

(No Model.)

J. H. ALLEN.
Steam Cylinder.

No. 236,405.

Patented Jan. 11, 1881.

Fig. I.

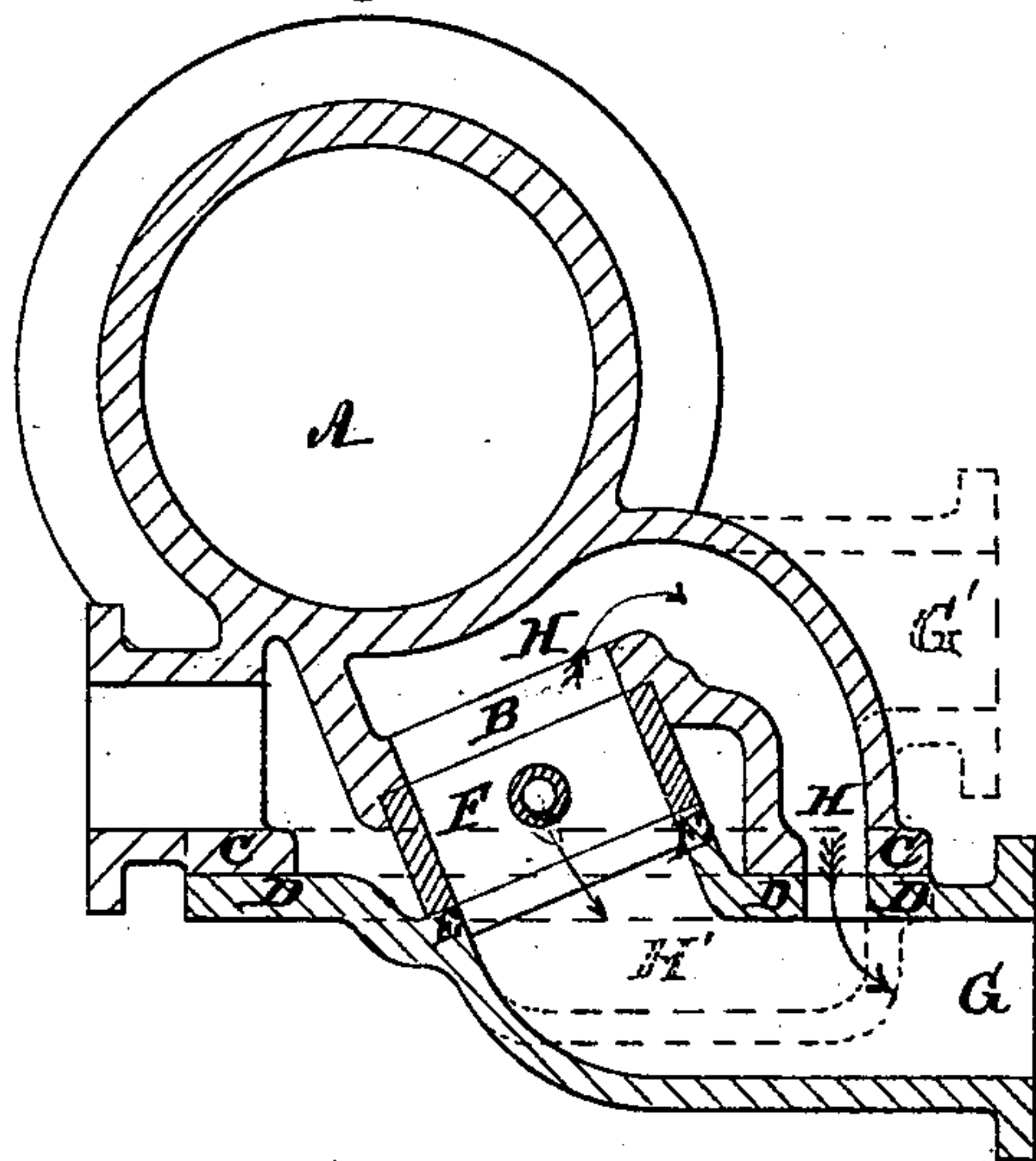


Fig. II.

