No. 710,230. Patented Sept. 30, 1902.

J. H. WILSON.

PAIL FILLING AND INDICATING DEVICE.

(Application filed Nov. 14, 1898.)

(No Model.)

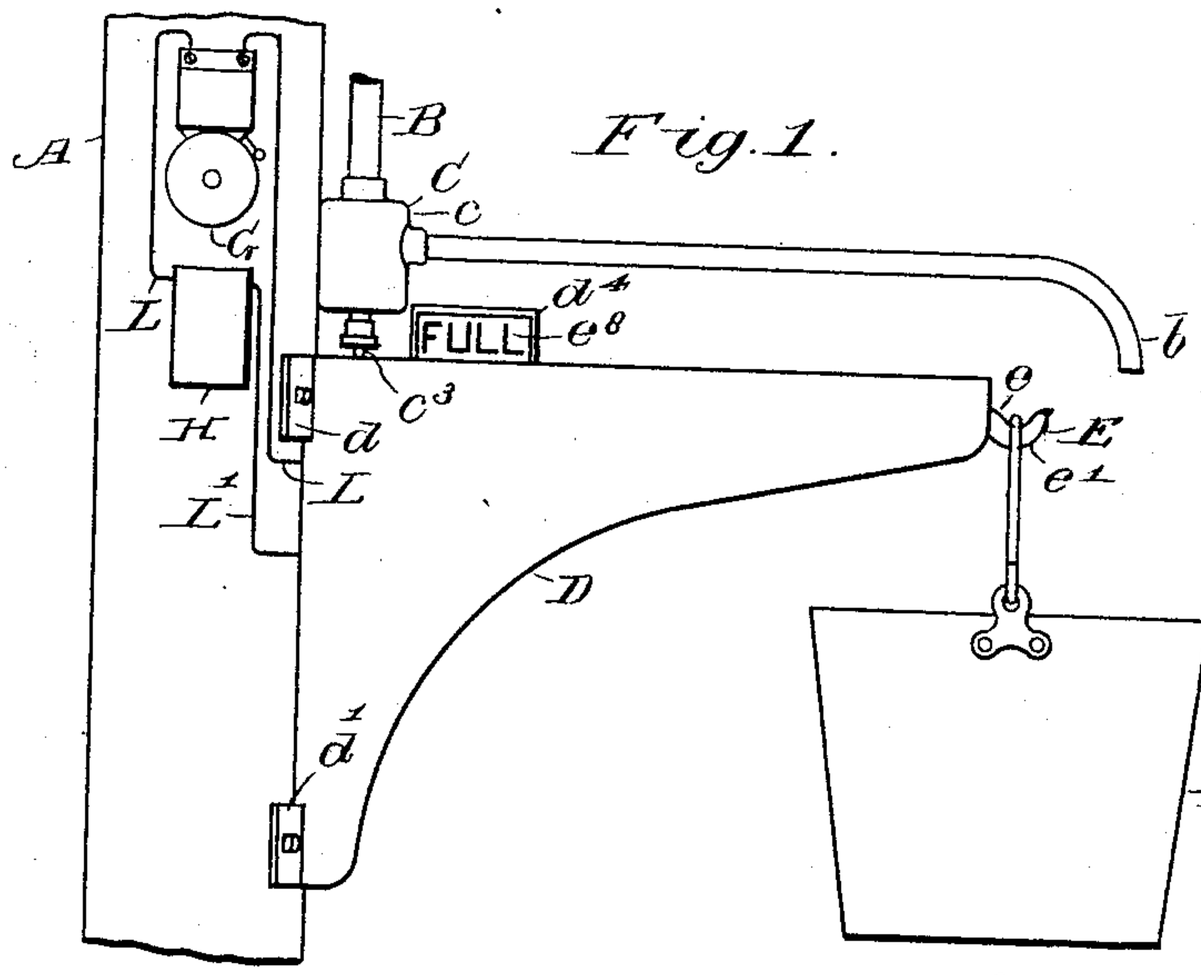

Fig. 1.

