J. M. ALBERTSON.

CUT-OFF VALVE.

No. 50,320. Patented Oct. 10, 1865.

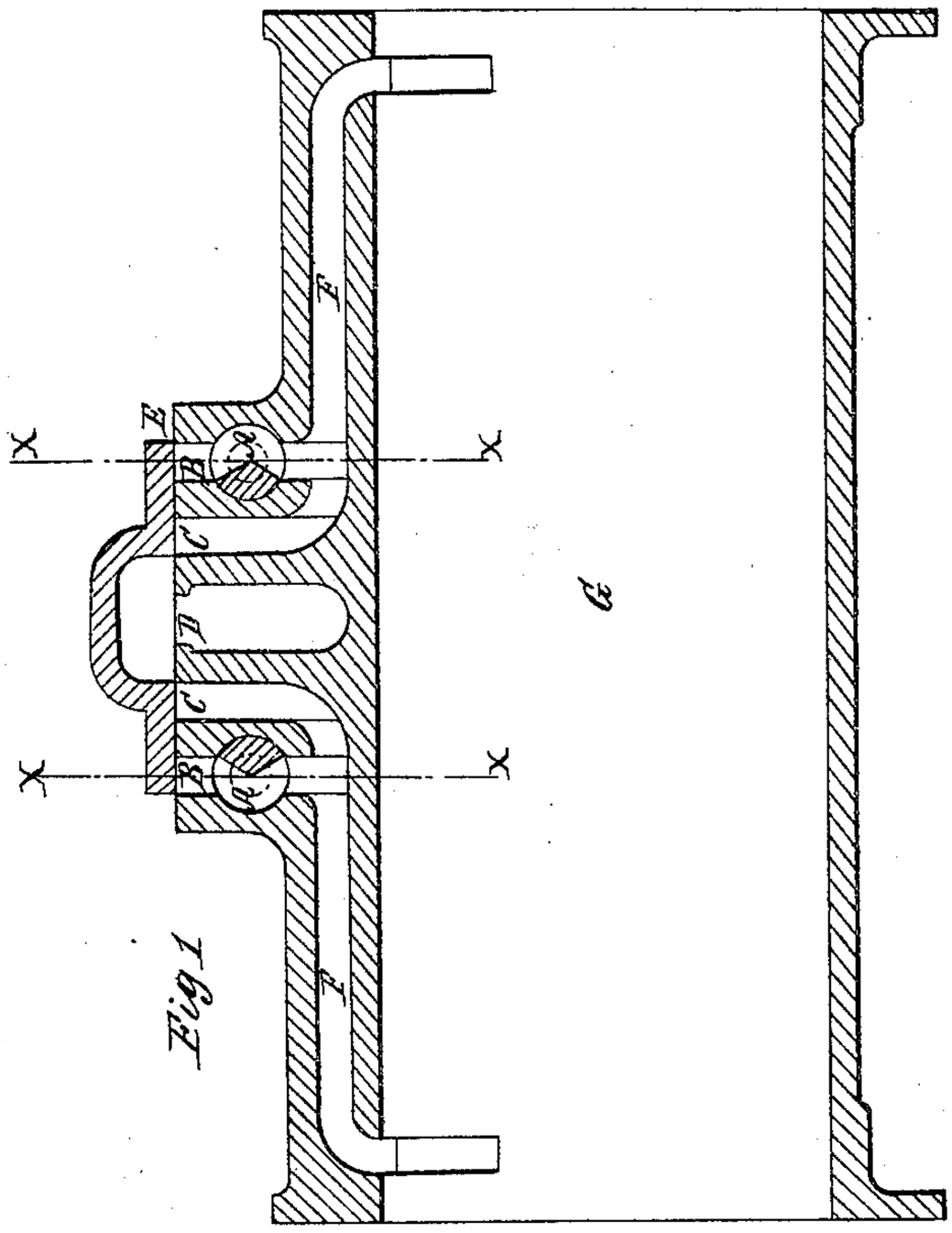

Fig. 1

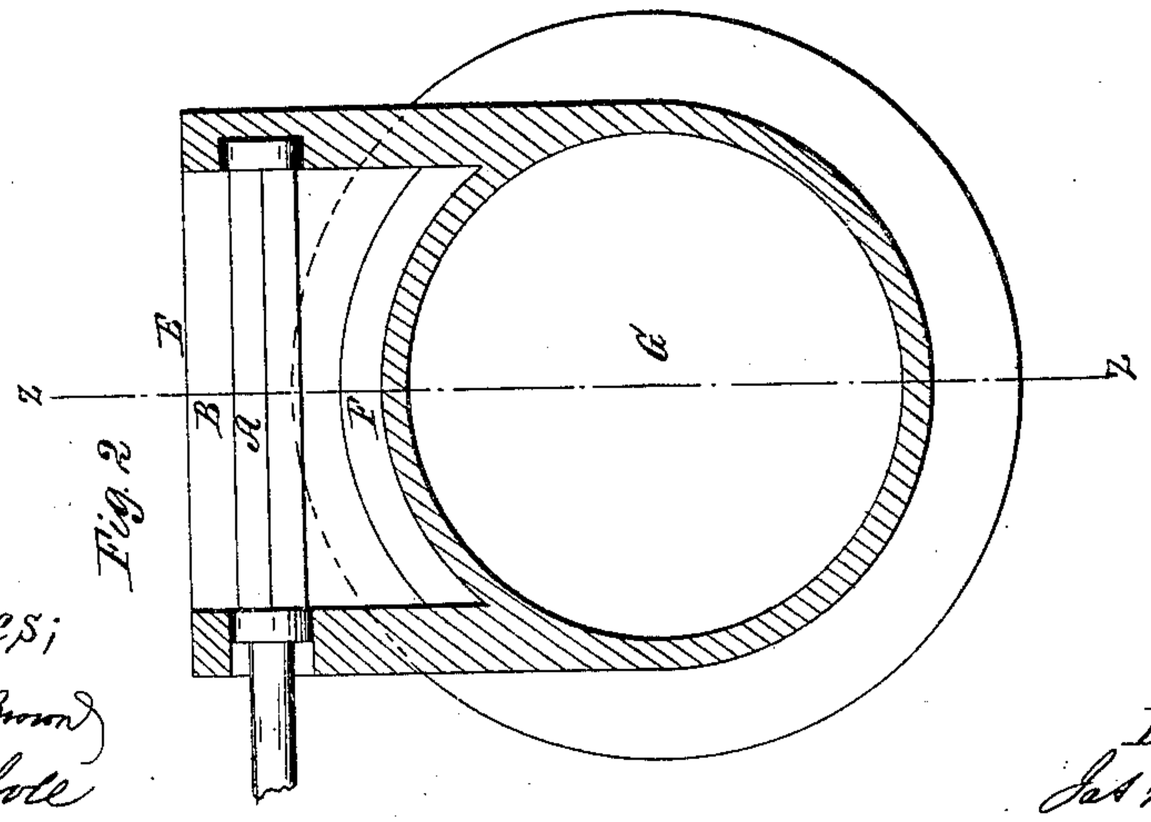

Fig. 2

Witnesses;

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UNITED STATES PATENT OFFICE.

JAS. M. ALBERTSON, OF NEW LONDON, CONNECTICUT.

IMPROVEMENT IN CUT-OFF VALVES.

Specification forming part of Letters Patent No. **50,320**, dated October 10, 1865; antedated September 27, 1865.

To all whom it may concern:

Be it known that I, JAMES M. ALBERTSON, of New London, in the county of New London, State of Connecticut, have invented a new and useful Improvement in the Valves of Steam-Engines; and I do hereby declare that the following is a full, exact, and clear description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical section longitudinally through center. Fig. 2 is a vertical section transversely through valve-port.

Similar letters indicate like parts.

The improvement consists in placing a valve below the valve-seat in the port or passage of a steam-engine cylinder, which conveys steam from the steam-chest to the interior of the cylinder, the same to be used, in addition to the main-valve of the engine, as a governor or cut-off valve. In all other engines this is done by a valve in some way above the main valve, so that the steam passes the governor or cut-off valve before passing the main valve or valve that changes the steam at each stroke to opposite sides of the piston, so that the steam is arrested or checked in its passage above the main valve.

In my valve under consideration the action of the steam in passing the valves is reversed, the steam being arrested or checked after it has passed the main valve and between it and the interior of the cylinder. For the purpose of allowing this valve to remain in a closed or partially-closed position for any length of time without in any way interfering with the free passage of exhaust-steam from the cylinder I use an additional port, C C, connecting with the same port which contains the valve under consideration, and also through the main valve with the outlet from the cylinder, which port is used only as an exhaust-port, and is opened and closed by the main valve of the engine, so that the steam in passing out is never checked or arrested by the position of the valve in the steam-port, steam being admitted only by the port containing the valve and discharged through the above-described port.

