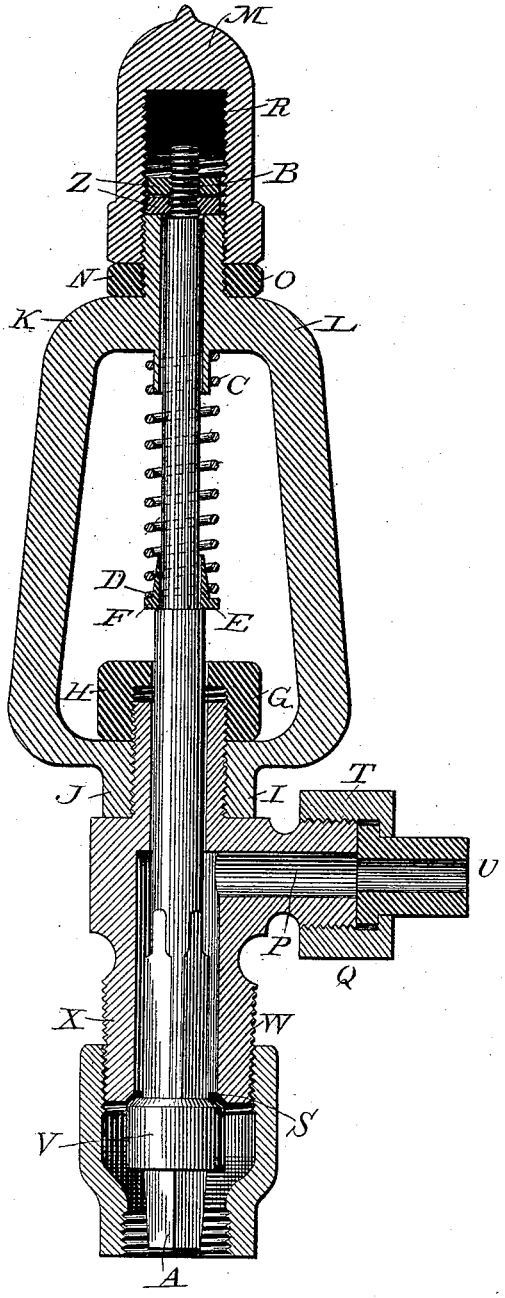
(Model.)

P. M. MAINES & D. E. NUGENT.

AUTOMATIC CYLINDER COCK.

No. 342,801. Patented June 1, 1886.



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UNITED STATES PATENT OFFICE.

PATRICK M. MAINES, OF LE CLAIRE, IOWA, AND DAVID E. NUGENT, OF MILTON, INDIANA.

AUTOMATIC CYLINDER-COCK.

SPECIFICATION forming part of Letters Patent No. 342,801, dated June 1, 1886.

Application filed July 2, 1885. Serial No. 170,541. (Model.)

To all whom it may concern:

Be it known that we, PATRICK M. MAINES and DAVID E. NUGENT, citizens of the United States, residing, respectively, at Le Claire, in the county of Scott and State of Iowa, and at Milton, in the county of Wayne and State of Indiana, have invented a new and useful Automatic Rubber-Cushion Lock-Cylinder Cock, of which the following is a specification.

Our invention relates to improvements in automatic cylinder-cocks; and the object of our improvement is to provide an automatic or self-adjusting and self-working cylinder-cock that will do its work perfectly, not get out of repair, nor by its workings break the valve-stem at the valve. We attain this object by the mechanism illustrated in the accompanying drawing, which represents our automatic rubber-cushion lock-cylinder cock.

A B is a valve-stem.

V is the valve, and S S is the valve-seat.

I J K L is an arch, which acts as a guide for the valve-stem A B. On the upper end of the arch I J K L is a nipple, to which the cap M is fastened by being screwed thereon. In the cap M is a rubber cushion, R, arranged to be struck by the upper end of the valve-stem at or shortly before the instant that the valve strikes its seat.

O N is a lock-nut, which prevents the jar occasioned by the outer end of the valve-stem B when it comes in contact with the rubber cushion R from working the cap M off the nipple.

C D is a spring the lower end of which rests against the shoulder E F, which shoulder E F works against a shoulder on the valve-stem A B. When the steam-pressure is off or in the other end of the cylinder, the spring C D keeps the valve V open, as represented in the drawing, and allows the water to escape through the discharge P.

Q T is the union where the waste-pipe U is coupled on. At X W the cylinder-cock is fastened to the cylinder or cylinder-head.

The valve is set by two jam-nuts, (marked Z.) These two jam-nuts regulate the throw of the valve.

In case it is desirable or necessary for any cause to keep the valve V constantly open, this can be effected by tightening up on the cap M, which will lock the valve open and hold it open continuously as long as desired.

The whole machine combined forms a perfectly-working, self-adjusting, and self-operating or automatic cylinder-cock. When the steam-pressure strikes the valve-stem at A, the valve V is instantly closed. Just as soon as the steam-pressure is off, the spring C D opens the valve and allows any accumulated water to escape. This opening and closing process of the valve goes on continuously and automatically while the engine is in motion, and as soon as the motion of the engine ceases and the steam-pressure is removed the spring C D opens the valve V and holds it open until the pressure is on again, thus allowing all water to escape and keeping the cylinder constantly dry and clear of water.

The cylinder-cock may be six, eight, or ten inches long, as desired, and is made of brass, except the spring C D, which may be made either of brass or steel wire.

We are aware that prior to our invention automatic cylinder-cocks have been made. Therefore we do not claim an automatic cylinder-cock, broadly.

We are aware of Patent No. 283,566, to Chamberlin, and do not claim anything shown therein; but

What we do claim as our invention, and desire to secure by Letters Patent, is—

1. In a steam-cylinder cock, the combination of the valve-seat, the valve and valve-stem, supports and guides, and an operating-spring for the same, a cap fitting over the upper end of the stem and engaging with the supports, and a rubber cushion situated in the cap, arranged to be struck by the upper end of the valve-stem at or shortly before the instant that the valve strikes its seat, substantially as described.

2. In a steam-cylinder cock, the combination of the water-duct X P, having the valve-seat S, the valve and valve-stem, the spring D, arranged to press the valve away from its seat, the arch I J K L, secured to the duct and having a bearing or guide at its outer end for the valve-stem, and the cap M and cushion R, substantially as described.

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