

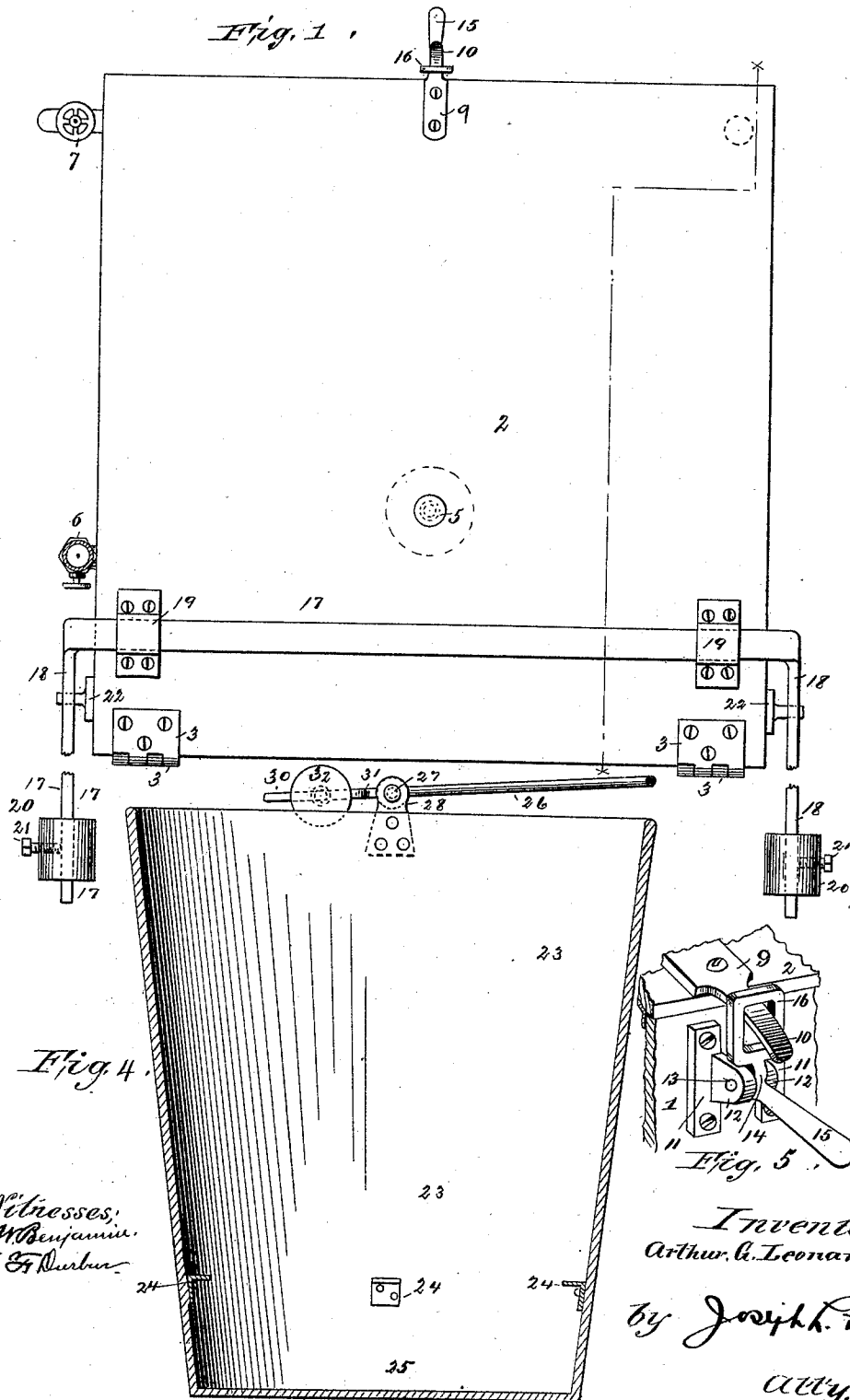
(No Model.)

2 Sheets—Sheet 1.

A. G. LEONARD.
BUCKET AND TANK FIRE EXTINGUISHER.

No. 498,937.

