

S. BLOCK.
VALVE.

APPLICATION FILED JAN. 6, 1913.

1,107,022.

Patented Aug. 11, 1914.

FIG. 1.

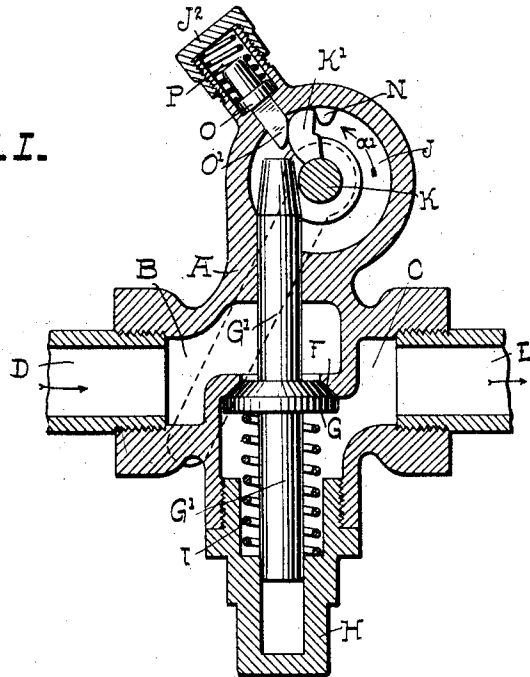


FIG. 2.

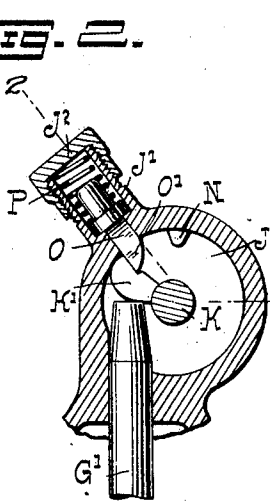
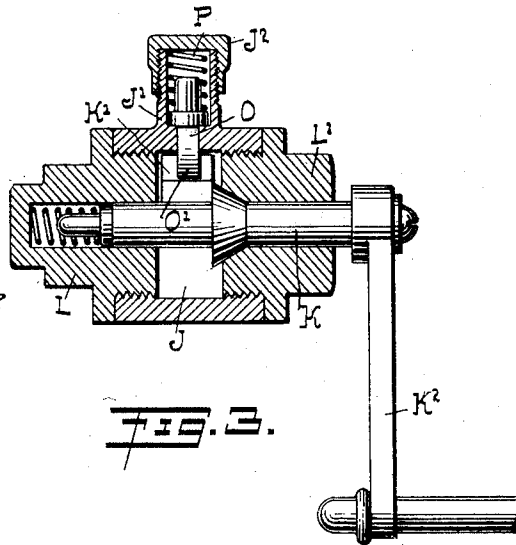


FIG. 3.

WITNESSES
G. Robert Thomas
Geo. J. Hoster.

INVENTOR
Samuel Block,
BY *Mumford*
ATTORNEYS

UNITED STATES PATENT OFFICE.

SAMUEL BLOCK, OF NEW YORK, N. Y.

VALVE.

1,107,022.

Specification of Letters Patent.

Patented Aug. 11, 1914.

Application filed January 6, 1913. Serial No. 740,453.

To all whom it may concern:

Be it known that I, SAMUEL BLOCK, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Valve, of which the following is a full, clear, and exact description.

The invention relates to valves, such as shown and described in the Letters Patent of the United States, No. 1,028,681 and No. 1,028,682, granted to Nelson B. Creighton and Samuel Block on June 4, 1912.

The object of the present invention is to provide a new and improved valve arranged to lock the valve in open position whenever the valve is moved into said open position.

For the purpose mentioned use is made of a valve normally held to its seat by a spring and capable of opening by fluid pressure whenever the latter exceeds the tension of the spring, an actuating device for moving the valve into open position, and a locking device controlled by the said actuating device for locking the latter against return movement to hold the valve open.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the valve with the parts in closed position; Fig. 2 is a similar view of a portion of the same with the parts in locked open position; and Fig. 3 is a cross section of the same on the line 2—2 of Fig. 2.

