(No Model.)

A. SIEBERT.

CAN FILLING DEVICE.

No. 469,278. Patented Feb. 23, 1892.

Fig. 1.

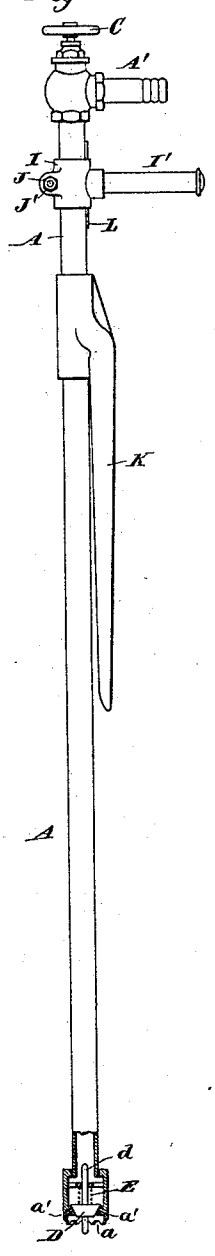


Fig. 4.

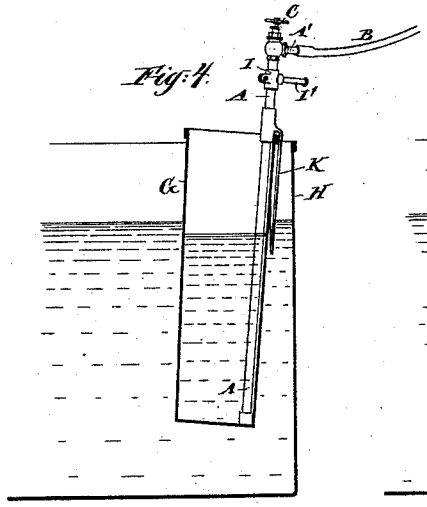
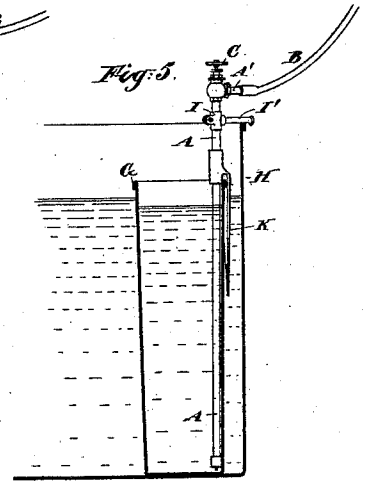


Fig. 5.



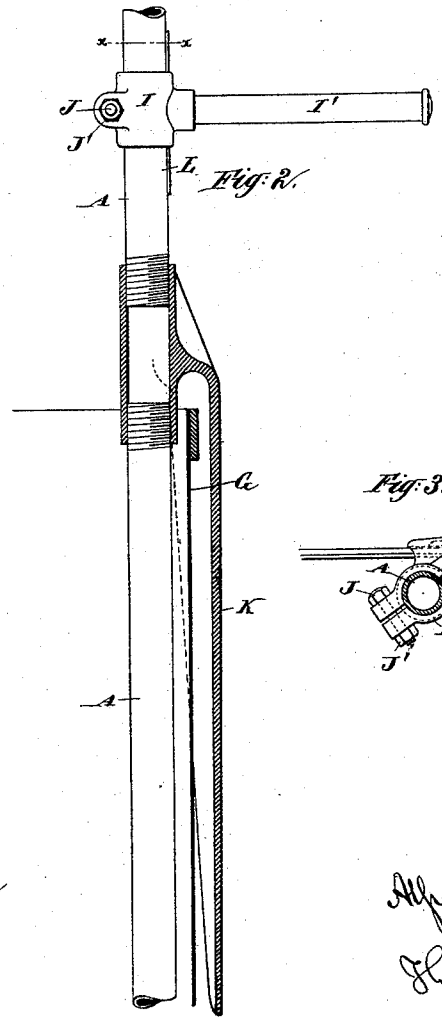
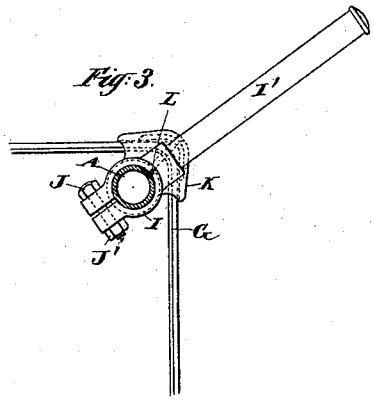


Fig. 2.