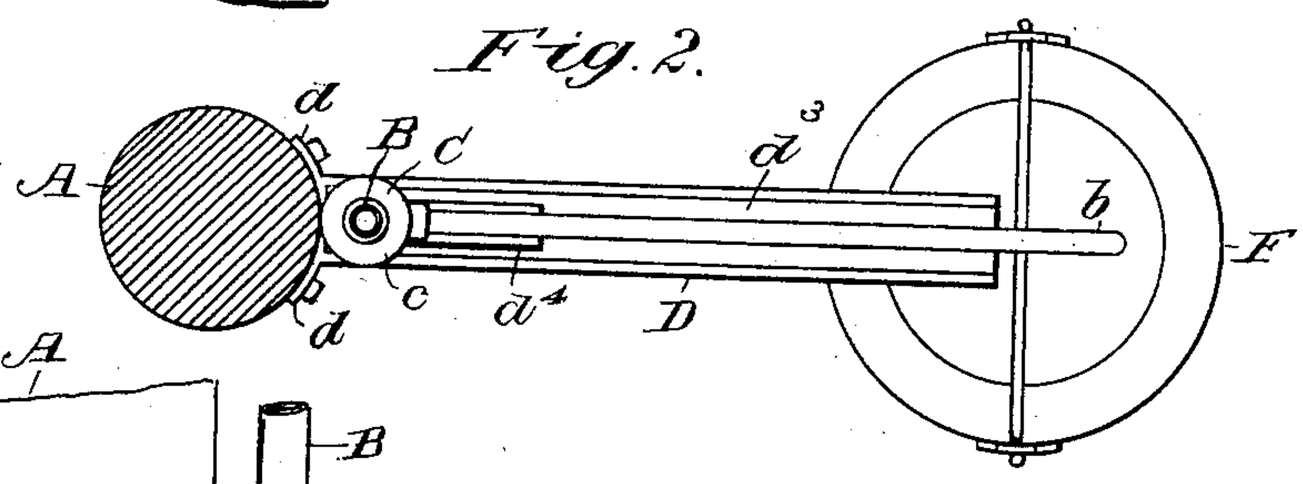

Fig. 2.

