

C. A. HEGE.

Improvement in Rotary Steam Engines.

No. 118,366.

Patented Aug. 22, 1871.

Fig. 1.

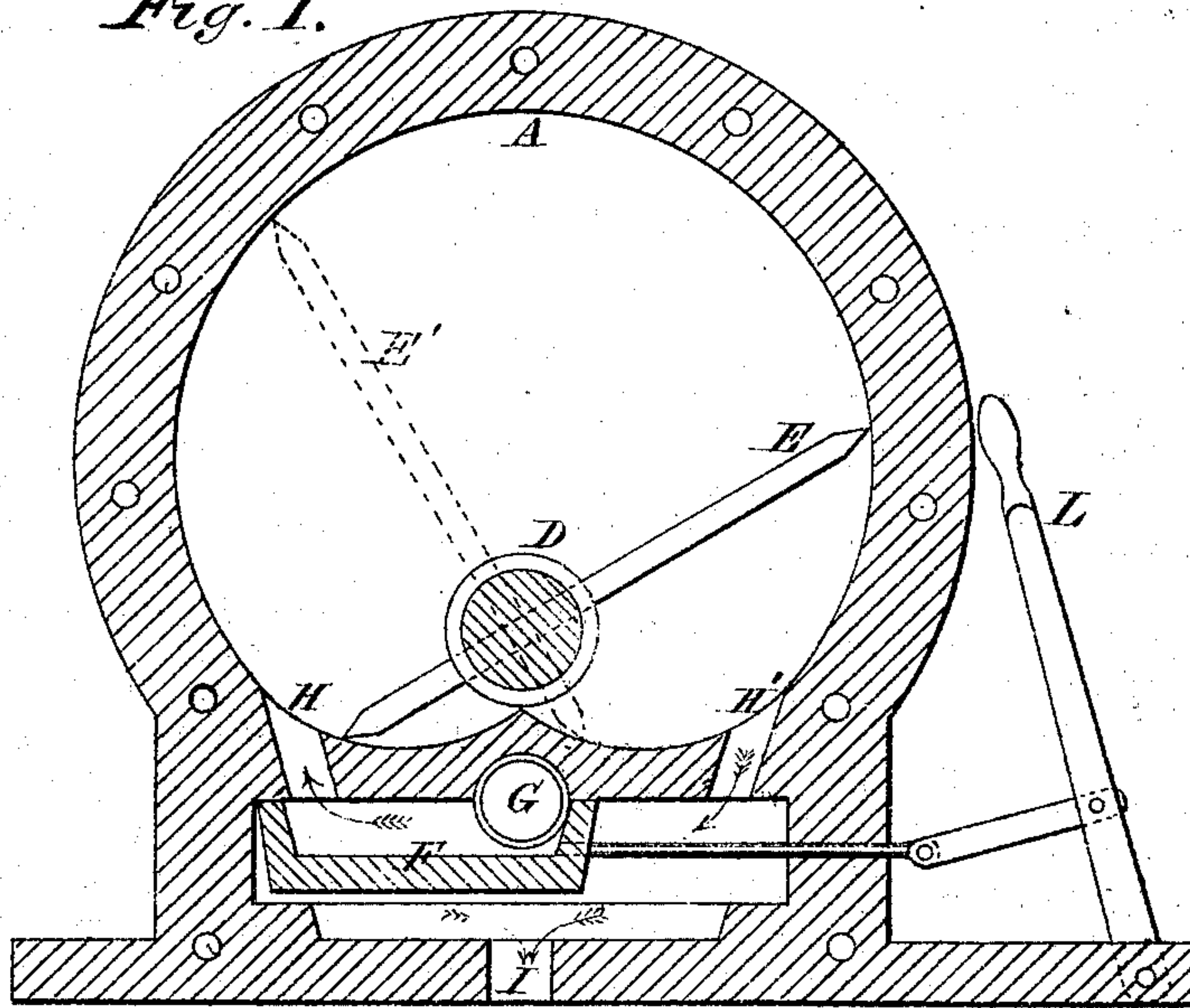
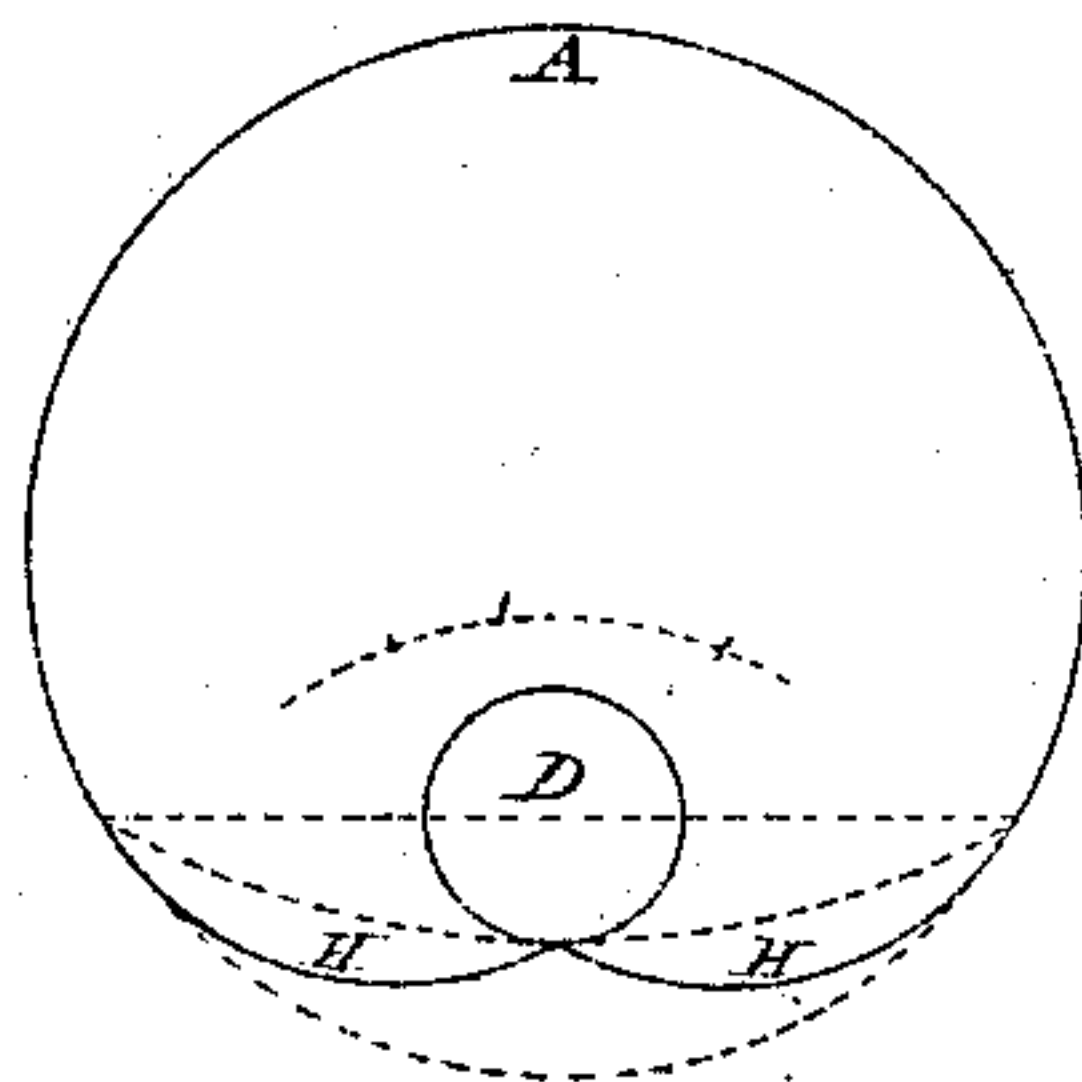
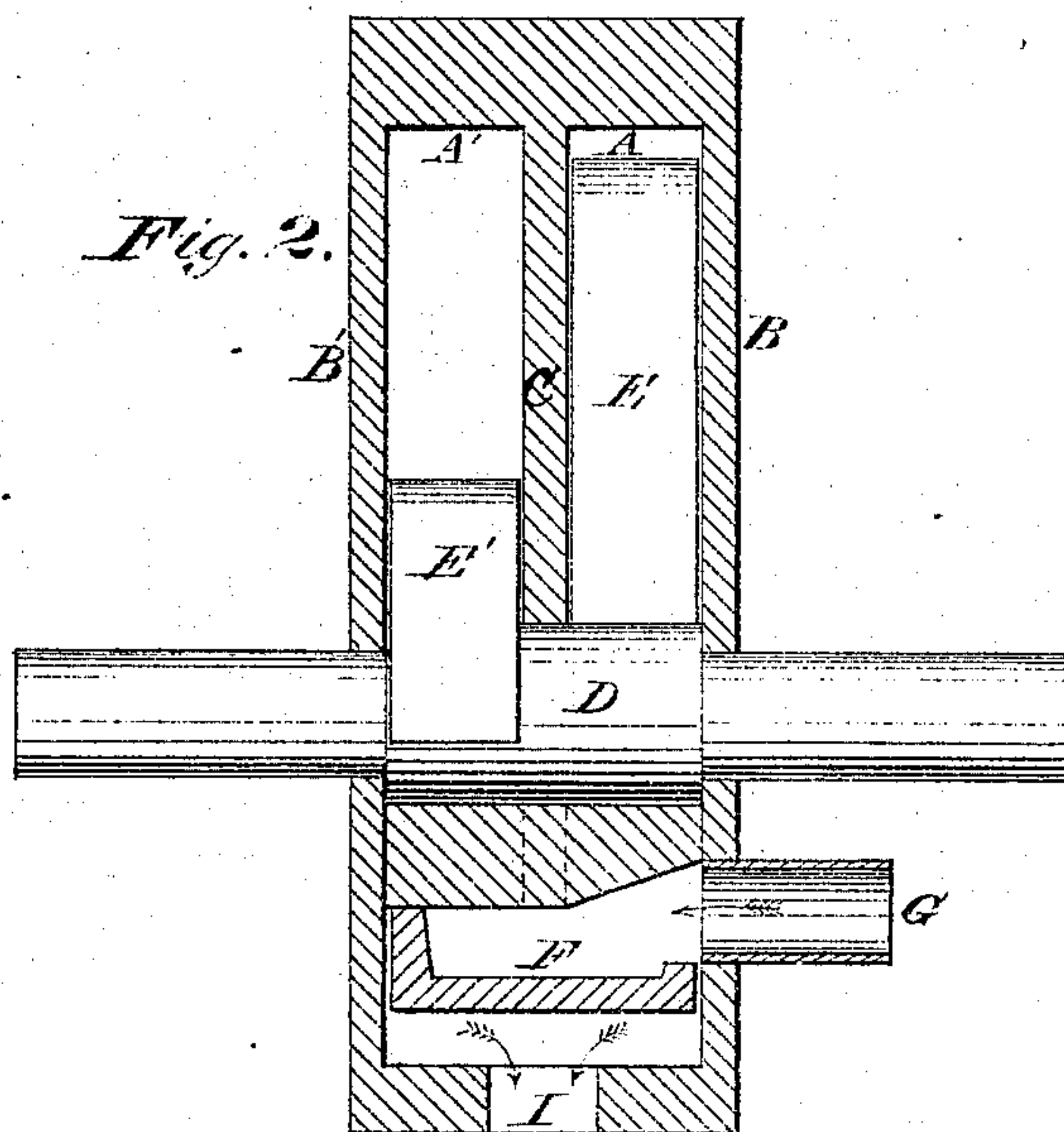


