(No Model.)

D. KENNEDY.

VALVE.

No. 495,739. Patented Apr. 18, 1893.

Fig. 1.

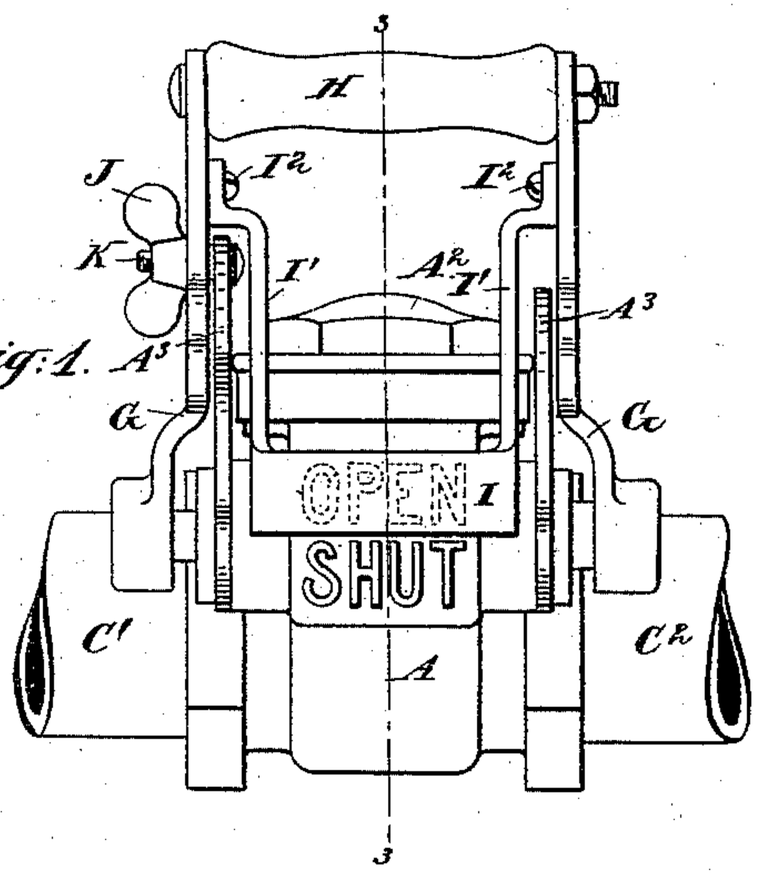


Fig. 2.

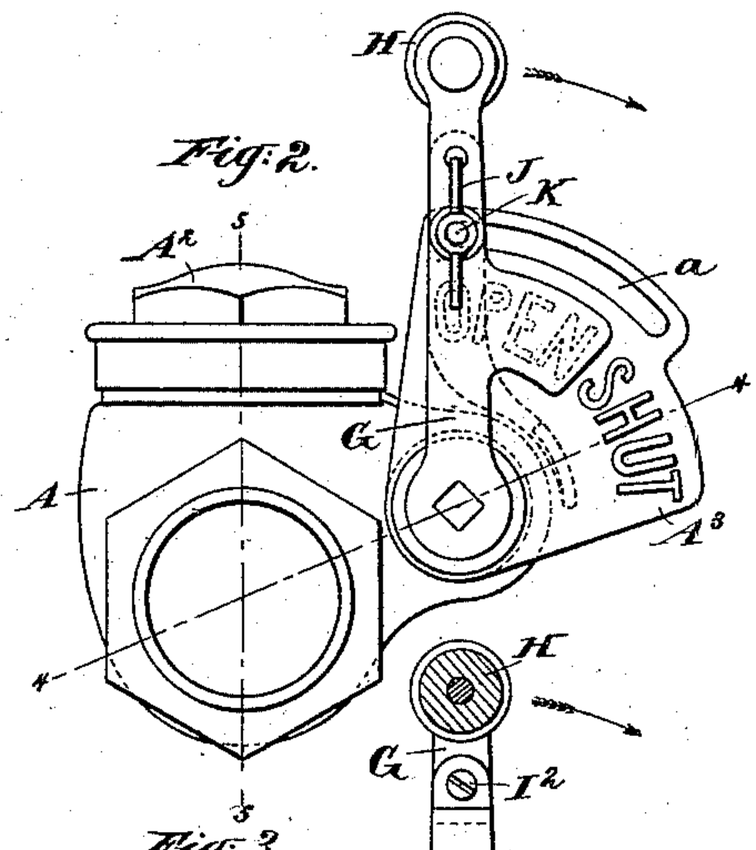


Fig. 3.

