

(No Model.)

C. C. JOHNSON.

DEVICE FOR SUSPENDING LAMPS.

No. 271,579.

Patented Jan. 30, 1883.

Fig: 1.

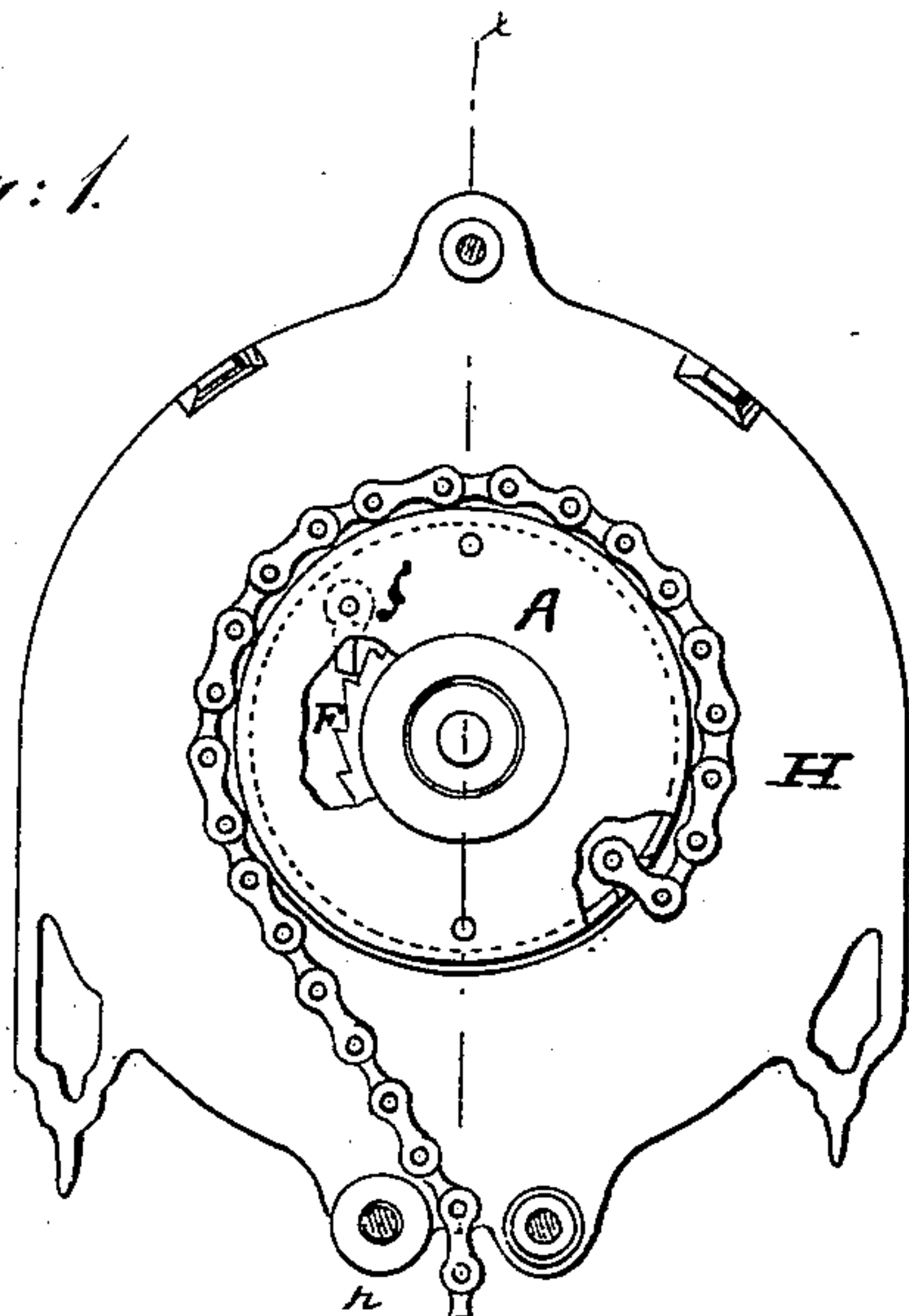


Fig: 2.