Patented June 6, 1893.



(No Model.)

2 Sheets—Sheet 2.

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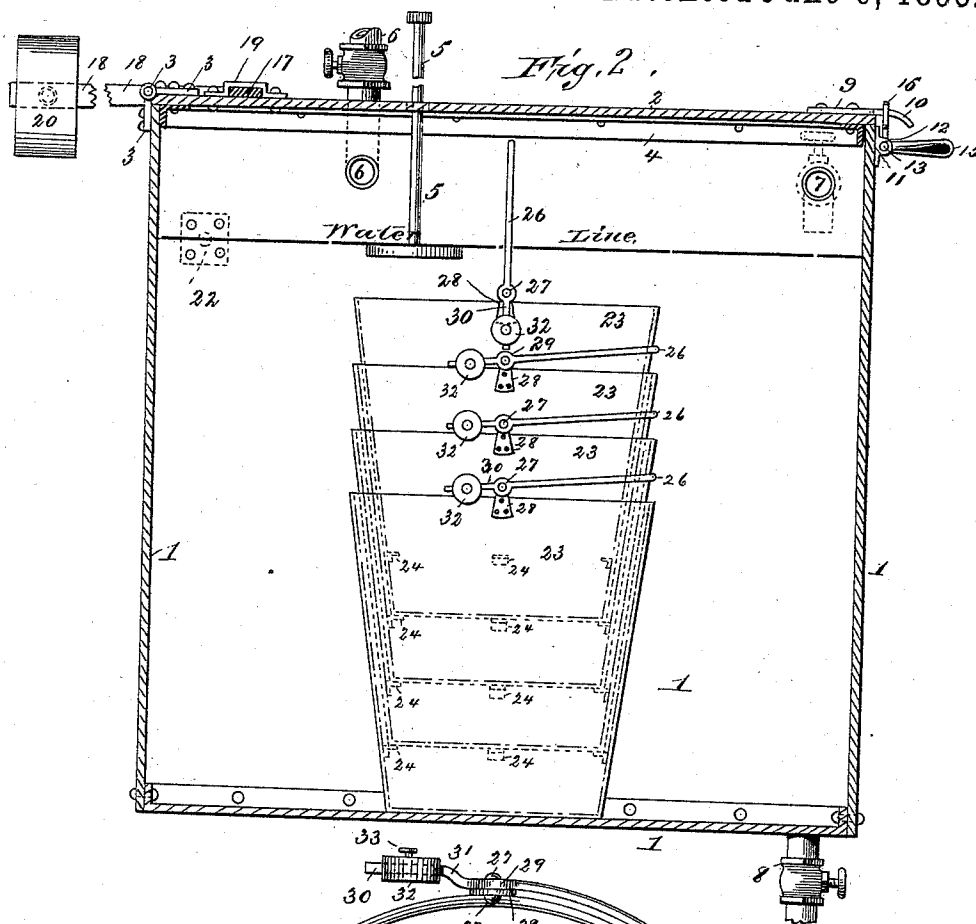
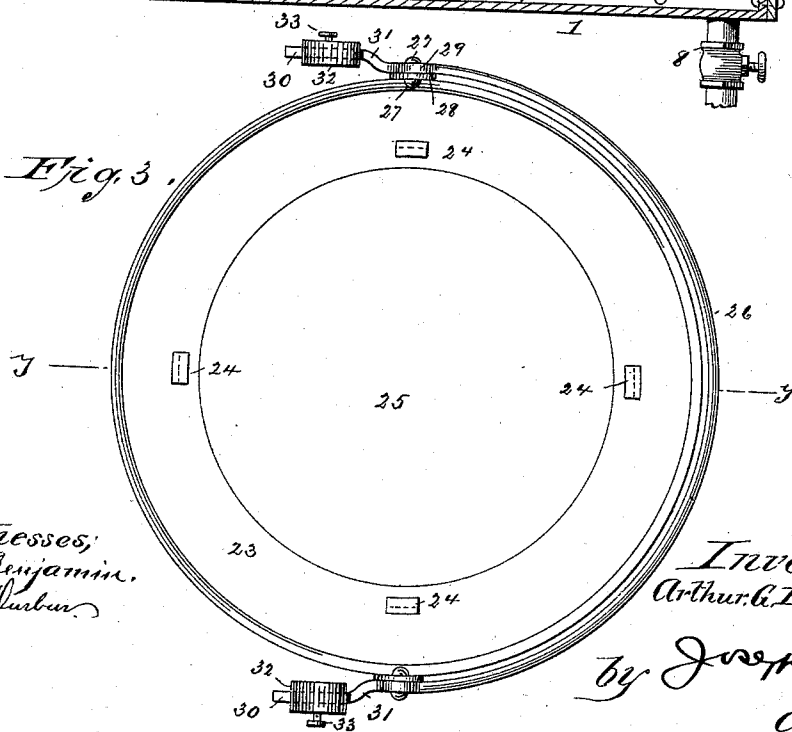