Fig. 2.



Witnesses:

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# UNITED STATES PATENT OFFICE.

CONSTANTINE ALEXANDER HEGE, OF FORSYTH COUNTY, NORTH CAROLINA.

## IMPROVEMENT IN ROTARY STEAM-ENGINES.

Specification forming part of Letters Patent No. 118,366, dated August 22, 1871.

*To all whom it may concern:*

Be it known that I, CONSTANTINE ALEXANDER HEGE, of the county of Forsyth and State of North Carolina, have invented an Improved Rotary Steam-Engine, of which the following is a specification:

The first part of my invention consists in the revolving shaft being placed near the bottom of chamber, which is of an elliptical form, so that the sliding piston can have all the leverage possible yet touch equally all around the chamber during each revolution of shaft. The second part of my invention consists in placing two of those chambers side by side on the same shaft, with the sliding piston through the shaft in one chamber at right angles through the same shaft, with the sliding piston in the other chamber, so that when the steam in one chamber is just beginning to act on the sliding piston it will have full power on the sliding piston in the other chamber. The third part of my invention consists in the construction of a sliding valve communicating with a lever, by means of which lever the sliding valve is moved either way, so as to change the direction of the steam and run the engine either backward or forward.

Figure 1 represents a side view of engine with outside removed, which embodies my invention. Fig. 2 represents the two chambers fastened together, then cut direct through the center from top to bottom, parallel with the shaft.

A A' are the steam-chambers; B B', the sides; and C, the center or partition between the two chambers of engine. D is the revolving shaft, through which the sliding pistons E E' pass at

right angles to each other. F is a sliding valve, by which the steam enters the chamber A at H, forcing the sliding piston round to the opposite side of chamber to H', where the steam then passes out through exhaust at I, as shown by the arrows. The lever L is used to shift the sliding valve F, changing the direction of the steam so as to cause the shaft D to revolve either backward or forward. Fig. 1 represents the inside of chamber A. E represents sliding piston in the chamber. E', in dotted lines, represents the sliding piston in the other chamber, through same shaft D, but at right angles to the first. Fig. 2 represents the two chambers A A', which are both alike, fastened together, with a partition, C, between the chambers. The same shaft D passes through both chambers, through which shaft D the sliding pistons E E' pass, but at right angles to each other. F shows the sliding valve, which extends under both chambers, and from which the steam is conveyed into the chambers A A' at H, alternately, as the sliding pistons E E' come round to H.

I claim as my invention—

The arrangement, in the rotary engine herein described, of the heart-shaped steam-chambers A A', partition C, shaft D, piston E, ports H H, and slide-valve F, all constructed and operating substantially as shown and described, for the purposes set forth.

CONSTANTINE ALEXANDER HEGE.

Witnesses:

E. A. VOGLER,  
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