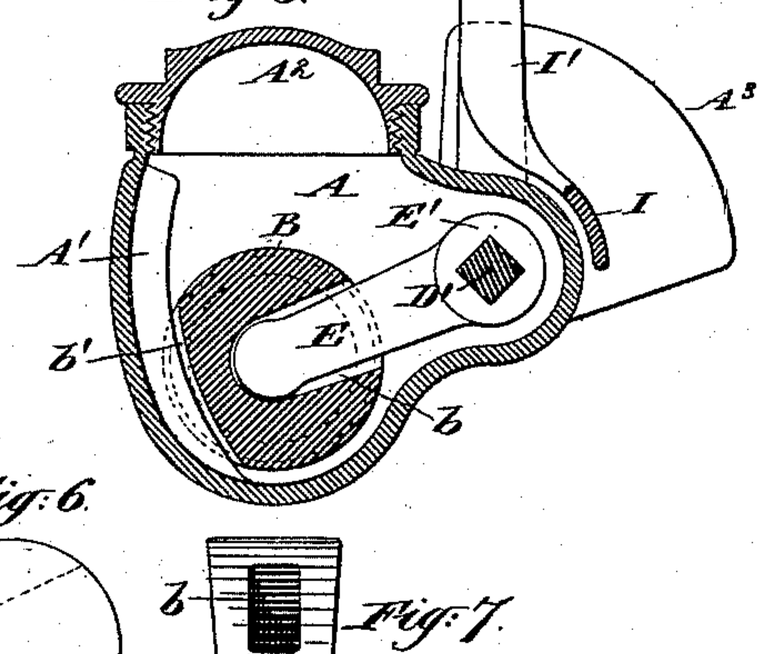


Fig. 4.

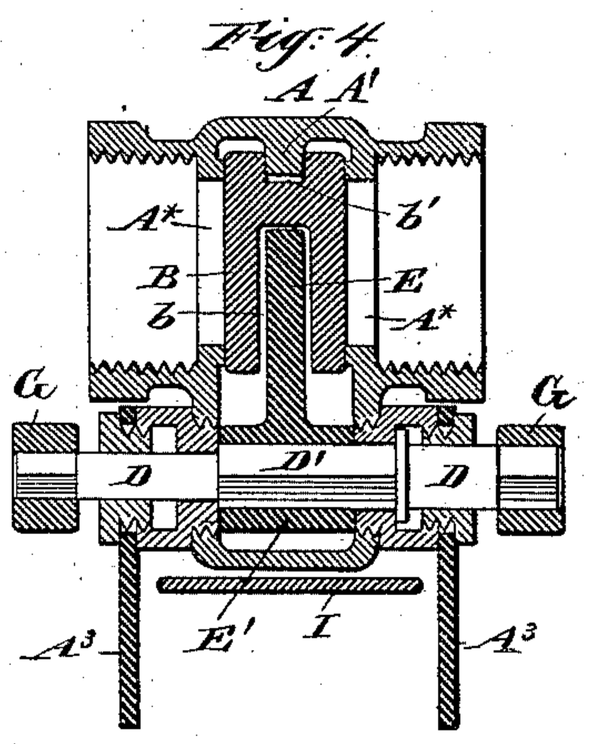


Fig. 6.

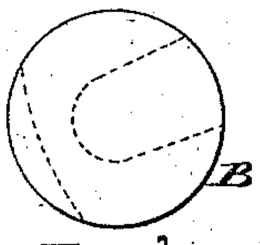


Fig. 7.

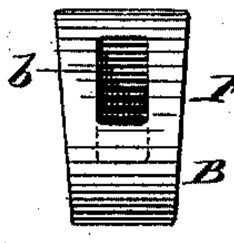


Fig. 8.

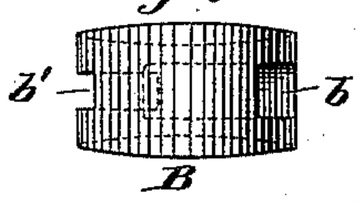


Fig. 5.