Fig. 3.



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UNITED STATES PATENT OFFICE.

ARTHUR G. LEONARD, OF NEW YORK, N. Y.

BUCKET-AND-TANK FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 498,937, dated June 6, 1893.

Application filed December 21, 1892. Serial No. 455,955. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR G. LEONARD, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Bucket-and-Tank Fire-Extinguisher, of which the following is a specification.

My invention relates to that class of devices wherein a series of buckets or pails are used for the purpose of extinguishing fires, which buckets are usually set in a frame side by side, and are filled with water, so as to be handy for immediate use when required.

The special objects of my invention are to facilitate the use of the buckets filled with water; to condense the space usually occupied by a number of them; to prevent interference with the buckets, so that they will be only used for fire purposes; as well as to enable a larger number of buckets to be used than heretofore, and held ready for immediate use, without occupying near as much space.

To this end my invention comprises a tank or other suitable receptacle, (which may be suitably connected with a service pipe and overflow, so that water or other fluid may be kept therein at a proper level) in which tank are placed a plurality of buckets inserted one within the other or nested together, the parts of the entire device being so related that when the uppermost pail is lifted out of the tank it will be full of water, and the next bucket, which now becomes the top of the series, will also be immediately filled with water or other fluid ready for withdrawal. The buckets being nested together a number of them can be made to occupy the same floor space except that occupied by the tank that single buckets have occupied hitherto.

My present invention also comprises a particular construction, wherein the greatest facility in opening the tank (which is preferably kept sealed or covered for the purpose of preventing evaporation) can be had, the specific improvements in that regard enabling the tank to be expeditiously uncovered; the further improvements relating to the bucket and comprising means for raising the handles or bails of each pail as the superposed one is removed, keeping the bail of the uppermost bucket elevated and in a position to

be readily grasped; and devices for nesting the buckets together so as to enable them to be inserted one within the other without binding, and enable them to be readily disengaged.

In the drawings I have shown an embodiment of my invention, and it will be plain from the description following, that the same can be practically carried out in other forms and ways without departing from the spirit thereof.

In the accompanying drawings, forming part of this specification—Figure 1 is a plan view of the containing tank and attached devices; Fig. 2, a sectional elevation of the same taken approximately on the line *x x*, Fig. 1, disclosing the interior of the tank, and the contained and superposed or nested buckets; Fig. 3, a plan view of one of the buckets enlarged; and Fig. 4, a sectional elevation of the same on the line *y y*, Fig. 3; Fig. 5, an enlarged perspective elevation of the tank covered, locking and freeing device.

Similar letters refer to similar parts throughout the several views.

In the drawings 1 is the tank constructed in any desirable way, either rectangular or cylindrical in shape, and of suitable proportions, to which at the top thereof is hinged a cover 2 by the hinges 3 secured alike to the cover 2 and to the tank by bolts, rivets, or otherwise.

