

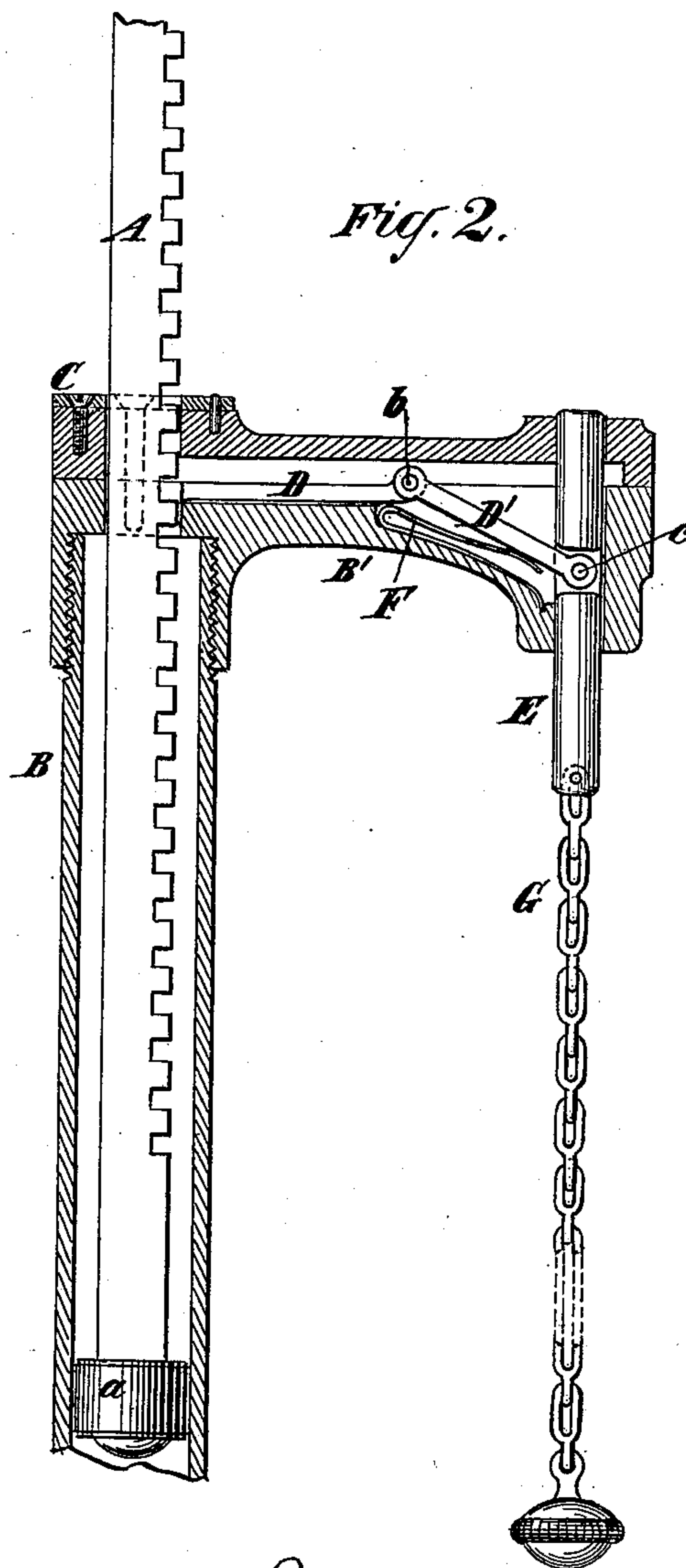
