

(No Model.)

2 Sheets—Sheet 1.

C. H. BIGBY.  
TIME LAMPLIGHTER.

No. 578,282.

Patented Mar. 2, 1897.

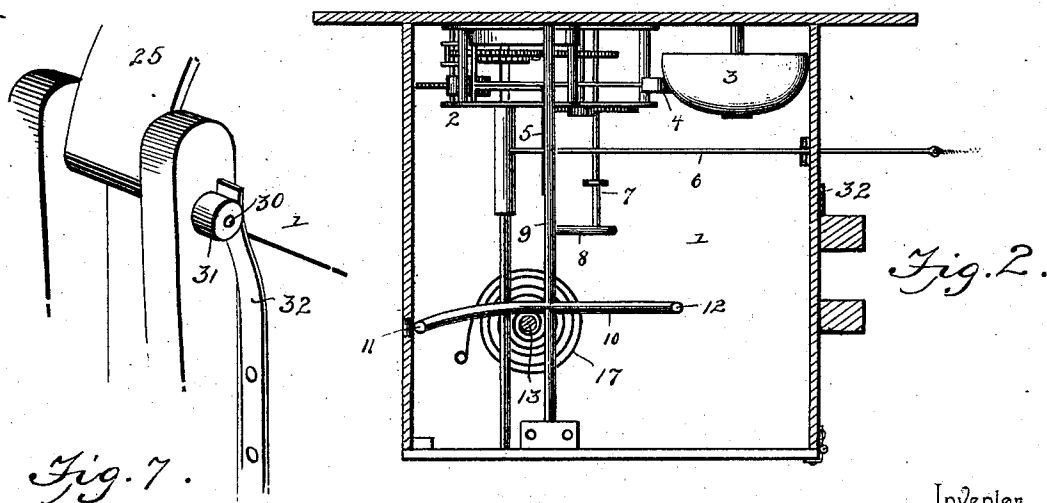
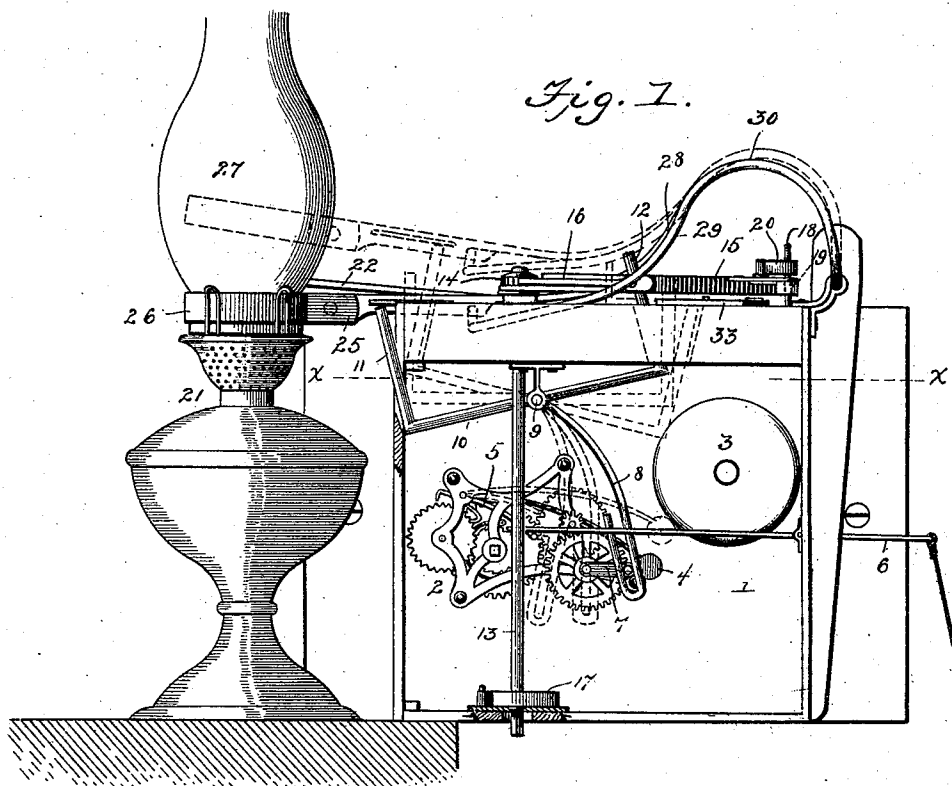


Fig. 1.

Fig. 2.