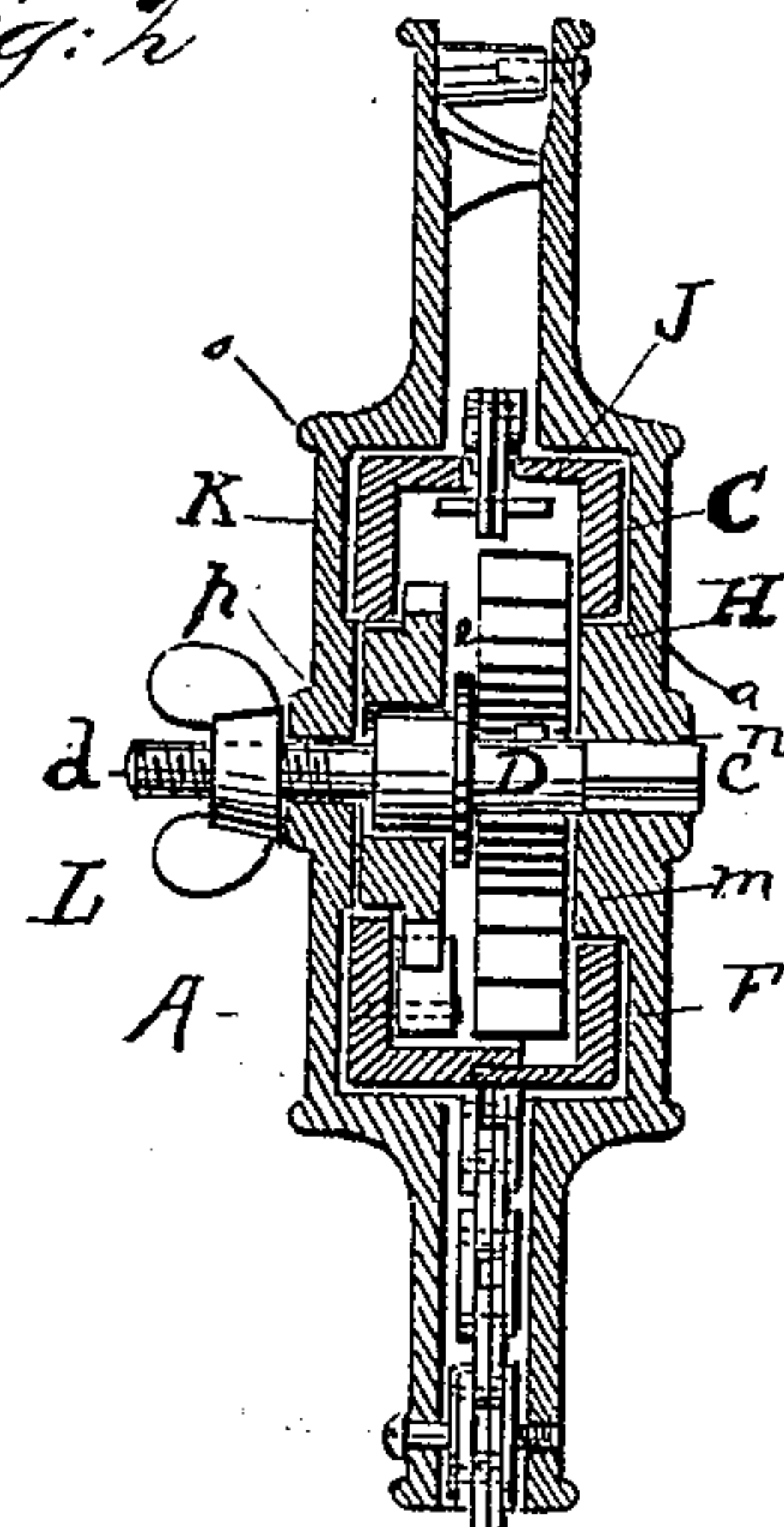


Fig: 3.

