

(No Model.)

J. T. BRUEN.
EXTENSION CHANDELIER.

No. 249,500.

Patented Nov. 15, 1881.

Fig. 1.

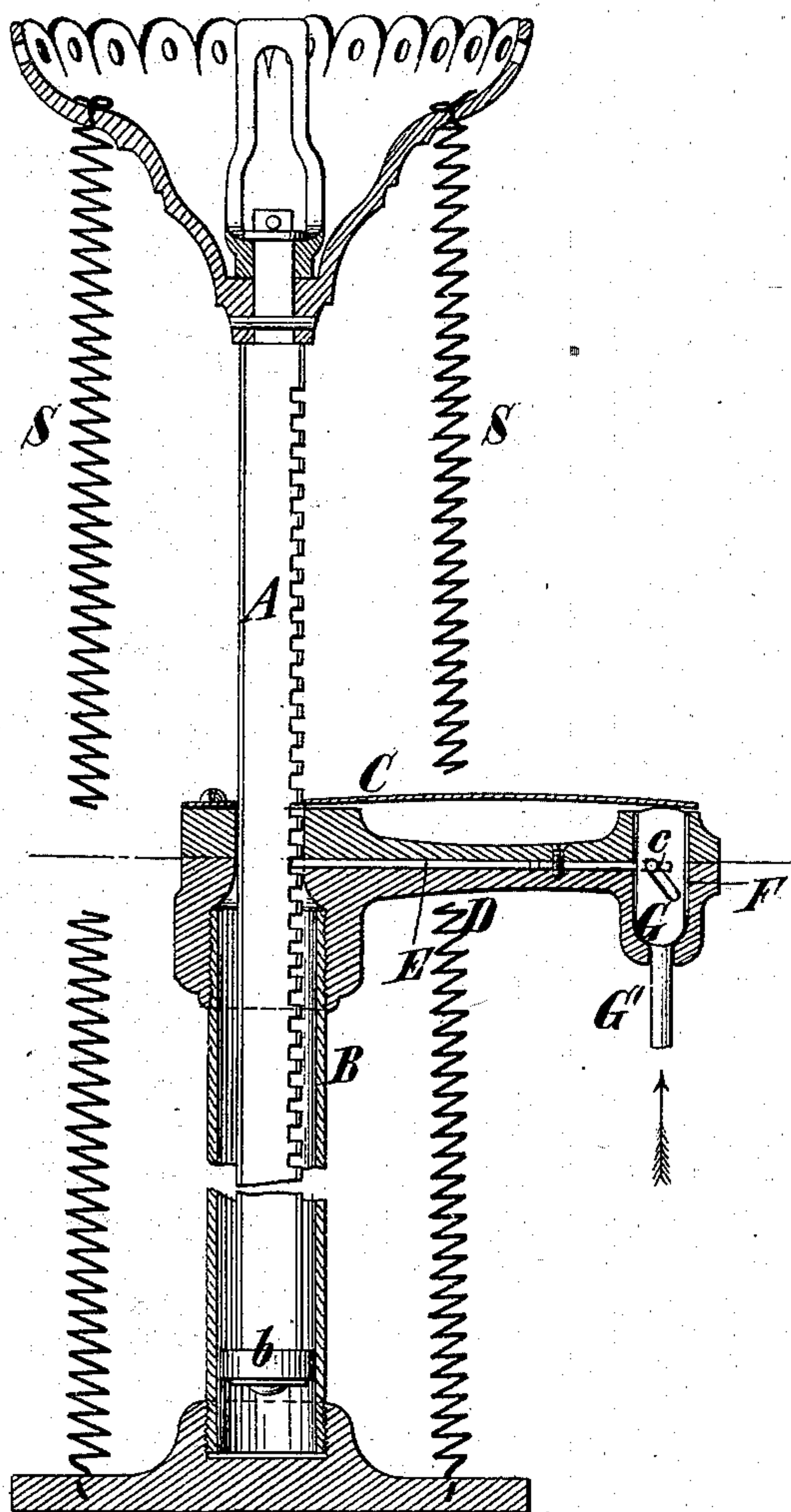
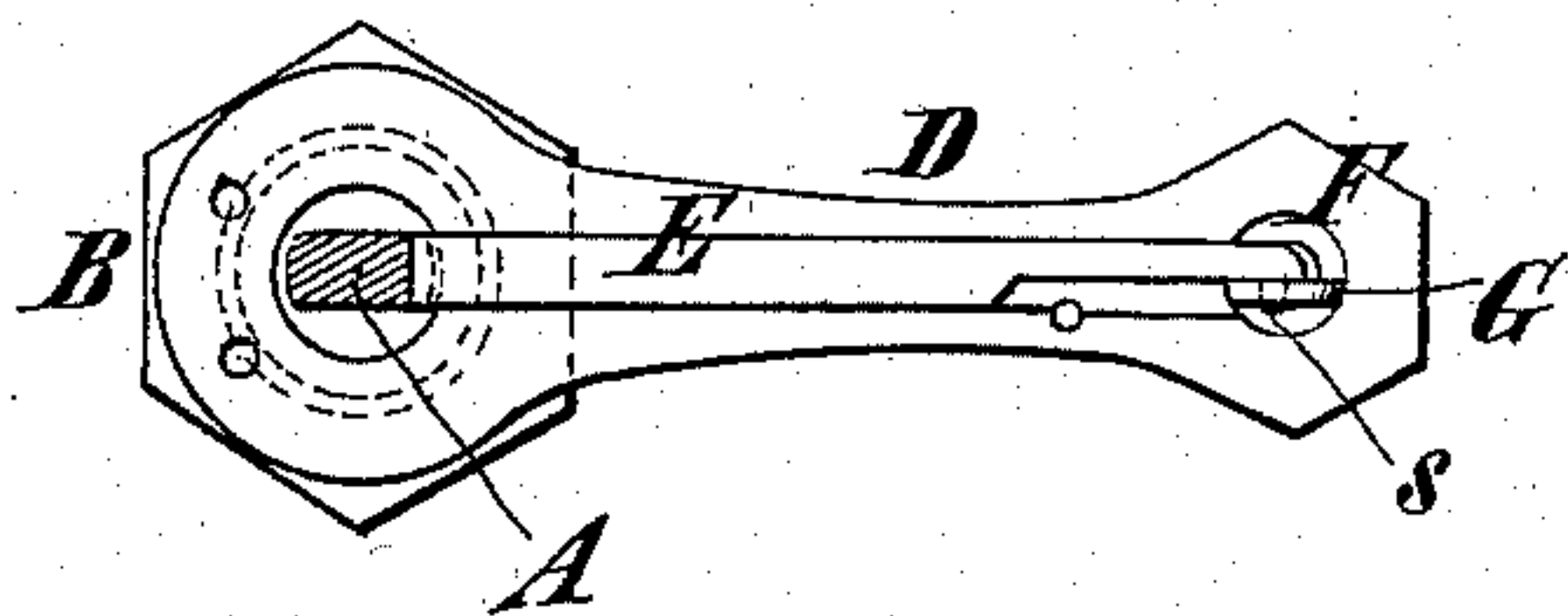


