J. W. CARTER.
Extension Chandelier.

No. 196,430. Patented Oct. 23, 1877.

Fig. 1.

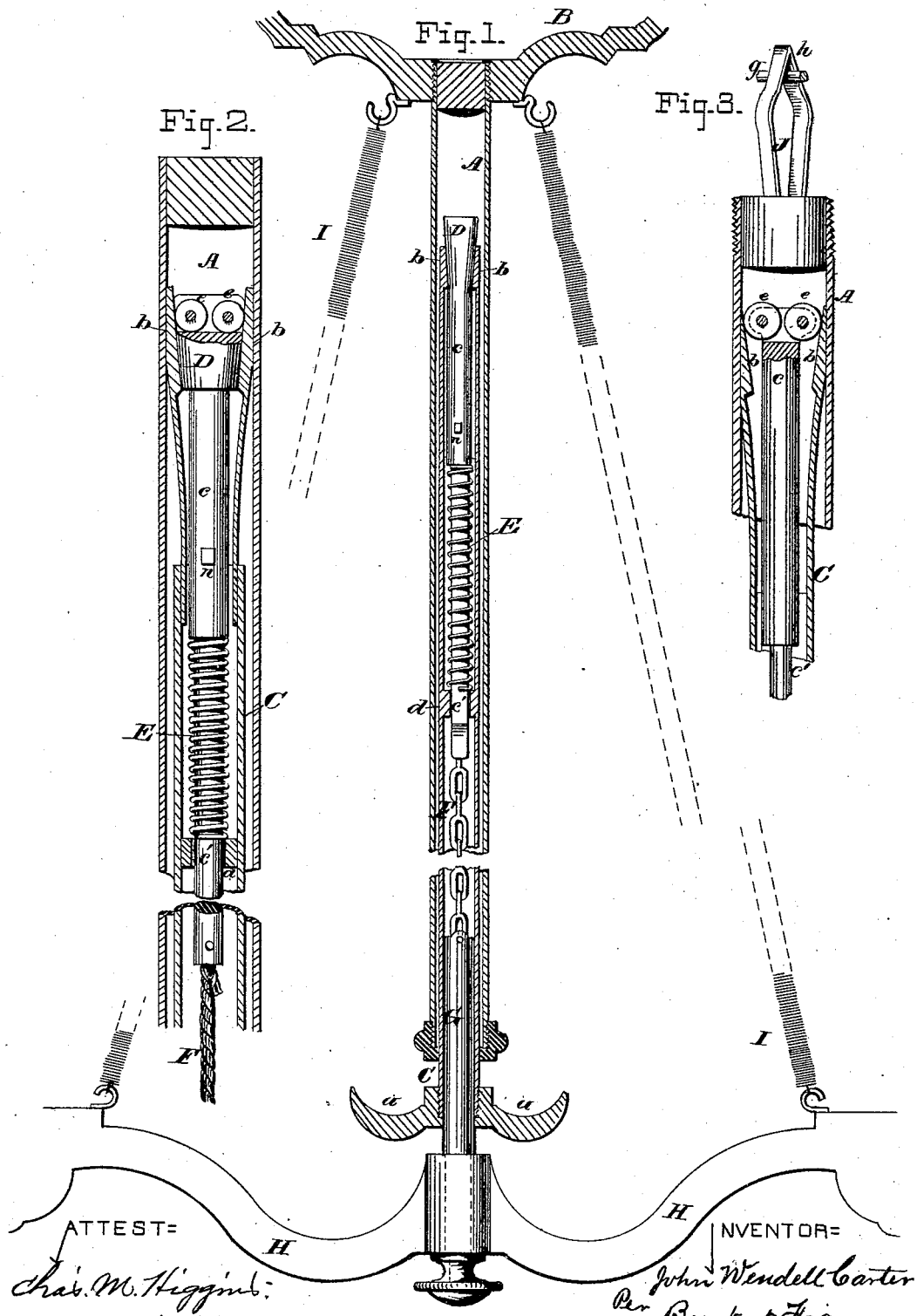


Fig. 2.




Fig. 3.




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JOHN W. CARTER, OF BROOKLYN, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO E. W. CARTER, OF SAME PLACE.

## IMPROVEMENT IN EXTENSION-CHANDELIERS.

Specification forming part of Letters Patent No. **196,430**, dated October 23, 1877; application filed May 11, 1877.