Witnesses

E. N. Monroe By his Attorneys,  
V. B. Hillyard.

Inventor  
Colquitt H. Bigby,

C. A. Snow & Co.

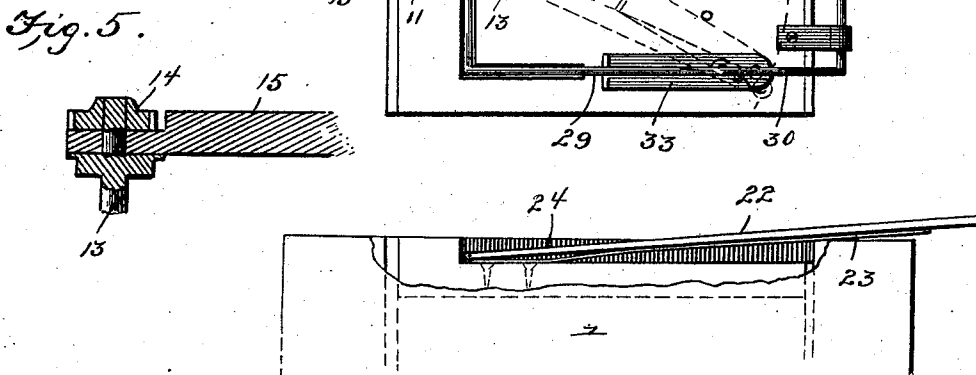
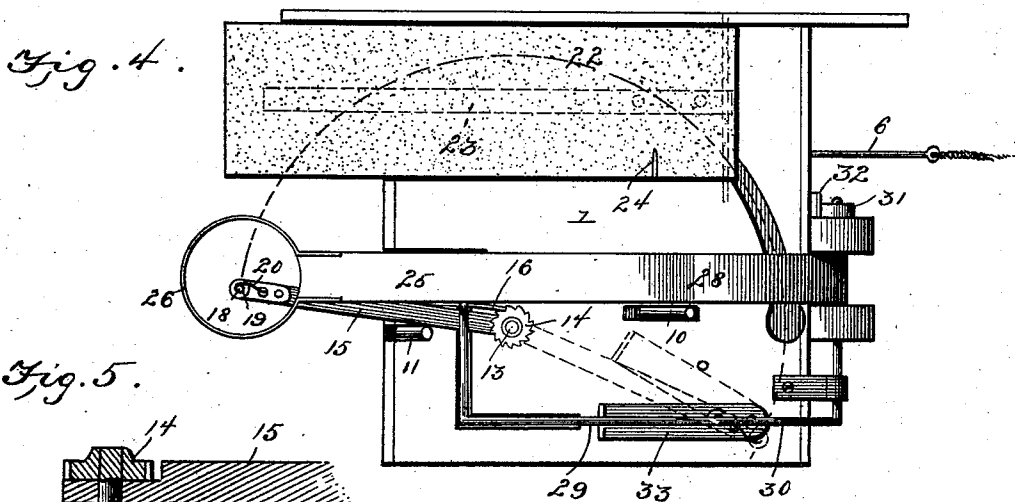
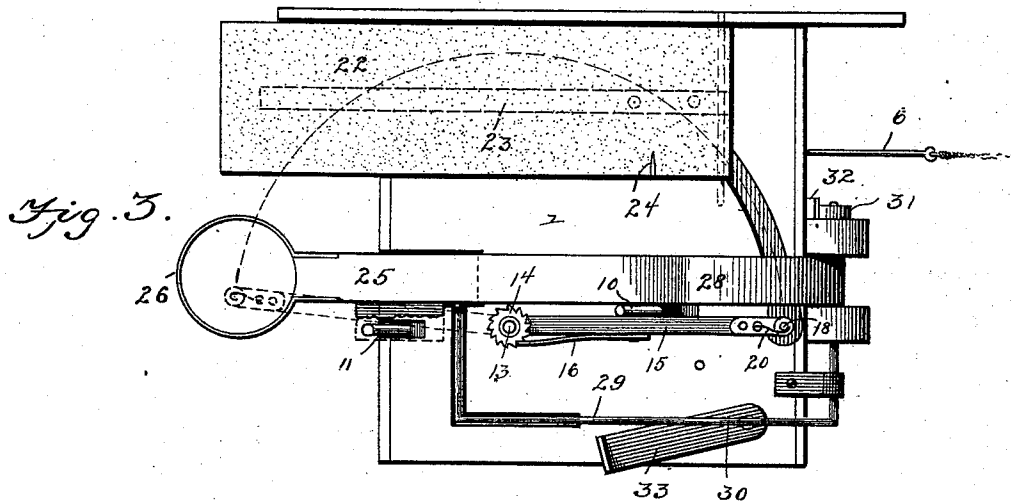
(No Model.)