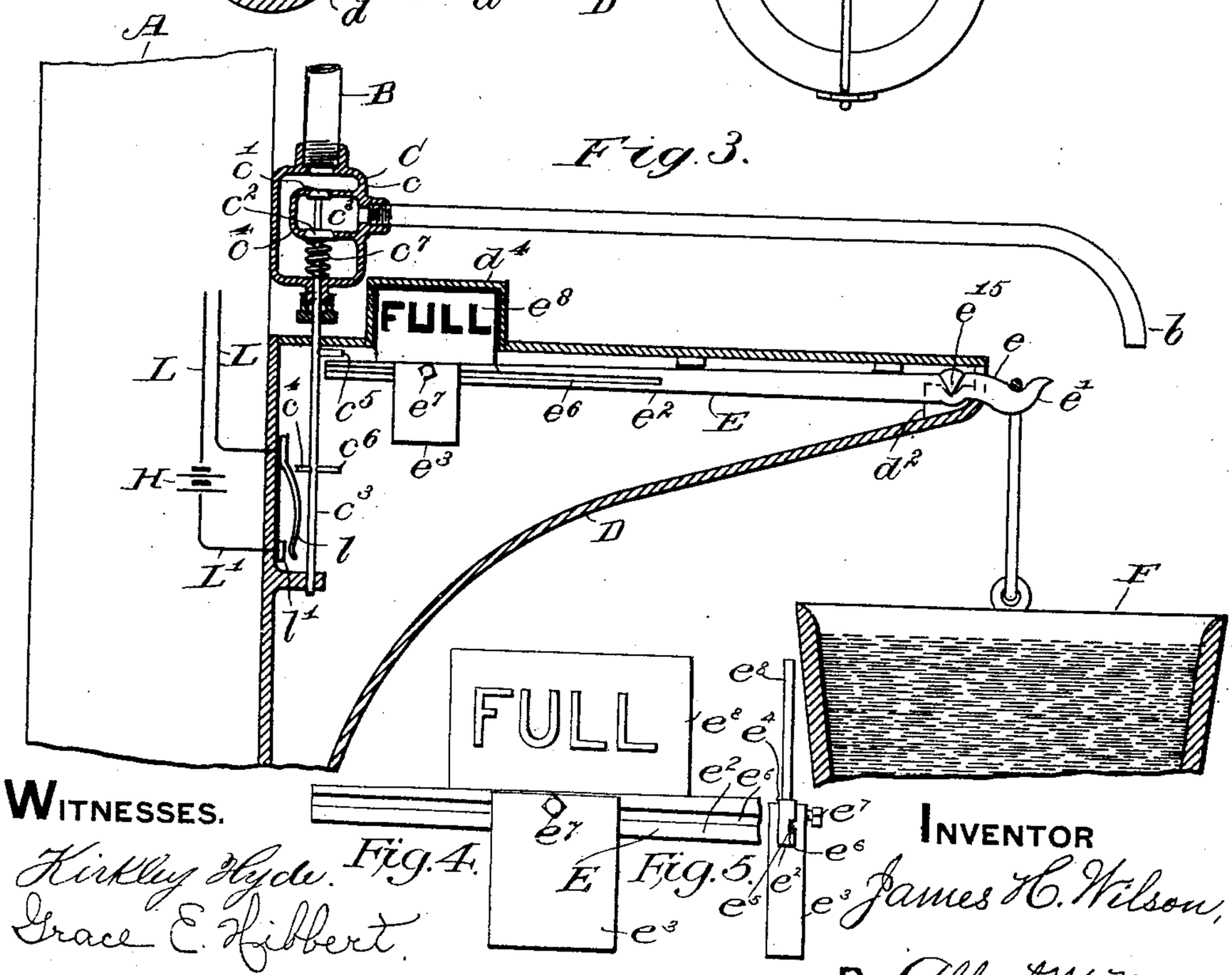

Fig. 3.

Fig. 4.

Fig. 5.

WITNESSES.

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UNITED STATES PATENT OFFICE.

JAMES H. WILSON, OF LOWELL, MASSACHUSETTS.

PAIL-FILLING AND INDICATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 710,230, dated September 30, 1902.

Application filed November 14, 1898. Serial No. 696,336. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. WILSON, a citizen of the United States, and a resident of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Pail-Filling and Indicating Devices, of which the following is a specification.

My invention relates to pail-filling and indicating devices.

It is customary in factories and large workshops to distribute fire-pails throughout the rooms at convenient intervals, and these fire-pails are supposed to be filled with water in order to enable the operatives to extinguish incipient conflagrations before the automatic sprinklers are set in operation by the rise of temperature and before the getting ready of more or less complicated fire-extinguishing apparatus. Such fire-pails are required by the rules of most factory-insurance companies to be kept on hand and to be kept filled. In order that the fire-pails may not be used as spittoons and as receptacles for refuse materials and that they may be out of the way they are commonly placed on hooks or shelves above the heads of the operatives, so that the amount of water in the pails cannot be determined without taking down the pails. Hence the pails are not properly inspected and when a fire breaks out are found to be in many cases nearly or quite empty, as from evaporation of the water or by the use of the water by the operatives for washing their hands and faces.

The main object of this invention is to keep the pails full and to furnish a means whereby overseers and inspectors may know whether the pails are full or not without removing the pails from their supports, while at the same time supporting the pails in a position higher than a man's head. This object I accomplish by the means hereinafter described, which comprise a supply-pipe having a suitable nozzle or discharge-orifice and a valve, in combination with means for supporting a fire-pail or similar receptacle below said orifice in such a manner that the weight of such receptacle and its contents when said receptacle is properly filled will operate to close said valve, and so that when an empty pail is properly so supported the water from said pipe flows into the pail until the weight of the pail and the contained water is sufficient to close the valve.

In practice I use a lever, one arm of which engages the stem of the valve and the other arm of which carries means of supporting the pail, and I prefer to inclose said lever in a suitable case and to provide said lever with a tag or indicator, which is concealed in the case when the pail is insufficiently filled or is removed from the lever, but which indicator is thrown into view when the lever is in the position it occupies when supporting a properly-filled pail. I use a weight partially to counterbalance the weight of the filled pail and to open and to hold open the valve until the pail is filled. I also provide an electric circuit which is closed by the opening of the valve, said circuit containing an audible alarm device, as a buzz-bell, which may be arranged in the same room with the other devices or in the office of the workshop or factory, so that a removal of the pail will immediately call attention and tend to prevent such removal.