Fig. 2.



Witnesses:-

Geo. Haynes
Ed. Glatzmayr

Fig. 3.

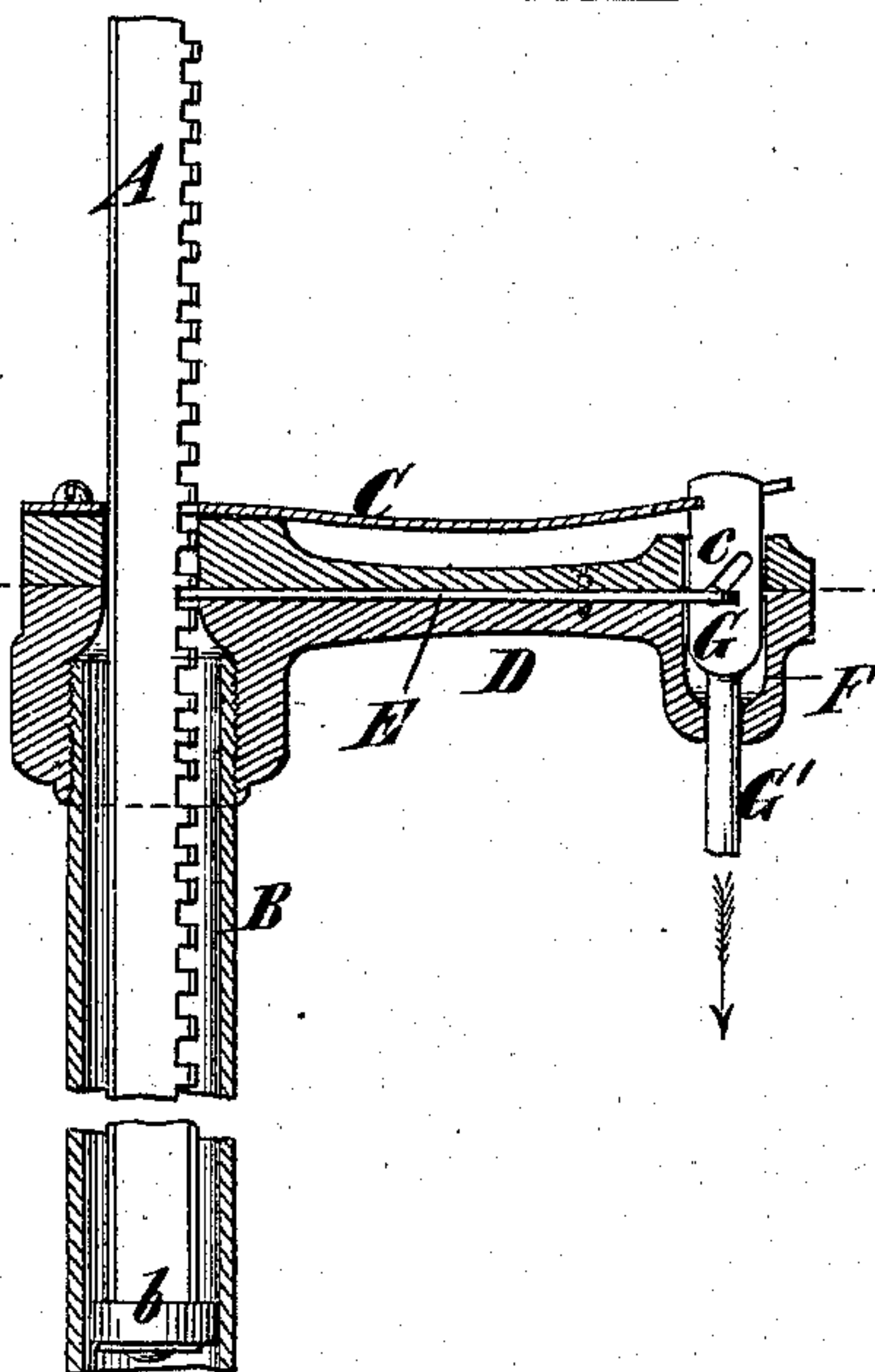
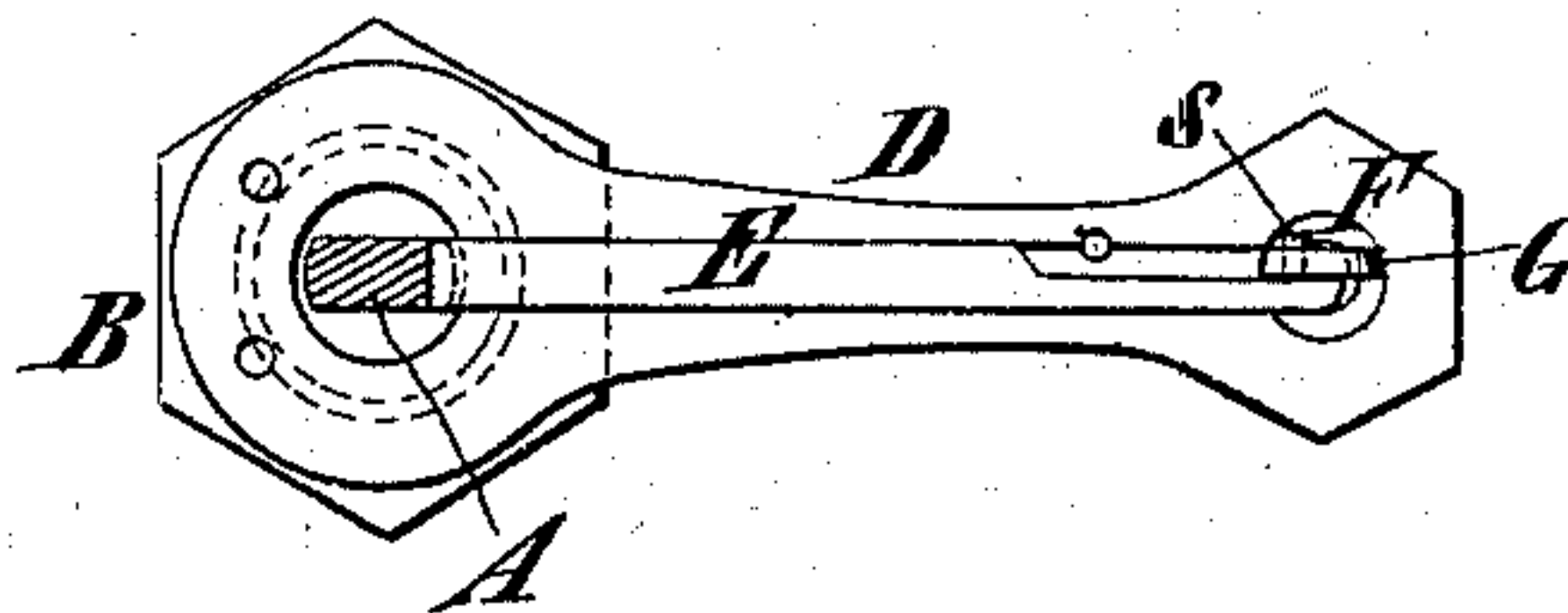