2 Sheets—Sheet 2.

C. H. BIGBY.  
TIME LAMPLIGHTER.

No. 578,282.

Patented Mar. 2, 1897.



*Fig. 6.*

Inventor  
Colquitt H. Bigby

Witnesses

E. N. Munn  
V. B. Hillyard.

By His Attorneys,

C. A. Snow & Co.

# UNITED STATES PATENT OFFICE.

COLQUITT H. BIGBY, OF BOYD, ARKANSAS, ASSIGNOR OF ONE-HALF TO  
W. T. HUDGENS, OF SAME PLACE.

## TIME-LAMPLIGHTER.

SPECIFICATION forming part of Letters Patent No. 578,282, dated March 2, 1897.

Application filed November 27, 1896. Serial No. 613,598. (No model.)

*To all whom it may concern:*

Be it known that I, COLQUITT H. BIGBY, a citizen of the United States, residing at Boyd, in the county of Miller and State of Arkansas, have invented a new and useful Automatic Lamplighter, of which the following is a specification.

This invention relates to automatic lamp-lighting contrivances to be used in connection with a timepiece or clock movement of any pattern to release the operating mechanism at a predetermined time to effect the lighting of a lamp or other illuminating device. Combined with the igniting devices is an alarm mechanism which gives an audible signal to awaken the sleeper and give notice that the time for which the alarm was set has arrived.

Lamps are generally provided with chimneys to obviate smoking and increase the illumination, and in order that the apparatus may be used with lamps so equipped it is provided with a chimney-holder which is constructed either to hold the chimney elevated and lower the same after the lamp has been lighted or to elevate the chimney to permit the lighting of the lamp and subsequently place the chimney in proper position.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a side elevation of a lamp-lighting device constructed in accordance with this invention, the door being removed and parts of the casing broken away. Fig. 2 is a horizontal section on the line X X of Fig. 1. Figs. 3 and 4 show a top plan view of the apparatus and the match-carrying arm in different positions. Fig. 5 is a detail view showing the manner of loosely mounting the match-carrying arm upon its supporting-shaft. Fig. 6 is a detail view of the plate for igniting the match. Fig. 7 is a detail view of the brake

mechanism for controlling the descent of the chimney-holder.

Corresponding and like parts are referred to in the following description and indicated in the several views of the accompanying drawings by the same reference-characters.

The actuating mechanism is located within a box or casing 1 of suitable design and size to comfortably receive it and consists of a train of gearing 2 of ordinary construction, such as generally provided for the alarm mechanism for clocks and other timepieces. The alarm-bell 3 is sounded by means of a hammer 4, vibrated from the train of gearing in any of the usual ways, and the hammer has connected therewith an arm 5, which is engaged by means of a lever 6 when it is required to hold the train of gearing in check, and this lever 6 is thrown out of the path of the arm 5 by a clock or timepiece after the manner of releasing the usual alarm mechanism applied thereto. The train of gearing is spring-actuated and is wound in the manner generally required by the alarm mechanism of a timepiece, and when liberated the train of gearing is set in motion and sounds the alarm and operates the igniting devices. A crank 7 is connected with an arbor included in the train of gearing and operates in the space formed by bending the end portion of an arm 8, secured to a rock-shaft 9 and pendent therefrom. A rod 10 is secured about midway of its ends to the rock-shaft 9, and its terminal portions 11 and 12 are bent about at right angles and operate through openings in the top of the casing for the purpose presently to be described.

When the train of gearing is in operation, the rock-shaft 9 is oscillated in its bearings and the rod 10 is vibrated, so as to alternately project and withdraw the bent ends 11 and 12.

A shaft 13 is journaled vertically within the casing and its upper end projects beyond the top thereof and is provided with a ratchet-wheel 14 and carries an arm 15, which is loosely mounted thereon and is provided with a spring-dog 16, whose free end engages with the teeth of the ratchet-wheel 14, whereby the shaft and arm are caused to move together in one direction and whereby provision is had for turning the shaft in an opposite direction

without moving the arm for the purpose of winding a spring 17, of the volute type, having one end secured to the shaft and its other end to a part of the casing. The arm 15 carries a match 18, the latter being thrust through an opening 19, formed vertically in the outer end of the arm 15 and held therein by a spring 20, which bears laterally against the match and crowds it against the sides of the opening 19 with sufficient force to retain it in place under normal conditions. The bent ends 11 and 12 form stops to limit the throw of the arm 15, whereby the latter is prevented from swinging around in a circle and subserving no useful purpose. The inner stop 12 holds the arm 15 in a starting position and the outer stop 11 limits the sweep of the arm after the match has been ignited, so as to hold it in position to light the lamp 21. As the stop 12 descends, so as to release the arm 15, the stop 11 correspondingly rises, so as to engage with the arm 15 and properly position it for lighting the lamp.

