

J. H. MORGAN, Jr.
AUTOMATIC SUPPORTING AND LOCKING DEVICE.

No. 455,547.

Patented July 7, 1891.

Fig. 1.

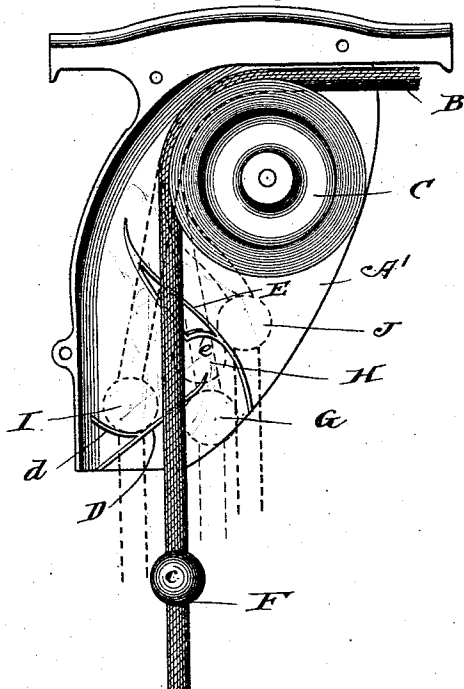
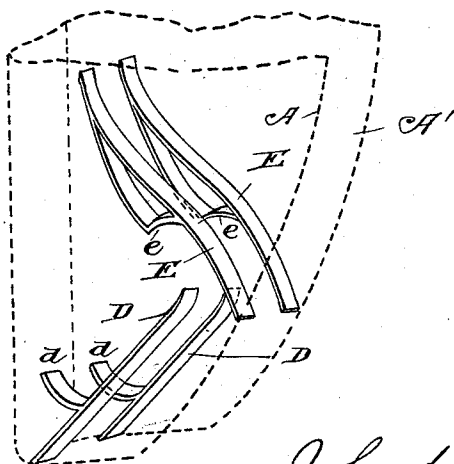


Fig. 2.



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(No Model.)

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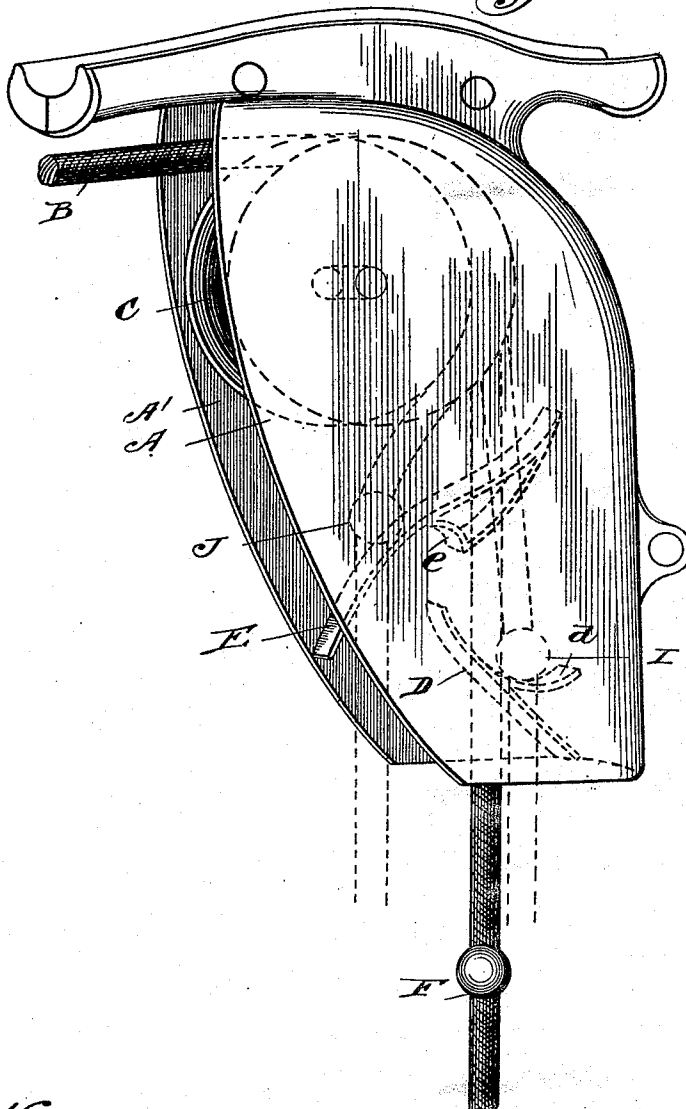
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Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN HENRY MORGAN, JR., OF CHICAGO, ILLINOIS, ASSIGNOR TO GEORGE CUTTER, OF SAME PLACE.

