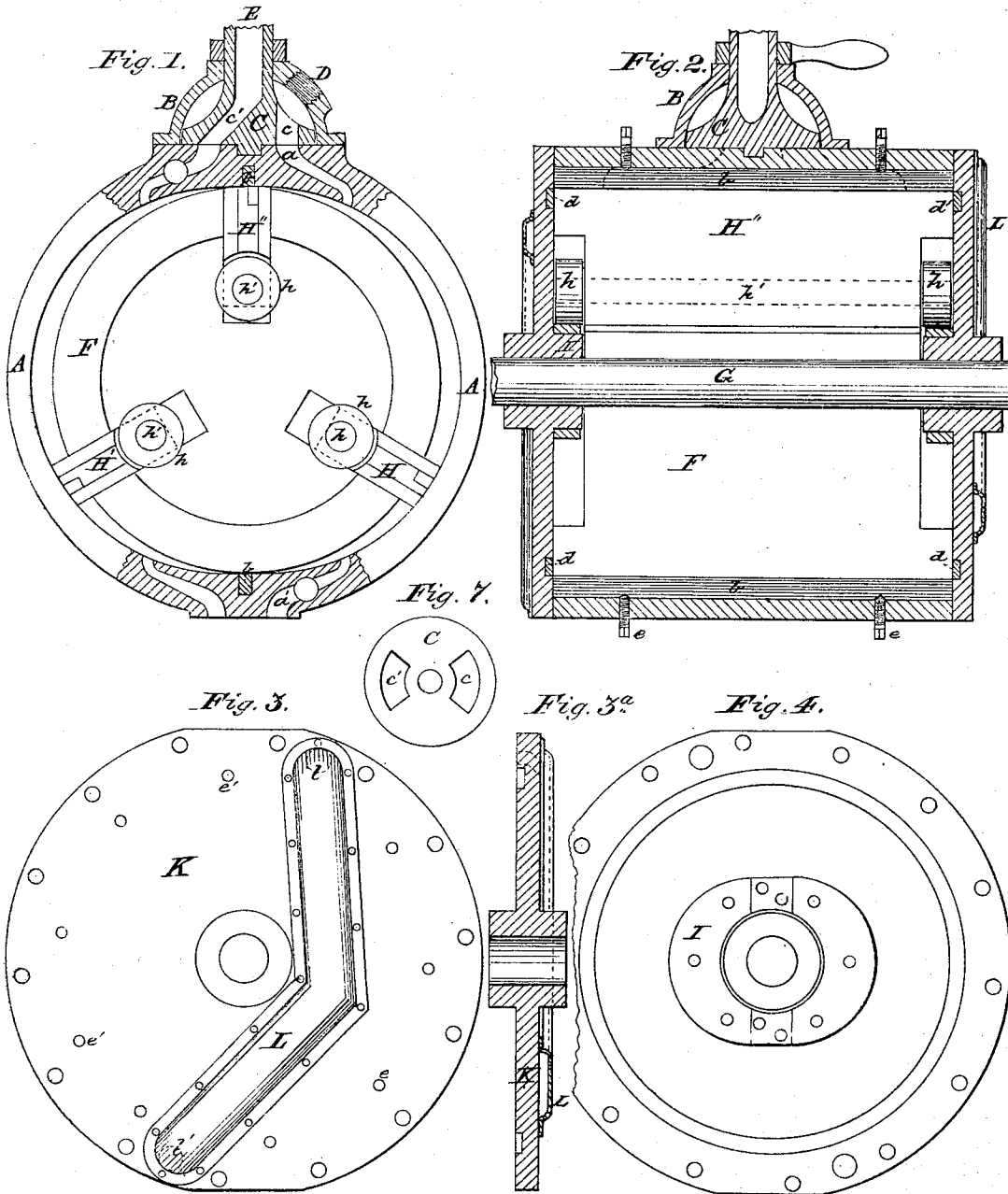


E. S. BENNETT.

Improvement in Rotary-Engines.

