

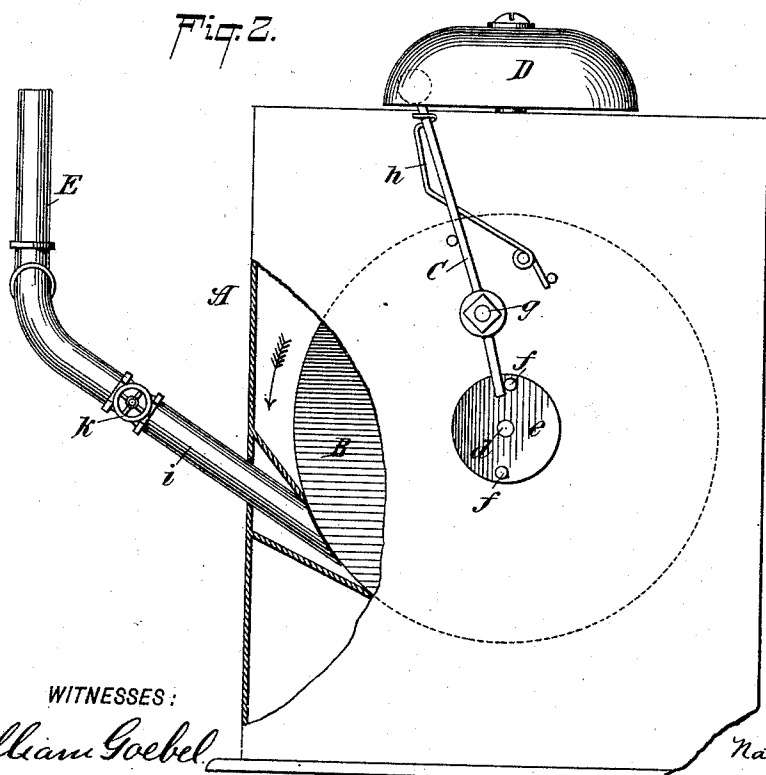
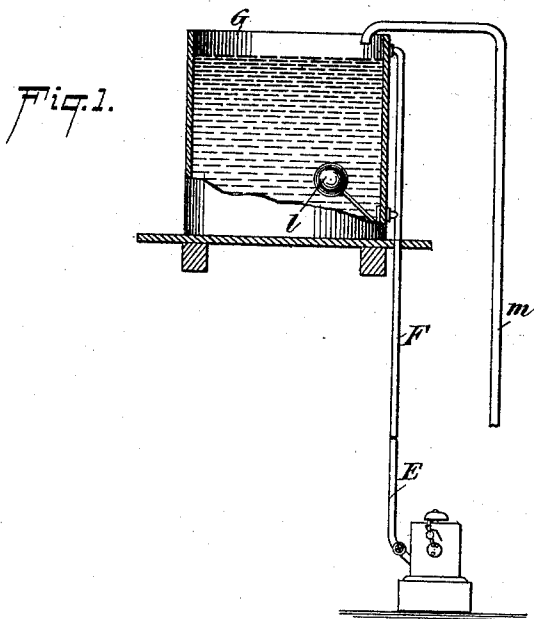
(No Model.)

2 Sheets—Sheet 1.

N. RUBENSTEIN.
AUTOMATIC ALARM.

No. 476,217.

Patented May 31, 1892.



WITNESSES:

William Goebel
Ruben S. Lind.

INVENTOR

Nathan Rubenstein

BY

George Cook
ATTORNEY.

