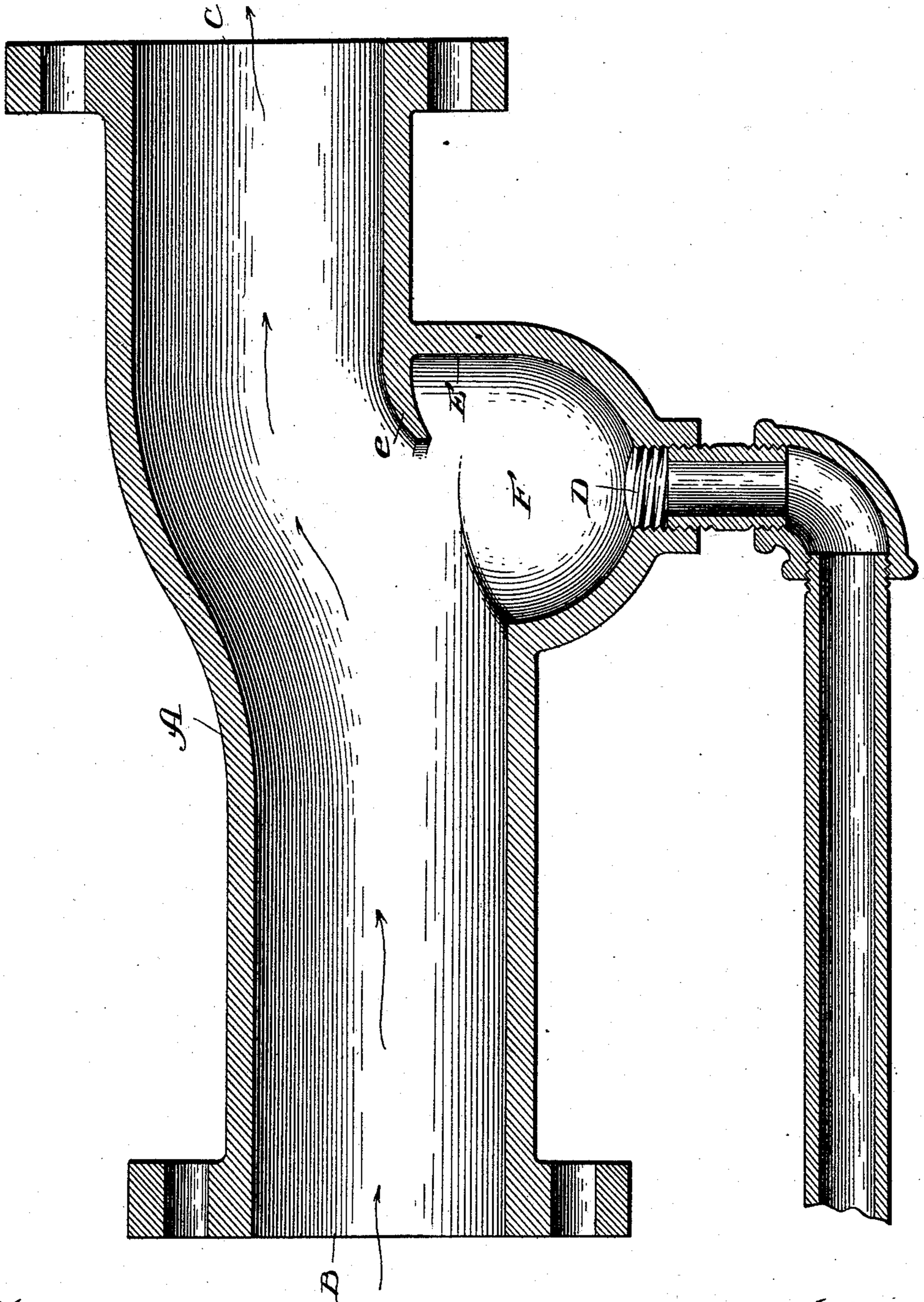
(No Model.)

P. GOAN.

STEAM SEPARATOR.

No. 525,012. Patented Aug. 28, 1894.



