W. T. WOOD.

Lamp-Extinguisher.

No. 160,499. Patented March 2, 1875.

Fig 1

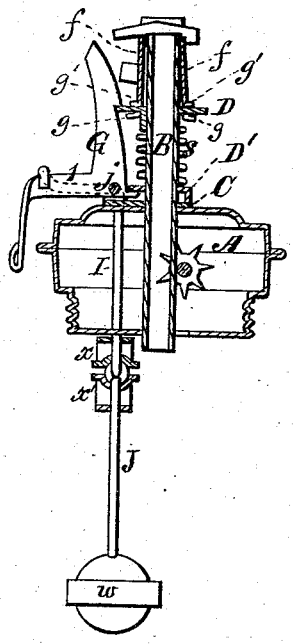


Fig 2

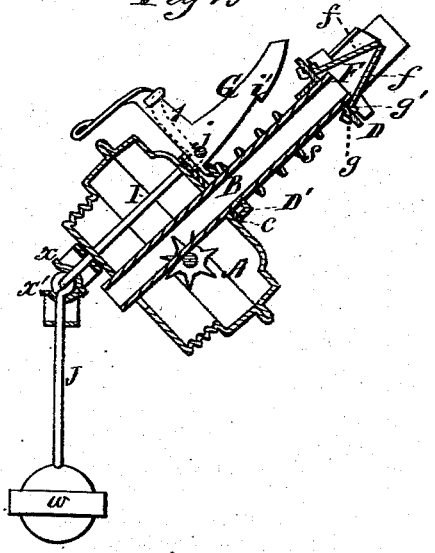
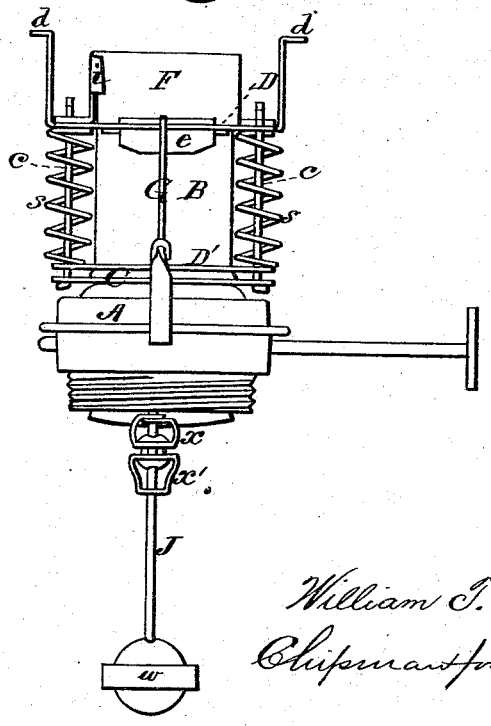


Fig 3



WITNESSES

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WILLIAM T. WOOD, OF MOUNT JULIET, TENNESSEE.

IMPROVEMENT IN LAMP-EXTINGUISHERS.

Specification forming part of Letters Patent No. **160,499**, dated March 2, 1875; application filed February 6, 1875.

To all whom it may concern:

Be it known that I, WILLIAM T. WOOD, of Mount Juliet, in the county of Wilson and State of Tennessee, have invented a new and valuable Improvement in Lamp-Extinguishers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figures 1 and 2 of the drawings are representations of vertical sectional views of my lamp-extinguisher, and Fig. 3 is a side view of the same.

This invention has relation to improvements in automatic lamp-extinguishers, which are designed to act automatically in putting out the flame of a lamp in the event of the casual upsetting of the latter; and the nature of the invention consists in the novel construction and arrangement, in connection with a wick-tube, of a sectional extinguisher-cap adapted to close over the upper end of the wick-tube, a slotted plate holding the cap fitting over the wick-tube, and vertically movable in a horizontal plane thereon, which plate is actuated by springs to extinguish the light, and is adapted to engage with a pivoted catch upon the screw-cap to hold the extinguisher-cap off from the wick, which catch is automatically detached from the plate by means of a weight pendent from the power-arm of the said catch within the body of a lamp, as will be hereinafter more fully explained.