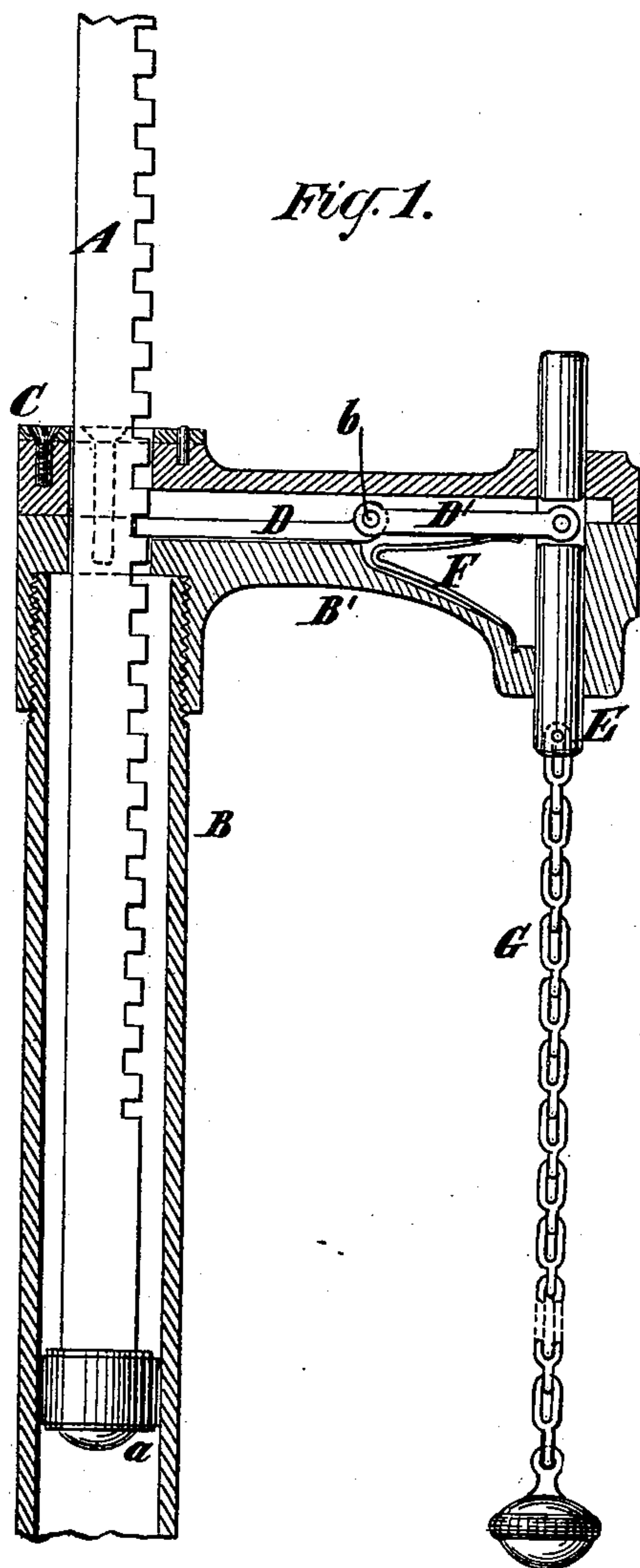
(No Model.)

