

I. TOWNSEND.

Improvement in Canal-Locks.

No. 127,389.

Patented May 28, 1872.

FIG. 1.

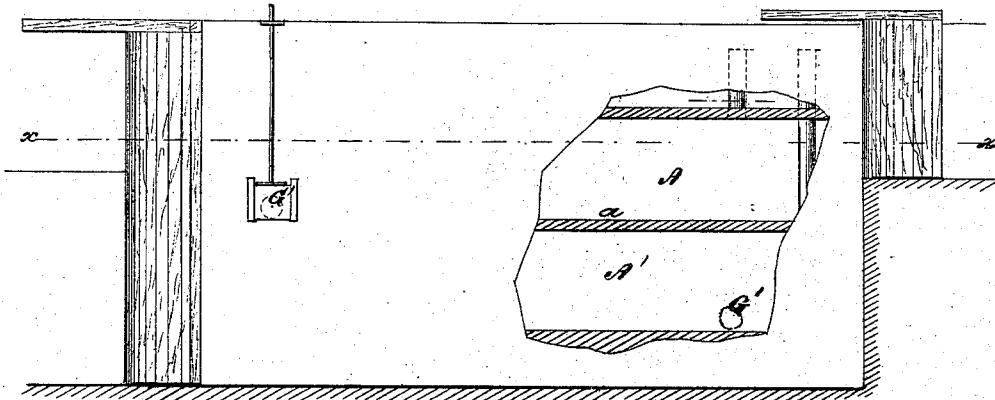
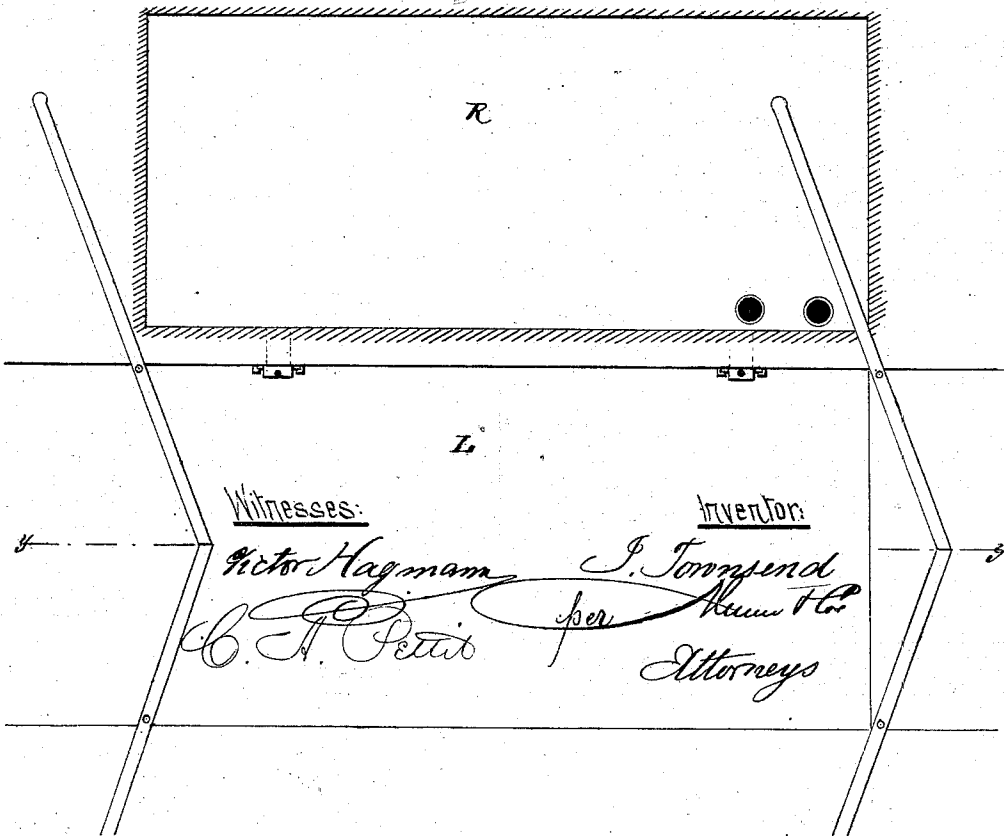


FIG. 2.



UNITED STATES PATENT OFFICE.

ISRAEL TOWNSEND, OF CAPEVILLE, VIRGINIA.

IMPROVEMENT IN CANAL-LOCKS.

Specification forming part of Letters Patent No. 127,389, dated May 28, 1872.

To all whom it may concern:

Be it known that I, ISRAEL TOWNSEND, of Capeville, in the county of Northampton and State of Virginia, have invented a new and Improved Canal-Lock; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a longitudinal vertical section in line *y y*, Fig. 2; and Fig. 2 is a horizontal vertical section in line *x x*, Fig. 1.

The object of this invention is to economize water in taking boats through canal-locks. This object is accomplished by the employment, in connection with a lock, of a double side chamber, which forms one wall of the lock, and is provided with two separate water-compartments, one above the other, and having no intercommunication, but each opening out of the lock, the function of the side compartments being to receive one-half the water from the full lock during the descent of the boat and hold it against the time when it is needed to accomplish the ascent of the boat, instead of drawing from the canal above for the necessary supply.

In the drawing, L is the lock, and R the double side chamber, which is or may be built under the tow-path or lock-house, and forms one side of the lock, and is divided into two equal horizontal compartments, A A', by a partition, *a*, the capacity of both compartments being equal to half the capacity of the lock, and the chamber being placed at an equal distance from the top and bottom of the lock. A separate orifice is made through the side of the lock into each compartment, which orifices are closed by vertically moving gates G'.

The *modus operandi* is thus: The lock being full, the end gates closed, and the boat in it ready to be run through, open the upper gate

G', fill the upper compartment A, and close the upper gate again. The water then stands at the same height in the lock and compartment A. Next open the lower gate G', fill the lower compartment A', and shut the gate again, as before. The water in the lock and lower reservoir will then stand at the same height, and both compartments will be left full. Then waste the rest of the water in the lock and let the boat pass out. When the reverse operation is to be performed, the end gates being closed, and the boat in the bottom of the lock, open the lower gate G', and thus empty the lower compartment A'. This will bring the water in the lock up to the bottom of said compartment. Then empty the upper chamber, raising the water up to its bottom. The lock will then be half full, and is next to be wholly filled by opening the upper end gates in the usual manner.

I am aware that it has heretofore been proposed to use side ponds for this same purpose; but these are objectionable in that being open they are liable to become offensive and dangerous to health, besides being in the way and occupying considerably more surface land than my double side chamber, for the reason that the ponds cannot be arranged one above the other, but must each have a like area of surface land. I wish it understood, therefore, that I make no claim to open ponds; but

Having described my invention, what I do claim as new and of my invention is—

The combination, with a canal-lock, of the double side chamber, forming one side of the lock, and provided with two separate and water-tight compartments, A A', arranged one above the other, and adapted for use in the manner and for the purpose specified.

ISRAEL TOWNSEND.

Witnesses:

C. L. STOCKTON,
R. B. MORE.