I prefer that the water or other liquid used for extinguishing the fire should be preserved at a constant level, and to indicate this level I use a common form of float which passes up through the cover 2, and which may have thereon figures, &c., to indicate the height of the water in the tank. The cover 2 has a bushing of angle iron 4 secured to its under side continuous with the sides of the tank and within the same to strengthen the cover and prevent it from moving laterally. This, however, is not essential. A service pipe 6 may enter the tank at any desired point; and an overflow 7 located at any suitable position may also be inserted, as well as a flushing pipe 8, these being preferably located as shown. A ball float may be employed, as usual, to shut off supply of water when a proper level has been reached.

For keeping the cover locked down upon

the top of the tank, and also for the purpose of enabling the cover to be freed expeditiously, I employ the following means: Upon the cover 2 is secured the striker bar 9, the forward portion of which, 10, is reduced in diameter and extends over the edge of the cover and tank, and is bent into the segment of a circle forming a tongue. To the side of the tank are secured, in any suitable way, two bearing pieces 11 which either may be made separate as shown or cast integral, from the bearing arms 12 of which extends a pivot pin 13, which pin supports the freeing latch which comprises the hub 14, (Fig. 5) handle 15, and yoke 16, all in one piece.

As shown in side elevation in Fig. 2, the yoke 16 extends from the handle 15 at right angles, so as to cause the tongue 10 of the striker bar to lie within it, the curve of the tongue being struck from the fulcrum of said latch, preferably, although these parts need not bear such relation of necessity. It will thus be seen that if the handle 15 is moved downward toward the side of the tank, the yoke 16 will clear the tongue 10, leaving the cover free to be vibrated on its supporting hinge to uncover the same. To do this I have weighted or overbalanced the cover at its hinged end, so that it will be moved quickly up, uncovering the tank to permit the buckets to be withdrawn. To this end I have secured the bar 17, having the arms 18 extending rearwardly and without the side of the tank, by the straps 19 which are fast to the cover 2, and upon the ends of the arms 18 I mount weights 20 adapted to be secured to said arms at any point of their length by the set screws 21. It will thus be seen that the weights keep the tongue 10 of the striker bar and the yoke 16 firmly united together, and that when these parts are freed, as before described, the weights 20 will vibrate the cover on its supporting hinges, exposing the buckets in the tank.

The movement of the cover 2 can be limited, and the momentum of the weights and their supporting arms checked by stops 22 secured at any suitable point on the side of the tank, so as to engage the arms 18, limiting the movement of the cover, and which will hold it open at the desired angle. If desired, the stops 22 can be cushioned with rubber or the like to absorb the impact of the arms thereon.

So far as devices for covering or uncovering the tank, and for controlling the movement of such cover are concerned, I do not limit myself to the construction shown herein for accomplishing those ends, but prefer their use, as they carry out the object hereinbefore set forth.

The main part of my invention will now be described. Buckets 23 of the usual form are shown in Fig. 2 as being nested or superposed one within and above the other, the bottom one resting on the bottom of the tank. I have shown but one series herein, but it is clear

that the floor or supporting space of the tank can be used for supporting an indefinite number of series, one series being sufficient to illustrate my invention. It is desirable that the buckets be supported one within the other, so that the outside of one bucket will not lie flush against the inner surface of the bucket below it, but that the bucket should be distanced apart, so as to leave a space between them, as shown in dotted lines in Fig. 2. For this purpose I employ the angular lugs 24 secured to the inside of the bucket a suitable distance above the bottom 25 thereof, so that when one bucket is placed within the other the inner and outer diameters of the buckets will not be flush, thus preventing them from binding together, and enabling the water or other fluid to pass into each bucket partially filling it, and preventing the entire series of buckets being lifted by the upper one through suction. Instead of the individual lugs 24 a continuous ledge could be used which would answer the same purpose, and other devices for keeping the buckets separated could be adopted.

One of the main requisites of a device of this character is that when emergency requires immediate action, all of the parts should be adapted to act with accuracy and expedition. To this end I have weighted and balanced the bails or handles of the buckets so that the bail of the top one will be presented upward in a position ready to be grasped to pull the bucket from the tank. The bail 26, which is of the usual form, except as modified herein, is secured by the pins 27 pivotally to the standard 28 which in turn is secured to the bucket at the top thereof, as shown in Figs. 3 and 4, the bail being provided with an eye 29, through which the pin 27 passes. The bail is extended beyond the eye 29 into an arm 30 which is bent outwardly at 31 to clear the side of the bucket, which arm carries a movable weight 32 adapted to be secured to said arm adjustably in relation to the fulcrum thereof by the set screw 33.

