

(No Model.)

W. LINCICUM & C. F. LEWIS,
SAFETY GIANT POWDER MAGAZINE.

No. 563,933.

Patented July 14, 1896.

Fig. 1.

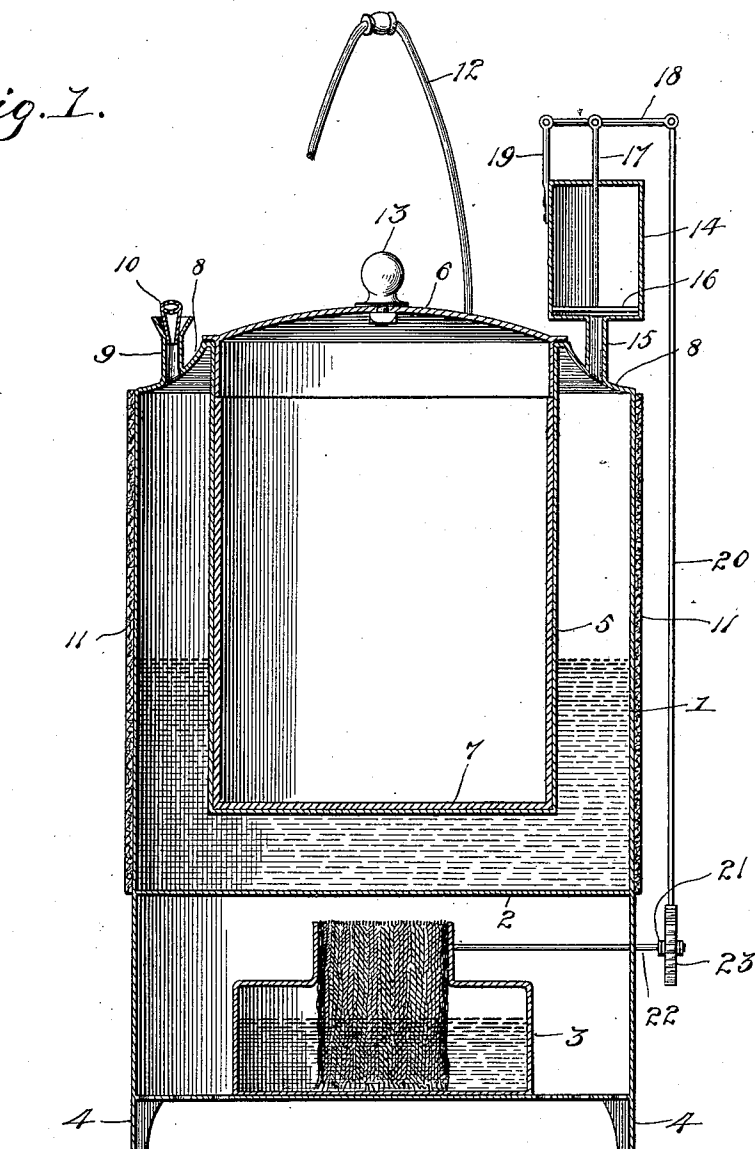
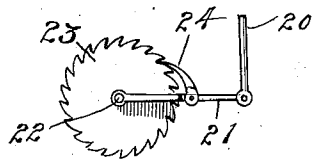


Fig. 2.



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WILLIAM LINCICUM AND CHARLES F. LEWIS, OF COLORADO CITY, COLORADO.

SAFETY GIANT-POWDER MAGAZINE.

SPECIFICATION forming part of Letters Patent No. 563,933, dated July 14, 1896.

Application filed January 28, 1896. Serial No. 577,186. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM LINCICUM and CHARLES F. LEWIS, citizens of the United States, residing at Colorado City, in the county of El Paso and State of Colorado, have invented a new and useful Safety Giant-Powder Magazine, of which the following is a specification.

This invention relates to an improvement in powder-magazines; and the object in view is to provide an efficient and reliable article of this character which is especially adapted to be used as a reservoir for giant-powder in sticks for preserving the same in condition for use and also for thawing the same out after it has become frozen and unfit for use.

One object of the invention is to provide the magazine with a safety attachment by which an audible alarm may be sounded or the heat cut off when the latter becomes dangerously high.

The invention consists in an improved powder-magazine embodying certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally pointed out in the claim hereto appended.

In the accompanying drawings, Figure 1 is a vertical section through the improved magazine constructed in accordance with the present invention. Fig. 2 is a detail elevation of a portion of the automatic wick-lowering mechanism.

Referring to the drawings, 1 designates a metallic vessel, constructed, preferably, in the form of an upright cylinder of any suitable diameter and height, and having arranged therein, at a suitable elevation, a horizontal partition or diaphragm 2. This diaphragm is perfectly air-tight, and within the lower part of the vessel, beneath said diaphragm, is arranged a lamp 3, the purpose of which will hereinafter appear. The vessel 1 is also provided at its bottom with three or more legs or feet 4, by means of which it is held out of contact with the ground when placed thereon.