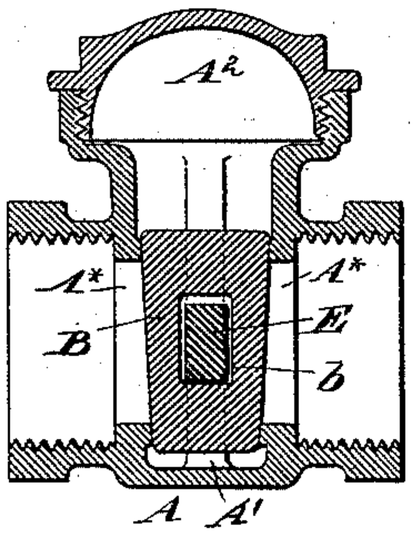
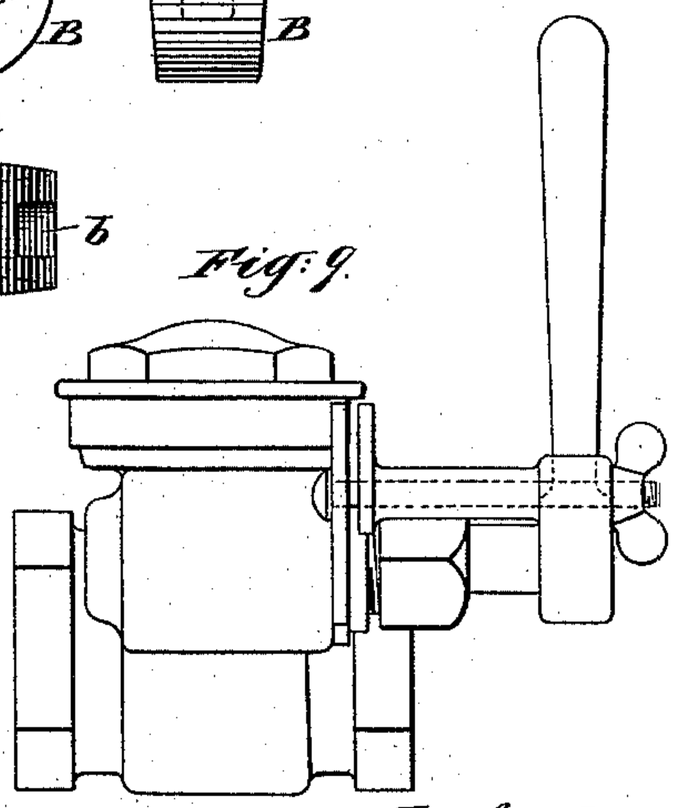


Fig. 9.



Witnesses:
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Jos. L. Singleton

Inventor:
Daniel Kennedy
by his attorneys
Thomas Drew Peters

UNITED STATES PATENT OFFICE.

DANIEL KENNEDY, OF NEW YORK, N. Y.

VALVE.

SPECIFICATION forming part of Letters Patent No. 495,739, dated April 18, 1893.

Application filed May 11, 1892. Serial No. 432,551. (No model.)

To all whom it may concern:

Be it known that I, DANIEL KENNEDY, a citizen of the United States, residing in the city and county of New York, State of New York, have invented a certain new and useful Improvement in Valves, of which the following is a specification.

My improved valve is intended for controlling water, steam or other fluids for domestic manufacturing and other purposes. It is well adapted for controlling the supply of steam for hoisting engines and analogous engines which require to be instantly stopped when their work is accomplished.

My improved valve gives a straight passage for the water, making it what is sometimes termed a "straight-way valve." It also allows of being opened rapidly to its full extent, and of being closed instantly and tightly.

The accompanying drawings form a part of this specification and represent what I consider the best means of carrying out the invention.

Figure 1 is a side elevation. Fig. 2 is an end view. Fig. 3 is a section on the line 3 3 in Fig. 1. Fig. 4 is a section on the line 4 4 in Fig. 2. Fig. 5 is a vertical section on the line 5 5 in Fig. 2. Figs. 6, 7 and 8 are views of the disk detached. Fig. 6 is a face view. Fig. 7 is an edge view. Fig. 8 is an edge view at right angles to the view in Fig. 7, and Fig. 9 is an elevation showing a modification.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

A, is the body or casing of cast brass or other suitable material, certain portions being designated when necessary by supernumerals as A′.

B, is a disk having both faces plain but set oblique to each other so that the disk will apply wedge-wise between the two finished faces of the casing which serve as seats. A rib A′, in the interior of the casing serves as a guide, the disk being formed with a groove *b*′, adapted to match on the rib A′, to guide the disk thereby as it is rapidly moved into the desired open and closed conditions.

D, is a shaft mounted in bearings in the casing and having a squared portion D′, which is fitted in a corresponding square hole in a hub E′, which carries an arm E, which latter engages in a deep recess *b*, in the disk. Rocking the shaft D, by means to be presently described acts through the arm E, to carry the disk first into wedging contact between its seats A*, A*, in which position the valve is tightly closed, and next into the liberal space provided in the upper portion of the chamber, being partially in the cover A^2, leaving a passage for the water through the valve and through the connecting pipe-lengths C′, C^2, which is entirely open to the full capacity of the pipes.

The shaft D is extended out at each end secured by a stuffing box. Each end beyond or outside of the stuffing box is squared and receives a lever G. The outer ends of the two levers G, are rigidly connected by a transverse handle H fitted with a covering of wood or other non-conductor of heat, so that the valve may be used for steam by grasping the handle H, and turning the shaft.

