G. W. WEINMAN.
Cylinder-Cock.

No. 198,526. Patented Dec. 25, 1877.

Fig. 1.

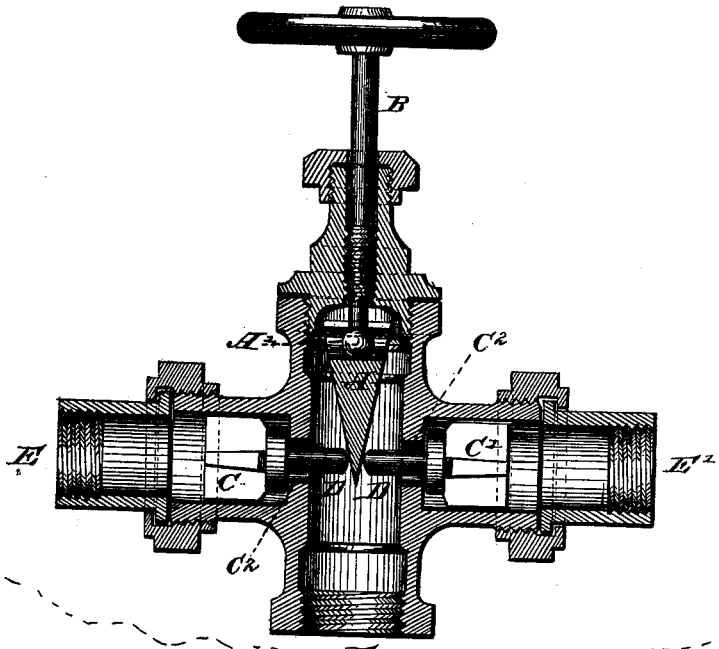
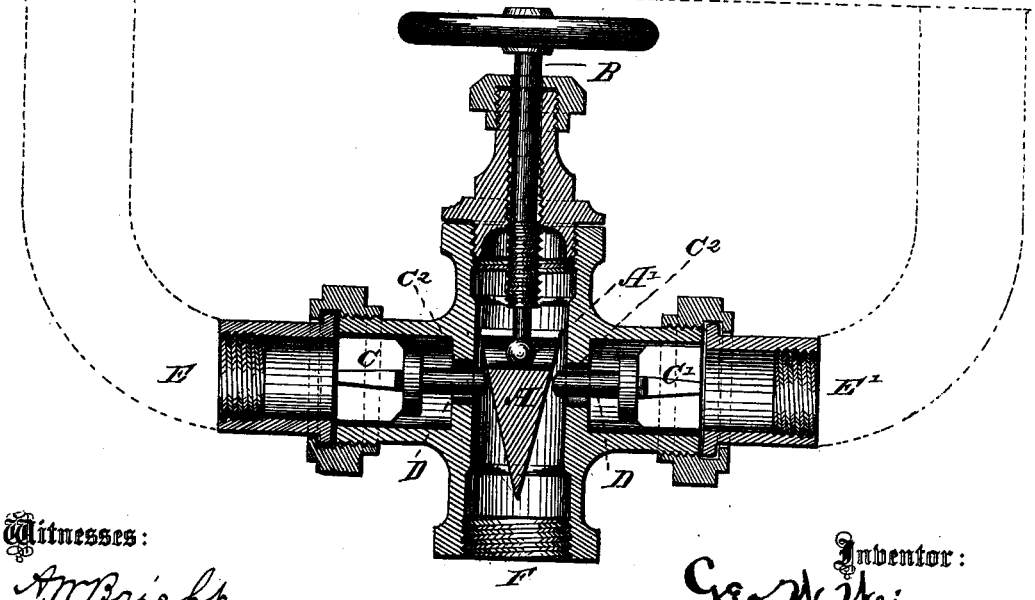


Fig. 2.



Witnesses:
A. M. Bright.
F. O'M. McCleary

Inventor:
Geo. W. Weinman.
Per Dewey and Dewey. Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE M. WEINMAN, OF COLUMBUS, OHIO.

IMPROVEMENT IN CYLINDER-COCKS.

Specification forming part of Letters Patent No. **198,526**, dated December 25, 1877; application filed November 26, 1877.

