(No Model.)

T. H. HELLSTROM.

EXTENSION TUBE FOR LAMPS.

No. 478,325. Patented July 5, 1892.

Fig. 1.

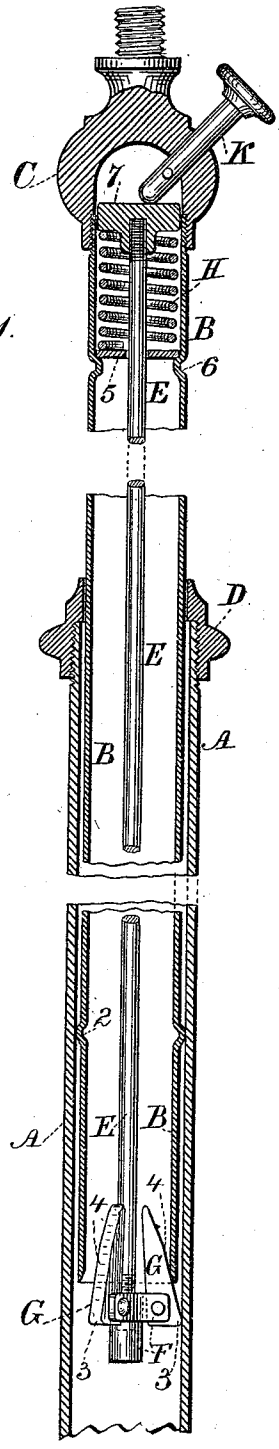


Fig. 3.

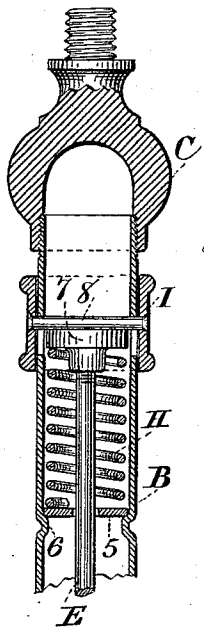
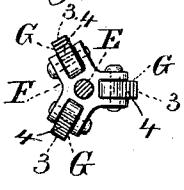


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

THEODORE HUGO HELLSTROM, OF NEW YORK, N. Y., ASSIGNOR TO THE PLUME & ATWOOD MANUFACTURING COMPANY, OF WATERBURY, CONNECTICUT.

EXTENSION-TUBE FOR LAMPS.

SPECIFICATION forming part of Letters Patent No. 478,325, dated July 5, 1892.

Application filed January 2, 1892. Serial No. 416,750. (No model.)

To all whom it may concern:

Be it known that I, THEODORE HUGO HELLSTROM, a subject of the King of Sweden and Norway, residing in the city and State of New York, have invented an Improvement in Extension-Tubes for Lamps, of which the following is a specification.

This invention is especially intended for standards that support lamps; but it might be availed of in supporting table-tops or other articles. It is common to employ one tube sliding telescopically within another and to employ a lever or locking device acting against the outer tube for sustaining the inner tube, and in extension-standards of this character a rod has been provided running longitudinally within the inner tube and acted upon by a spring in one direction and a sliding collar or incline in the other direction.

The present invention relates to wedge-acting levers, the short ends of which are thrown outwardly to press against the interior of the outer tube by the action of the end of the inner tube against the inclined surfaces of the levers and a spring that moves the inner tube, and the friction of such levers against the exterior tube increases the clamping action in proportion to the weight that is supported.

In the drawings, Figure 1 is a vertical section illustrating my improvements with portions of the tubes removed to show the operative parts more distinctly. Fig. 2 is a plan view of the clamping-levers detached, and Fig. 3 is a section of a modification in the relieving device.

The external tube A is to be of any suitable size, and it may be supported at the bottom by a foot or base of any desired character. (Not shown in the drawings.) The inner tube B slides within the tube A telescopically, and its upper end is provided with a cap C, adapted to receive and support a lamp or other article. The collar D is screwed upon the upper end of the tube A, and the tube B slides freely within the same, the peripheral rib 2 upon the tube B preventing such tube B from being drawn out through the collar D, which limits the upward movement of said tube B.