In the annexed drawings, A designates an ordinary screw-cap adapted to be attached in the usual well-known manner to the body or oil-receptacle of a lamp. This cap is provided with a wick-tube, B, of the usual construction, through which the wick passes into the oil-cup of the lamp. C designates a slotted plate, which is passed over the wick-tube, and is rigidly secured to the upper surface of the screw-cap B, as shown in Fig. 3, and D D′ two other loosely-applied slotted plates arranged one above the other upon the said wick-tube, compressing between them helical springs *s*, coiled around the shank of two cross-headed guide-rods, *c*, which pass through the ends of the said plates, and are rigidly secured in any suitable manner to the fixed plate C. The upper plate D is provided with arms *d*, whereby it is conveniently manipulated for a purpose hereinafter explained, and it is also provided with a downwardly-projecting lug, *e*, which serves to guide it in its vertical movements upon the wick-tube. Plate D also serves as a carrier for a sectional extinguisher-cap, F, consisting of two interlocking plates, *f*, which are inserted into its slot at each side of the wick-tube, and are prevented from vertical displacement by means of lugs *g*, which are bent under the lateral bars of the said plate, as shown in Fig. 1. They are also given a degree of spring by means of a lug, *g′*, which is formed out of the body of the said interlocking plate, and bears down upon the upper horizontal edge of the said plate, as shown in Fig. 1. They are thus endowed with a degree of lateral play outwardly, with regard to each other, so that when plate D is thrust down they will be allowed to separate and allow the wick-tube to pass between them. Hence, when the plate D is relieved of the restraint thus applied, the reflex action of springs *s* will cause it to reascend the tube, and the elasticity of the lateral bars of the said plate D, acting upon lugs *g′*, will cause the jaws *f* of the extinguisher to hinge inward toward each other and close over the burning end of the wick, effectually cutting off the supply of air and extinguishing the flame. Jaws *f* are prevented from endwise relative displacement by means of lugs *i*, bent in opposite directions to each other, formed on one of the opposite edges of each jaw, as shown in Fig. 3. G designates a vertically-vibrating angular lever, pivoted at *j* to screw-cap A of the lamp, which lever has a notch, *i′*, cut into its inner edge, which will engage over the edge of plate D when it is thrust down, for the purpose of relieving the wick-tube of the extinguisher and holding it free therefrom, so that the wick may be lighted, and continue so as long as may be desired, a slight touch upon the power-arm 1 of this lever sufficing, however, to effect a disengagement of the said lever and plate, and cause the flame to be extinguished.

By this means a coal-oil lamp may be extinguished in an instant, mechanically, and parties using them will be prevented from pur-

suing the dangerous habit of blowing down the chimney for that purpose.

To render the extinguishing device thus described automatic in its action, in the event of the lamp being upset, I use the following devices, to wit: A rod, I, passing down through the screw-cap A, is hooked over the power-arm 1 of catch G, and is connected by a universal joint to a second rod, J, having a suitable weight, *w*, upon its lower end, as shown in Fig. 1. The lower end of rod I has a bell-shaped disk, *x*, loosely secured thereon, and abutting against the under side of cap A, and the upper end of rod J is also provided with a similar disk, *x'*, rigidly secured thereon, so that when the lamp is casually upset, rod J, preserving its vertical position under the attraction of gravitation, will have its disk brought into contact with the disk *x'* of rod I, finding a fulcrum thereon, and acting as a lever, will draw out rod I, thereby actuating lever G and effecting a disengagement of the same from plate D, allowing the latter, acting under the reaction of springs *s*, to be thrust upward, thus allowing interlocking plates *f* to close over the wick-tube and cut off the supply of oxygen from the flame, and causing its speedy extinguishment. This action of weighted rod J occurs at the moment that the lamp deviates from the perpendicular, before it strikes any object, so that in the event of the breakage of the lamp from such contact, the oil flowing from the fracture will not be ignited, thus effectually obviating a fruitful source of dreadful accidents; and, moreover, weight *w* on rod J, being within the lamp, will vibrate freely in any and every direction, rendering rod J at all times operative in its functions with absolute certainty, and the oil within the lamp, acting as a cushion, will prevent weight *w* from breaking the same—an event which is of frequent occurrence when the weight is on the outside of the oil-receptacle.

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

1. The combination, with the sectional interlocking jaws *f* of an extinguisher-cap and the wick-tube B, of the slotted plate D, guide-rods *c*, and springs *s*, substantially as specified.

2. The combination, with the guided and vertically-movable extinguisher-cap holder-plate D, operated to extinguish the flame by springs *s*, of the angular vertically-vibrating notched lever G, substantially as specified.

3. The combination, with the extinguisher cap-plate D, springs *s*, and holding-lever G, of the jointed rods I J, having each a bell-shaped attachment, *x x'*, and the latter a weight, *w*, upon the lower end, adapted to be received within the body of the lamp, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM THOMAS WOOD.

Witnesses:

W. B. VIRRETT,

J. H. OZMENT.