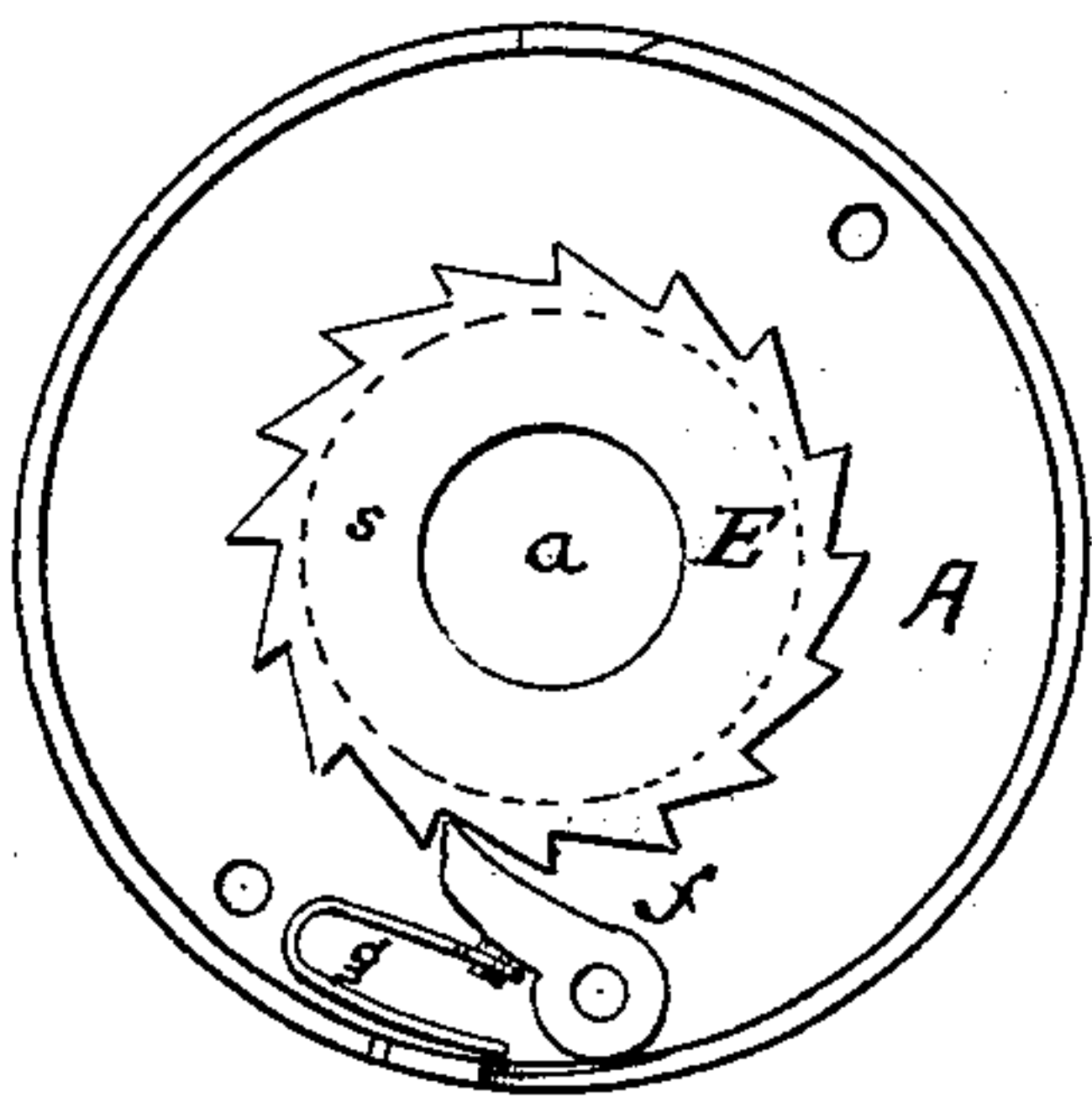
