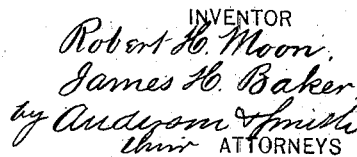


Patented Aug. 22, 1882.



# UNITED STATES PATENT OFFICE.

ROBERT H. MOON AND JAMES H. BAKER, OF SPRINGFIELD, ILLINOIS.

## STEAM-ACTUATED VALVE.

SPECIFICATION forming part of Letters Patent No. 263,193, dated August 22, 1882.

Application filed April 20, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, ROBERT H. MOON and JAMES H. BAKER, citizens of the United States, and residents of Springfield, in the county of Sangamon and State of Illinois, have invented a new and valuable Improvement in Steam-Actuated Valves; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 is a vertical longitudinal sectional view of our steam-actuated valve. Fig. 2 is a vertical cross-sectional view of the same. Fig. 3 is an end elevation of one of the heads. Fig. 4 is a side elevation of the main valve, and Fig. 5 is a side elevation of one of the heads detached from its stem.

This invention has relation to steam-actuated valves; and it consists in the construction and novel arrangement of parts, as will be hereinafter fully described and specifically claimed.

In the accompanying drawings, the letter A designates the valve-chest, having the steam-supply *a* and the ports *b* and *c*.

B represents the reciprocating valve-stem, and C C the heads thereon, between which the main valve D, which is loose on the valve-stem, reciprocates. In each head is made a recess or chamber, *d*, from which a passage, *e*, extends to the inner side of the head, serving to convey steam, when received from the port *b*, to the inner side of the head, where it acts to move the valve D toward the opposite head. In each head is also made a channel or recess, *g*, to receive steam, which is conveyed by a hole or passage, *h*, through to the outer face of the head, or rear thereof, for the purpose of cushioning the head at the end of its movement. Exhaust-passages *k* and *l* are made in the steam-chest to allow the steam to exhaust after it has moved the main valve D.

The interior of the valve-chest, the main valve, and the heads are usually cylindrical in form, being so designed in preference, in order that the bearing surfaces may wear evenly and that the main valve may constantly change its bearing.

The main valve D is formed with concave ends E and six flanges, F, F', and F'', which are isometrically arranged with reference to the middle of the valve and bound the live-steam-passage G and the exhaust-steam spaces H and K, these spaces being connected by a passage, *m*, through the flange F', as shown in the drawings.

The heads C C are rigidly fastened to the main valve stem B, and when the motion of the stem has caused one of the heads to move, bringing its recess or channel *d* into communication with the port *b*, sufficient steam is allowed to pass from said port *b* through the recess or space *d* and the passage *e* to move the main valve toward the opposite head, thereby reversing steam in the cylinder. While this is the action at one end, at the other the movement of the stem causes the recess or channel *g* of the head to pass over the port *b*, allowing enough steam to enter said channel or recess *g* and pass through the hole or passage *h* to the rear of the head to cushion the same.

In the movements of the main valve D, the flanges F' pass over the exhaust-passages *k*, stopping the exhaust, and causing the main valve to slacken its motion and come up slowly and cushion against the head C, the concavity in the end of the valve allowing the steam to expand. Before the cushioning of the main valve the exhaust-steam passes from the hole *k* into the space K, and thence out through the passage *m*.

Having described this invention, what we desire to claim and secure by Letters Patent is—

The steam-actuated valve consisting of the reciprocating stem B, the heads C, secured thereto, and having the steamways *d e g h*, and the loose flanged valve D on the stem, substantially as specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

ROBERT H. MOON.  
JAMES H. BAKER.

Witnesses:

E. R. ROBERTS,  
JOHN B. SCOTT.