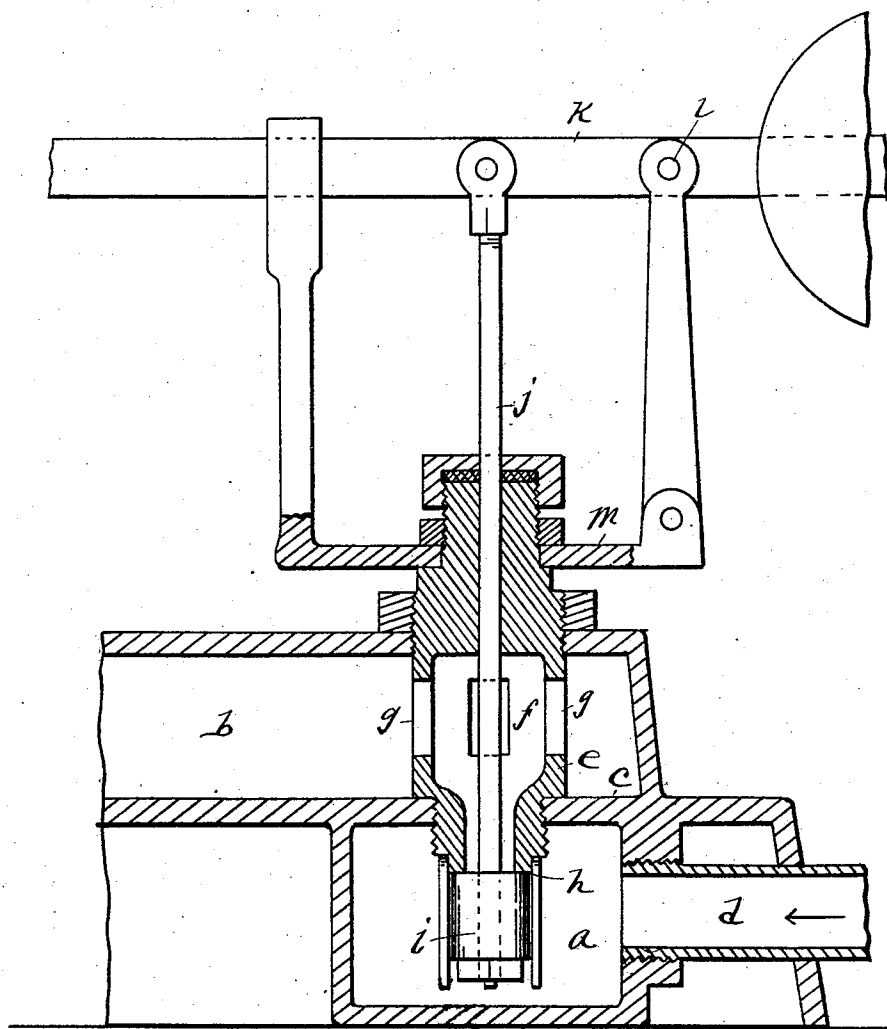


No. 848,685.

PATENTED APR. 2, 1907.

J. E. PURSER.  
SINGLE SEATED VALVE.  
APPLICATION FILED MAR. 28, 1906.



Witnesses.  
O. B. Brenziger  
C. M. Spielburg.

Inventor.  
James Edward Purser.  
By his Attorney  
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# UNITED STATES PATENT OFFICE.

JAMES EDWARD PURSER, OF WINDSOR, ONTARIO, CANADA, ASSIGNOR TO  
JOHN MOREHEAD, OF DETROIT, MICHIGAN.

## SINGLE-SEATED VALVE.

No. 848,685.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed March 28, 1906. Serial No. 308,571.

*To all whom it may concern:*

Be it known that I, JAMES EDWARD PURSER, a subject of the King of Great Britain, residing at Windsor, county of Essex, Province of Ontario, Dominion of Canada, have invented a certain new and useful Improvement in Single-Seated Valves, of which the following is a specification, reference being had to the accompanying drawing, which forms a part of this specification.

