J. T. BRUEN.

EXTENSION-CHANDELIER.

No. 191,399. Patented May 29, 1877.

Fig. 1.

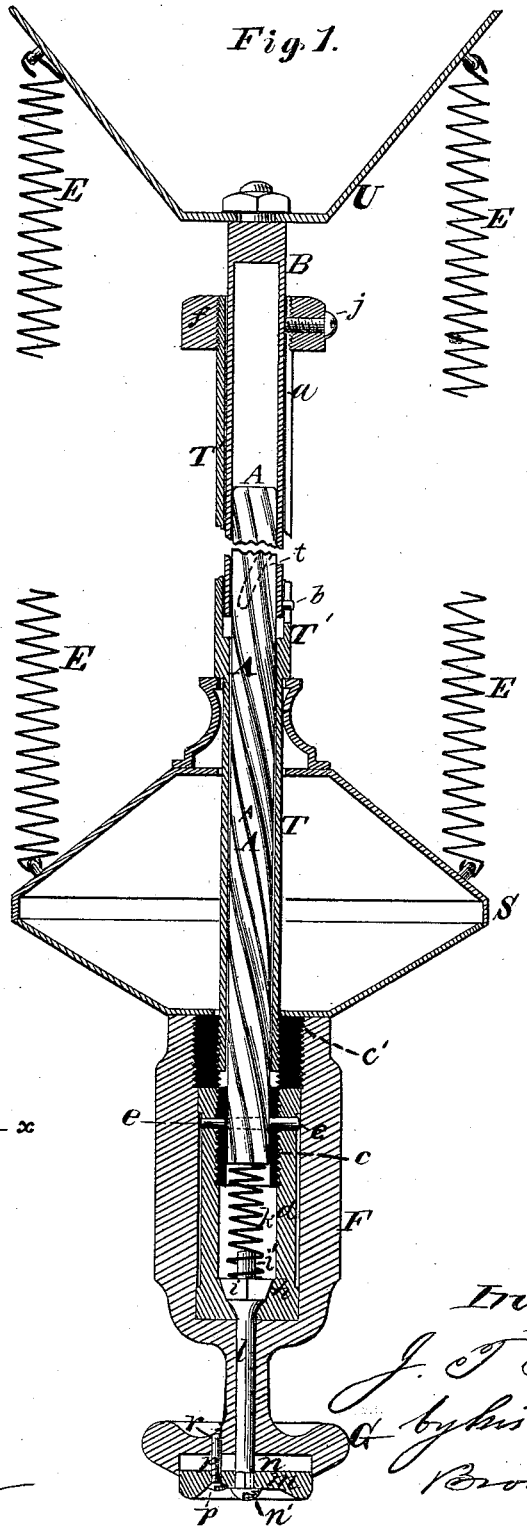


Fig. 2.

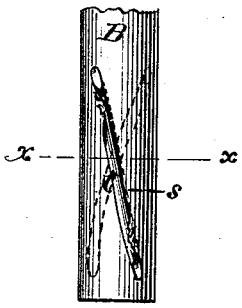
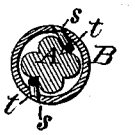


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN T. BRUEN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN EXTENSION-CHANDELIERS.

Specification forming part of Letters Patent No. **191,399**, dated May 29, 1877; application filed February 22, 1877.

To all whom it may concern:

Be it known that I, JOHN T. BRUEN, of the city of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Extension-Chandeliers; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms a part of this specification.

My invention has for its object to secure a more convenient and reliable means for raising or lowering and holding extension-chandeliers at any desired elevation.

The invention consists, partly, in the combination, with the movable portion of a chandelier and its fixed suspending-tube, of an internal screw and nut of rapid pitch, one turning in or upon the other solely by end thrust, and an automatic stop device operating to prevent such turning of the screw or nut, and thereby to stop the descent of the chandelier, and hold it wherever desired after the same is raised or lowered.

The invention further consists in the combination, with the supporting-screw and suspending-tube, of counterbalancing-springs, which act in concert with the said screw and tube to support the weight of the chandelier and prevent its too violent descent when the same is lowered.

Figure 1 in the drawing is a central vertical section through a portion of a chandelier having my invention thereunto applied. Fig. 2 is an exterior view of a portion of the fixed suspending-tube. Fig. 3 is a cross-section through the suspending-tube made on the line *x x* in Fig. 2, and a cross-section through the supporting-screw placed in the interior of said tube in relation therewith, as when in use.

A represents the supporting-screw or threaded rod, of rapid pitch, which, when unconfined, turns freely by end thrust in the suspending-tube B; or the screw may be rigidly fixed to the chandelier, and the nut may turn freely thereon.

Various ways of arresting the turning of said screw or nut may be employed, and I hereinafter describe a stop device for holding the screw from turning; but I do not confine myself to the exact stop device described.

Said screw is preferably made of four wires twisted over each other in such manner that the exterior parts of the wires form threads of a screw having a rapid and uniform pitch.

The said screw, however it may be constructed, is attached by a reducer, *c*, at its bottom, or in any suitable manner, to the hollow cylinder *d*, the said reducer *c* being screwed into the upper part of said hollow cylinder, and held from unscrewing by a pin, *e*, passed through the said cylinder, reducer, and screw. The said cylinder *d* is fitted into the box or case F, and confined therein by the reducer *c'*, so that, when unobstructed, it may freely revolve in said box or case, as hereinafter described. The said box or case F has formed on its lower end a knob, G. In the bottom of the hollow cylinder *d* is formed a pyramidal or conical seat, *h*, for a pyramidal or conical stop, *i*, between which and the lower end of the screw A is placed, over the stem *i'* of said stop, a spring, *k*, which, when left free to expand, constantly forces said stop down into the seat *h* with a force that prevents the screw A and its attached cylinder *d* from turning.