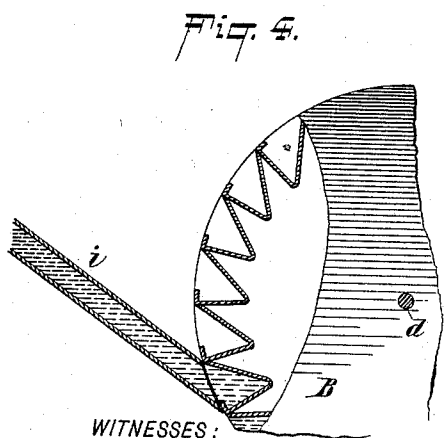
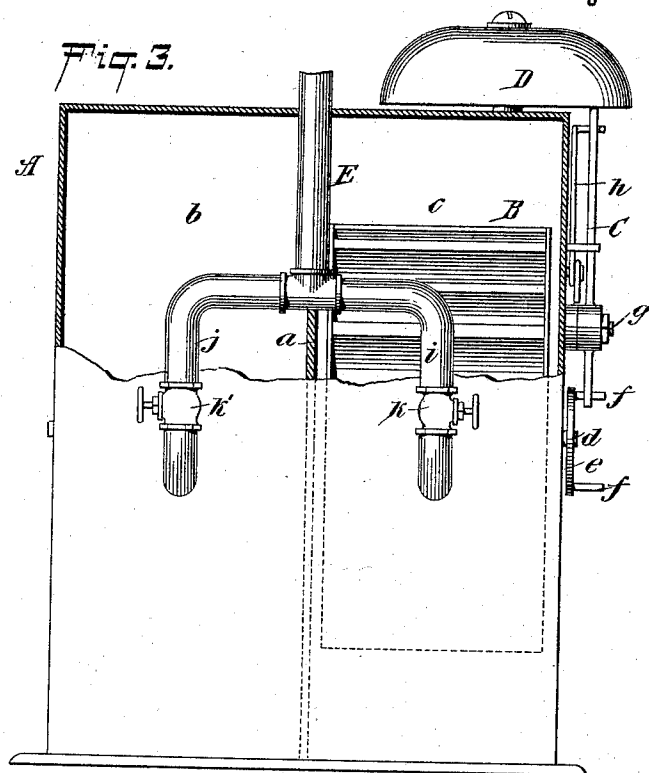
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2 Sheets—Sheet 2.

N. RUBENSTEIN.
AUTOMATIC ALARM.

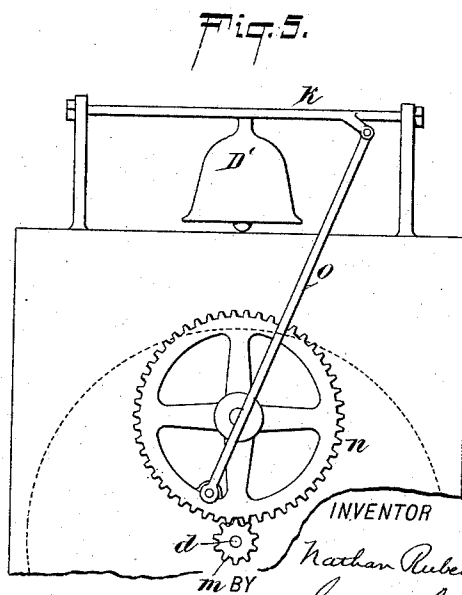
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UNITED STATES PATENT OFFICE.

NATHAN RUBENSTEIN, OF NEW YORK, N. Y.

AUTOMATIC ALARM.

SPECIFICATION forming part of Letters Patent No. 476,217, dated May 31, 1892.

Application filed January 6, 1892. Serial No. 417,214. (No model.)

To all whom it may concern:

Be it known that I, NATHAN RUBENSTEIN, a subject of the Czar of Russia, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Automatic Alarms, of which the following is a specification.

My invention relates to automatic alarms. It is well known that in instances where the pressure of water from a reservoir is low it is necessary in the case of tall buildings to pump the water into a tank located in the upper part of the building, generally upon the roof, in order to obtain a circulation of the water through the building. In filling this tank with water the engineer or operator often resorts to guess-work to ascertain when the tank is full, and it not infrequently happens that the tank is filled to overflowing and in other cases only partially filled. Again, in cases where an overflow-pipe is provided it often happens that a great quantity of water is wasted before the engineer is aware of the fact that the tank is filled.

The object of my invention is to provide an automatic alarm located in the cellar or basement in close proximity to the pump, which will indicate to the engineer when the tank is filled and also when the water is low in said tank and the latter needs filling.

With these ends in view my invention consists in certain novel features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view showing the relative arrangement of the several parts. Fig. 2 is a side view of my improved device, a portion of the casing being broken away. Fig. 3 is a front view thereof. Fig. 4 is a detail view. Fig. 5 is a view of a modification.

A represents a casing made of wood or metal, having a central partition *a*, closing the two compartments *b c*.