Said invention consists in the devices and combinations hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of my improved device secured to a post; Fig. 2, a plan of the same, the post being in horizontal section; Fig. 3, an enlarged side elevation, the hollow bracket or case and the valve being in vertical longitudinal section and the buzz-bell being omitted; Fig. 4, a side elevation of the weight and a part of the lever provided with the indicating-tag to show the means of adjusting and securing the weight on the lever; Fig. 5, an end elevation of the lever, weight, and indicating-tag.

A indicates a floor-supporting post or other stationary object in a room; B, a water-supply pipe leading from any suitable source (not shown) and having a nozzle or discharge end *b*; C, a valve arranged between the body B of the pipe and the nozzle *b*, that represented being a balance-valve of well-known form having an outer case *c*, which communicates with the pipe B, and having two disks c' c^2 on the same valve-stem c^3, which close apertures of slightly-differing diameters in

an inner case c^4, which communicates with said nozzle b, all these parts being of any suitable usual construction and operation.

D denotes a hollow bracket or case having ears d d', secured by bolts or screws to the post A.

Within the case D is pivoted a scale-beam or lever E, having suitable pivots or knife-edges e^{15}, which rest upon bearings d^2 on the inner faces of the walls of said case D. The outer arm e, or arm farthest from the post A, projects from the case D and is provided with a hook e', upon which a fire-pail F may be supported. The inner or long arm e^2 of the lever E carries a weight e, which is adjustable on said lever in such a manner that when the pail F contains the proper amount of water the weight e^3 will be raised to its highest position. The weight is represented as slotted in the top at e^4 and as provided with a projection e^5, which enters a longitudinal groove e^6 in the side of the lever, allowing the weight to slide toward or from the fulcrum or knife-edges e. The weight after being properly adjusted to balance the pail and the desired amount of water therein is secured by a set-screw e^7, which turns in the side of the weight against the lever E, Figs. 3, 4, and 5. The arm e^2 carries a tag e^8, (which may bear the word "Full" or other suitable sign,) formed therewith or otherwise rigidly secured thereto, which tag is thrown up into sight when the pail is properly filled, but at other times is concealed within the case D.

The case D is provided with a top or cover d^3 to exclude flyings and dust, and this cover may have an upward extension d^4 to allow said tag to rise above the general level of the top of the case, and the front and back of this extension may be supplied with glass windows. The valve-stem c^3 extends down into the case and engages the arm e^2, said stem being provided with pins or projections c^5 c^6, arranged above and below the free end of said arm e^2, so that when said arm e^2 falls down upon the pin c^6 its weight opens the valve and allows the water to be discharged from the nozzle into the pail F, arranged on said lever immediately below said nozzle.

When the pail is full enough to raise the arm e^2 of the lever E, the valve C is closed by the expansion of the spring c^7 in the usual manner; but if the valve-stem should "stick" it will be raised by the arm e^2 striking against the under side of the pin c^5.

When the valve-stem descends, an electric circuit may be closed by the pin c^6 striking a spring l and pressing the same against a contact-spot l', said spring being connected by wire L through a buzz-bell G or other electrically-operated signal to one pole of a battery H and said contact-spot being connected by the line L' to the other pole of said battery.

I claim as my invention—

The combination of a supply-pipe, having a suitable nozzle, a valve, to close said pipe, having a stem provided with projections, a lever, having an arm, provided with means for supporting a vessel and with a heavier arm, the free end of which reaches between said projections and is adapted, when said vessel is empty, to strike one of said projections, to open said valve, and to be forced, by the weight of said pail and its contents, when said pail is properly filled, to strike the other of said projections and to close said valve, and an open electric circuit, containing a circuit-closer, adapted to be closed by said valve-stem, when said valve is opened, and a signal arranged in said circuit and operated by the closing of the same.

In testimony whereof I have affixed my signature in presence of two witnesses.

JAS. H. WILSON.

Witnesses:

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