The stop *i* is provided with a stem, *l*, which passes out through the bottom of the box or case F, and through the knob G, and has attached to its squared lower end a button, *m*, held by the screw *n'*, and fitted into a recess, *n*, in the bottom of the said knob, the said stem *l* being long enough to allow said button to move vertically in the said recess. Said button and stop *i*, attached together as described, are prevented from turning relatively to the box F and the knob G by a pin, *p*, inserted through the button *m*, and sliding in a hole, *r*, formed in the said knob. Or the button *m* and the recess *n* may be polygonal; or other means for preventing the button from turning may be employed.

It will now be seen that whenever the stop *i* is forced into its seat *h* by the spring *k*, the cylinder *d*, attached to the bottom of said screw, will be held from turning, and through the stem *i* of said stop the button *m* and the pin *p* are also held from turning relatively to the box F, which is attached to the tube T by the reducer *c'*. The bracket center or boss S and ornamental parts of the chandelier are

slipped over the tube T, and firmly held between the box F and the shoulder formed by the junction of the tubes T and T′ when the tube T is screwed into the reducer *c′*. The upper end of the tube T is rigidly attached to the larger tube T′, receiving within it the suspending-tube B, said suspending-tube, when in use, being attached rigidly by the canopy U, or in any other manner, to the ceiling of a room or other permanent support.

The suspending-tube B forms at its lower end a novel nut constructed by inserting from the outside two (more or less) pieces, *t*, of steel wire, of a thickness to suit the open ways or spaces between the wires or threads of the screw A, and longitudinally so inclined and curved as to match its pitch and diameter. This is done by cutting inclined grooves into the said tube, and when the wires *t* are laid therein, resting upon the screw inside, then the ends are closed in and clinched, leaving the middle part free to allow them to adopt themselves to the open ways between the wires or threads of the screw.

But, as aforesaid, the peculiar construction of the said screw and tubular nut are not parts of the present invention. A screw of rapid pitch and a female threaded tube or nut fitting said screw and formed in any other manner may be used.

The tube T′, which receives within it the tube B, has a longitudinal slot, *a*, formed therein, into which is fitted the projection *b*, formed on the exterior of the lower part of the tube B. This construction prevents the tube T′, its attached tube T, and box F from turning relatively to the tube B, which, as aforesaid, is rigidly attached to a suitable support.

The top of the tube T′ is provided with a stiffening-nut, *f*, screwed onto said tube, and which serves to hold whatever ornaments may be slipped over the tube between it and the ornaments immediately below the shoulder formed by the junction of the tubes T and T′, and the upper end of the slot *a* in said tube, through which the projection *b* on the tube B is slipped into said slot, is closed by the inner end of a screw, *j*, passed through the side of the nut *f*.

It will be seen that the tube B, tubes T and T′, the box or case F, the button *m*, and stop *i* are prevented by the projection *b* from turning on their vertical axis when the tube B is rigidly attached to its support, but that the tube T′ may slide vertically over the tube B whenever the screw A is not held from turning. Therefore, whenever the entire apparatus is left to itself the spring *k* forces the stop *i* down into its seat and holds the said screw from turning, which, by its engagement with the nut-tube B, holds the chandelier at any desired elevation to which it may be adjusted.

To release the screw and permit it to turn, the fingers are placed upon the upper side of the knob G of the box or case F, and the thumb is pressed upward against the button *m* with sufficient force to overcome the resistance of the spring *k*, which holds the stop *i* engaged with the seat *h*. The screw being then free to turn in the tube B, which on account of its rapid pitch it does very easily by end thrust, the chandelier may, by the hand which grasps the knob G, be easily pushed up or drawn down to the desired elevation, at which point the release of the button *m* from the pressure of the thumb allows the spring *k* to instantaneously press the stop *i* into its seat, and the screw, thus held from further turning, holds the chandelier at the desired position. But instead of lifting the stop *i* from below by the button *m* and stem *l*, it may be raised by any other suitable device for actuating said stop from above.

The screw A, by its friction, which, when the stop *i* is conical, may be regulated by the pressure of the thumb on the button *m*, acts to retard the descent of the chandelier when the same is lowered; but to render the adjustment more easy, both for raising and lowering, springs E, connecting the chandelier with the canopy U or with its permanent support, may be employed to assist the screw in supporting the weight of the chandelier, and in controlling the descent of the same.

I claim—

1. The combination, with the movable portion of a chandelier and its fixed suspending-tube, of an internal screw and nut, the one turning upon the other by end thrust, and an automatic stop device operating to prevent such turning of the screw or nut, and thereby to stop the descent of the chandelier, substantially as described.

2. The combination of the internally-threaded suspending-tube B, provided with a projection, *b*, the slotted sliding tube T attached to the chandelier, the box F, the screw or threaded rod A, the cylinder *d* attached to said screw and containing the seat *h*, the stop *i*, the spring *k* which acts upon said stop, and the button *m*, substantially as and for the purpose specified.

3. The combination of the supporting-screw A, the suspending-tube B, and springs E, substantially as and for the purpose specified.

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Witnesses:

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