A. J. ZILKER.

Apparatus for the Manufacture of Ice.

No. 225,037. Patented Mar. 2, 1880.

Fig: 1.

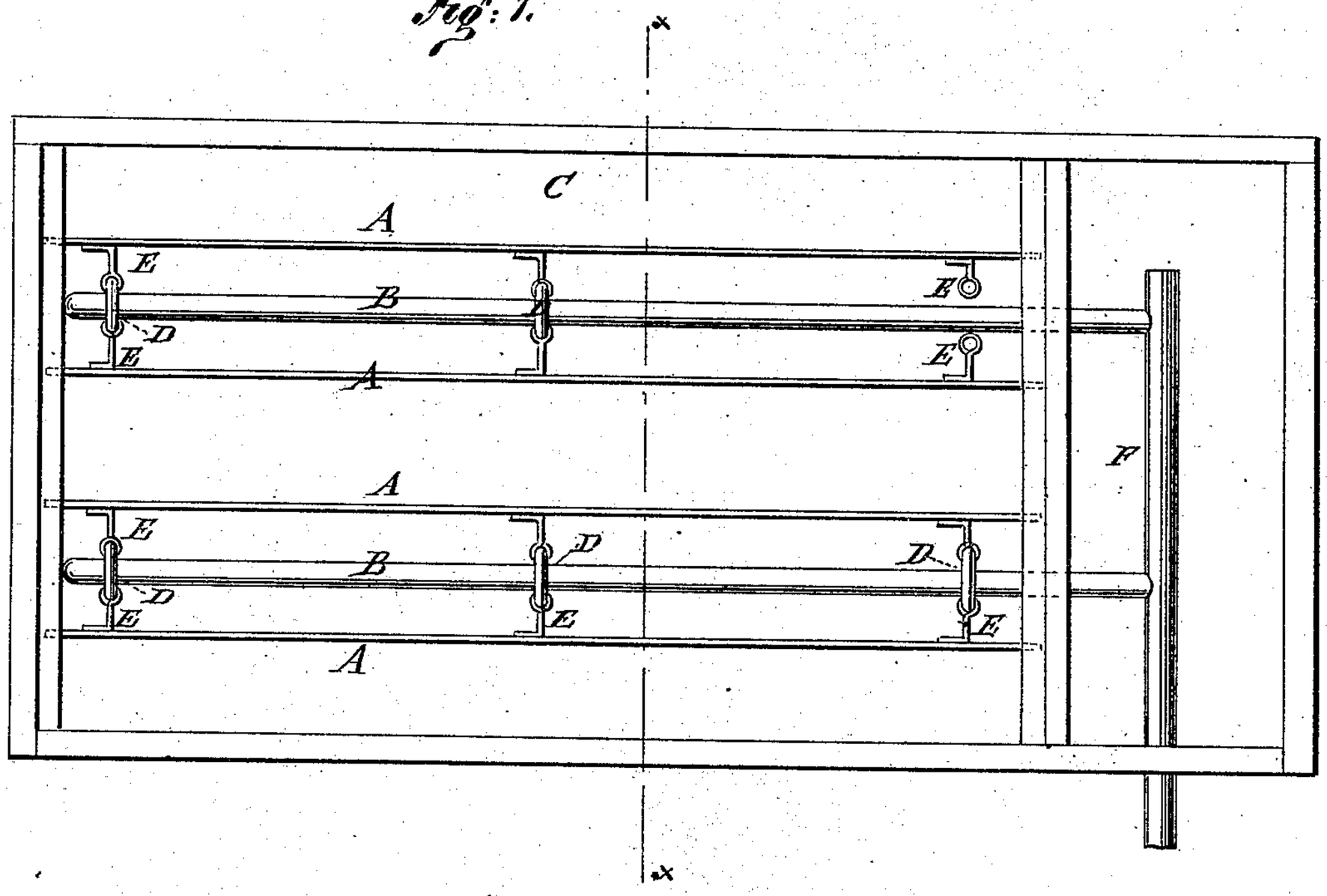
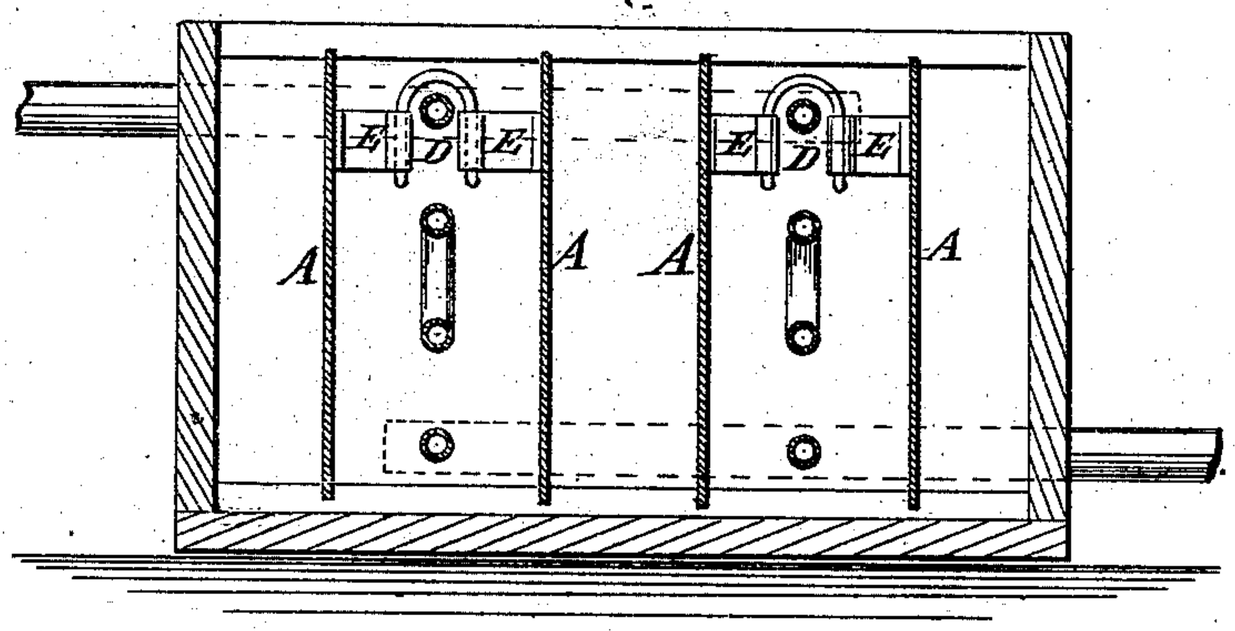


