[72.]

GEORGE W. BRIGGS & MYRON H. DENSMORE.

Improvement in Rotary Engines.

No. 118,840. Patented Sep. 12, 1871.

Fig. 1.

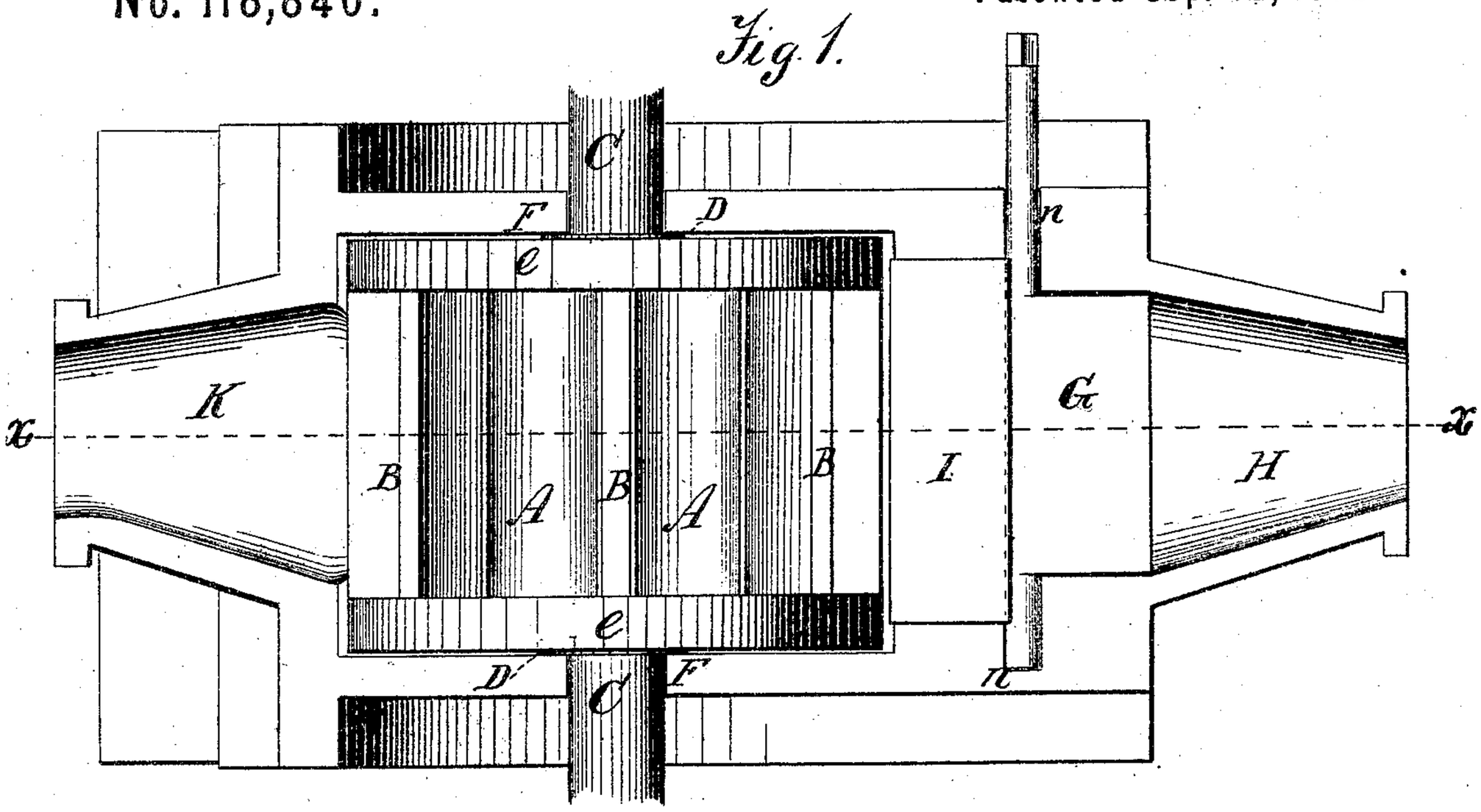
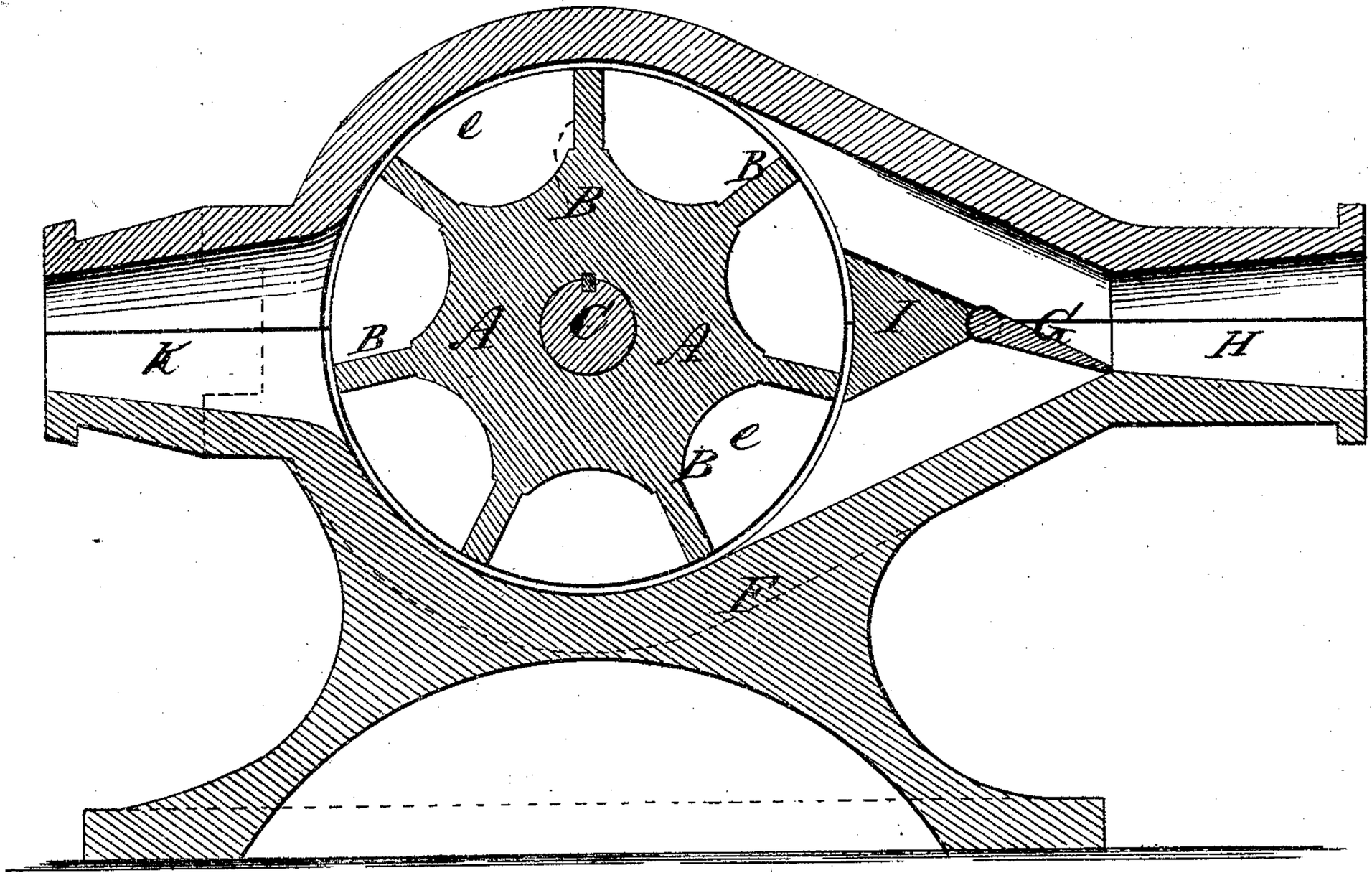