In the compartment *c* is located a small water-wheel B, secured to the shaft *d*, one end of which is mounted in a partition *a* and the other end mounted in and passing through the side of the casing A. To the outer end of this shaft is secured the disk, *e* having

formed or secured thereon the lateral studs or projections *f*, which, when the disk is revolved by the turning of the wheel B, strike the lower end of the bell-hammer C, mounted on the arm or stud *g*, secured to the casing, the upper end of said hammer in turn striking the gong or bell D, secured to the top of the casing, a spring *h*, secured to the casing, being provided for engaging and operating the hammer C in a manner well understood.

E represents a bifurcated pipe, one arm *i* of which leads to the wheel B and the other arm *j* into the chamber or compartment *b*, which latter is connected in any suitable manner to a drain or waste pipe, (not shown,) each of said arms *i j* being provided with a valve *k k'*, respectively. The pipe E is connected by a hose or in any other suitable manner to the overflow-pipe F, leading from the upper part of the tank G, Fig. 1, said pipe F also communicating with the lower part of the tank, said communication being controlled by a valve automatically operated by the ball or cylinder *l*. It will now be understood that after the tank has been filled through the inlet-pipe *m*, leading into the top of the tank, the overflowing water will pass down through the pipes F E, and, the valve *k'* being closed and the valve *k* being open, will strike the wheel B, and the latter, being revolved by said descending water, will, as before described, cause the bell or gong D to be sounded, and thus notify the engineer of the fact that the tank has been filled.

To discharge the overflow-pipe F of its contained water without continuously ringing the bell D, it is simply necessary to close the valve *k* and open the valve *k'*, and thus turn the water through the arm *j* into the compartment or chamber *b*, from which it passes away into a drain or waste pipe. After the water in the tank G has fallen to a certain extent the ball or cylinder *l* operates to open its valve, and thus allow a certain quantity of water to pass from said tank down through the pipe F and through the pipe E to the wheel B, as before described, and thus notify the attendant that the water on the tank is low and that the latter needs refilling.

It will be obvious that many slight changes might be made in the arrangement and con-

struction of the several parts of my improved device, as—for instance, instead of the ringing mechanism above described a pinion *m'* might be secured to the shaft *cl* and meshed with a pinion *n*, mounted on a stud *g*, and to which might be pivoted the pitman *o*, the latter being connected with the rocking-chair *p*, mounted in standards secured to the top of the casing and having secured thereto the bell *D'*, as shown in Fig. 5. It will be readily understood that this arrangement of parts will operate to sound an alarm, as in the case of the mechanism first described, and as other changes might be made therein I do not limit my claims to the precise construction as shown and described; but

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a tank or reservoir having an outflow-pipe leading therefrom at the top and connected thereto by a branch pipe at the bottom and a float within the tank which operates a valve when the water has fallen to a certain extent to permit the outflow of water into said pipe, of a water-wheel arranged to be operated by the water descending through said pipe and an alarm connected with said wheel and operated thereby to indicate when the reservoir is nearly empty or also when it has been completely filled, substantially as described.

2. The combination, with a tank or reservoir having an outflow-pipe leading therefrom, of a casing having two compartments which are entered, respectively, by branch pipes of the overflow-pipe, said branches being provided with valves, a water-wheel in one compartment, and an alarm connected with said wheel and operated thereby to indicate the

condition of the water in the tank, substantially as described.

3. The combination, with a tank or reservoir having an outflow-pipe leading therefrom at the top and connected thereto by a branch pipe at the bottom, of the casing having two compartments, which are entered, respectively, by branch pipes from the overflow-pipe, said branches being provided with valves, a water-wheel in one compartment arranged to be revolved by the water from the said pipe, a disk secured to the shaft of said wheel, and engaging with a bell-hammer to sound an alarm when said wheel is revolved, substantially as described.

4. The combination, with a casing divided into two compartments, of a water-wheel located in one of said compartments, the other compartment being a waste or drain compartment, an outflow-pipe from a tank or reservoir, the branches of which pipe enter the two compartments, respectively, and are provided with valves to control the passage of the water therefrom into the said two compartments, one of said branches at times discharging water to operate the water-wheel and the other at times discharging its waste water into the waste-compartment, a disk secured to the shaft of said water-wheel, a bell or gong on the casing, and a bell-hammer engaging with said bell and said disk, substantially as described.

Signed at New York, in the county of New York and State of New York, this 23d day of December, A. D. 1891.

NATHAN RUBENSTEIN.

Witnesses:

GEORGE COOK,
WILLIAM GOEBEL.