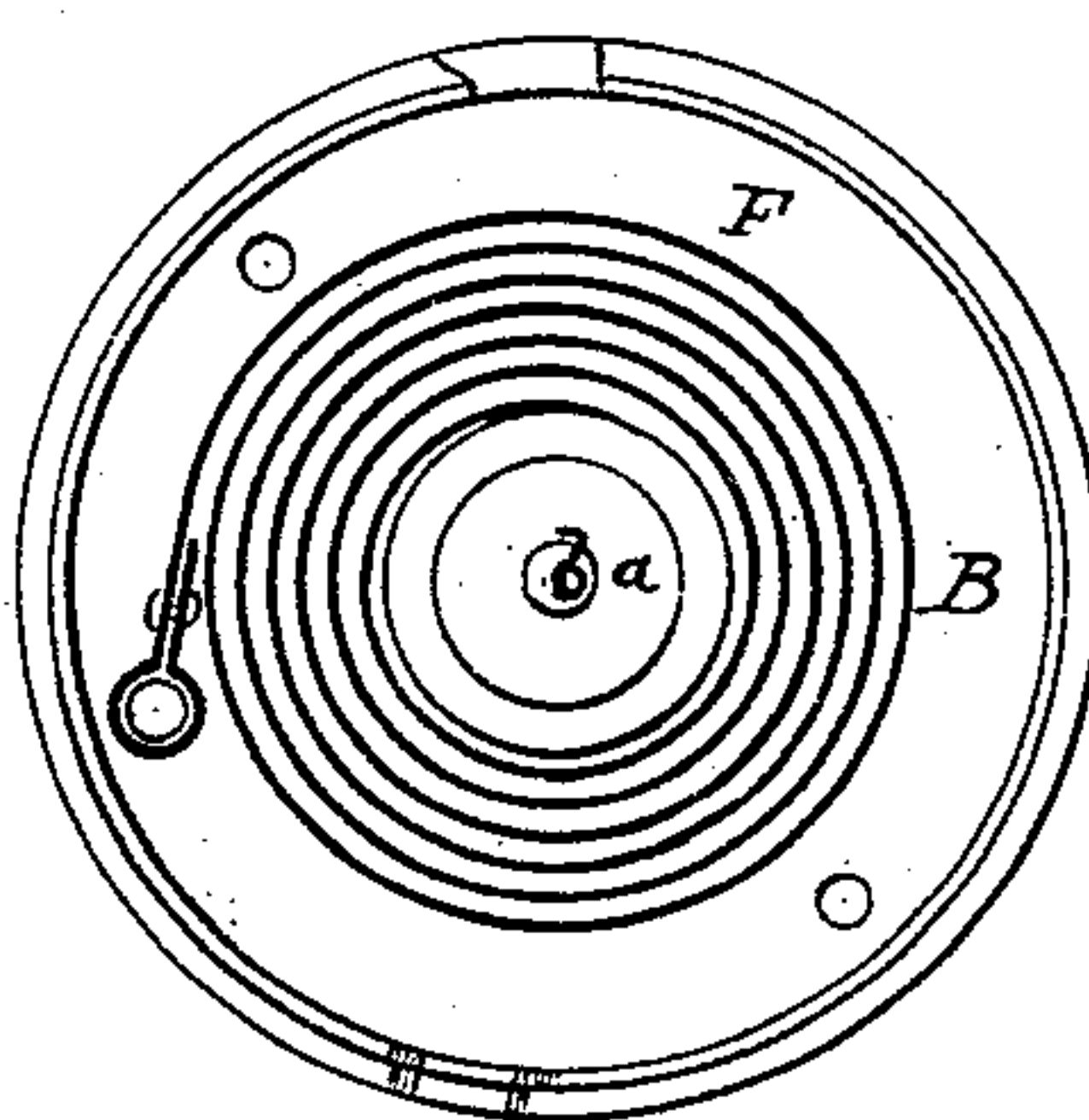