Fig. 2.



Witnesses.
A. Ruppert.
John C. Cox

Inventors.
George W. Briggs and
Myron H. Densmore
By Theodore Munger Atty.

UNITED STATES PATENT OFFICE.

GEORGE W. BRIGGS AND MYRON H. DENSMORE, OF SHICKSHINNY, PA.

IMPROVEMENT IN ROTARY STEAM-ENGINES.

Specification forming part of Letters Patent No. 118,840, dated September 12, 1871.

To all whom it may concern:

Be it known that we, GEORGE W. BRIGGS and MYRON H. DENSMORE, of Shickshinny, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Rotary Steam-Engines; and we hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a plan view, the upper portion of the cylinder being removed. Fig. 2 is a vertical section through the line *x x* in Fig. 1.

Our invention relates to certain improvements in rotary steam-engines; and consists of a piston-wheel provided with seven, more or less, buckets keyed to a driving-shaft and arranged within the cylinder, in combination with a floating gauge arranged in the induction-pipe of the cylinder, so as to reverse the motion of the engine at pleasure; the object of the improvements being to produce a simplification of the mechanism and economy in the use of material in the construction of rotary steam-engines.

In the drawing, A is the piston-wheel, provided with the buckets B. The sides of the buckets B are in the line of the radiuses of the piston-wheel A and act as pistons. The ends of the buckets B are formed by two annular disks, *e*, which also form the ends of the piston-wheel A. The bottoms of the buckets B are concave. C is the driving-shaft, to which the piston-wheel A is keyed, so that it can be shifted to any part thereof. D are loose metallic washers, fitting the driving-shaft C between the ends of the cylinder F and the ends *e* of the piston-wheel A to lessen the friction. G is the floating gauge, which works in bearings *n* near the mouth of the induction-pipe H. A wedge-shaped partition, I, concave on both edges, placed between the floating-gauge G and the piston-wheel A, divides the mouth of the induction-pipe H horizontally into two equal portions, so that the floating-gauge G can be used to close either the upper or lower portion of the induction-pipe H at pleasure, thus throwing the current of steam against either the upper or lower buckets B in the piston-wheel, causing it to revolve in either direction. The ends *e* of the piston-wheel A prevent side pressure. Thus the whole force of the steam is available to drive the piston-wheel, and the steam does not escape until it reaches the exhaust-pipe K.

Having thus described our improvements, what we claim as new and useful, and desire to secure by Letters Patent, is—

In combination, the piston-wheel A, constructed as above described, driving-shaft C, cylinder F, induction-pipe H, floating-gauge G, and wedge-shaped partition I, substantially as and for the purpose hereinbefore described.

In testimony that we claim the foregoing improvements in rotary steam-engines as above described we have hereunto set our hands and seals this 7th day of August, 1871.

GEORGE W. BRIGGS. [L. S.]
M. H. DENSMORE. [L. S.]

Witnesses:
C. A. BOONE,
W. A. CAMPBELL.