

(No Model.)

DE LA FAYETTE REMINGTON.

VARIABLE ECCENTRIC.

No. 402,479.

Patented Apr. 30, 1889.

Fig. 1.

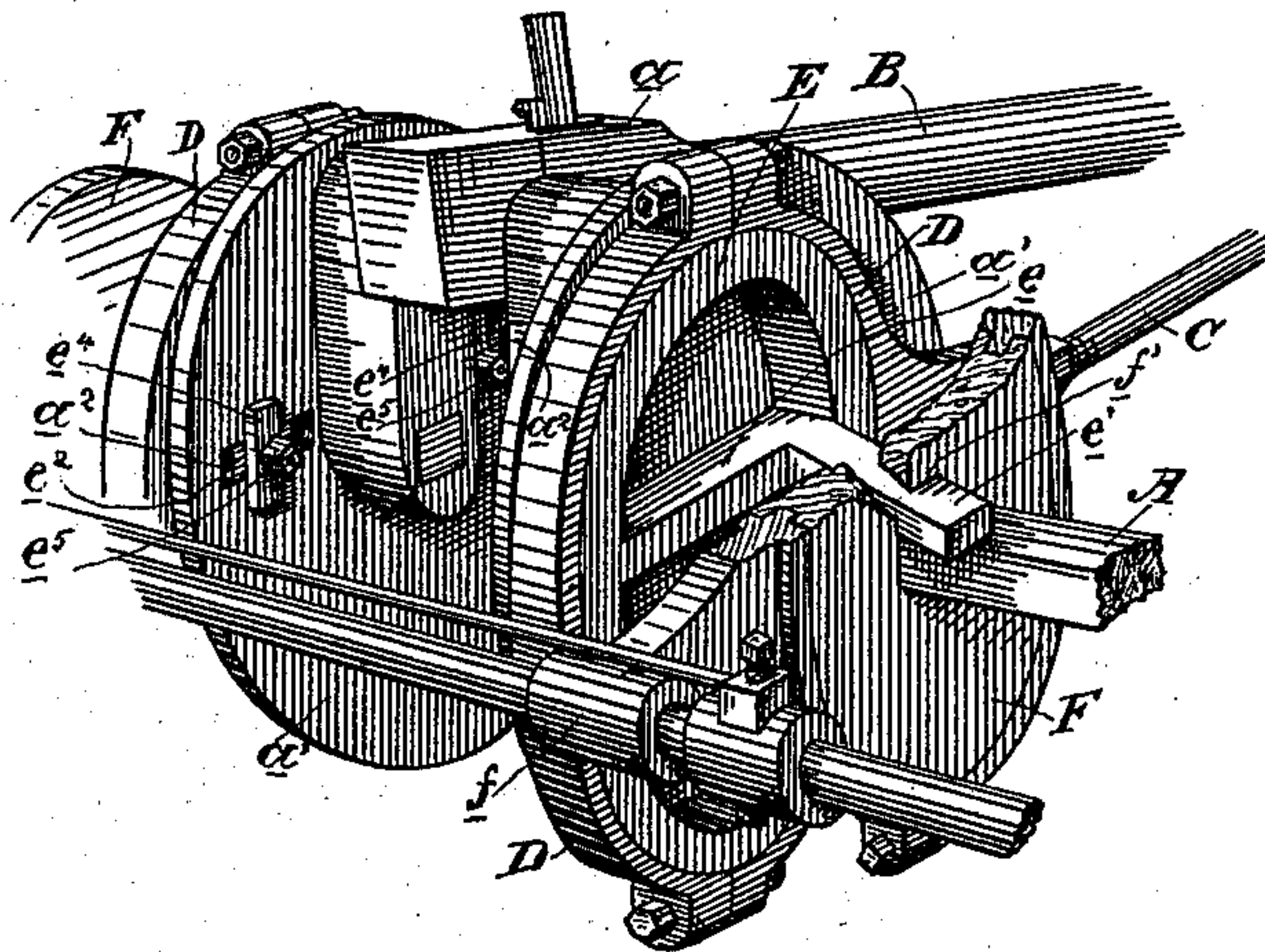
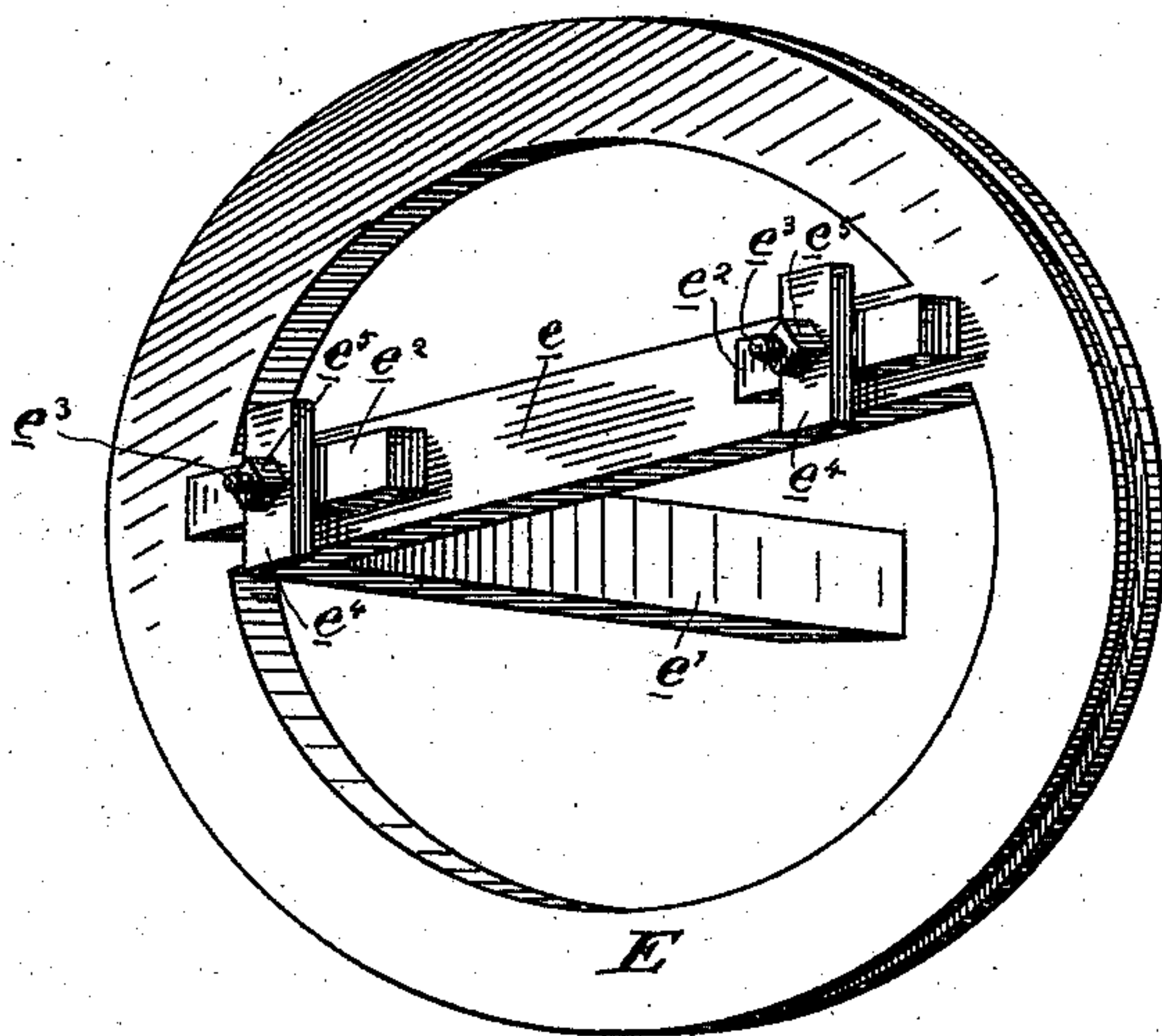


Fig. 2.