The valve body A of the valve is provided with an inlet B and an outlet C connected with pipes D and E, respectively, and intermediate the said inlet B and the said outlet C is arranged a valve seat F on which is adapted to be seated a valve G having a stem G', the lower end of which is mounted to slide in a cap H screwing on the bottom of the valve body A. A spring I is coiled on the lower portion of the valve stem G' and rests with one end on the cap H while the other end presses against the under side of the valve G to hold the latter normally on the seat F. The fluid under pressure passing into the inlet B opens the valve against the tension of the spring I whenever the pressure of the fluid exceeds the tension of the spring, thus allowing the fluid to pass

through the valve. The upper end of the valve stem G' extends into a chamber J formed on the valve body A, and into the said chamber extends a rock shaft K provided with a tooth K' adapted to engage the upper end of the valve stem G' to press the latter downward and with it the valve G to move the said valve off its seat. The rock shaft K is journaled in screw plugs L, L' closing the ends of the chamber J, and one outer end of the rock shaft K is provided with a handle or a crank arm K² under the control of the operator for turning the rock shaft K whenever it is desired to open the valve G, as hereinafter more fully explained. The tooth K' is normally out of engagement with the upper end of the valve stem G' and abuts against a stop N arranged within the chamber J. Into the path of the tooth K' projects the beveled head O' of a bolt O mounted in a bearing J' forming part of the wall of the chamber J. The bolt O is pressed in an inward direction by a spring P abutting against a cap J² screwing on the outer end of the bearing J'. By reference to Fig. 1, it will be seen that the beveled head O' is normally intermediate the tooth K' and the upper end of the valve stem G', and when the rock shaft K is turned in the direction of the arrow a' then the tooth K' comes in contact with the bevel of the head O' and pushes the bolt O outward so that the tooth K' passes the bolt O and finally engages the stem G' and pushes the same downward to open the valve G against the tension of its spring I. As soon as the tooth K' has passed the head O' of the bolt O the latter is returned to its inward position by the action of the spring P to prevent return movement of the tooth K', the stem G' and the valve G, thus holding the valve G locked in open position.

In order to permit of resetting the parts to normal position it is necessary for the operator to unscrew the cap J² and to withdraw the bolt O so that the rock shaft K can be rocked in the inverse direction of the arrow a' until the tooth K' comes to rest on the stop N. During this return movement of the rock shaft K and its tooth K' the valve G is returned to its seat F by the action of its spring I. The operator now again inserts the bolt O in the bearing J', replaces the spring P and screws the cap J² onto the bearing J' to hold the bolt O in normal innermost position.

From the foregoing it will be seen that by the arrangement described the valve can be moved into open position by a manually-controlled actuating device, and the latter is automatically locked against return movement after the valve has been opened by the actuating device, so that the valve cannot be closed until the actuating device is released by the operator as above explained.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A valve, comprising a valve body having an inlet, an outlet and a valve seat intermediate the said inlet and the said outlet, a spring-pressed valve adapted to be seated on the said seat, actuating means for engaging the said valve to move the same off its seat, and an automatic reciprocating locking device normally extending into the path of the actuating means, said locking device being adapted to be first moved out of the path of the actuating means by the latter and then to engage the said means to lock it against return movement to hold the valve open.

2. A valve, comprising a valve body having an inlet, an outlet and a valve seat intermediate the said inlet and the said outlet, a spring-pressed valve adapted to be seated on the said seat and provided with a valve stem, a rock shaft provided with a tooth adapted to engage the said valve stem to move the valve into open position, and a locking device mounted on the said valve body and adapted to engage the said tooth to lock the latter and the rock shaft against return movement after the valve has been opened by the same.

3. A valve, comprising a valve body having an inlet, an outlet and a valve seat intermediate the said inlet and the said outlet, a

spring-pressed valve adapted to be seated on the said seat and provided with a valve stem, a rock shaft provided with a tooth adapted to engage the said valve stem to open the latter against the tension of its spring, an arm on the said rock shaft for rocking the latter, and a spring-pressed bolt mounted to slide in the said valve body and normally projecting into the path of the said tooth, the said shaft on being rocked causing the tooth to open the valve and to retract the said bolt to allow the latter to pass behind the tooth and to hold the tooth and valve against return movement.

4. A valve, comprising a valve body having an inlet, an outlet and a valve intermediate the said inlet and the said outlet, a spring-pressed valve adapted to be seated on the said seat and provided with a valve stem, a rock shaft provided with a tooth adapted to engage the said valve stem to open the latter against the tension of its spring, an arm on the said rock shaft for rocking the latter, a stop on the said valve body for the said tooth to normally rest against, and a spring-pressed bolt mounted to slide on the said valve body intermediate the end of the valve stem and the said stop, the said bolt having a beveled inner end adapted to be engaged by the said tooth to retract the bolt and to allow the latter to pass behind the tooth and to hold the tooth and valve against return movement.

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

SAMUEL BLOCK.

Witnesses:

S. C. W. EMBEY,
JNO. J. GINNA.