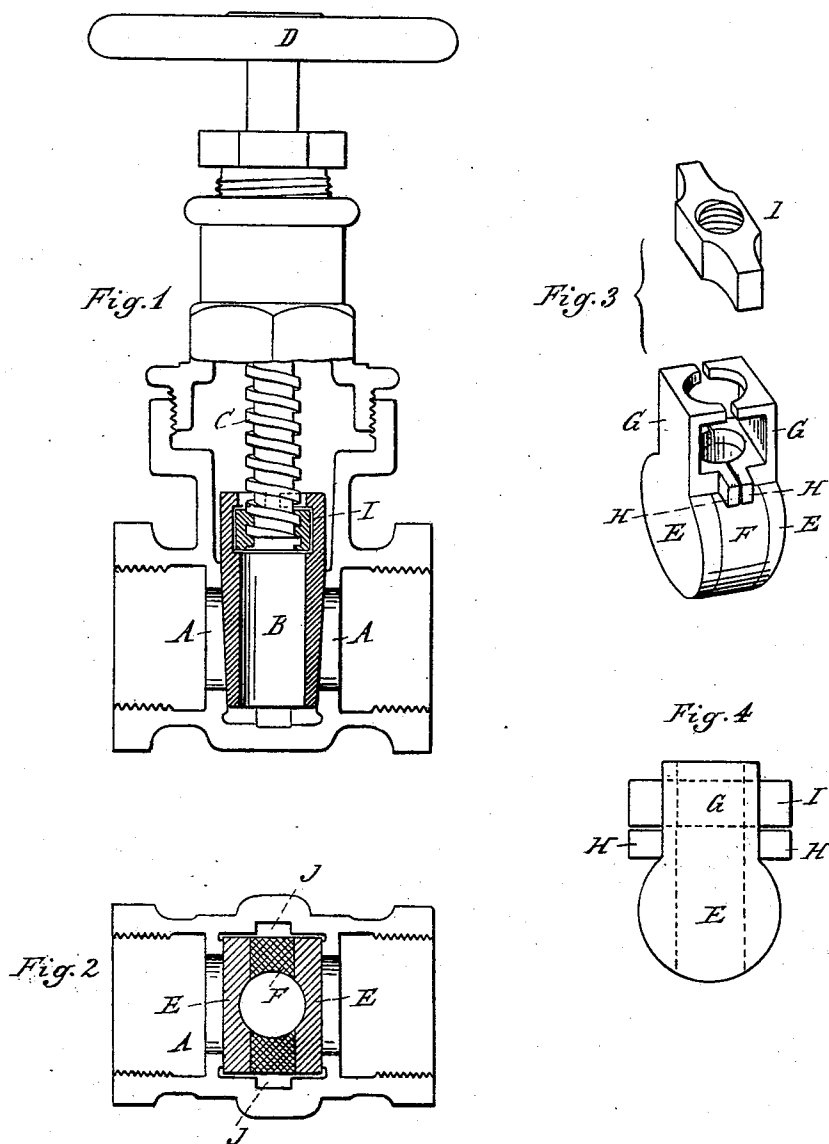


(Model.)

D. BUICK.
STOP VALVE.

No. 243,846.

Patented July 5, 1881.



Witnesses:
George A. Carlisle,
Edwin Sweetser.

Inventor:
David Buick
by George L. Lotthrop
his atty

UNITED STATES PATENT OFFICE.

DAVID BUICK, OF DETROIT, MICHIGAN, ASSIGNOR OF TWO-THIRDS TO
ALEX. G. ALEXANDER AND WILLIAM SHERWOOD, OF SAME PLACE.

STOP-VALVE.

SPECIFICATION forming part of Letters Patent No. 243,846, dated July 5, 1881.

Application filed April 23, 1881. (Model.)

To all whom it may concern:

Be it known that I, DAVID BUICK, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Stop-Valves, of which the following is a specification.

Figure 1 is a vertical section. Fig. 2 is a horizontal section through the center of the valve. Fig. 3 is a view of the nut and valve-disks, and Fig. 4 is a view of the face of one of the valve-disks with the nut in position.

The first part of my invention consists in the process of accurately fitting the valve-disks to their seats in stop-cocks by arranging the said disks in proper position on the valve-seats and then pouring a softer metal in a molten state between the disks, so as to hold the disks at the same angle as the valve-seats.

The second part of my invention consists in a stop-cock in which the valve-disks are held together in fixed position by a filling of metal poured in a molten state between the disks.

A A are the valve-seats of an ordinary stop-valve, of which B is the case, constructed in the usual manner.

C is the screw which raises and lowers the valve-disks, and is operated by an ordinary hand-wheel, D.

E E are valve-disks cast separately, and made with an upper part, G, of such shape that when two disks are placed together the parts G make a box for the nut I.

I is a nut in which screw C works. On said nut are lugs which enter grooves in the case B, (marked J J in Fig. 2,) so that nut I cannot turn with screw C, but travels along said screw C, thereby moving the valve-disks.

H H, Fig. 3, are lugs cast on the valve-disks, so that when said disks are placed in position the opposite lugs, H, will come nearly together and form guides which travel in grooves J J.

F is a filling of metal softer than the metal of which E E are made.

In valves of this class the valve-seats always taper toward the bottom of the valve, and it is important to so adjust the valve-disks that when screwed home they will bear tightly and

evenly on the faces of the valve-seats. It is also important to prevent the face of the valve-disk from grinding against the valve-seat when the valve is opened or closed under pressure. I attain these ends as follows:

To fit the valve-disks to the seats I place a pair of disks within the valve and between the seats, leaving the bottoms of the disks a very slight distance above the position they will assume when the valve is tightly closed. I then pour a soft metal—such as lead, tin, zinc, &c.—between the disks, so as to entirely fill the space between said disks below the lugs H. This filling of soft metal causes the disks to assume the exact taper of the valve-seats, and upon cooling holds the disks firmly at the desired angles. The slight contraction of the metal filling in cooling is compensated by setting the disks while pouring in the filling slightly above their position when the valve is closed. After the disks are filled a hole should be cut through the filling, vertically, large enough to allow free way for screw C, as shown in Fig. 2, and by dotted lines in Fig. 3. When the valve is in use under pressure the lugs H will take the lateral pressure on the disks while opening or closing, and prevent the disk from grinding on the valve-seat. I thus produce a very cheap, accurate, and durable adjustment of the disks to their seats.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The within-described method of fitting the valve-disks to their valve-seats in a stop-cock, the same consisting in arranging a pair of valve-disks against the valve-seats, and then filling the space between the disks with metal applied in a molten state, substantially as set forth.

2. A stop-valve in which the valve-disks are held together in fixed position by a filling of metal poured in a molten state between such disks, substantially as herein described.

DAVID BUICK.

Witnesses:

EDWIN SWEETSER,
GEORGE H. CARLISLE.