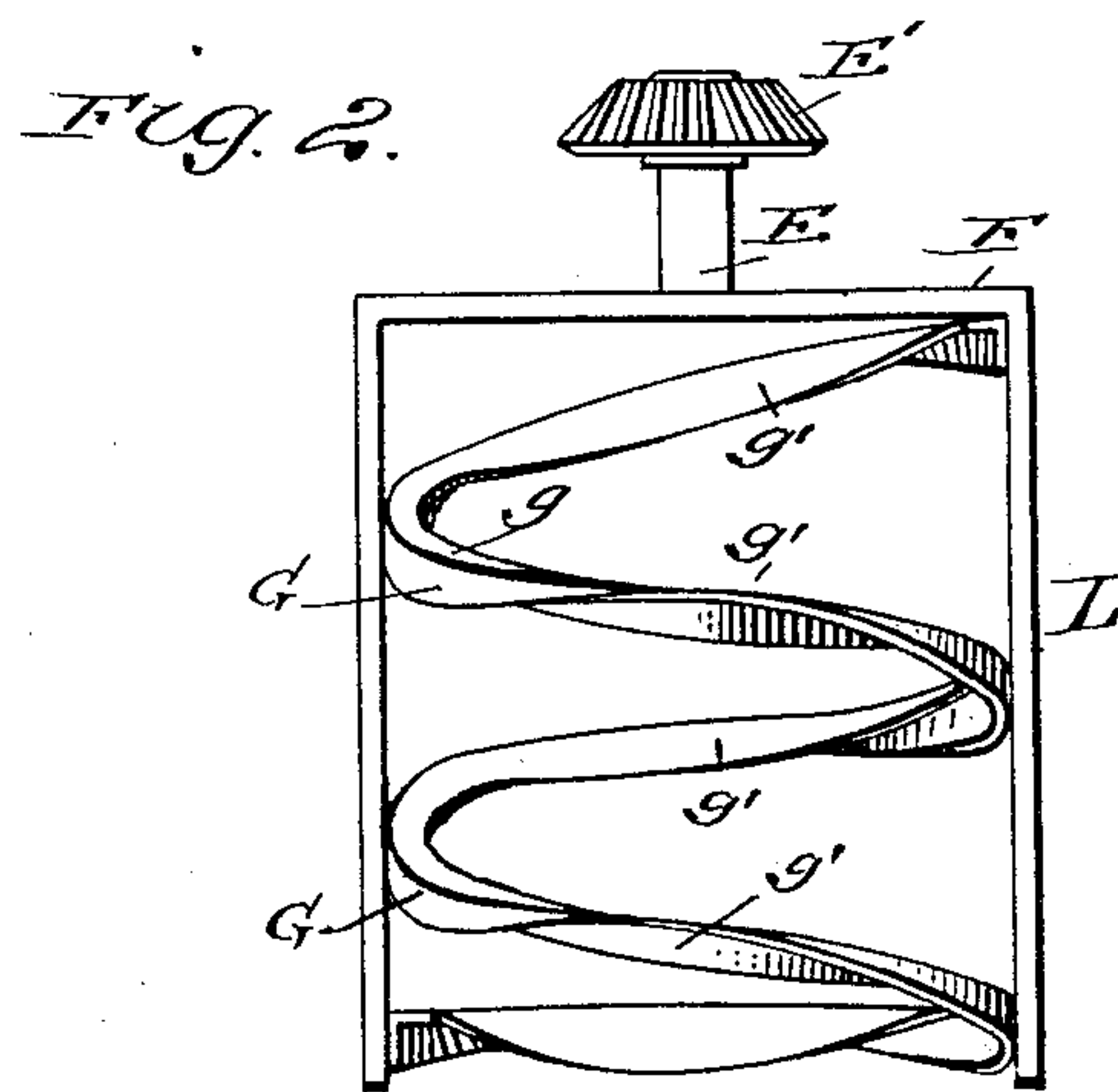
