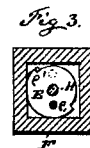
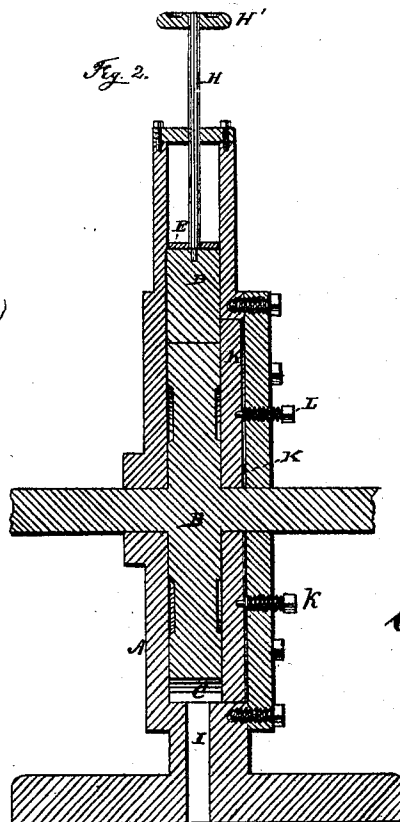
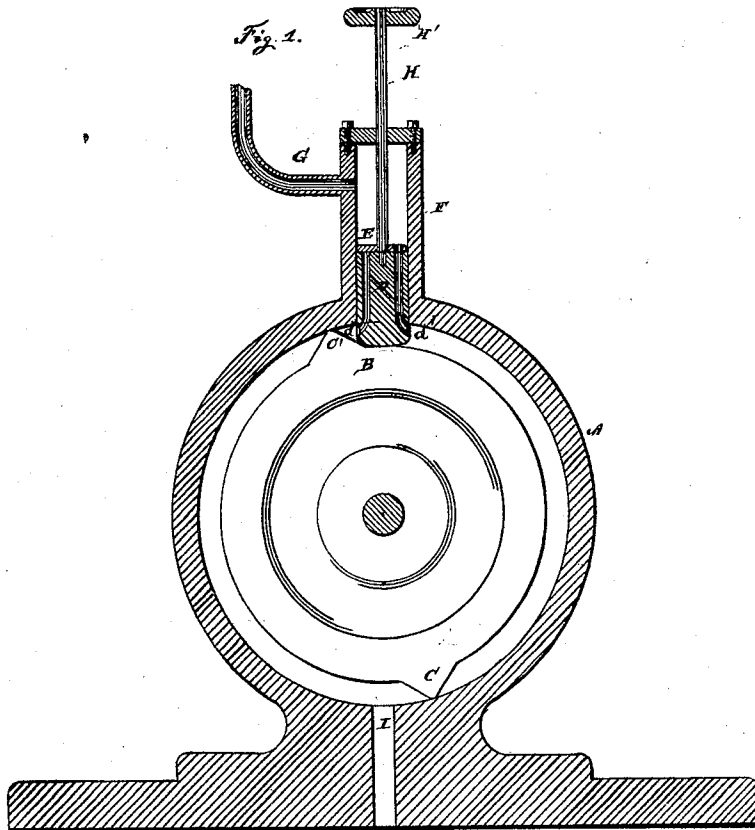


C. W. FLOECKHER.
 ROTARY STEAM-ENGINE.

No. 171,556.

Patented Dec. 28, 1875.



WITNESSES:

Herms. Lauten
George J. Mason.

INVENTOR:

Chas. W. Floeckher.

UNITED STATES PATENT OFFICE.

CHARLES W. FLOECKHER, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN ROTARY STEAM-ENGINES.

Specification forming part of Letters Patent No. **171,556**, dated December 28, 1875; application filed November 30, 1875.

To all whom it may concern:

Be it known that I, CHARLES WILLIAM FLOECKHER, of the city of Washington, in the District of Columbia, have invented a new and useful Improvement in Rotary Steam-Engines, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of my improved rotary steam-engine. Fig. 2 is a vertical central cross-section. Fig. 3 is a top view of the reversing-valve.

My invention relates to rotary steam-engines.

The nature of my invention consists of a solid drum with two V-shaped abutments diametrically opposite each other, against which the steam impinges, and which also serve to lift a gate-block, which slides in the steam-chest diametrically opposite the exhaust, and is provided with two steam-ports—one to the right and one to the left—and with a movable valve-plate, for the purpose of alternately opening and closing the said steam-ports, whereby the drum is caused to revolve either to the right or to the left.

The object of my invention is to make a cheap and durable rotary steam-engine of very simple construction.

A in Figs. 1, 2, denotes the cylinder of my improved steam-engine. B is the revolving drum, which is inclosed by and revolves in the said cylinder. It is provided with two V-shaped abutments, C C', diametrically opposite each other, which bear against the cylindrical part of the said cylinder. D is the gate-block, which slides in the steam-chest F, and is forced against the drum B by the pressure of the steam. The said gate-block is provided with two steam-ports, *d d'*, which open at the top of the gate-block D, and at its sides near the foot in opposite directions, so that, when the gate-block is lifted by the abutments C, the said sideward openings are closed by the walls of the steam-chest F. A plate, E,

fitted to the top of the gate-block D, and provided with a center-shaft, H, and hand-wheel H', and with a port-hole, *e*, serves as a stop-valve by closing both ports *d d'*, or as a reverse-valve by admitting steam through its port-hole *e*, either into the port *d* or *d'*. The movement of the plate E may be regulated by reducing the diameter of one-half of its circumference, and by a banking-pin, *e'*, in the gate-block D, by which the progress of the larger half is arrested. The exhaust I is centrally or diametrically opposite the gate-block D, which permits the engine to run with the same ease when reversed. The lateral packing is effected by a plate, K, and the adjusting-screws *k* in the lid L.

When the machine is to revolve to the right the plate E is turned until its port-hole *e* is above the steam-port *d'*. The steam drives the one abutment, C, around toward the exhaust I. Before the exhaust is cleared by the said abutment, the opposite abutment C' lifts the gate-block D, and thereby closes the steam-port *d'*. The abutment C is carried over the exhaust by the impulse of a fly-wheel, or of the machinery driven. The gate-block D is released by the other abutment, C', and the steam pushes it toward the exhaust.

When steam is admitted through the port *d* the described operation of the engine takes place on the other side of cylinder and the revolutions are reversed.

I claim as my invention—

The sliding abutment D, having two steam-ports, *d d'*, and an auxiliary reversing-valve, E, arranged on its upper face, in combination with the drum B and its abutments C C' and the exterior cylinder A and steam-chest F, substantially as and for the purposes herein set forth.

CHAS. WM. FLOECKHER.

Witnesses:

GEORGE T. MASON,
FRANK T. GALT.