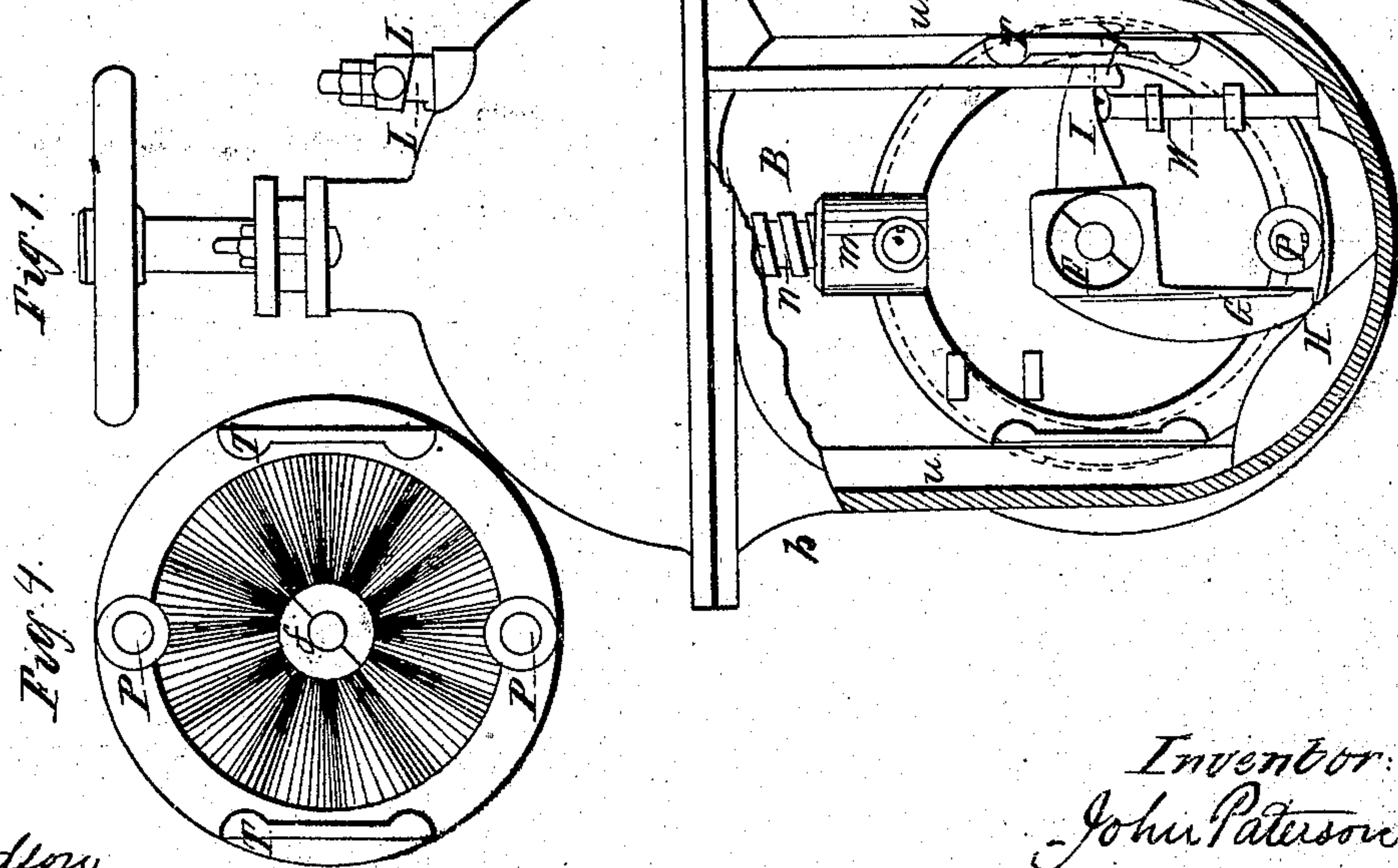