To all whom it may concern:

Be it known that I, GEORGE M. WEINMAN, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Cylinder-Cocks; and I do hereby 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 it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in cylinder-cocks; and consists in the combination of devices and appliances hereinafter set forth and claimed.

In the drawing, Figure 1 is a transverse sectional view of a cylinder-cock embodying the principles of my invention, and Fig. 2 represents the same as applied to steam-cylinders.

A is a wedge, or its equivalent, actuated by the spindle B. The wedge is attached loosely to the spindle, so as to vibrate upon it at A′.

C C^1 are valves, seated at C^2, and opening in opposite directions, as shown. D are stems, projecting from the valves C C^1 inwardly toward the wedge A. The wedge in Fig. 1 is represented in such a position that both valves are closed, while in Fig. 2 the wedge has been run down so as to open the valves.

The operation of the device is as follows: Supposing the piston is moving in a direction to exert a pressure of steam upon the valve C^1, exhaust steam will also exert sufficient pressure upon the valve C that both the valves will be held upon their seats, and there will be no escape of steam or water. When, however, it is desired to draw off the water of condensation from the cylinder, the spindle B is run down so as to force the wedge A down between the studs or projections D, so that if there were no pressure of steam in the cylinder the two valves C C^1 would both be open. If, however, the engine is running and the piston moving in a direction to exert a pressure of steam upon the valve C, then that pressure would close the valve C upon its seat, the stud D attached to the valve C would force the loose wedge A over to the right against the stud D of the valve C^1, thus opening the valve C^1 and permitting the water of condensation to pass out from the end of the cylinder. On the return-stroke of the piston the pressure of steam would be exerted upon the valve C^1 at the right. This, through its stud D, would drive the wedge A over to the left, causing it to strike upon the stud D of the valve C, thus opening that valve and permitting the water of condensation to escape from that end of the cylinder.

This cock may be attached to a cylinder in any convenient way—as, for instance, pipes or passages may lead from the opposite ends of the cylinder into the ports E E′, respectively, of the cock. So, also, a pipe or conduit may be attached to the cock at F, for the purpose of conveying away the water of condensation to any other proper point of discharge.

It is also apparent that the wedge A may be so constructed, to operate upward, instead of operating, as shown in the drawing, by a downward thrust.

It also is apparent that, instead of making the part A in wedge form, the part A might be made straight along its sides, and the effect of the wedge be given by inclined surfaces at the inner ends of the sides or projections D.

I prefer to form the valves C C^1 in the nature of wing-valves, the wings serving to give direction and steadiness to the valves.

It will be seen that by this contrivance the escape of water from the ends of the cylinder may be regulated to just the desired degree without disconnecting the cock or taking it apart, and this is accomplished from the outside by simply turning the shaft B until the wedge A has been brought to such a position as to give the desired distance between the two valves, whereby the desired degree of discharge through the valves is regulated.

What I claim is—

1. A double cylinder-cock consisting of valves C C^1 and stems D, and a loose wedge or its equivalent, A, whereby the distance between the two valves may be varied at will, thereby causing them both to rest upon their seats, or so separate them that but one valve can rest upon its seat at a time, substantially as and for the purpose described.

2. A double cylinder-cock consisting of valves C C^1 with inward projections D, in combination with a loose wedge or its equivalent, A, and mechanism for driving the wedge up

or down between the said projections D, substantially as and for the purposes described.

3. The combination, with the valves C C^1, provided with projections D, of the wedge or its equivalent, A, and actuating-shaft B, the said wedge or its equivalent A being attached loosely to the shaft B at A′, substantially as described.

4. In a cylinder-cock, the combination, with the two valves, of an intermediate adjustable separating device, said separating device being capable of adjustment to increase or decrease the distance between the valves, and having a free lateral movement in the direction of the motion of the valves, substantially as and for the purposes described.

5. A cylinder-cock provided with two valves, each provided with a stem, an adjusting-wedge, or its equivalent, and an actuating-spindle, whereby the escape of water from the two ends of the cylinder may be regulated to a greater or less extent at will, substantially as and for the purposes set forth.

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

GEORGE M. WEINMAN.

Witnesses:
JAS. G. BULL,
G. D. MARTIN.