J. A. COLE.

CRIB FOR LAKE WATER-WORKS.

No. 180,087. Patented July 18, 1876.

Fig. 1.

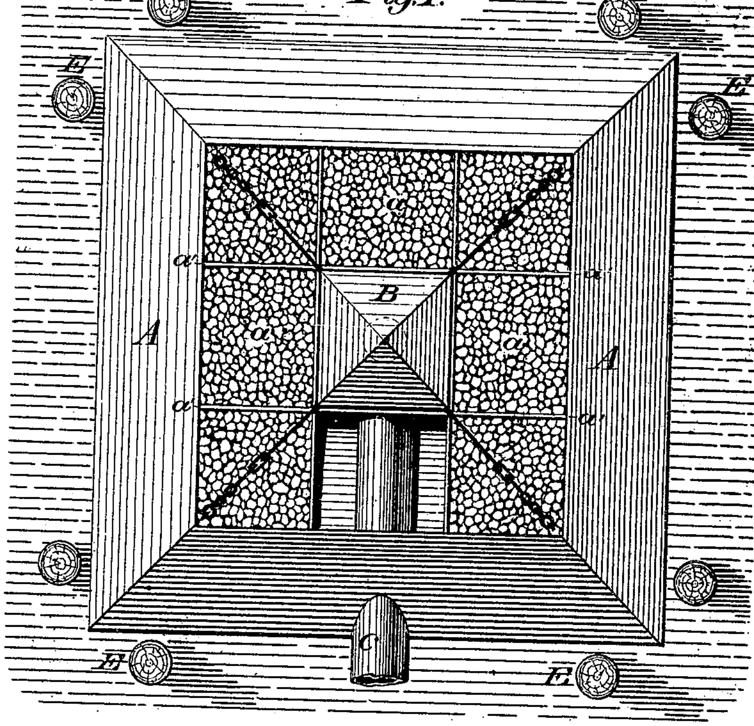
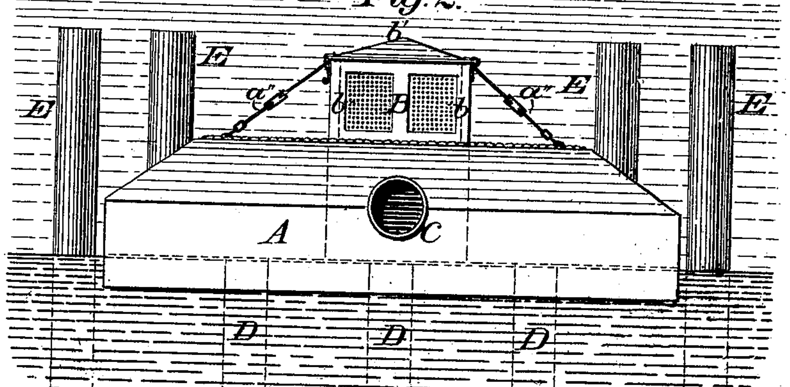


Fig. 2.



Attest:
C. H. Fritz
D. McNickle

Inventor:
John A. Cole
by L. Deane
Att'y.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN A. COLE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN CRIBS FOR LAKE WATER-WORKS.

Specification forming part of Letters Patent No. **180,087**, dated July 18, 1876; application filed July 1, 1876.

To all whom it may concern:

Be it known that I, JOHN A. COLE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cribs for Lake Water-Works, of which the following is a specification:

Figure 1 is a top-plan view, showing the device in position for use. Fig. 2 is a central vertical section of above figure, showing the device on the bottom of the lake.

The design of the present invention is to produce a device which shall provide a well, water-chamber, or reservoir on the bottom of a lake or pond, at a considerable distance from the shore, which shall hold fast to its place or position, be secure from ice or waves or passing vessels, and afford its water-supply free from sand, fish, or like or other impurities; and it consists more particularly in preparing in the water-bed, at a suitable distance from the shore, a suitable foundation or pile, on which is placed a metal box or base of requisite size, centrally or otherwise provided with a well or water-chamber having means of access, as also an induct and educt, and also properly anchored or weighted upon said bed. The whole device is so constructed and arranged, protected by piling or equivalent means from approach on the level of the bed or through the water, all as will now be more in detail set out and explained.

In the drawings, A denotes a wrought-iron box or base, of a generally pyramidal form, having very large superficial area on the bottom, but of a comparatively slight height, say usually not above two and a half feet. Internally it has suitable provision for holding stones, metal, cement, or any anchoring-weight, *a*, and this is now indicated by partitions *a'*. In any good position, but preferably about the center of the structure, is placed the detachable well or water-chamber B. This chamber is of such size that it rises from the base of the box above the upper edge of it a suitable height, generally two feet, more or less, and in the sides or top of said extended portion, or in both, has water-inducts suitably protected, as now indicated by the copper wire-gauze at *b*. These can be so attached as to be readily opened when occasion calls for inspection of the interior of this well or chamber. The cover or top *b* may be hinged. Additional strength may be given to this extended part by chains or rods *a''* attached to its four corners, and connected to the rim or body of the base. C is the water-pipe, having suitable ball-and-socket-joint connections to admit of its resting on and conforming to the contour of the bed of the lake, and which carries the water from the chamber B to its place of storage or use on the lake-shore.

The box thus generally made is placed on the top of piles D, a sufficient number of which have been driven into the bed of the lake at this point, so as to have their heads come level with the bed, or having their ends cut down to that level. On each side of the box thus placed in position, and close to it, I drive piles E. The upper ends I design to have about as high as the top of the well or water-chamber. These piles will serve as guards or protection against ice or vessels' keels. They will also aid in steadying and holding secure the crib or device above described.

It is a feature of no small consequence in works of this kind to so place the crib that it cannot be moved, because any strain on the crib or box or water-chamber will have a tendency to open the water-pipe or make some leak in the water-chamber, and thus let in the very impurities the entire device was designed to exclude.

The device so made and anchored will not be exposed on its base to the action of the water and rocks and sand, which have usually, in other devices made for this purpose, tended to wear away the foundation on one side and create a sand-bar on the other. In mine any such movements of water or solid substances tend to remove only the mud or clay under the box and give a way or passage there for their movements; nor will these be likely, by such movements, to make the water roily about the well because it is too far removed from the effects of such action for this result.

While I have above set out, with some minuteness of detail, how I have made and used this invention, it is very evident that in mere detail of construction there may be many changes without in any degree departing from the nature or scope of my said invention—for instance, in the material used, and in the shape

of the structure or any parts of it, or their arrangement.

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

1. The weighted and submerged crib A, provided with detachable water-chamber B, substantially as and for the purposes set forth.

2. A crib for the entrance of lake waterworks, consisting of a substructure of piles, cut off at or near the level of the bottom of the lake, a metallic case loaded and anchored as described, a water-induct chamber with perforated protectors suitably secured to the top of the case, and the protecting-piles E E, cut off below the water-surface, as described, all combined, substantially as and for the purposes specified.

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

JOHN A. COLE.

Witnesses:
HORACE F. WHITE,
HENRY BROWNE.