Fig. 4.



Inventor:-

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UNITED STATES PATENT OFFICE.

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EXTENSION-CHANDELIER.

SPECIFICATION forming part of Letters Patent No. 249,500, dated November 15, 1881.

Application filed February 17, 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.

The object of my improvements is to produce a simple and inexpensive extensible chandelier comprising means for locking the extensible
10 part in position in a positive and reliable manner, and with no limit to the sustaining-power of the chandelier except the strength of the materials employed in its construction.

To this end my improvements consist in the
15 combination, in an extension-chandelier with a toothed rack on one part, of a catch arranged in a slideway extending from the other part and wholly supported by said slideway, and means preferably consisting of a cam-plate act-
20 ing on the catch and adapted to move it transversely with relation to the rack, for the purpose of engaging it with and disengaging it from the rack.

They also consist in the combination, in a
25 chandelier with a toothed rack on one part, of a catch arranged in a slideway extending from the other part, and a cam-plate arranged in a cavity or chamber at the end of said slideway for acting on the said catch, and adapted to
30 engage it with and disengage it from the rack.

They also consist in the combination, in a chandelier with a toothed rack on one part, of a catch arranged in a slideway extending
35 from the other part, a cam-plate arranged in a cavity or chamber at the end of said slideway for actuating the catch, and a push-rod for operating the cam-plate.

They also consist in the combination, in a
40 chandelier with a toothed rack on one part, of a catch arranged in a slideway extending from the other part, a cam-plate for actuating the catch, and a spring acting on the cam-plate.

They also consist in the combination, in a
45 chandelier, with a toothed rack on one part, of a catch arranged in a slideway extending from the other part, a cam-plate arranged in a cavity or chamber at the end of said slideway for actuating the catch, and a stop for the cam-plate.

50 They also consist in the combination, in a chandelier with a toothed rack on one part, of

a catch arranged in a slideway extending from the other part, a cam-plate actuating the cam, and a plate forming a cover for the part which receives the rack, forming a guide for the rack, 55 and constituting a spring acting on the cam-plate. I may combine with these parts springs for supporting the extensible part.

In the accompanying drawings, Figure 1 is a central vertical section of a portion of an ex- 60 tensible chandelier embodying my improvements. Fig. 2 is a top view thereof, with the top plate of the slideway removed, the rack being in section. Fig. 3 is a central vertical section of an extensible chandelier of slightly 65 modified form, embodying the improvements; and Fig. 4 is a top view thereof, with the top plate of the slideway removed, the rack being in section.

Similar letters of reference designate corre- 70 sponding parts in all the figures.

Referring first to Figs. 1 and 2, A designates a toothed rack or indented bar, which, as represented, is intended to be comprised in the stationary upper part of the chandelier. 75

B designates a tubular stem comprised in the extensible lower part of the chandelier, and adapted to receive the rack within it. It is not necessary for the purposes of my improvements that this stem should be tubular, so long as it 80 is adapted to receive the rack. The turning of rack A and tubular stem B relatively to each other is prevented by a plate, C, secured to the top of the tubular stem; and provided with an opening, within which the rack snugly fits, so 85 that the said plate forms a guide for it. At the lower end the rack A is furnished with a disk or head, b, which fits snugly within the tubular stem B and causes the rack to occupy a central position therein. 90

From the upper end of the tubular stem B there extends laterally a slideway, D, contain- ing a catch or detent, E, which is adapted to slide therein toward and from, or transversely 95 with relation to, the rack, so that it may be engaged with or disengaged from the teeth of the rack for the purpose of locking the extensible part positively in position or for releasing it when desirable. At the outer end of this slideway D is a socket cavity or chamber, F, in 100 which is arranged a cam-plate, G, provided with a rod or stem, G', which is intended to

extend near to the bottom of the lower extensible part of the chandelier. This cam has an oblique slot, *c*, with which engages a spur or projection, *s*, on the adjacent edge of the catch or detent *E*.