Fig. 3.



Witnesses:
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H. A. Johnstone.

Inventor.
Alfred Siebert
by his attorneys
Thomas Drew Stetson

UNITED STATES PATENT OFFICE.

ALFRED SIEBERT, OF NEW YORK, N. Y.

CAN-FILLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 469,278, dated February 23, 1892.

Application filed May 11, 1891. Serial No. 392,289. (No model.)

To all whom it may concern:

Be it known that I, ALFRED SIEBERT, a citizen of the United States, residing in the city, and county of New York, in the State of New York, have invented a certain new and Improved Can-Filling Device, of which the following is a specification.

My improved device is adapted for conducting distilled or other water from an elevated tank into thin metallic vessels, technically called "cans," employed in the manufacture of ice. It is important in this manufacture to avoid the fine bubbles of air which become entangled in the water if the water is admitted carelessly. It has before been practiced to admit the water by a hose, thrusting the nozzle nearly or quite to the bottom of each can in succession. My filler introduces the water in the corresponding manner, and is equipped with provisions for automatically preventing waste of water in transferring the device from one can to another. On placing an empty can in the cold brine it sinks as the water is supplied to it, and when it finally rests on the bottom the surface of the pure water in the interior should be a little below the level of the surface of the brine on the exterior. I provide a rigid tube of metal, having a valve in the bottom opening upward and provided with a stem which protrudes beyond the bottom. Flexible hose is connected to the upper end of this tube, and on introducing the tube into an empty can and resting it on the bottom the stem of the valve, striking the bottom, raises the valve and allows the water to enter quietly at the bottom of the can and rapidly fill it without any agitation. The lower end of the tube is notched to allow the water free exit after it has passed the valve. Near the upper end of the tube is a lateral arm of sufficient length to rest on the side of the tank and slightly lift the tube when the can has been filled and sunk. The position of this arm may be adjusted up and down to find the right position, so that the cans will each be filled to exactly the right depth before the tube is lifted and the further induction of water is stopped. The tube is provided with another arm, extending up and down parallel thereto and adapted to engage the can and hold the tube hard over into one corner. An attendant may operate several filling-tubes at once, if occasion requires, thrusting them down successively into as many cans, one filler into each can, and as they sink shifting the fillers successively to fresh cans.

The accompanying drawings form a part of this specification and represent what I consider the best means of carrying out the invention.

Figure 1 represents the filler complete, mainly in elevation. The lower extremity is in vertical section. Fig. 2 is a vertical section of a portion on a larger scale. Fig. 3 is a horizontal section on the line $x\,x$ in Fig. 2. Figs. 4 and 5 are vertical sections on a smaller scale, showing the filler applied to a can. Fig. 4 shows the can partly filled, and Fig. 5 shows it completely filled and sunk into the position in which it is to remain for the several hours required to effect the freezing.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

A is the tube, and A′ a lateral branch through which the water is led by a hole B from a tank. (Not represented.)

C is a hand-wheel controlling a valve, which can be closed when desired. Under all ordinary conditions this valve remains open.

D is the bottom valve, mounted on a stem d and pressed into its seat by gravity and the pressure of the water and also by a gentle spiral spring E. The bottom of the tube is shown as enlarged to give more room for this valve D and its stem and spring. The extreme lower end is notched, as indicated by a. Small passages a' are bored from the exterior into the seat, as shown.

G is a can of the ordinary rectangular and slightly-tapered form, which is found convenient to mold the ice cakes to be formed.