2 Sheets—Sheet 1.

J. T. BRUEN.
EXTENSION CHANDELIER.

No. 253,676.

Patented Feb. 14, 1882.



Witnesses
T. J. Kane
Fred. Haynes

Inventor
John T. Bruen
By his Attorney
Edwin H. Brown.

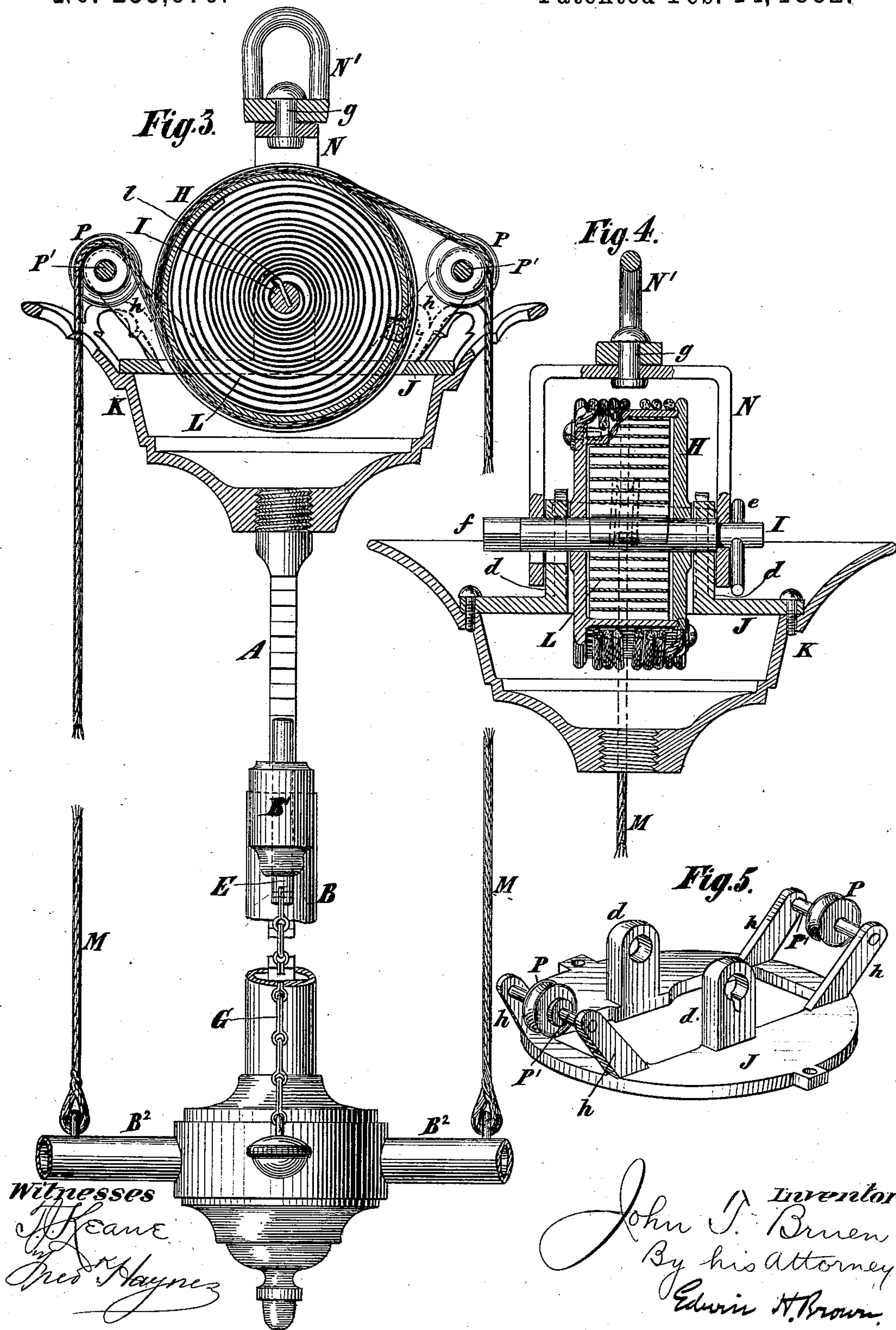
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UNITED STATES PATENT OFFICE.

JOHN T. BRUEN, OF BROOKLYN, NEW YORK.

EXTENSION-CHANDELIER.

SPECIFICATION forming part of Letters Patent No. 253,676, dated February 14, 1882.

Application filed August 26, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. BRUEN, of Brooklyn, in Kings county, and State of New York, have invented certain new and useful
5 Improvements in Extension - Chandeliers, of which the following is a specification.

One object of my improvements is to provide a simple, convenient, and reliable means for securing the extensible part of an extension-
10 chandelier or an extension supporting device in different positions relatively to a stationary part.