It will be observed, by reference to Fig. 2, that the end of the catch or detent *E* which is adjacent to the cam-plate *G* is cut away, and that the cam-plate is offset on one side of its stem, so that the two will be as nearly in line as is practicable. The top of the cam-plate *G* protrudes through the top of the socket or chamber *F*, and the plate *C* is extended so as to bear on it and form a spring, which will impel it downward into the position shown in Fig. 1. The bottom of the socket or chamber *F* forms a stop to limit the downward movement of the cam-plate. When the cam-plate is in this position it holds the catch or detent in engagement with the rack *A*, and when the cam-plate is pushed up by means of its stem it moves the catch or detent outward, so as to disengage it from the rack *A*.

It is obvious that if a spring were applied directly to the catch or detent to cause it to engage and to hold it in engagement with the rack when not otherwise actuated, a cam-plate lacking the slot, but having its top so inclined that when pushed upward it will draw the catch or detent outward and disengage it from the rack, may be employed. It is obvious that the plate *C* also forms a cover for the lower extensible part.

Referring now to Figs. 3 and 4, I have there illustrated a chandelier which is like the one just described, except that the catch or detent *E* and cam-plate *G* are turned around, so that the cam-plate is pulled down to disengage the catch or detent from the rack. The spring-plate *C* here, of course, impels the cam-plate upward instead of downward, and it engages with a notch in the cam-plate to enable it to do this.

It is obvious that, instead of, forming teeth in the edge of the rack, I may form teeth or bars in the rack by slotting it at intervals longitudinally at the center. When the rack is thus made the catch or detent will preferably be turned up on edge to engage with the rack.

The usual or any suitable springs may be employed to more or less counterbalance the weight of the extensible part of the chandelier. I have shown spiral springs *S* in Fig. 1 for this purpose. I may, however, employ a convolute spring with a cord or tackle extending downwardly from it to the lower portion of the extensible part. In this case the rack may be hollow or provided with a longitudinal cavity, and may consist of a transverse-slotted tube, and the cord or tackle can pass through its cavity.

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

1. In an extension-chandelier, the combination, with a toothed rack on one part, of a catch arranged in a slideway extending from the other part and wholly supported by said slideway,

and means acting on the catch and adapted to move it transversely with relation to the rack for the purpose of engaging it with and disengaging it from said rack, substantially as specified.

2. In an extension-chandelier, the combination, with a toothed rack on one part, of a catch arranged in a slideway extending from the other part and wholly supported in said slideway, and a cam-plate acting on the catch and adapted to move it transversely with relation to the rack for the purpose of engaging it with and disengaging it from said rack, substantially as specified.

3. In an extension-chandelier, the combination, with a toothed rack on one part, of a catch arranged in a slideway extending from the other part, and a cam-plate arranged in a cavity or chamber at the end of said slideway for acting on the said catch, and adapted to engage it with and disengage it from the rack, substantially as specified.

4. In an extension-chandelier, the combination, with a toothed rack on one part, of a catch arranged in a slideway extending from the other part, a cam-plate arranged in a cavity or chamber at the end of said slideway for actuating the catch, and a push-pin for operating the cam-plate, substantially as specified.

5. In an extension-chandelier, the combination, with a toothed rack on one part, of a catch arranged in a slideway extending from the other part, a cam-plate arranged in a cavity or chamber at the end of said slideway for actuating the catch, and a spring acting on the cam-plate, substantially as specified.

6. In an extension-chandelier, the combination, with a toothed rack on one part, of a catch arranged in a slideway extending from the other part, a cam-plate arranged in a cavity or chamber at the end of said slideway for actuating the catch, and a stop for the cam-plate, substantially as specified.

7. In an extension-chandelier, the combination, with a toothed rack on one part, of a catch arranged in a slideway extending from the other part, a cam-plate actuating the catch, and a plate forming a cover for the part which receives the rack, forming a guide for the rack, and constituting a spring acting on the cam-plate, substantially as specified.

8. In an extension-chandelier, the combination, with a toothed rack on one part, of a catch arranged in a slideway extending from the other part, a cam-plate arranged in a cavity or chamber at the end of said slideway for moving said catch toward and from the rack transversely thereto to engage it with or disengage it from the rack, and a spring or springs for more or less counterbalancing the weight of the extensible part, substantially as specified.

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Witnesses:

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T. J. KEANE.