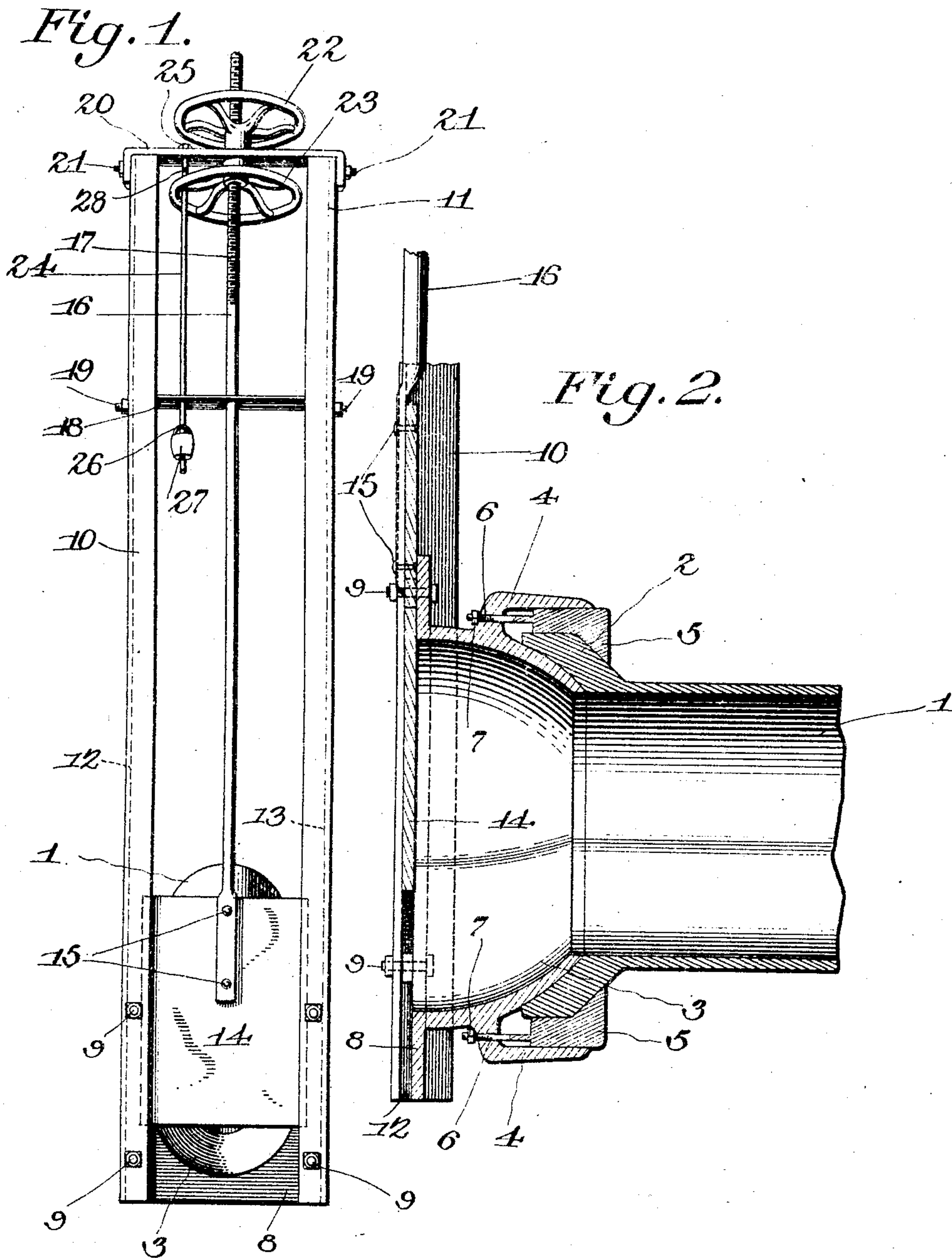


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F. D. GIDDINGS.  
WATER HEAD GATE.  
APPLICATION FILED MAY 18, 1904.



*Frank D. Giddings,*

Inventor.

Witnesses  
*E. J. Stewart*  
*W. H. Clarke.*

by *Chas. H. Snow & Co.*  
Attorneys



# UNITED STATES PATENT OFFICE.

FRANK D. GIDDINGS, OF FORT COLLINS, COLORADO.

## WATER HEAD-GATE.

SPECIFICATION forming part of Letters Patent No. 779,541, dated January 10, 1905.

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*To all whom it may concern:*

Be it known that I, FRANK D. GIDDINGS, a citizen of the United States, residing at Fort Collins, in the county of Larimer and State of Colorado, have invented a new and useful Water Head-Gate, of which the following is a specification.

This invention relates to head-gates for controlling the flow of water from reservoirs, tanks, canals, and the like where it is necessary that the supply of the consumer be limited to a certain quantity of water per day and yet where it must be possible for the consumer to shut off the supply of water in the event that he does not at once desire the entire quantity to which he is entitled.

One object of the invention is to improve the construction of such head-gates, principally by dispensing with the use of chains such as are commonly employed in conjunction with padlocks to prevent the gate from being opened beyond a certain predetermined degree.

A further object of the invention is to simplify the means of attaching the head-gate to the end of the pipe or reservoir from which the water is drawn and to strengthen and improve the general construction of the head-gates.

