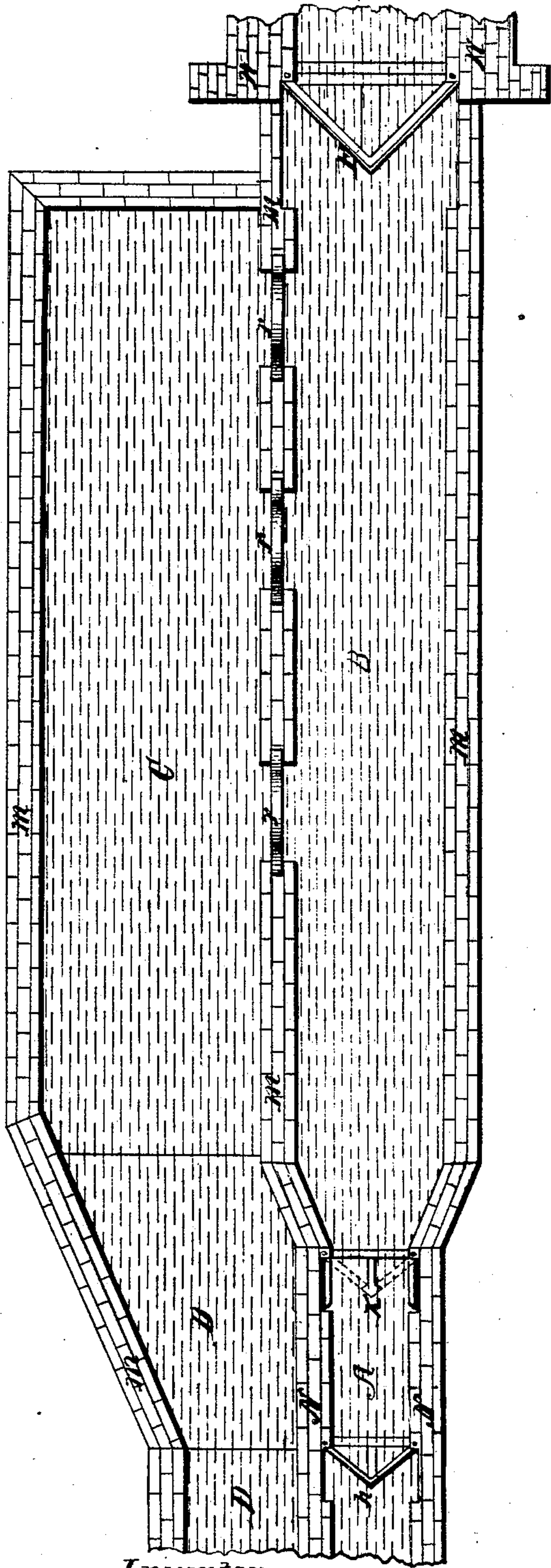
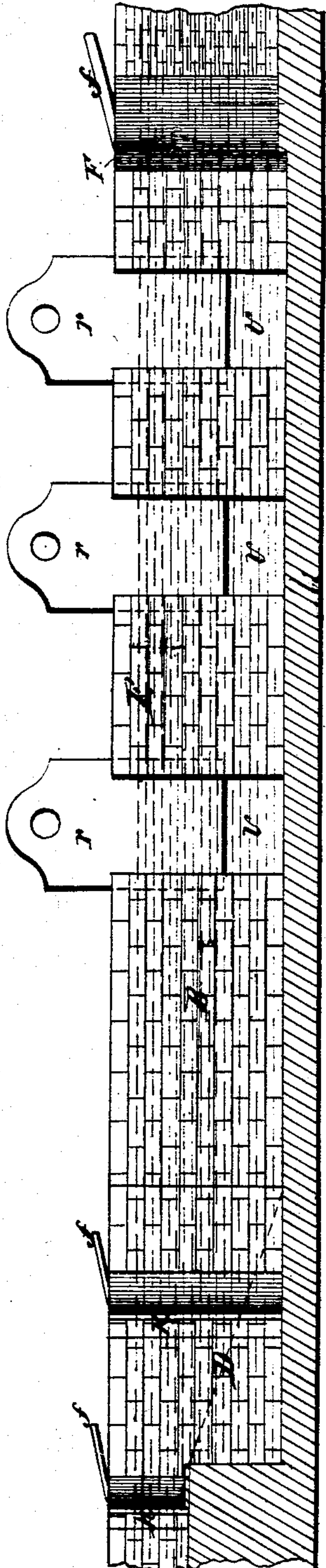


T. L. ROSSER.
Canal-Lock.

No. 159,280.