I, is a shield rigidly connected by the arms I′, and screws I^2, to the inner faces of the levers G. When the handle H, is raised in its highest position as shown, the valve is closed and the shield I stands in a position which exposes the word "Shut," which is cast or otherwise provided on the exterior of the casing. To open the valve, the handle is pulled in the direction indicated by the arrow in Figs. 2 and 3. This movement raises the disk B into the upper portion of the chamber in the casing A. The same movement depresses the shield I, so that it covers and conceals the word "Shut" and exposes another word "Open."

A^3, A^3, are flat plates of cast brass or other suitable material held stationary in the structure by being clamped by the gland of the stuffing box (see Fig. 4). The exterior of each plate A^3, carries the words "Open" and "Shut" (see Fig. 2).

J, is a thumb-nut fitted on a bolt K, carried on one of the arms E, and traversing in a curved slot *a*, in the adjacent plate A^3. When the valve is to be held fast in the open or closed position or in any intermediate position, the nut J, being turned on its bolt K, in the direction to tighten, seizes the metal of the plate adjacent to the curved slot *a*, and holds the parts rigidly until the nut shall again be relaxed.

Each lever G, G, is widened at a point a little nearer the center than the screw bolt K, thus forming additional shields, which as the valve is opened and shut, alternately covers and exposes further words "Open" and "Shut" which are produced in raised letters or otherwise on the outer faces of the plates A^3.

The wedged form of the disk and the corresponding positions of the seats A* A* insure that the valve B moves with little friction except when it is in the act of completing its closing or commencing its opening motion. The levers G, G, receiving force from the transverse handle H imparts the necessary partial rotation to the rocking shaft D, and the fact that there are two of these levers connected by a handle with a non-conducting surface avoids the usual twisting strains on the shaft and on the bearings therefor, and also avoids the exposure of the hand to excessive heat when the valve is used for steam. The rib A′ nicely finished by tools or by the smoothness which can be produced by casting, being received in the groove *b′* in the disk, guides it reliably. The steam or other fluid may tend to move in either direction. The faces of the disks are in tight contact with each seat.

Modifications may be made in the forms and proportions, without departing from the principle or sacrificing the advantages of the invention.

Parts of the invention may be used without the whole.

Fig. 9 represents a construction in which one of the levers G, and the handle H, is omitted, and the clamp for holding the valve firmly in any desired condition is modified in form and arrangement. I prefer the construction shown in the preceding figures.

I claim as my invention—

1. A straightway valve, having a casing A, with inclined seats A*, A*, and an internal rib or guide A′, in combination with the disk B, having a groove *b′* and faces inclined to correspond to the said seats, and the rocking shaft D and arm E engaged with said disk, all arranged for joint operation substantially as herein specified.

2. A straightway valve having a casing A, with inclined seats A*, A*, an internal rib or guide A′, and the words "Open," "Shut" or the equivalent means of indicating on the exterior the condition of the valve, in combination with the shield I carried on the operating mechanism and arranged to cover and uncover the words, and with the disk B, having a groove *b′* and faces inclined to correspond to the said seats, and the rocking shaft D, and arm E, engaged with said disk, all arranged for joint operation substantially as herein specified.

3. A straightway valve, having a casing A, with inclined seats A*, A*, and an internal rib or guide A′, in combination with the disk B, having a groove *b′*, and faces inclined to correspond to the said seats, and the rocking shaft D and arm E engaged with said disk, the two levers G, G, one on each end of said shaft, and the handle H connecting such levers, all arranged for joint operation as herein specified.

4. A straightway valve having a casing A, with inclined seats A*, A*, an internal rib or guide A′, and the words "Open," "Shut" or equivalent means of indicating on the exterior the condition of the valve in combination with the disk B, having a groove *b′*, and faces inclined to correspond to the said seats, and the rocking shaft D, and arm E, engaged with the shield I carried on the operating mechanism and arranged to cover and uncover the words, and with said disk, the two levers G, G, one on each end of said shaft and the handle H, connecting such levers, all arranged for joint operation as herein specified.

5. A straightway valve having a casing A, with inclined seats A*, A*, and the words "Open," "Shut" or equivalent means of indicating on the exterior the condition of the valve, in combination with the disk B, having a deep recess *b*, in one edge and the groove *b′*, in the opposite edge, and having faces inclined to correspond to the said seats having the shaft D and arm E engaged with said disk, the two levers G, G, one on each end of such shaft and a handle H, arranged parallel to the shaft D, and connecting such levers, and shields carried on said shaft D, and rocking therewith, adapted to cover and uncover the said indicating words or marks as the shaft is rocked, all arranged for joint operation substantially as and for the purpose herein specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

DANIEL KENNEDY.

Witnesses:
CHARLES R. SEARLE,
H. A. JOHNSTONE.