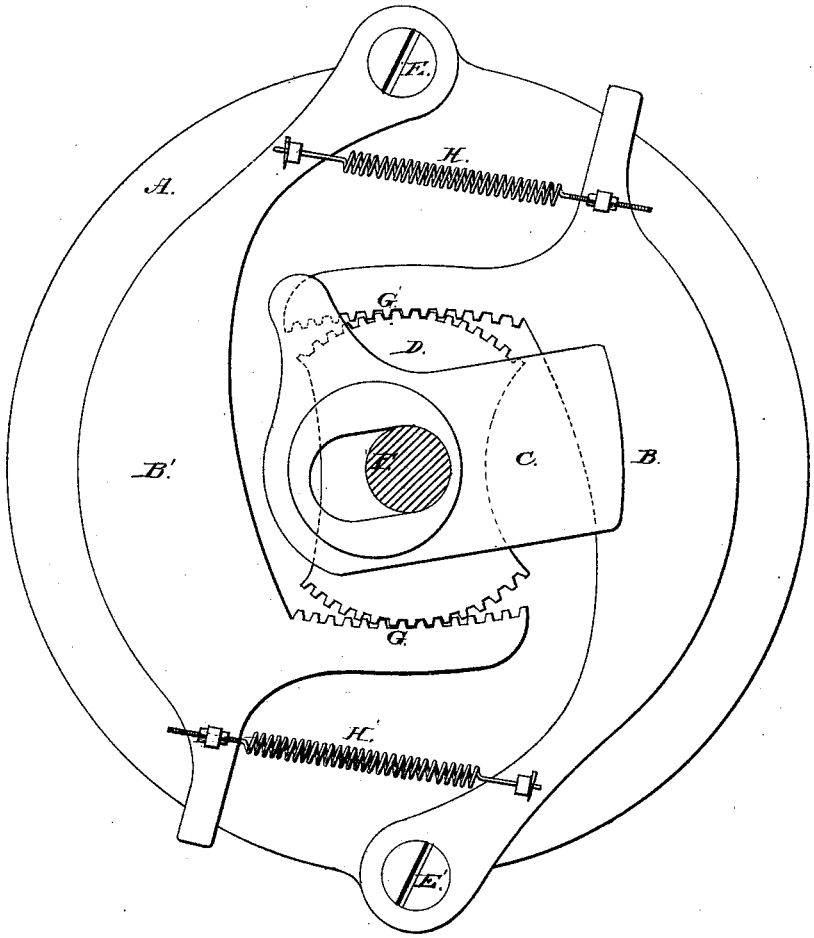
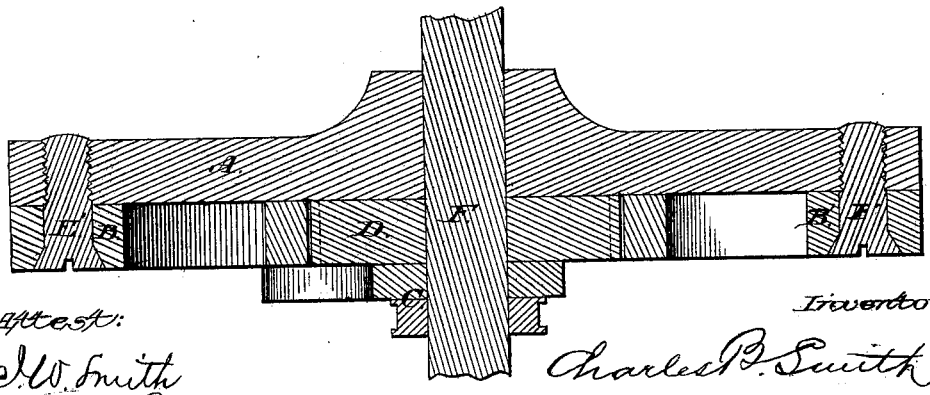
C. B. SMITH.
Governor.

No. 206,692. **Patented Aug. 6, 1878.**





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UNITED STATES PATENT OFFICE.

CHARLES B. SMITH, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN GOVERNORS.

Specification forming part of Letters Patent No. **206,692**, dated August 6, 1878; application filed January 14, 1878.

To all whom it may concern:

Be it known that I, CHARLES B. SMITH, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Automatic Cut-Offs for Steam-Engines, of which the following is a specification:

The object of my invention is to provide a simple and effective means of moving the eccentric of a steam-engine across the shaft toward and from the center, to decrease and increase the throw of the eccentric, as the duty required of the engine may determine by the necessity for a greater or less admission of steam to the cylinder, by a longer or shorter throw of the valve, my device acting as a gov ernor to the engine.

My improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

Upon the main shaft of the engine (shown at letter F) a face-plate (shown at letter A) is secured. Attached to this face-plate by and swinging on the bearings, shown at E and E′ is the slotted eccentric shown at letter C, with its connecting weighted arm B and the opposite weighted arm B′. These arms have extensions (shown at G and G′) with teeth, forming racks. A gear (shown at D) is fitted to the shaft F, moving freely thereon, the teeth of which gear coincide with the teeth of the racks shown at G and G″. Springs (shown at H and H′,) or a coil-spring moving the gear, are attached to the swinging arms, and by their tension draw the arms toward each other.

The operation of the device is as follows: The eccentric is so set that when the springs H and H′ have drawn the arms together the maximum throw of the eccentric is obtained. The rotation of the shaft, causing the face-plate A to revolve with the parts attached, gives a centrifugal force to the weighted arms B and B′, overcoming the tension of the springs H and H′, and moving the eccentric C across the shaft F toward the center, lessening the throw of the eccentric until by the equilibrium of the forces the proper speed of the engine is obtained.

The gear D, acting in the racks G and G′, retains the weighted arms B and B′ in their relative positions by preventing the movement of one except as controlled by the other.

The advantages secured by my device are simplicity of construction, durability of parts, and absence of friction.

I claim as my invention—

1. The weighted arms B and B′, with attached eccentric, connected and moving substantially as described.

2. The arrangement of the moving slotted eccentric B C with the opposite weighted arm B′, the gear D, springs H and H′, and face-plate A, substantially as described and set forth.

CHARLES B. SMITH.

Witnesses:
I. W. SMITH,
F. W. RICORD.