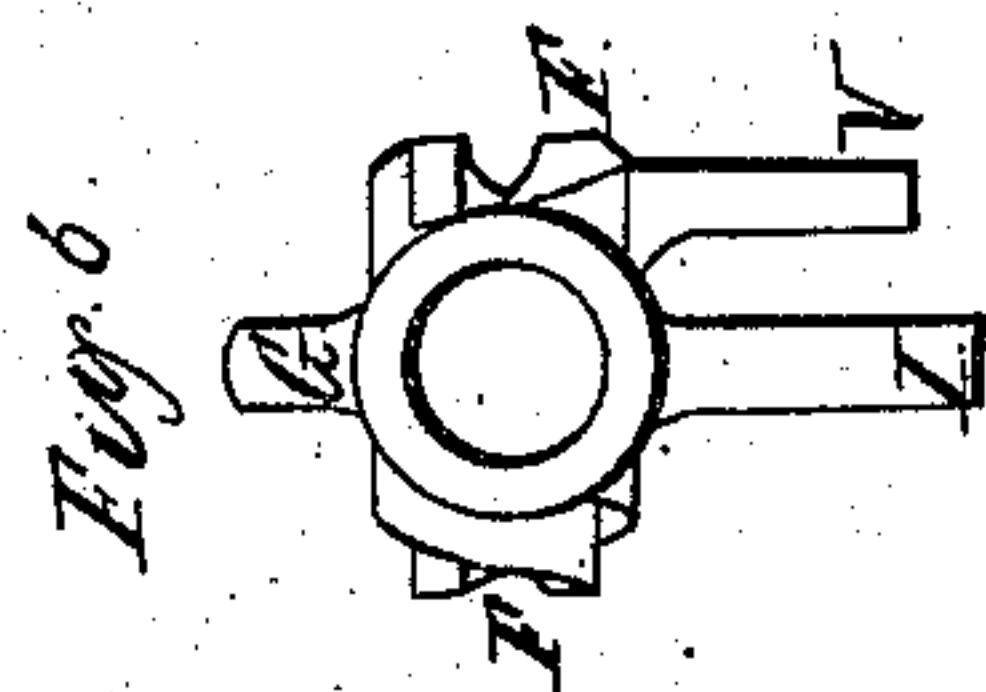
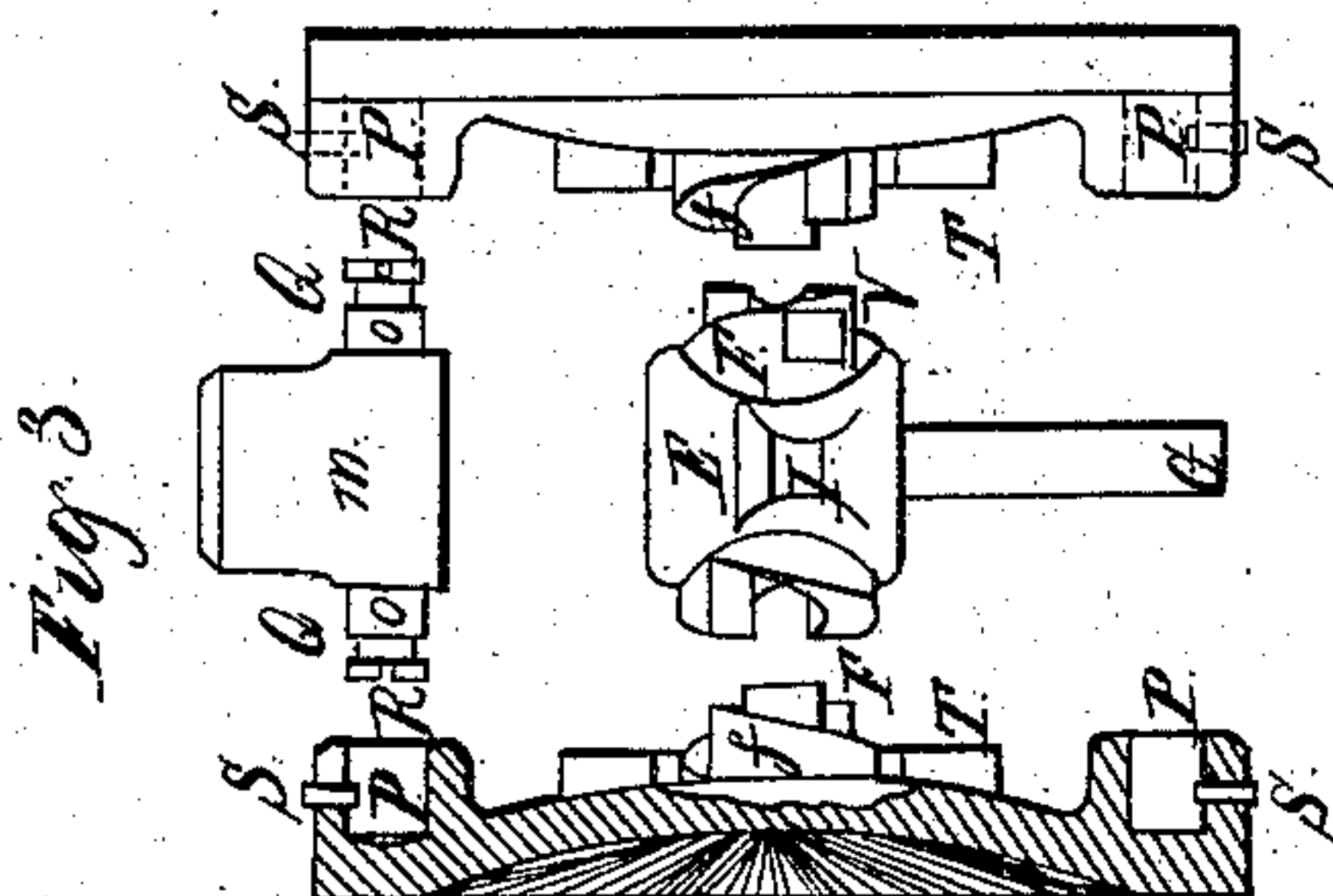