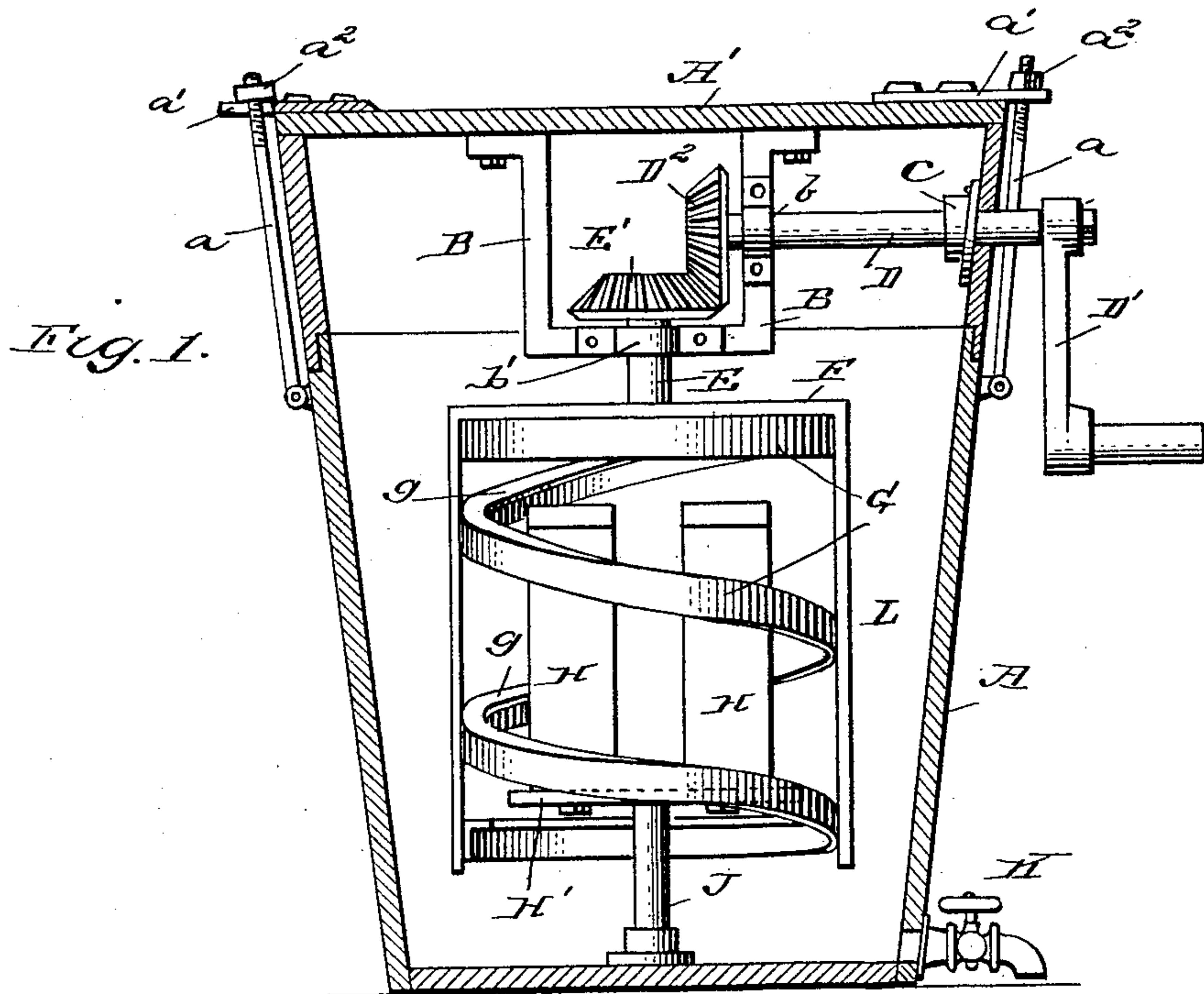


