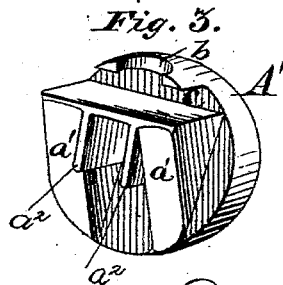
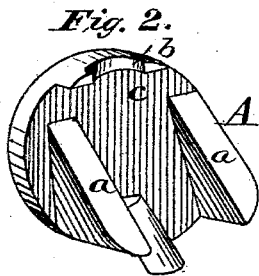
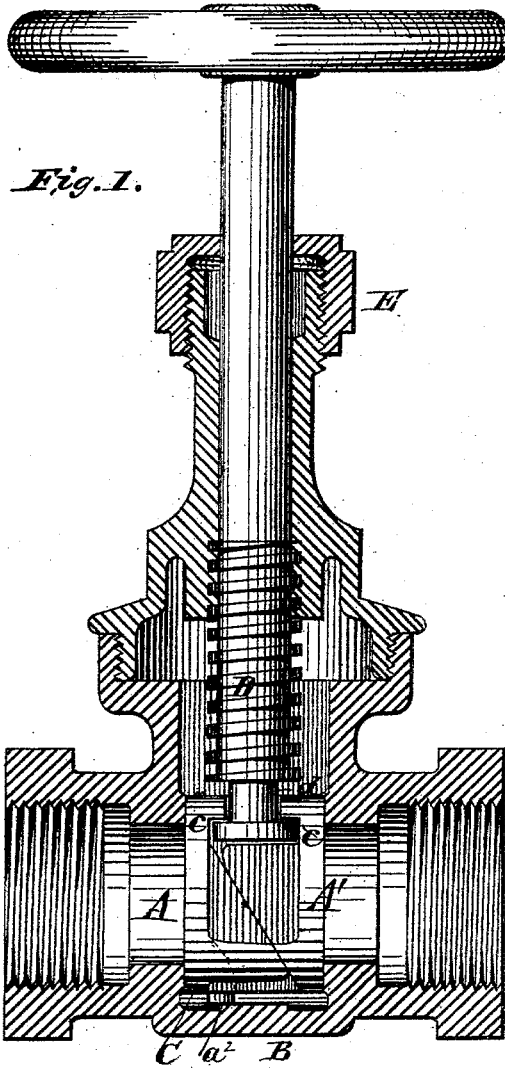


E. ALLT.
Gate-Valve.

No. 210,738.

Patented Dec. 10, 1878.



Witnesses:

J. C. Brecht,
Att. for
James L. Norris.

Inventor:

Edmund Allt
By *James L. Norris,*
Attorney.

UNITED STATES PATENT OFFICE.

EDMUND ALLT, OF NEW YORK, N. Y.

IMPROVEMENT IN GATE-VALVES.

Specification forming part of Letters Patent No. **210,738**, dated December 10, 1878; application filed September 25, 1878.

To all whom it may concern:

Be it known that I, EDMUND ALLT, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Gate-Valves, of which the following is a specification:

This invention relates to certain improvements in that class of gate-valves in which the faces of the gate are forced to their seats when the valve is forced home by means of oppositely-inclined planes on their adjoining surfaces.

In order to properly move both parts of the valve, and not bring the whole strain upon one of the parts alone, it is necessary to connect both parts of the valve to the valve-stem; but in all such valves where both of said parts have been so connected to the valve-stem, as heretofore constructed, the inclined planes have been arranged to slide laterally or obliquely upon each other, causing the parts to separate laterally, which is objectionable, on account of the tendency it gives to the valve to bind against the sides of the recess in which it moves, and thus fail to operate properly.

It is the object of my invention to obviate these objections; and to this end my invention consists in forming the inclined planes so as to move the parts vertically when operated by the valve-stem, and in providing one of said parts with lugs, working in recesses formed in the other part, whereby all lateral movement of the parts with respect to each other is effectually prevented.

In the drawing, Figure 1 is a vertical central section of a gate-valve embodying my invention, and Figs. 2 and 3 are detached perspective views of the disks forming the valves.

The letters A A' represent the two disks forming the gate or valve, and B the section in which the valve-chamber C is formed. The letter D represents a screw-threaded valve-stem, passing through a screw-threaded stuffing-box, E, in the usual manner.

The disks A A' are provided on their adjoining surfaces with projections *a a'*, extending across said surfaces in a vertical direc-

tion, and oppositely beveled or inclined, the inclined surfaces of one set of projections being adapted to bear against and ride upon the inclined surfaces of the other, so as to cause the disks to approach to and recede from each other when forced downward or drawn up by the valve-stem.

Between the projections *a'* on the disk A' are formed the lugs *a²*, which are adapted to fit in the recess formed by the projections *a'*, setting between said projections, and riding in contact with their inner sides as the disks are shifted with respect to each other, so as to prevent any possible lateral play.

At the top of each disk is formed a semi-cylindrical recess, *b*, which opens into a transverse recess, *c*, extending across the upper part of each disk, the semicircular recesses serving to embrace the annular groove *d* at the lower end of the valve-stem, the extremity of which sets in the transverse recesses *c* in the disks A A', so as to make a direct connection of the valve-stem with both disks, and distribute the strain in moving the valve to both disks alike.

It will be perceived that as thus constructed the disks cannot move laterally across the faces of each other, but move vertically with respect to each other, whereby any tendency to bind against the side walls of the valve-chamber is effectually prevented, and at the same time provision is made for operating both disks directly by the valve-stem, thus preventing the undue strain upon one of the disks alone.

The operation of my invention is as follows: When the projection *a²* on the lower part of the disk A reaches the bottom of the valve-chamber in screwing down the valve-stem, any continuation of the pressure on the valve-stem causes the inclined projections on the disk A' to bear against those on the disk A, causing a wedging action, which forces the two disks apart, thereby setting their faces closely against the valve-seats in the valve-chamber and effectually closing the openings.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, in a gate-valve, of the two disks directly secured to the valve-stem, and having oppositely-inclined projections adapted to bear against and ride upon each other, the projections on one disk being provided with lugs setting between the projections on the other, whereby any lateral movement of one disk across the other is prevented and the proper wedging action is given to the disks, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

EDMUND ALLT.

Witnesses:

SAMUEL P. BELL,
W. F. DUYSKEMT.