H is a tank containing the brine, which is kept at a low temperature by the expansion of previously-compressed ammonia or by other suitable means well understood.

It is important that the can be thin metal for the free transmission of caloric. The tank H may be wood or masonry, if preferred. When the tube is thrust down into an empty can, the lower end of the stem d strikes the bottom and causes the valve D to be raised off its seat. Now the water entering through the hose B and descending the tube A can

pass the valve and flow out into the can through the notches *a* and also through the passages *a'*. When the tube is lifted so that the stem *d* no longer presses on the bottom of the can G, the valve D sinks into its seat and the flow of water ceases.

I is a split clamp operated by a bolt and nut J J', taking a firm hold on the tube A, so as to set the arm I' thereon at any point desired. This clamp should be set at such height on the tube A that the arm I' will catch on the side of the tank H and be held up, so as to allow the valve D to open when the can G, having been filled to the proper level, has sunk and is resting on the bottom of the tank.

K is an arm, which I term a "bayonet-arm," extending parallel to the tube A and firmly attached thereto at a point which comes above the edge of the can.

In introducing the tube into an empty can it is placed in the corner of the can and the arm K is allowed to slide down on the exterior of the can. It is so formed as to embrace the corner and hold the tube reliably in position until the can is filled; but it allows the tube to be lifted freely and easily. When in the last portion of the sinking movement of the can the arm I' rests on the rim of the tank, it lifts the tube A a little, enough to allow the valve D to close. The parts may be allowed to remain in this condition for a little time, care being taken not to let the freezing commence before the tube is removed. When the attendant lifts the tube, the arm K slides up the exterior of the can and is ready to slide on the exterior of the corner of the next can to which the tube is applied.

I provide a key L, matching in a spline in the tube A and in the interior of the clamp I, arranged to insure that the arm I' shall, as it is adjusted up and down, always lie on the same side of the tube A as the arm K. This is important when the device is out of use and is laid down or otherwise stored. The arm I' insures that the weight of the device shall never be received on the arm K.

Modifications may be made without departing from the principle or sacrificing the advantages of the invention.

The enlargement of the tube A at the bottom may be made in one with the main body of the tube, instead of being a separate piece screwed on, or the enlargement may be omitted if the tube is of sufficient size.

The valve operated by the hand-wheel C may be omitted.

The point of junction of the parallel arm K may be made adjustable, so that it can be shifted up and down on the tube; but this is not likely to be required with any ordinary sizes of cans, because the parallel position of the arm extending up and down allows the device to serve on deeper or shallower cans without change.

Parts of the invention can be used without the whole. I can use the device without the arm K.

I claim as my invention—

1. A filling device for the manufacture of ice and for analogous purposes, having a tube A, hose B, and self-acting valve D, with provisions, as the notches *a* and orifices *a'*, for allowing the water to be discharged when the valve D is raised by contact with the bottom and to be retained by the sinking of the valve into its seat when the tube is lifted, in combination with each other and with the arm I', adapted to engage the tank and cause the automatic stopping of the flow of the water by the sinking of the can, as herein specified.

2. In a filling device, the tube A, hose B, valve D, and provisions for the outflow of the water, in combination with the arm or bayonet K, parallel with and attached to the tube A and having an L-shaped horizontal section adapted to engage with the corner of the can G and to allow an easy motion of the parts vertically relatively to each other while maintaining their position laterally, as herein specified.

3. The filling device described, composed of the tube A, connected hose B, and bottom valve D, and with provisions for the discharge of the water from its base when the bottom valve is raised, in combination with the horizontal arm I' and the vertical arm or bayonet K, the former adapted to strike the tank and by holding up the device to stop the flow when the can sinks and the latter to take hold of the can loosely and allow it to rise and sink relatively to the filling device, the two arms being arranged in the same plane, so that the arm I' serves to shield and protect the arm K when the device is out of use, all substantially as herein specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

ALFRED SIEBERT.

Witnesses:
RAE HARRISON,
M. F. BOYLE.