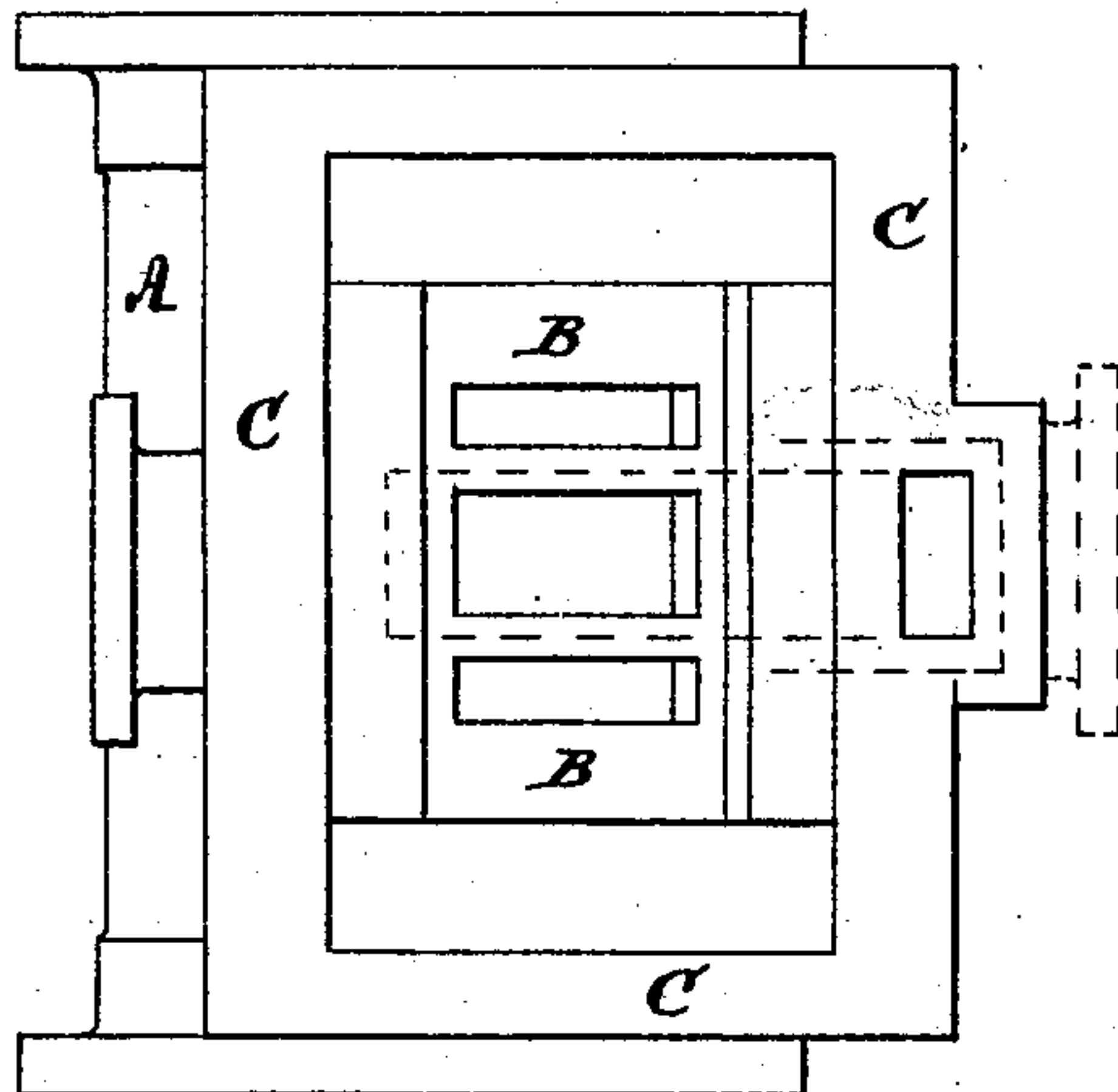
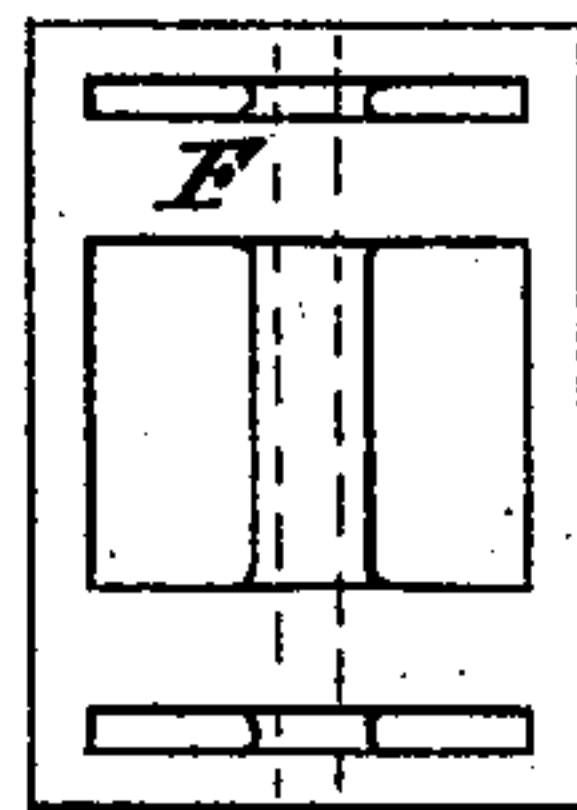