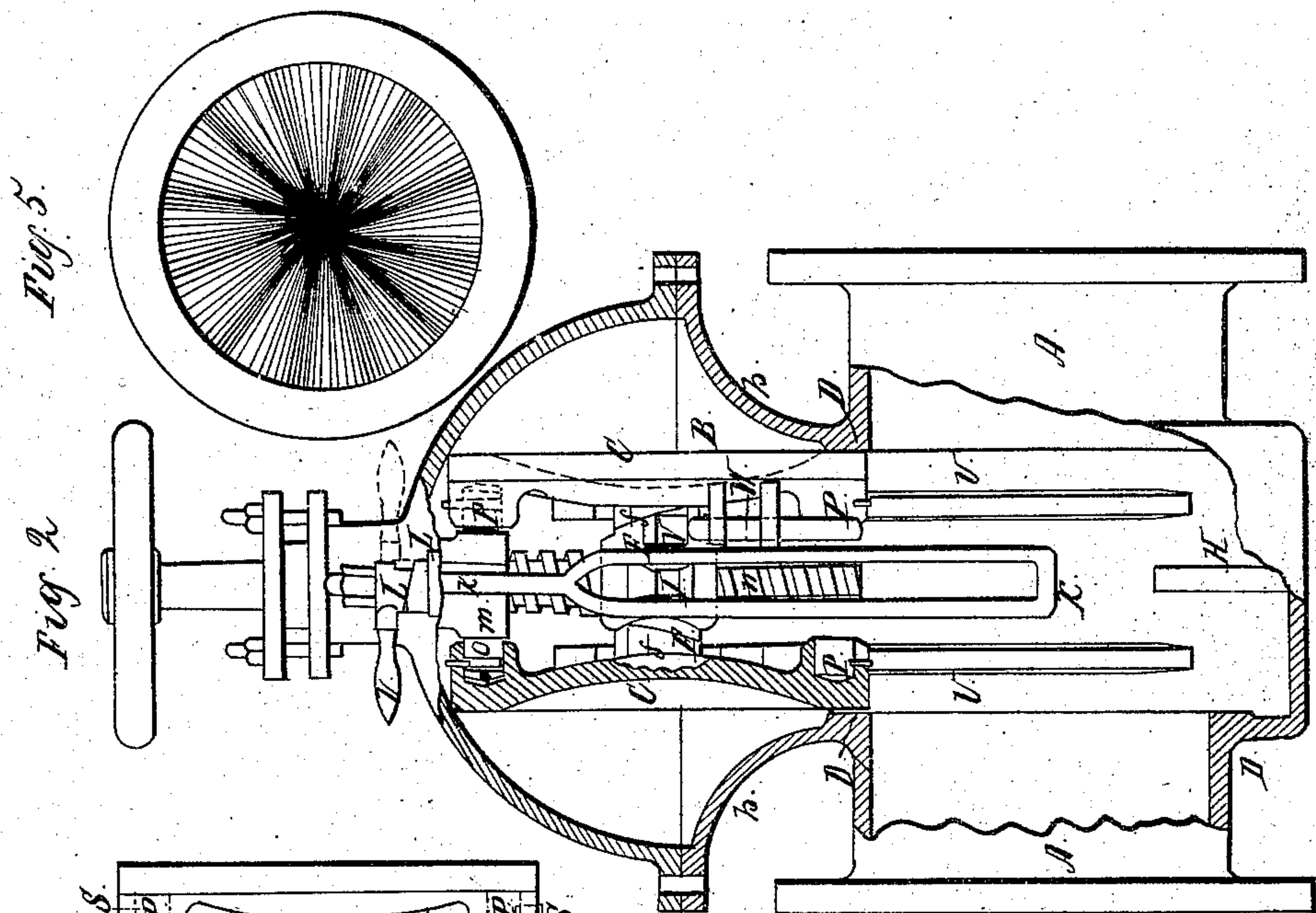