To this end the improvements consist in the combination, with a stationary part and an ex-
15 tensible part, one comprising a rack or indented bar and the other comprising guides for the said rack, of toggle - levers, one of which forms a catch for operating in conjunction with the rack to secure the extensible
20 part in different positions relatively to the stationary part. The stationary part may consist solely of this rack or indented bar, and the toggle-levers will then be attached to the extensible part, and will preferably be com-
25 bined with a lateral slideway. Preferably I combine a spring with the toggle-levers and cause it to act thereon, either directly or indirectly, so as to cause the toggle-lever which forms the catch to engage and remain in en-
30 gagement with the rack or indented bar when not otherwise actuated.

Another object of my improvements is to produce a neat, simple, and effective means for counterbalancing the weight of the exten-
35 sible part of the chandelier or supporting device, so as to facilitate the adjustment of the same.

The improvements, therefore, further consist in certain combinations of parts whereby
40 this end is attained.

In the accompanying drawings, Figure 1 is a central vertical section of a portion of an extension - chandelier embodying my improve-
45 ments, showing the catch in engagement with the rack or indented bar. Fig. 2 is a similar view thereof, showing the catch out of engagement with the rack or indented bar. Fig. 3 is a sectional elevation of the chandelier on a smaller scale. Fig. 4 is a section, taken at
50 right angles to Fig. 3, of the upper portion of the means for counterbalancing the extensible part; and Fig. 5 is a perspective view of a plate forming part of the extensible part of the chandelier.

Similar letters of reference designate corre- 55 sponding parts in all the figures.

A designates a rack or a bar indented along one edge and forming the stationary part of an extension-chandelier. B designates a pipe or tube forming the extensible part of the said
60 chandelier. At the upper end is attached a plate, C, which has a rectangular slot corresponding to the shape of the rack or indented bar, and in which the latter fits. This plate, therefore, forms a guide for the rack or in-
65 dented bar and prevents it from turning. At the lower end the rack or indented bar is provided with a circular guide-piece, *a*, which fits snugly in the pipe or tube B. It guides the rack or indented bar, and when the pipe or
70 tube B is lowered strikes the top thereof and obviates violent shocks.

D D' designate toggle-levers arranged in a slideway, B', extending laterally from the pipe or tube and communicating with the interior
75 thereof. The toggle-lever D is susceptible of a longitudinal movement to and from the rack or indented bar; but the toggle-lever D' is also capable of being swung up and down in said slideway on the pin *b*, whereby it is con-
80 nected to the toggle-lever D as a fulcrum, and its outer end is pivotally connected by a pin, *c*, to a slider-bar, E. The slider-bar E fits in a recess in the end of the slideway B', and is susceptible of movement transversely to the tog-
85 gle-levers D D'—in this instance upward and downward.

F designates a spring for impelling the toggle-lever D' and slider-bar E upward. In this example of my invention it acts on the under
90 side of the toggle-lever D'; but obviously a spring might be applied to the slider-bar E to attain the same results. A spiral spring surrounding the slider-bar and impinging against a suitable bearing on the under side of the tog-
95 gle-lever D' would serve this purpose.

G designates a chain attached to the slider-bar E to serve as a convenient means for pulling it downward from a point on a level with the lower portion of the pipe or tube B. Ob-
100 viously a cord or wire may be used in lieu of this chain. When the toggle-lever D' is impelled upward by the spring F it forces the toggle-lever D into engagement with the rack, providing the latter is in the proper posi-
105 tion for said toggle-lever D to pass between two of its teeth, and it also retains said toggle-lever D in engagement with the rack. When,

however, the slider-bar and toggle-lever D' are pulled downward the toggle-lever D is drawn outward away from the rack or indented bar and made to release the latter.

5 Any suitable device may be used in lieu of the chain, and if the slideway B' is made so as to allow the toggle-lever D' to swing upward above the plane of the toggle-lever D, instead of downward below the same, and the spring
10 be made to impel the said toggle-lever D' downward, a rod may be employed in lieu of the chain to disengage the toggle-lever D from the rack or indented bar by an upward movement.