By reference to Fig. 2 it will be seen that the weights 32 keep the bail 26 extended upwardly, and that the bails on the buckets lying below the top one are vibrated downwardly, and are prevented from rising upwardly by coming in contact with the superposed bucket, so that as each bucket is withdrawn from the nests the weights move the bails of each succeeding bucket into position which the uppermost one occupies in that figure, successively presenting the bails in such a position that the buckets can be expeditiously withdrawn. As each bucket is withdrawn it reduces the water level in the tank to an amount equal to the containing capacity of the withdrawn bucket and the previously displaced area in the bucket lying below it, and so on, *ad infinitum*, so that if there is not a constant supply of water, the quantity in the tank should be such as to fill the lower bucket

of the series after the superposed buckets have been withdrawn.

As my invention broadly stated consists in a receiving tank, a series of nested or superposed buckets, the tank having the containing capacity sufficient for filling each and every bucket when withdrawn successively and means for automatically raising the bails of each individual bucket, I do not limit myself to the details of construction shown and described herein, but as the embodiments of the various parts of this invention all conduce to the expeditious use of its main feature I desire to have them included as a part of the present invention.

It is essential that the buckets be preserved in a submerged condition, and to accomplish this I can either make the buckets of metal, or of wood and weight them, or hold them submerged by some suitable catch or detaining device. I have found, however, that by making the buckets of metal they keep their position in the tank without being weighted.

Having described my invention, I claim—
1. The combination of a containing tank with a series of nested buckets or pails, each pail having an inflexible bail for withdrawing it, and means, common to each pail and entirely independent of the tank or its fittings, for causing the bail of the uppermost bucket to assume a perpendicular position and stand above the bucket, substantially as described.

2. In a fire extinguisher, the combination of a fluid containing tank and a series of tapering pails telescoped one within the other and adapted to be wholly submerged in the fluid in the tank, each individual pail having bails terminating in weighted ends, each pail being adapted to be individually removed filled with the fluid and the bails thereof to assume a perpendicular position as the superposed pail is removed, substantially as described.

3. The combination of the nested buckets, with a pivoted bail for each bucket the bail having a weight located beyond its fulcrum, the bails being of a height less than the top of the next superposed bucket, whereby any one of the buckets will arrest the upward

movement of the bail secured to the bucket next below it, substantially as described.

4. The combination with the containing tank, of a series of nested or telescoped buckets within the tank each bucket having a bail, weights on the bails whereby each bail is automatically presented upward, a cover held down on the tank against the stress of a weight or spring, and means for holding the cover down and freeing it comprising a freeing latch and a tongue, substantially as described.

5. The combination in a plurality of nested buckets, each bucket having a bail, weights on the bails whereby each bail is automatically presented upward, of means for sustaining the bottom of each bucket above the bottom of the next lower one, such means being affixed to the underlying bucket, and which is adapted to leave a free and clear space between the bottoms of all the buckets and their sides, substantially as described.

6. The combination with a containing tank, of a series of nested or telescoped buckets, the lugs 24 for maintaining a free and clear space between the bottoms of the buckets while so nested, and the weighted bails or handles adapted to rise above the bucket as each one is removed, substantially as described.

7. The combination with a containing tank, of a series of nested or telescoped buckets within the tank which are adapted to be successively and individually withdrawn filled with liquid, a hinged cover for the tank placed under the stress of a weight or the like, and a confining latch comprising a pivoted handle and curved tongue and operating both to compress the cover down on the tank, and to free the cover and permit the weight to vibrate it by a single movement of the handle of the latch, substantially as described.

Signed at New York, in the county of New York and State of New York, this 16th day of December, 1892.

ARTHUR G. LEONARD.

Witnesses:

HUGH F. HENRY, Jr.,
HENRY B. WHIPPLE.