*To all whom it may concern:*

Be it known that I, JOHN WENDELL CARTER, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Extension-Chandeliers, of which the following is a specification:

My invention relates to that class of extension-chandeliers which have telescopic tubular stems and internal clamping devices; and it consists, partially, in a centrally or axially located flexible connection between the clamping device and the pendant which supports the burners, so arranged that the weight of the burners, fixtures, branches, &c., serves to operate the clamp and hold the said burners at the required height. When the weight is taken off, the clamping device is caused to release its hold automatically by means of a spring or its equivalent.

The invention also consists in various details of construction, which will be more fully hereinafter set forth.

In the drawings, Figure 1 is a sectional elevation of my invention. Figs. 2 and 3 are enlarged sectional views, illustrating modifications of Fig. 1.

Let A represent the outer tube of the extension, shown as screwed into an ornamental boss, rose, or center-piece, B. C is the inner tube, which is provided at the bottom with curved finger-rests *a a*, and at the top or inclosed end with elastic or hinged friction-plates *b b*, or their equivalents. D is the clamp-head, which is arranged to be forced down between the friction-plates *b b*, and with them to form a clamping device, as will be more fully hereinafter set forth. The head D is shown as provided with a neck or shank, *c*, reduced in diameter at *c'*, and encompassed by a spring, E. This spring is shown as resting on an internal fillet, *d*, or some equivalent projection, fixed to the inner wall of the tube C, and its upper end abutting against the shoulder formed by reducing the part *c'*. An equivalent arrangement would be to encompass the tube C with the spring E, letting it rest on a projection on the outside of said tube, and abut against projections, as *n*, on the neck *c*, the same projecting through slots in the tube C, or between the elastic plates *b b*. These projections *n* may also serve as stops to regulate the longitudinal play of the clamp-head. To the lower end of the part *c'* is attached a flexible suspensory connection, F, which extends down and takes hold of a pendant, G. To this latter may be attached a branch, H, or any other equivalent support for the lights or burners. The connection may be a chain, a cable-wire, or any flexible suspending device.

The spring E may be replaced by any equivalent device, as a weight, which will overcome the weight of the connection F, and keep the clamping-head D habitually retracted or thrown up, and permit it to be drawn down by the cord or chain F.

The friction-plates *b b* are provided with beveled inner faces, where they are acted upon by the clamping-head. They may be made of elastic material, and be fixed rigidly to the tube C, or they may be hinged thereto; or the end of the tube may be slitted down a sufficient distance to give elasticity, and the elastic prongs thus made be provided with beveled inner faces. To lessen the friction and enable the spring to retract more readily the clamping-head, I provide said head with friction-rollers *e e*, where it impinges against the plates *b b*. I I are springs, which extend from the branches H up to the boss B, or to the upper part of the tube A, the object being to assist in supporting and steadying said branches.

The operation is simple: By pressing or lifting on the stem or pendant G, at the same time drawing down the tube C, (which may be done by placing the palm under the knob at the end of the stem G, and the two first fingers on the rests *a a* and bringing them together,) the tension is taken off the cord or chain F, and the spring E is permitted to retract the head D. This relieves the frictional pressure of the plates *b b* against the inner walls of the tube A, and the tube C may be drawn out to any required extent. When the desired point of extension is reached, the rests *a a* are released, and the weight of all the parts attached to the pendant-stem G is thrown upon the connection F. This draws the clamping-head D down between the plates *b b*, and they are

essed or wedged against the inner wall of e outer tube, forming an effective clamping vice.

Fig. 1 shows the clamp released, and Figs. nd 3 show it in action.

I do not claim, broadly, as a part of my esent invention, the clamping device con- ting of a conical head arranged to be drawn wn into the end of a split tube; but

What I do claim, and desire to secure by tters Patent, is—

1. In an extension-stem or slide-rod for andeliers, the combination of the clamping- ad D and friction-plates *b b*, or their sub- antial equivalents, arranged to form a clamp- g device, the spring E, or its equivalent, ar- nged to throw up the head D, and a cen- ally-inclosed flexible connection, F, arranged couple the head D with the pendant G, sub- antially as herein set forth.

2. The clamping-head D, provided with fric- tion-rollers *e e*, substantially as herein set forth.

3. The clamping-head D, friction-rollers *e e*, and friction-plates *b b*, all combined and ar- ranged substantially as herein set forth.

4. The combination of the pendant G, the flexible suspending connection F, clamping- head D, spring E, and tube C, all arranged in substantially the manner shown and specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN WENDELL CARTER.

Witnesses:
HENRY CONNETT,
ARTHUR C. FRASER.