My present invention has for its object a novel single-seated valve of superior construction and utility, the same being especially calculated and designed to control the passage or communication of one chamber with another.

I carry out my invention as hereinafter more fully described and claimed, and illustrated in the accompanying drawing, the drawing being a view in vertical section showing parts in elevation.

My improved valve is designed more particularly to be employed in connection with a separator embodied in a separate application prepared and executed by me of even date herewith, said separator being employed in a steam system to separate condensed water from the steam, and in which separator two tanks are employed, into the top of each of which steam is admitted, the admission of steam into both of said tanks being controlled by my improved valve a single valve only being required for this purpose. While I have, as above observed, more particularly designed my present valve for this special purpose, I would have it understood that I do not limit myself solely to any given purpose; but my present invention includes within its scope any and all uses to which the valve may be found applicable.

I carry out my invention as follows: In the drawing, *a* and *b* represent two chambers or passages, between which is located a diaphragm *c*. The two chambers are arranged the one above the other, and into the lower chamber *a* communicates an inlet-pipe *d*—as a steam-pipe, for example. The chamber or passage *b* may communicate, as in the concurrent application above referred to, with two tanks (not shown) in any suitable manner. Into the diaphragm *c* is engaged a valve case or cage *e*, forming an interior chamber *f*, communicable with the chamber or passage *b*, as through ports *g*. The lower

end of said case or cage is provided with a valve-seat *h*, against which the head of the valve (indicated at *i*) seats. The stem *j* of the valve may be actuated in any suitable manner, as by a lever *k*, engaged therewith, fulcrumed, as at *l*, upon a yoke *m* in a customary manner. It will be observed that the head of the valve *i* opens downward and that when in open position communication is afforded through the valve case or cage between the chambers *a* and *b*, so that steam, for example, entering through the pipe *d* into the chamber *a* may pass into the chamber *f* of the valve case or cage and thence through its ports into the chamber *b*. It will be seen that one of said chambers is in the nature of a receiving-chamber and the other in the nature of a discharge-chamber, communication between the two being controlled by a single-seated valve, in the manner above described.

What I claim as my invention is—

1. In combination two chambers the one located above the other and having a diaphragm therebetween, the upper chamber provided with an upper wall, a valve case or cage engaged in said wall and diaphragm and communicable at its lower end into the lower chamber and above said diaphragm into the upper chamber, an inlet-pipe leading into one of said chambers, a discharge-pipe leading from the other chamber, and a single-seated valve seating in said case governing the communication through said valve case or cage between said chambers.

2. In combination two chambers the one located above the other and having a diaphragm therebetween, the upper chamber provided with an upper wall, a valve case or cage engaged in said wall and diaphragm communicable below said diaphragm into the lower chamber and provided with a seat toward the lower end thereof, said valve case or cage forming an interior chamber having ports above said diaphragm opening into the upper chamber, and a valve to seat upon said seat.

3. In combination two chambers the one located above the other and having a diaphragm therebetween, the upper chamber provided with an upper wall, a valve case or cage engaged in said wall and diaphragm communicable below said diaphragm into the lower chamber and provided with a seat toward the lower end thereof, said valve case

or cage forming an interior chamber having ports above said diaphragm opening into the upper chamber, a valve to seat upon said seat, said valve opening downward, and  
5 means to actuate the valve.

4. In combination two chambers the one located above the other and having a diaphragm therebetween, the upper chamber provided with an upper wall, a valve case or  
10 cage engaged in said wall and diaphragm communicable below said diaphragm into the lower chamber and provided with a seat toward the lower end thereof, said valve case or cage forming an interior chamber having

ports above said diaphragm opening into the 15 upper chamber, a valve to seat upon said seat, said valve provided with a valve-stem projecting through said case, and means engaged with the valve-stem to actuate the valve. 20

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES EDWARD PURSER.

Witnesses:

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