Fig: 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ANDREW J. ZILKER, OF AUSTIN, TEXAS.

APPARATUS FOR THE MANUFACTURE OF ICE.

SPECIFICATION forming part of Letters Patent No. 225,037, dated March 2, 1880.

Application filed July 9, 1879.

To all whom it may concern:

Be it known that I, ANDREW J. ZILKER, of Austin, in the county of Travis and State of Texas, have invented a new and Improved Apparatus for the Manufacture of Ice, of which the following is a specification.

Figure 1 is a plan of the device. Fig. 2 is a sectional elevation on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a novel and simple apparatus to be used in the process of making ice by the absorption or pumping of ammonia-gas.

The invention consists of two or more sheets of galvanized iron or other metal set in a tank of fresh water, one on either side of the evaporation-pipes, and held in a position parallel to each other by anchors or yokes that connect them.

The metallic boxes that surround the pipes in this process of ice manufacture have heretofore been made water-tight and filled with strong brine, from which the ammoniacal or other gases used in the operation absorb the heat, and which in turn absorbs so much heat from the surrounding fresh water in the tank as to convert it into ice. This method is open to the various objections that it is slow and uncertain, and involves a great loss of the freezing effects of the coils, and that the boxes are liable to, and do frequently, leak and let their contents escape into the surrounding fresh water, to the great injury of the product.

The sheets A, set on either side of the gas-coils B in the tank C, that contains only fresh water, are held together and in position by the anchors or yokes D, that engage in the ears E, which are soldered or otherwise fastened to the sheets. These sheets do not quite reach to the bottom of the tank, so that as the water is let into the tank it will flow up between them and around the coil of pipes containing the gas. These pipes are preferably about three-quarters of an inch in diameter inside, and laid as close together as their bends or unions will permit. The inlet and outlet manifolds F are of two-inch pipe.

When the process is in operation the water between the sheets and around the coils quickly freezes into a solid block of ice, which, being a better conductor than the salt and water that are ordinarily used, causes the water outside of the sheets also to quickly freeze.

In the water I suspend chains that serve to draw out the blocks of ice when frozen in them.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In an apparatus for the manufacture of ice by artificial means, the sheets A of galvanized metal, provided with ears E, in combination with the tank C and yokes D, substantially as shown and described.

ANDREW J. ZILKER.

Witnesses:
J. S. CROZIER,
W. F. WRIGHT.