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UNITED STATES PATENT OFFICE.

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VARIABLE ECCENTRIC.

SPECIFICATION forming part of Letters Patent No. 402,479, dated April 30, 1889.

Application filed January 19, 1889. Serial No. 296,910. (No model.)

To all whom it may concern:

Be it known that I, DE LA FAYETTE REMINGTON, of San Leandro, Alameda county, State of California, have invented an Improvement in Variable Eccentrics; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of variable eccentrics especially applicable to engine-reversing mechanisms in which the position of the valves is changed by varying the position of the eccentric which operates the valve-rod; and my invention consists in the novel connection of the eccentric and the novel means for varying its position, as I shall hereinafter fully describe.

The object of my invention is to provide a simple and effective variable eccentric for the reversing mechanisms of engines.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view of my variable eccentric and connections. Fig. 2 is a perspective of the eccentric.

A is the engine-shaft, with the crank a of which the pitman B of the piston-rod is connected.

C is the valve-rod, and D is the eccentric-strap connected therewith. Formed with or rigidly connected to the engine-shaft A is a disk, a' , and the crank a of the shaft is preferably formed with the face of said disk. In the disk, on each side of the crank, are made the elongated slots a^2 .

E is the eccentric. It consists of a ring freely encircling the shaft A and fitted up against the disk a' , to which it is secured and on which it moves in the following manner: A cross rib or bar, e , is formed with the eccentric, and upon one face of this are the guide-flanges e^2 near each end, said flanges having screw-bolts e^3 projecting from them. These flanges fit in the elongated slots a^2 of the disk a' , and their screw-bolts pass through them and receive elongated washers e^4 and nuts e^5 on the other side, which serve to connect the eccentric with the disk and as guides in which the eccentric may be moved to change its position to reverse the

valves. The cross rib or bar e has formed with it at one end an arm, e' , which extends from it at an angle beyond the face of the eccentric.

Fitted and adapted to slide on shaft A is a disk, F, having the connections f , by which it may be moved. In this disk is made a hole, f' , which receives the inclined arm e' of the eccentric.

The shaft A is here shown square in cross-section, and the hole f' and arm e' are also square or angular, which provides for the necessary rigid rotary connection and the sliding movement of the parts on each other in the same manner as if feathers or splines were employed.

The operation is as follows: By moving the disk F on the shaft A said disk travels on the inclined arm e' , and thereby moves the eccentric E back or forth on the disk a' , thus changing its position and the position of the valves and reversing the engine.

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

1. In a variable eccentric, the combination of a fixed disk, an eccentric connected with and adapted to slide on the fixed disk, whereby its position may be varied, said eccentric having an arm projecting from its face at an angle, a sliding disk having a hole through which the inclined arm of the eccentric passes, and connections for moving the sliding disk, whereby it moves the inclined arm and varies the position of the eccentric on the fixed disk, substantially as herein described.

2. In a variable eccentric, the combination of the fixed disk having the elongated slots, the eccentric having guides seated in the slots, whereby it is adapted to be moved on said disk, the inclined arm of the eccentric, the sliding disk having a hole receiving and moving the inclined arm, and connections for moving the sliding disk, substantially as described.

3. In a variable eccentric, the combination of the fixed disk having the elongated slots, the eccentric having the cross rib or bar with

guide-flanges and screw-bolts with nuts and washers for fitting it to the slotted disk, whereby it is movable thereon, the inclined arm projecting from the eccentric, the sliding disk having a hole receiving and moving the inclined arm of the eccentric, and connections for moving the sliding disk, substantially as herein described.

In witness whereof I have hereunto set my hand.

DE LA FAYETTE REMINGTON.

Witnesses:

DANIEL BEST,

EUGENE L. REMINGTON.