Fig. III.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN H. ALLEN, OF BROOKLYN, NEW YORK.

STEAM-CYLINDER.

SPECIFICATION forming part of Letters Patent No. 236,405, dated January 11, 1881.

Application filed September 3, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. ALLEN, of Brooklyn, in the State of New York, have invented a new and useful Improvement in Steam-Cylinders, of which the following is a specification.

When balance-valves are arranged on a cylinder a pressure-plate is arranged on the back of the slide-valve to take off the pressure from the back of the valve, and which said pressure-plate has to be regulated by various means to insure the required tightness between the faces as the valve and faces wear away.

To facilitate and simplify this arrangement is the nature of my invention; and it consists in placing both the faces of the valve and seats at an angle with the face or joint of the valve-chest cover. One of the seats for the valve is cast on the cylinder, and the other seat, forming the pressure-plate, is cast on the inside of the chest-cover, to bear upon the back of the valve. By this arrangement a very slight movement of the valve-chest cover will bring this inside back surface nearer to or farther away from the valve-face, as may be required.

My invention further consists in the arrangement of the exhaust-passage whereby the exhaust-steam can escape from the front and back of the valve simultaneously by being connected together by a passage through the valve-chest cover.

In the accompanying drawings, Figure I represents a cross-section of a cylinder with balance slide-valve and valve-chest cover embodying my invention. Fig. II is a side view of the cylinder, and Fig. III is a plan of a balance-valve.

A represents the cylinder; B, the seat cast on the cylinder, upon which the slide-valve works. This seat B is placed at an angle to the face or flange C of the valve-chest upon which the cover D is fastened, and consequently at an angle to the face of this cover D.

E are surfaces cast on the inside of the cover D, corresponding with the surface B on the cylinder, and at the same inclination, or parallel to the same, bearing upon the back face

of the balance-valve F. By this arrangement it will readily be understood that a very slight motion of the cover D will cause the surface E to bear more or less upon the back of the valve F, as may be desired.

The bolt-holes in the cover D must be made slightly oblong, and suitable provisions may be made to regulate the position of this cover and to retain the same in that position independent of the bolts which insure the tightness of the joint.

On the outside of the valve-chest cover D the exhaust-passage G is cast, and the exhaust-steam passes through the valve F into the same. At the same time the usual exhaust-passage H around the valve-seat B is connected to this exhaust-passage G, thereby taking the exhaust-steam from the front and back of the valve simultaneously; or the exhaust-passage from the front of the valve and the exhaust-passage from the back of the valve may be connected together by a passage, H', cast in and through the valve-chest cover, as shown in dotted lines in Fig. I, and the exhaust-branch cast on the cylinder in the usual manner, as shown at G' in dotted lines. By this arrangement the moving of the valve-cover for the purpose above specified will not interfere with the pipe-joint.

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

1. In combination with a cylinder and balance slide-valve, F, the valve-chest cover D, provided with surfaces E on its inside corresponding with the valve-seat surfaces B, cast on the cylinder, bearing upon the back of the balance slide-valve F, and arranged at an angle with the joint-face of said cover D, substantially in the manner and for the purpose described.

2. In a cylinder provided with a balance slide-valve, the exhaust-passage from front and back of the valve, connected together by a passage through the valve-chest cover, substantially in the manner shown and described.

JOHN H. ALLEN.

Witnesses:

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