Within the tube B is a vertical rod E, at the lower end of which is a crown-piece F, having projecting jaws adapted for the reception of two or more levers G. It is preferable to use three of these levers. The toes or claws 3 of such levers are adapted to bear against the interior of the tube A, and the inclined or wedge surfaces 4 of such levers extend up within the lower end of the tube B.

When the rod E is pressed downwardly, the inclined or wedged surfaces 4 of the levers G are not acted upon and the claws 3 press lightly upon or swing away from the interior surface of the tube A, so that in this position the crown and levers can be moved freely up or down within the tube A; but when the rod E is lifted the inclined surfaces 4 of the levers G come against the interior surface at the lower edge and end of the tube B. Hence the claws 4 of the levers are thrown outwardly and bear firmly against the interior of the tube A, producing sufficient friction to sustain the inner tube and the lamp or other article supported by the same, and it will be observed that the weight of the article tends to throw the claws outwardly, the sustaining power thus being as great as the strength of the parts.

For moving the rod E longitudinally of the tube A any suitable devices may be employed. I prefer to use the spring H, above a washer 5, resting upon an inwardly-projecting rib 6 upon the tube B, and acting against the head 7 of the rod E as the means for raising this rod and bringing the claw-levers into action, and by pressing down the head 7 and rod E the parts are disconnected. To accomplish this latter object there may be a collar I around the tube B, with a cross-pin 8 through a slot, to act upon the head 7 to press such head downwardly and relieve the clamping action of the parts; but I prefer to employ a push-pin K, passing through the cap C diagonally and resting upon the upper surface of the head 7, such push-pin having an exterior head and a cross-pin within the cap to prevent the push-pin being disconnected.

It will be observed that by grasping the cap C and pushing with the thumb upon the pin K the clamping devices will be liberated and the lamp or other article upon the standard

can be raised or lowered, and as soon as the pressure upon the pin K is relieved the spring H brings the clamping device into action by raising the crown F and causing the inclines upon the levers G to throw out the claw portions of such levers into contact with the interior surface of the tube A.

In cases where the vertical rod has been pushed down by a horizontal cross-pin, with a wedge-recess, the pin has to be moved bodily and horizontally by the vertical rod against the incline of the pin, and the latter is liable to be held by the friction and prevent the clamp operating. By my inclined pin K acting directly on the head of the vertical rod this difficulty is obviated.

I claim as my invention—

1. The combination, with the tubes A and B, sliding telescopically, and the rod E, of a crown-piece attached to the lower end of the rod, levers pivoted upon the crown-piece and having projecting ends or claws and inclined surfaces within the lower end of the inner tube, and mechanism for giving motion to the rod to relieve the inclines of the levers from contact with the inner tube and to release the clamping action or to bring such levers into contact with such tube and cause them to clamp and hold against the exterior tube, substantially as set forth.

2. The combination, with the tube A, of the tube B, sliding telescopically within the same, the cap C and collar upon the upper end of the tube A, the rod within the tube B, and a clamping device for engaging the inner surface of the exterior tube, a spring for moving the rod longitudinally to engage the clamping device, and a push-pin passing through the cap in an inclined position and acting at its lower end against the upper end or head of the rod, substantially as set forth.

3. The combination, with the external tube A, of the tube B, sliding telescopically within the same, a collar at the upper end of the tube A, a cap at the upper end of the tube B, a longitudinal rod E within the tube B, a crown at the lower end of such rod, wedge-levers pivoted to the crown and passing within and acted upon by the lower end of the inner tube to clamp the inner surface of the outer tube, a washer supported by an inwardly-projecting rib upon the tube B, a spring acting between the washer and the head of the rod for raising such rod and actuating the clamping device, and means for moving the rod downwardly to liberate the clamping device, substantially as set forth.

Signed by me this 26th day of December, 1891.

THEODORE HUGO HELLSTROM.

Witnesses:
GEO. T. PINCKNEY,
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