(No Model.)

T. J. LEMON.
ICE MACHINE.

No. 453,084.

Patented May 26, 1891.



WITNESSES:

W. R. Davis.
C. Sedgwick

INVENTOR:

T. J. Lemon
BY Munn & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

THOMAS J. LEMON, OF NEW YORK, N. Y.

ICE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 453,084, dated May 26, 1891.

Application filed July 10, 1890. Serial No. 358,245. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. LEMON, of New York city, in the county and State of New York, have invented a new and Improved Ice-Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in ice-machines; and the object of my invention is to produce a simple, efficient, and inexpensive machine adapted to be used in the manufacture of ice, on a small scale for family use, by the use of chemicals.

To this end my invention consists in a tank having a removable cover at the top and a faucet at the bottom, suitable molds mounted within the tank, a skeleton cylinder having spiral walls and adapted to inclose the molds, and a gear mechanism for operating the cylinder. This construction will be fully described hereinafter, and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both figures.

Figure 1 is a vertical section through the tank, showing in side elevation the interior mechanism, and Fig 2 is a modified form of skeleton cylinder adapted to be used in the machine.

The tank A is provided with a removable cover A', and the cover is fastened to the tank by means of the bolts *a*, which are pivoted on the sides of the tank, and which, when turned upwardly, extend between the projecting ears *a'*, and are provided with suitable nuts *a''*, which may be tightened upon the ears, so as to hold the cover securely on the tank.

Centrally fixed to the underside of the cover A', and extending downwardly into the tank, is a U-shaped frame B, and extending horizontally through a box *b* on one side of the frame, and through a suitable box *c* on the side of the tank-cover, is a horizontal shaft D, which extends through the tank-cover, said shaft having at its outer end a suitable crank D', by which it may be turned, and having at its inner end a beveled gear-wheel D². A vertical shaft E is mounted in the box *b'* of the frame, said shaft having at its upper end a beveled gear-wheel E', which meshes with the

beveled gear-wheel D², and fixed to the lower end of the shaft is an inverted-U-shaped frame F, the sides of which serve as guides or supports for the spiral strip G. The spiral strip G is fixed to the frame F and is coiled around the inside portion of the frame, forming a skeleton cylinder L, said strip having at the top an inwardly-projecting flange *g*, which enables the cylinder, when turned, to thoroughly agitate the chemicals contained in the tank.

Mounted centrally in the tank, so as to be inclosed by the cylinder L, are the molds H, which are mounted upon a frame H', which rests on a vertical support J. The molds H have removable covers and are adapted to contain water to be frozen, and it is obvious that any number of molds may be used and that they may be given any desired shape, although the rectangular shape shown in the drawings is preferable. The tank A is provided at the bottom with a suitable faucet K, through which the chemicals are drawn when the tank is to be emptied.

In Fig. 2 I have shown a modified form of skeleton cylinder, the spiral G of which is twisted, as at *g'*, on opposite sides, so that it will more thoroughly agitate the chemicals.

To operate the machine the molds H are filled with water to be frozen, and the tank A is filled with suitable chemicals adapted to congeal the water in the molds. The crank D' is then turned, thus turning the shaft D, the shaft E, and the cylinder L, and as the cylinder revolves it will gently agitate the chemicals in the tank, so as to prevent them from separating and will thereby enable them to act rapidly upon the water in the molds. When the ice is to be removed, the bolts *a* are swung outwardly from the ears *a'* and the cover A' is removed from the tank, and when the cover A' is removed from the tank the frame B, the shafts D and E, and the skeleton cylinder L, are removed with it.

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

1. In an ice-machine, the combination, with a tank and molds supported therein, of a rotary spiral strip surrounding the molds and forming an agitator, substantially as described.

2. In an ice-machine, the combination, with a tank and molds supported therein, of a spiral and flanged strip surrounding the molds, and means for rotating the strip, substantially as described. 10

5 3. In an ice-machine, the combination, with a tank and molds supported therein, of a skeleton cylinder surrounding the molds and

formed of an inverted-U-shaped frame and a spiral and flanged strip secured to the frame, and means for rotating the said cylinder, substantially as herein shown and described.

THOMAS J. LEMON.

Witnesses:

WARREN B. HUTCHINSON,
C. SEDGWICK.