No. 129,452.

Patented, July 16, 1872.



Witnesses:

W. H. Swarthout
J. S. Lyon

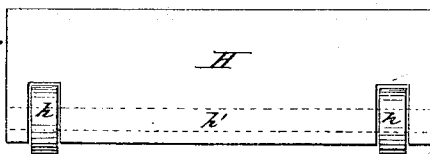


Fig. 5

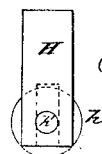


Fig. 6

Inventor:

E. S. Bennett

UNITED STATES PATENT OFFICE.

ERASTUS S. BENNETT, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF,
THEODORE E. PERKINS, RICHARD B. THOMPSON, HENRY McCLELLAN,
AND EDWARD McCLELLAN, OF SAME PLACE.

IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. 129,452, dated July 16, 1872.

Specification describing certain Improvements in Rotary Engines, invented by ERASTUS S. BENNETT, of the city of Brooklyn, in the county of Kings and State of New York.

This invention consists in the construction and arrangement of certain parts of rotary engines, which will be more fully described in the following specification, enabling others skilled in the art to make and use the same.

In the accompanying drawing, forming a part of this specification—

Figure 1 is an end elevation, partly in section, with the cover or head removed. Fig. 2 is a longitudinal section of the same. Fig. 3 is an outside view, and Fig. 3^a a cross-section, of one of the covers or heads. Fig. 4 is an inside view of one of the covers or heads. Fig. 5 is a detached side view of a piston. Fig. 6 is an end view of the same. Fig. 7 is a face view of the valve.

In the drawing, A is the case or shell, made on the inside of elliptical shape, and having at its top and bottom ports *a a'*, and at the upper side of said case is arranged the valve-seat. To this is secured the steam-chest B, preferably of hemispherical form, in which is arranged the revolving-valve C, having a steam-port, *c*, (that connects with the inlet-pipe D,) and an exhaust-port, *c'*, connecting with the exit-pipe E. In the casing A is arranged the cylinder F, secured to the shaft G, and having slots through it for the sliding pistons H, which are provided with friction-rollers, *h*, mounted on a spindle, *h'*, that runs through from side to side of the case A. I prefer to make them as shown in Fig. 5, so as to give the spindle a bearing on both sides, thereby preventing the possibility of becoming bent. The pistons are operated by an eccentric hub, I, on the sides of the case, and may be provided with suitable packing at their outer ends. In the inside of the case may also be inserted packing-

strips, *b* and *d*, which are adjusted by set-screws *e e'*. On the face of sides K of case is arranged a pipe or channel-way L, connecting above and below with ports *a* and *a'* by holes *l l'*, the object-holes and pipe L being to carry the steam from the port *a* to the port *a'*, so that steam may be applied simultaneously at two sides of the inner cylinder. The steam entering through port *c* drives the piston H in the direction of the arrow, and at the same time passes through the hole *l* and passage-way L, and through hole *l'* behind piston H', thus acting independently on two of the three pistons all the time, and forming what might be termed a double engine. The exhaust takes a similar course through the opposite ports and channel-way. The valve is operated by a handle or other suitable device. When in motion a quarter turn stops the engine and a half turn reverses it.

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

1. The combination of the elliptical case A, cylindrical wheel F, and sliding pistons H provided with rollers *h*, substantially as and for the purposes set forth.

2. The outer channel-way L, in combination with ports *a a'* and the case A, substantially as and for the purpose set forth.

3. The combination of the valve C having ports *c c'*, with the case A, wheel P, and piston H, substantially as and for the purpose set forth.

4. The piston H provided with rollers *h* and spindle *h'*, in combination with the hub I on the cover K, substantially as and for the purpose specified.

ERASTUS S. BENNETT.

Witnesses:

WM. H. SWARTWOUT,
DANN. BICKFORD.