J. Paterson.
Stop Valve.

No. 111,241.

Patented Jan. 24, 1871.



Witnesses:
W. H. Root
G. W. Richardson

Inventor:
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United States Patent Office.

JOHN PATERSON, OF TROY, NEW YORK.

Letters Patent No. 111,241, dated January 24, 1871.

IMPROVEMENT IN STOP-VALVES.

The Schedule referred to in these Letters Patent and making part of the same.

I, JOHN PATERSON, of Troy, in the county of Rensselaer, in the State of New York, have invented certain new and useful Improvements in Stop-Valves; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing and letters of reference marked thereon, forming a part of this specification.

The object of this invention is to provide new and useful improvements in stop-valves for water, steam, gas, and other pipes.

The first part of my invention relates to a peculiar form of valve-case, by which is secured a great reduction of material, together with great strength to resist the action of heavy water-pressure.

The second part of my invention relates to the construction of the sliding gates so as to render them reversible, in the manner hereinafter described.

The third part of my invention relates to the manner of locking the gates to the arms, by which they are suspended.

The fourth part of my invention relates to the construction of ribs on the inner sides of the gates, with corresponding parallel ribs in the valve-case, on which the gates are to slide, to obviate the vibrating motion given to the gate when allowed to slide on its periphery when the valve is placed in a horizontal position.

The fifth part of my invention relates to the manner of operating the central cam-block.

This is done—

First, by means of a pendent lever attached to said cam-block, and coming in contact with a cam or inclined surface at the bottom of the valve-case; or

Second, by a sliding rod or stilt suspended on the inner side of the gate, which, coming in contact with a stop at the bottom of the valve-case, presses up the lever projecting from the cam-block.