With these objects in view the invention resides in the combination of parts and details of construction hereinafter particularly described and claimed, reference being had for the purpose of description to the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a front elevation of a head-gate constructed in accordance with the invention, and Fig. 2 is a vertical section at right angles to Fig. 1.

Like reference characters indicate like parts in the different views.

The numeral 1 indicates a pipe which leads from any suitable source of water-supply, such as a reservoir, canal, or the like. At its forward end the pipe 1 preferably is flared outwardly or formed with an enlarged rim 2. Fitting into the rim 2 is a pipe-section 3, which forms part of the improved head-gate. Upon the periphery of the pipe-section 3 are pro-

vided a number of lugs 4, each of which projects over the rim 2 of the pipe 1. Fitted between each of the lugs 4 and the adjacent periphery of the rim 2 is a wedge 5, that is carried by a threaded bolt 6, projecting through a perforation in the lug 4. A nut 7 is screwed upon the threads of each bolt 6. By turning the nuts 7 the wedges 5 may be drawn tightly between the rim 2 and the lugs 4, thereby securely clamping the pipe-section 3 and the pipe 1 together in any position to which they may be adjusted.

At its forward end the pipe-section 3 is flared outwardly and formed with a flat rim 8. Attached to the flat rim 8 by means of bolts 9 are two parallel uprights 10 11, which are formed with slots or guideways 12 13. A gate 14, adapted to control the passage of water through the pipe-section 3, is slidably mounted in the guideways 12 13 of the uprights 10 and 11. Attached to the gate 14 by means of bolts 15 is an upwardly-extending rod 16, the upper end of which is threaded, as shown at 17. The rod 16 passes through a central perforation in a cross-piece 18, which connects the uprights 10 11 intermediate their ends and is attached thereto by means of bolts 19. At its upper end the rod 16 passes through a central unthreaded perforation in a top piece 20, which extends across the upper ends of the uprights 10 11, the ends of the top piece being bent down and attached to the uprights by means of bolts 21. It will be observed that the uprights 10 11 and the cross-pieces 18 20 form a rigid frame for the head-gate and its operating-rod.

A hand-wheel 22 is mounted upon the upper threaded end 17 of the rod 16 above the top piece 20 of the frame, a similar hand-wheel 23 being mounted on the threads of the rod below the top piece.

Extending downwardly through a perforation in the top piece 20 is a locking-rod 24, which is formed with an enlarged head 25 that rests upon the upper surface of the top piece 20 and limits the downward movement of the rod. The locking-rod 24 passes through the hand-wheel 23 and through a perforation in the cross-piece 18. At its lower end, be-



low the cross-piece 18, the locking-rod is formed with a perforation 26, adapted to receive a padlock 27 for preventing the withdrawal of the locking-rod. A perforation 28 similar to the perforation 27 is formed in the locking-rod 24 beneath the top piece 20 and above the hand-wheel 23. This perforation 28 is adapted to receive the padlock 27 in the event that the frame of the head-gate is partly immersed in water, as sometimes happens where the gate is employed to control the flow of water between two reservoirs or from a canal-lock.

The method of using the improved gate will be apparent from the foregoing description. Before the locking-rod 24 is placed in position and locked the lower hand-wheel 23 is adjusted to permit the water-gate to be opened to the desired degree to regulate the quantity of water passing therethrough. The locking-rod is then passed through the top piece 20, hand-wheel 23, and cross-piece 18 and locked in position. The gate is opened or closed by turning the upper hand-wheel 22. It will be apparent that the lower wheel 23 cannot be turned on the rod 16 to change its adjustment and permit the gate to open wider than is proper because the locking-rod 24 prevents the wheel from turning. The water-gate therefore can be closed whenever desired; but it cannot be opened beyond a certain predetermined limit without removing the locking-rod 24, the key to which is of course retained in the possession of the water company or the municipal corporation.

The present invention constitutes a decided improvement upon the old forms of head-gate in which a chain is used to prevent the illicit turning of the lower hand-wheel. In the old devices it is necessary that the chains be long in order to permit the raising and lowering

of the gate. The slack chain which thus results permits the hand-wheel to be partly turned. Furthermore, said slack chain is liable to become wrapped around the threaded rod.

The device of the present invention is simple, strong, and thoroughly practical in use.

I claim—

1. A head-gate comprising a gate, a threaded rod thereon, a support through which the rod passes, a hand-wheel on the rod above the support, a similar wheel thereon below the support, and a locking-rod in engagement with the lower wheel.

2. A head-gate comprising uprights formed with guideways, a gate in the guideways, cross-pieces connecting the uprights, a threaded rod on the gate passing through the cross-pieces, a hand-wheel on the threaded rod above one of the cross-pieces, a hand-wheel thereon below one of the cross-pieces, a locking-rod passing through the cross-pieces and the lower hand-wheel, and a lock in engagement with the locking-rod.

3. The combination with a water-supply pipe, of a head-gate frame, a gate slidably mounted therein, a pipe-section secured to the head-gate frame, and means for connecting said pipe-section to the water-supply pipe.

4. A head-gate comprising water-regulating means, a locking-rod to lock the regulating means, the rod having a plurality of perforations therein, and a lock in one of the perforations.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANK D. GIDDINGS.

Witnesses:

J. L. NIGHTINGALE,  
J. D. DE CELLE.