A plate 22 has pivotal connection at one end with the casing and is formed on its top side with an abrading or roughened surface to ignite the match as the latter is swept thereover, and to insure frictional engagement between the match and the abrading surface of the plate the latter is slightly elevated at its free end by means of a spring 23, which latter yields as the match is swept over the plate. A pin or stop 24 limits the upward movement of the plate.

The chimney-holder consists of a bar 25, having a ring or band 26 at one end to encircle and grip the chimney 27 and having pivotal connection at its opposite end with the casing, and this bar is formed with an arch 28 at its pivotal end to afford clearance for the match 18 as the latter is swept by the holder to light the lamp. A wire 29 is attached to the bar 25 and extends laterally therefrom a short distance and is bent to extend parallel therewith and has an arched portion 30, corresponding to the arch 28, and the opposite end of the wire is bent at right angles and forms the pivotal support upon which the chimney-holder turns. A wheel 31 is secured to the projecting end of the wire 29 or to the pivotal support of the chimney-holder, and a spring 32 bears against the wheel 31 to prevent the too rapid descent of the chimney when the latter is lowering upon the lamp. A bracket-support 33 has pivotal connection with the casing and can be turned so as to come beneath the wire 29 and hold the chimney-holder and chimney elevated when the apparatus is set, so as to support the chimney at a distance above the lamp, and as the arm moves to a normal position after lighting the lamp it sweeps the bracket-support from beneath the wire 29 and permits the chimney-holder and chimney to descend, the parts being so arranged that the chimney will settle upon the gallery of the burner.

The stop 11 is so arranged as to engage

with the chimney-holder and elevate the latter and the chimney as the stop 12 descends to release the match-carrying arm 15. Hence when the match-carrying arm 15 is released the chimney is lifted, and as the arm swings around the match 18 is ignited by frictional contact with the abrading-surface of the plate 22 and is properly positioned by the arm 15 engaging with the stop 11, thereby igniting the lamp, and as the train of gearing continues to operate the stop 11 will be lowered and the stop 12 elevated, thereby releasing the match-carrying arm and lowering the chimney-holder and chimney, as will be readily understood.

Having thus described the invention, what is claimed as new is—

1. In a lamp-lighting appliance, the combination of a spring-actuated shaft, a match-carrying arm attached thereto, a rock-shaft provided with oppositely-disposed stops to alternately engage with the match-carrying arm and check its movement, and actuating mechanism for the rock-shaft, substantially as set forth.

2. In a lamp-lighting apparatus, the combination of a rotatable shaft, a match-carrying arm attached to the said shaft, a rock-shaft, a rod secured to the rock-shaft intermediate of its ends and having its terminal portions bent to provide stops, and actuating mechanism for operating the rock-shaft to alternately project and withdraw the said stops from the path of the match-carrying arm, substantially as specified.

3. In an apparatus for lighting lamps, the combination of a shaft, an actuating-spring having connection with the shaft for turning the latter, a ratchet-wheel applied to the shaft, a match-carrying arm loosely mounted upon the said shaft and provided with a dog to engage with the teeth of the ratchet-wheel, stops for limiting and properly positioning the match-carrying arm, and actuating mechanism for the stops to alternately project and withdraw them from the path of the match-carrying arm, substantially as set forth.

4. In an apparatus for lighting lamps, the combination with the igniting devices, of a chimney-holder, means for elevating and lowering the chimney-holder, a wheel applied to the pivotal or axial support of the chimney-holder, and a device engaging frictionally with the wheel for controlling the descent of the chimney-holder and chimney, substantially as set forth.

5. In an apparatus for lighting lamps, the combination of a match-carrying arm, stops for limiting the throw and properly positioning the match-carrying arm, a chimney-holder raised and lowered by means of one of the said stops, and actuating mechanism for moving the match-carrying arm and the said stops, whereby upon releasing the match-carrying arm the chimney-holder is elevated and the controlling-stop is projected across the path of the match-carrying arm, and whereby

upon releasing the match-carrying arm a second time after the lamp has been lighted the chimney-holder is lowered, substantially as set forth.

5 6. In a lamp-lighting apparatus, the combination of a match-carrying arm, actuating mechanism therefor, a pivotally-supported chimney-holder, and a bracket-support for holding the chimney-holder elevated and  
10 turned aside to permit the descent of the

chimney by means of the match-carrying arm, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

COLQUITT H. BIGBY.

Witnesses:

J. H. McLAIN,  
C. B. GARRISON.