Within the upper portion of the vessel 1 is an inner cylinder 5, of somewhat less diameter than the outer cylinder, so as to leave a surrounding annular space or jacket, adapted

to receive a supply of water. The bottom of this inner cylinder is also located at a slight distance from the horizontal partition or diaphragm 2, thus continuing the water jacket 55 or space beneath the bottom of the inner cylinder. This inner cylinder constitutes the reservoir or magazine in which the giant-powder is placed, and it is covered at its top by means of a lid 6, which is tightly fitted 60 therein, so as to effectively exclude the air and prevent the too rapid volatilization of certain components of the powder, which ordinarily causes the freezing of the same, even in mid-summer. In order to prevent the powder from coming in contact with the material 65 of which the magazine is composed, the inner cylinder 5 is lined with pasteboard or equivalent material, as indicated at 7. The inner cylinder is connected to the outer cylinder 70 and supported thereon by means of an upper annular wall 8, extending between the two, and is provided at a suitable point with an upwardly-projecting funnel-shaped mouthpiece 9, through which the supply of water 75 may be introduced into the water-space. This mouthpiece or nozzle 9 is provided with a metal stopper 10, which is provided with a whistle in its end, the same being adapted to be sounded by the escape of steam from the 80 water within the water-space upon the same becoming overheated, thus sounding an alarm and advising bystanders that it is necessary to turn off the heat. In order to guard against the too rapid cooling of the water, the outer 85 cylinder or vessel 1 is covered and entirely surrounded by one or more thicknesses of cloth, felt, or other material, as shown at 11. 12 designates a bail by which the vessel or magazine may be lifted and carried, and 13 90 a knob or button by which the lid 6 may be removed.

The magazine is also provided at its top with an extension in the form of a cylinder 14, communicating with the water jacket or space 95 by means of a neck 15. Within the cylinder a piston 16 is mounted to reciprocate, and the stem 17 of such piston extends upward and outward through the end of the cylinder, where it connects pivotally to a horizontally- 100 disposed lever 18, fulcrumed at one end upon a suitable support or bracket 19, preferably

attached to the cylinder. The piston 17 connects with lever 18 at a point intermediate the ends of the latter, and the outer end of the lever 18 connects pivotally to a vertical rod or connection 20, which extends downward and is connected to the outer swinging end of an arm 21, journaled at its other end on the stem 22 of the wick-raiser. Adjacent to the arm 21 and fast upon the stem 22 is a ratchet-disk 23, and the arm 21 carries a pawl 24, which at its swinging end engages the teeth of the ratchet-disk. In operation, when the water within the water-space of the magazine arrives at the boiling-point, the steam has the effect of lifting or reciprocating the piston 16. This causes the vibration of the lever 18, and through the rod 20 a corresponding vibration of the arm 21, the result of which is, through the interposed pawl 24, to revolve the disk 23 in a direction which will effect a lowering of the wick. This reduces the heat, and thereby effects a reduction in the temperature of the water.

From the foregoing description it will be seen that a very simple, efficient, and safe magazine is provided, in which a certain quantity of giant-powder may be placed and thawed or brought to the desired temperature for rendering the same fit for use. The thawing of the powder is accomplished so gradually that the danger of explosion is reduced to a minimum, and by the particular construction of the magazine it is impossible for the flame from the lamp to come in contact with the powder or even with the immediate vessel or cylinder in which the powder is contained. In the event of the water reaching the boiling-point the wick will be automatically lowered by the means especially provided therefor and above described. The device as constructed is particularly designed for miners and those working below the surface

of the ground, where powder of this character is especially likely to freeze.

It will be apparent that the magazine may be made in any size and that it need not necessarily be cylindrical in cross-section, but may have any convenient or preferred shape. It will also be apparent that other changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What we claim is—

In a powder-magazine, a shell or case divided into two compartments by an interposed partition or diaphragm, a powder-receptacle arranged within one compartment but separated from the outer shell so as to afford a surrounding and intervening water-space, a lamp located in the other compartment and having an adjustable wick and wick-raiser, a ratchet-disk fast on the stem of the wick-raiser, a steam-cylinder in communication with the steam-space between the outer shell and inner receptacle, a piston mounted to reciprocate in said cylinder, a lever arranged exteriorly of the cylinder and having the stem of the piston connected thereto, a connecting-rod extending from said lever to a second lever fulcrumed on the stem of the wick-raiser, and a pawl pivotally connected to the last-named lever and cooperating with the ratchet-disk on the wick-raiser stem, all arranged for joint operation, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM LINCICUM.
CHARLES F. LEWIS.

Witnesses:

C. E. CORPORUN,
E. A. BRACKETT.