Witnesses:
Clifford N. White,
Florence King

Inventor:
Peter Goan
By Walter H. Chamberlin
Attorney

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UNITED STATES PATENT OFFICE.

PETER GOAN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO MARTIN V. BARNEY, OF SAME PLACE.

STEAM-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 525,012, dated August 28, 1894.

Application filed May 9, 1893. Serial No. 473,508. (No model.)

To all whom it may concern:

Be it known that I, PETER GOAN, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Steam-Traps; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, which forms a part of this specification.

My invention has for its object the production of a "steam trap" in which there shall be practically a "straight way" for the steam.

Heretofore in the construction of "steam traps" it has been customary to so construct the steam passage that it is provided with abrupt angles against which the steam will impinge and thus break it and lessen its velocity. In my construction I provide an outlet for the trap at a slightly higher elevation than the inlet but not enough so but that the steam will readily pass over the obstruction formed by thus elevating the outlet, while the water will impinge against the obstruction and drop down to a receptacle beneath from whence it is carried back to the boiler.

The invention will be hereinafter more fully described and claimed.

The figure in the drawing is a longitudinal section of my trap.

In carrying out my invention A represents the body or shell of the trap provided with a steam and water inlet B, a steam outlet C, and a water outlet D. As will be seen the outlet C is at a somewhat higher elevation than the inlet B. This forms the wall or obstruction E and the latter is provided with an overhanging edge *e*. The shell in advance of the wall E is depressed and forms the receptacle or basin F, from the bottom of which leads the water outlet D.

The operation is as follows: The steam and water enter at B. The water being the heavier will of course be below the steam. As the water strikes the wall E it is stopped in its passage and drops into the receptacle F and is carried from thence through the outlet D back to the boiler or any other desired point. The bulk of the steam, however, being lighter, will clear the wall E and pass on and out through the outlet C to the cylinders. To prevent the steam forcing the water out of the receptacle and on through the outlet C, the over hanging edge *e* is provided thus keeping the water down in the basin F after it has once reached there. By this construction the steam which naturally travels along the upper side of the way, has a substantially straight way through which to pass, and is not broken or impelled in its passage to the cylinder while the water is effectually separated from the steam.

It is obvious that various details of my invention may be altered or changed without departing from the spirit thereof, which consists essentially in the provision of a substantially straight way through which the steam passes, and a diaphragm against which the water strikes and is deflected into a suitable independent outlet.

I am aware that a construction has heretofore been patented, in which the diaphragm was not located entirely beyond the inlet, but in this construction the steam instead of having a substantially straight way is caused to take a circuitous path and is thereby more or less open to condensation while in my construction this condensing surface is reduced to a minimum. Such a construction as above named I do not claim, but

What I claim is—

1. In a steam trap the combination with the walls of the trap forming a substantially straight way for the steam of a diaphragm located in the bottom of said way against which the water impinges and a water outlet beneath the diaphragm, substantially as described.

2. In a steam trap the combination with the walls of the trap forming a substantially straight way for the steam of a diaphragm formed by elevating a portion of the lower wall of the trap, against which the water can impinge, said diaphragm located entirely beyond the inlet and a water outlet below the diaphragm, substantially as described.

3. In a steam trap the combination with the walls thereof forming the steam way, the inlet being at a slightly lower elevation than the outlet, of a diaphragm formed by the dif-

ference in elevation of the walls, and located beyond the inlet and the water outlet below said diaphragm, substantially as described.

4. In a steam trap the combination with the walls forming the way, the inlet being at a lower elevation than the outlet of a diaphragm formed by the difference in elevation of the lower wall, and located beyond the inlet and a receptacle or basin beneath the diaphragm, the latter provided with an outlet, substantially as described.

5. In a steam trap the combination with the walls forming an inlet and an outlet, the latter elevated above the former and forming a diaphragm of an overhanging edge at the upper edge of the diaphragm, the latter located beyond the inlet substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

PETER GOAN.

Witnesses:

W. H. CHAMBERLIN,

FLORENCE KING