AUTOMATIC SUPPORTING AND LOCKING DEVICE.

SPECIFICATION forming part of Letters Patent No. 455,547, dated July 7, 1891.

Application filed January 24, 1891. Serial No. 378,879. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY MORGAN, Jr., of Chicago, Illinois, have invented certain new and useful Improvements in Automatic Supporting and Locking Devices, of which the following is a specification.

This invention relates to a device for supporting and locking objects—for example, electric lamps, &c.—wherein the supporting medium is a flexible cable running over a pulley or equivalent device supported by a frame or case, the cable having an end thereof secured with the lamp or other object to be supported and carrying a knob or enlargement adapted to engage guiding and supporting cam-surfaces on the case or frame, whereby a pull on the supporting-cable to elevate the suspended object causes the knob or enlargement to pass into position to enter a seat, and a second pull on the cable causes the knob to leave its seat and pass into a position to permit the suspended object to be lowered.

In carrying out my invention I employ by preference a frame or casing having a sheave or pulley journaled therein, over which is passed the supporting-cable, which has an enlargement, preferably in the form of a round knob or ball, thereon, the casing having openings on opposite sides of the pulley for the passage of the cable. On the interior of the walls of the casing and opposite each other are guiding and supporting cam-surfaces, which may be made integral with the case. These cams are arranged in two pairs, the members of each pair being of like configuration and the ends of the pairs separated to provide a passage between them for the knob, while the cable passes between their opposing faces. The upper pair is shouldered to provide a stop for the knob and the lower pair has a seat below the shoulder to receive the knob as it descends when the pull on the cable is released.

In the accompanying drawings, Figure 1 is an elevation of one-half of the supporting-case, showing the pulley and cams attached thereto, and showing also by full and dotted lines several positions of the cable and its knob. Fig. 2 is a perspective view showing the lower portion of the cam by dotted lines

and the cam-surfaces in full lines. Fig. 3 is a similar view showing a modified construction wherein only a single pair of cams is employed.

The casing is preferably cast in two parts A A' and has provisions for fixing it in an elevated position. The members when secured together inclose on two sides a space through which passes the cable B, which is conducted over a sheave C, journaled to the casing. This cable has the knob or enlargement *c* thereon, and it is intended that the vertically-depending end thereof shall be connected with the object to be supported, which may be an electric lamp. The opposite end of the cable may be made fast or depend so as to be reached for raising and lowering the object.

D D represent the members of the lower pair of cams, which are preferably cast integrally with the members of the casing. These cams project upwardly from the lower rear corner of the case and have on their rear sides the extensions *d d*, which form seats for the knob *c*.

E E are the upper pair of cams, whose lower ends project beyond the vertical plane of the upper ends of the cams D D, and said upper cams project upwardly and rearwardly near to the back of the case. They have on their lower sides the shoulders *e e*, which form stops for the knob *c*.

In operation an upward pull on the cable deflects it from the position marked F to that marked G, during which movement the knob *c* rides up on the inclined faces of the cams D. A continued pull on the cable causes the knob to pass between the ends of the pairs of cams and to come to rest against the shoulders *e*, that position being marked H. The cable being slackened, the knob drops down upon the extensions *d d*, the position being indicated at I. In this position the cable is supported by the knob resting on the extensions. When it is desired to release the cable again, it is pulled upwardly, the knob riding up the inclined face of the cams E, and after passing over the points thereof it slides down the upper sides thereof, as shown at J. Of course the space between the opposing edges

of the members of the pairs of cams D and E is such as to permit the cable to pass freely, but it is too narrow for the passage of the knob.

I do not limit my invention to precise details of construction, as the same may be varied as to structural features without departing from the scope thereof. Instead of employing the double cams, one member of each pair may be dispensed with, in which case the space between the remaining member and the opposite wall of the casing would be narrowed, so as to permit the passage of the cable and prevent the passage of the knob. This modified construction is shown in Fig. 3.

15 I claim—

1. A supporting and locking device comprising, in combination, a cable having an enlargement or knob thereon, a case or frame

having an anti-friction surface, over which the cable is passed, an inclined guide against which the knob is caused to impinge in its upward movement, a seat on the upper side of said guide, and a second guide above the first and angularly disposed with reference thereto and provided with shoulders to form a stop to arrest the upward movement of the knob, substantially as described. 20 25

2. A supporting and locking device comprising, in combination, the casing A A', cable B, having enlargement *c*, pulley or sheave C, 30 cams D, having seats *d*, and cams E, having stops *e*, substantially as described.

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Witnesses:

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