The advantages claimed by my arrangement are—

First, the action of the main-valve of the engine is not in any way interfered with, it being entirely separate and distinct in its operation from the valve under consideration, and has no connection with it whatever.

Second, the steam is arrested or checked in passing into the cylinder nearer the piston, and consequently much steam is saved in the passages.

Third, it is simpler to fit up and keep in order than most valves for the same purpose now in use.

Fourth, the extreme lightness with which the valve can be constructed and the ease with which it can be moved will dispense with much of the cumbersome machinery now used in many valves designed for the same purpose.

In the accompanying drawings, let G represent a steam cylinder with the usual steam and exhaust ports and passages, together with the additional ports, C C, hereinbefore described, communicating respectively with the ports or passages leading to each end of the cylinder. In the ports or passages leading to the interior of the cylinder are placed the valves under consideration. These valves may be either rotary, vibrating, piston, or any form adapted to the purpose, and are introduced into their position under the valve-seat by drilling a hole through the side of the steam-chest of the cylinder, which hole is continued to a length not less than the port. The valve is now introduced, a stuffing-box put in, and the valve-stem left on the outside of the cylinder to be attached to any suitable machinery for working it. The steam then enters through the ports B B only, and exhausts through the ports C C only, the ports C C being auxiliary for the purpose of allowing the valve under consideration to be left free of any other duty than that of controlling the engine, or, rather, the admission of steam to the engine.

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

1. The placing of a valve below the valve-seat of a steam-cylinder and in the ports or

passages leading to the interior of the cylinder, in combination with the auxiliary exhaust-ports C C, for the purposes substantially as herein described.

2. The auxiliary port C C, when used only as an exhaust-port and connected with the passage into the cylinder which contains the valve herein described, and when used in combination with this valve, substantially as set forth.

J. M. ALBERTSON.

Witnesses:
E. T. BROWN,
THOMAS DRUMMOND.