Patented Feb. 2, 1875.



Witnesses.
André Kling
St. B. Atkinson

Inventor.
Thos L Rosser

UNITED STATES PATENT OFFICE.

THOMAS L. ROSSER, OF MINNEAPOLIS, MINNESOTA.

IMPROVEMENT IN CANAL-LOCKS.

Specification forming part of Letters Patent No. **159,280**, dated February 2, 1875; application filed January 20, 1875.

To all whom it may concern:

Be it known that I, THOMAS L. ROSSER, of the city of Minneapolis, State of Minnesota, have invented a Combination Canal-Lock, of which the following is a specification:

The amount of work which any canal can do in a given time depends upon the number of lockages each of its locks can make in that time and the tonnage passed through each lock at each lockage. The object of my invention, therefore, is to increase the working capacity of canals without increasing their size, by simply increasing the size of their locks. If the canal-prism is increased in width and depth without the use of my combination-lock, the size of the old locks and the demand for water would also be necessarily proportionally increased; but as there is at present a scarcity of water along the most of our canals, it is necessary to adopt some system which will give the desired increase of working capacity with the least possible expense of water as well as money; and by the introduction of my combination-lock these desirable ends are easily attained.

In the accompanying drawing, A is an ordinary canal-lock, of which *h* is the upper and *k* the lower gate, and *NN* the walls. B is the combination-lock, whose upper gate, *h*, is the upper gate of the lock A, and whose lower gate is *F*, supported by the re-enforced walls *WW*, with light side wall *mm*.

In constructing the combination-lock B a large basin is excavated by the side of the canal to the depth of the lock, forming the reservoir C, which opens by means of a ditch, *DD*, into the canal above the lock A, by which it is kept filled with water. (Into this reservoir the waste-water is also collected.) Connecting this reservoir C with the lock B there are a convenient number of valves, *v v v*, &c., by means of which the water from the reservoir C can be let into the large lock B, so as to fill it rapidly. The gate *F* is constructed the full

width of the bottom of the canal, so that when thrown open the canal is left unobstructed to its full width, in order that boats can pass through it two abreast. A sufficient distance is allowed between the lower gate, *F*, and the upper lock, *A*, to admit a train of several boats to float easily.

The side wall of the combination-lock B, on the side of the reservoir C, may be constructed of timber, brick, or stone; but as the strain on the opposite side will be small a slight support only will be necessary, and even a row of piles driven at the foot of the earth-slope, to prevent the boats from grounding while passing from a higher to a lower level, would in most cases be sufficient. This combination-lock could be best used in connection with the railway and locomotive propulsion plan, and operated so that with one lock full of water two trains of boats may be passed through the lock at the same lockage, one up and the other down.

If a single boat is to be passed through the lock the lock A alone is used, the gate *F* is thrown open out of the way; but if it is desired to pass a train of several boats at one lockage, the gate *k* is opened out of the way, and the gate *h* of the lock A and the large gate *F* below. The two inclosing the combined lock A B perform the required work.

I claim, therefore, as my invention—

The combined lock herein described, consisting of the large lock B, with its large gate *F*, which, with the upper gate, *h*, of the lock A, forms the combined lock A B, which will enable a train of several boats to pass altogether from one level to another, as specified, without impairing the efficiency of the old lock for passing single boats.

THOMAS L. ROSSER.

Witnesses:

GIDEON BANTZ,
J. W. HAMILTON JOHNSON.