The sixth part of my invention relates to the construction of an adjustable fulcrum-stop, by which to compensate for the wear of the valve-faces by screwing down the set-nuts, and also for relieving the friction of the valve-faces, when opening the valve, by means of a cam with hand-lever attached thereto, and by turning said hand-lever in the right direction the adjustable stop is lowered, thus releasing the cam-block lever.

To enable others skilled in the art to make and use the same, I now proceed to fully describe the construction and operation of the same.

Figure 1 represents an elevation of my improved stop-valve, partly sectioned.

Figure 2 represents a longitudinal sectional elevation of the same.

Figure 3 represents the gates, nut, and oscillating block, detached from the valve-case.

Figures 4 and 5 represent the face and back view of the gates.

Figure 6 represents a view of the cam-block or oscillating block.

A A represent pipe-connections of valve-case, constructed in the ordinary manner.

B B, the valve-chamber, into which the gates C C pass when the valve is opened.

The lower part of this chamber or valve-box, as it passes upward, is gradually changed from a square into a circle by having its four sides *b b* curved outwardly, and so corresponds to the circle of the dome-shaped cover.

The gates C C are suspended by a nut, *m*, screwed onto the stem *n*. A straight sliding stem may be used in its stead.

The faces of said gates C C are truly fitted; so also are the seats D D, over which they slide.

The gates C C are attached by arms or trunnions O O projecting oppositely from the nut *m* and entering cylindrical sockets P P on the upper and inner portion of the gates C C.

Similar sockets P P are formed directly opposite, on the lower and inner portion of the gates C C, for the purpose of reversing the gate C or gates C C when the lower or working face becomes scratched or bruised.

The arms O O are provided with a groove, Q, around and near their outer ends, and also a slot, R, from the groove Q to the extremity of the arm, and each socket P P is furnished with a pin, S, projecting into it in such a manner that, when the arm O is inserted into said socket at right angles to its true position, this pin passes through the slot R into the groove Q, and then, when the arm O is turned up to its true position, the gate is securely locked.

The groove Q is made wider than the pin S to allow the gates to expand freely.

On the back of each gate C C are two ribs T T, and also in the valve-case are corresponding ribs U U, upon which the gates C C slide freely.

When the gates are closed they are firmly pressed to the seats D D by means of the oscillating block E, with right-and-left hand screw-faces or circular inclines F F operating against corresponding right-and-left hand screw-faces or inclines *f f* on the back of each gate C.

Said oscillating block E is oscillated by means of a pendent lever, G, attached thereto, coming in contact with the cam or incline surface H at the bottom of the valve-case, in the downward movement of the gates C C; or, it may be oscillated by a sliding rod,

W, suspended on the inner side of the gate C, said rod being pressed on the bottom of the valve-case and thus forcing the short projecting arm or lever V upward.

Said oscillating block may also be operated by means of a fulcrum-lever, I, attached thereto, being arrested in its downward movement on an adjustable fulcrum-stop, k.

This adjustable fulcrum-stop is suspended from the cover through an ordinary stuffing-box, and has on its upper end a cam or circular incline, L, with hand-lever attached thereto.

The stop k is secured by a nut or set-nuts. By means of said nuts the fulcrum-stop k may be raised, thus compensating for the wear of the valve-faces.

By turning the hand-lever l in the right direction the adjustable stop k is lowered and the lever I drops, thus relieving the friction of the working faces before opening the valve.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the gates C C, having sockets P P and pins S S, of the nut m having arms or trunnions O O, slots R R, and grooves Q Q, for locking the gates, substantially as hereinbefore set forth.

2. The combination and arrangement of the gates C C, having ribs T T, with the valve-case having corresponding ribs U U, substantially as and for the purpose hereinbefore set forth.

3. The adjustable fulcrum-stop k, operated by the cam or circular incline surface L, and hand-lever l, substantially as and for the purpose hereinbefore set forth.

JOHN PATERSON.

Witnesses:

W. H. POOR,

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