H designates a drum mounted loosely on a
15 shaft, I, supported in bearings d, extending from and, as here shown, forming a part of a plate, J. This plate may be arranged within and concealed by a canopy, K, affixed to the stationary part A of the chandelier. It will
20 be observed that the shaft I, which supports this drum, is in a horizontal plane. The said shaft has affixed to it a hook, l, to which is fastened one end of a convolute spring, L, which is arranged around it and within the
25 drum, and at the other end is fastened to the interior of the drum. On the exterior of the drum are fastened cords M, of metal or other suitable material, which are wound around the drum and extended downward and fast-
30 ened to arms B², projecting from the extensible part B of the chandelier. A downward movement of the extensible part effects the tighter winding of the spring L, and an upward movement permits the spring to un-
35 wind; hence the weight of the extensible part is counterbalanced. The cords M pass from the drum H over pulleys P in the proper direction to act in the same way on the said drum. These pulleys are loosely mounted on shafts
40 P', which are supported in bearings h, extending from and, as here shown, forming a part of the plate J. These pulleys can move laterally on their shafts as the cords are wound and unwound upon or from the said drum.
45 The shafts may be inclined so as to give the pulleys a tendency to move in this way. The plate J and its appurtenances may be cast together.

A pin, e, passing through the shaft I and
50 impinging on the plate J, prevents the shaft from turning. By withdrawing this pin and applying a key or wrench to a squared end, f, of said shaft the spring L may be wound up as much as may be desirable, and after winding
55 the same and reinserting the pin e in the shaft the latter will again be prevented from turning.

N N' designate a suspending loop or hanger, by which the chandelier may be suspended
60 from a hook or other device in a ceiling or other support. This hanger consists of a strap, N, or loop of metal, having its ends fitted to the shaft I, and retained there by the pin e, and of an eye, N', swiveled by a pin, g, to the
65 top of the said strap. It will be observed that the shaft I therefore forms a means for con-

necting the drum H to the plate J, a means for retaining one end of the spring L stationary, a means for winding the spring, and a means for securing the drum H to the suspend- 70 ing-loop N N'.

It is obvious that my improvements are applicable to extension supporting devices other than extension-chandeliers, and that by said improvements I provide a very simple means 75 for retaining the extensible portions of all such devices in different positions relatively to their stationary portions.

In lieu of the rack which I have shown, I may use one consisting of a bar or tube pro- 80 vided with a series of slots, openings, or notches through it.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a stationary part 85 and an extensible part, one comprising a rack or indented bar and the other comprising guides for the said rack, of toggle-levers, one of which forms a catch for operating in con- 90 junction with the rack to secure the extensible part in different positions, substantially as specified.

2. The combination, with a stationary part consisting of a rack or indented bar, and an extensible part provided with guides for said 95 rack or indented bar, of toggle-levers arranged in a lateral slideway on the extensible part, and adapted to engage with the said rack or indented bar, substantially as specified.

3. The combination, with the rack or in- 100 dented bar A and pipe or tube B, provided with the slideway B', of the toggle-levers D D' and slider-bar E, substantially as specified.

4. The combination, with the rack or in- 105 dented bar A and the pipe or tube B, provided with the slideway B', of the toggle-levers D D', slider-bar E, and spring F, substantially as specified.

5. In an extension-chandelier provided with means for counterbalancing its extensible part, 110 the plate J, provided with the bearings d and the bearings h, made in one integral piece with it, substantially as specified.

6. The combination of the plate J, drum H, bearings d, and shaft I, substantially as speci- 115 fied.

7. The combination of the plate J, drum H, bearings d, shaft I, and pin e, substantially as specified.

8. The combination of the plate J, drum H, 120 spring L, shaft I, and pin e, substantially as specified.

9. The combination of the plate J, drum H, shaft I, and loop or hanger N N', substantially 125 as specified.

10. The combination of the plate J, drum H, shaft I, loop or hanger N N', and pin e, sub-
stantially as specified.

JOHN T. BRUEN.

Witnesses:

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JAS. R. BOWEN.