Fig: 4.



WITNESSES:

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DEVICE FOR SUSPENDING LAMPS.

SPECIFICATION forming part of Letters Patent No. 271,579, dated January 30, 1883.

Application filed December 18, 1882. (No model.)

*To all whom it may concern: **

Be it known that I, CHARLES C. JOHNSON, of Springfield, county of Windsor, and State of Vermont, have invented a new and useful
5 Improvement in an Adjustable Device for Suspending Lamps, &c.; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying sheet of drawings, forming
10 part of this specification.

This invention is in the nature of an improvement in an adjustable device for suspending lamps, &c.; and the invention consists in an adjustable device for suspending lamps,
15 &c., having the following elements in combination: a barrel composed of two sections, containing within it a spring and winding-post, with a ratchet placed thereon, and a pawl to engage with said ratchet, two recessed plates
20 fitting on each side of said barrel and inclosing the same, a jointed chain fixed to and surrounding said barrel, and a set-screw for adjusting the movement of said barrel, all arranged as and for the purpose hereinafter described.
25

In the accompanying drawings, Figure 1 is a side elevation of my device with one of the plates removed. Fig. 2 is a longitudinal section taken in line *x x*, Fig. 1. Fig. 3 is plan
30 view of interior of one section. Fig. 4 is a plan view of interior of the other section.

Similar letters of reference indicate like parts in the several figures.

The purpose of this invention is to provide
35 a cheap and easily-adjustable device for suspending lamps and other things from a ceiling, so that the lamp, when suspended by the device, can be readily adjusted to any desired height from the table or place above which it is to be used. Numerous devices for this purpose have heretofore been constructed, many
40 of them having counter-weights, and some of them being provided with a spring and chain; but it is believed that by my invention the construction of such a device is simplified and cheapened, and its adjustment more easily effected than by any other similar contrivance,
45 and that it possesses all the advantages of such other devices, and at the same time is
50 stronger and more durable.

In making my suspending device I cast or otherwise form two cylindrical hollow sections, A and B, which, when fitted together edge to edge, as in Fig. 2, make a barrel, C. Into each of these sections A and B are formed two
55 circular openings, *a* and *b*, and within the cylinder B is placed a winding-post, D, with the usual square, *c*, at one end and a screw-thread, *d*, at the other end, and also with a bearing, *e*, onto which bearing is fitted a ratchet, E, so
60 that it may turn freely thereon. Within the section or part B of the barrel is secured, in any desirable manner, one end of a flat spring, F, the other end of which spring is fixed to the winding-post D, around which post, and
65 within the section B, the spring F is coiled. Within the section or part A is fixed a pawl, *f*, with a spring, *g*, also fixed therein and bearing on the pawl.

When the sections A and B are placed together edge to edge, as in Fig. 2, and securely held in that position by screws or any other
70 suitable manner, the square *c* of the winding-post D projects through the center of section B, and the screw-thread *d* projects through the center of the section A, and when the two sections are in this way fitted together they constitute the spring-barrel C of the device. Fixed to this barrel by one of its ends is a
75 jointed chain, G. This chain is coiled around the outer surface of the barrel C, and its other or free end, *h*, is provided with a hook, *k*. A plate, H, with a cylindrical recess, *l*, formed in it to receive the section B, and with a central boss, *m*, to enter into the circular opening
80 *a* of the section B, and a square hole, *n*, to receive the square *c* of the winding-post D, is fitted to the section B, and to the section A is in like manner fitted a similar plate, K, also having a circular recess, *o*, and a central hole,
85 *p*, through which protrudes the threaded end *d* of the winding-post D. Passing between the plates H and K, and depending therefrom, is the free or hook end of the chain *h*. Now, when the barrel C is placed within the recesses
90 *l* and *o* of the plates H and K, and these plates are held together by suitable screws, and a thumb-nut, L, is secured on the threaded end *d* of the winding-post D, the device is ready
95 for use and is suspended from the ceiling of a
100

room. When a lamp or other object is suspended from the hook *k* of the chain *G* and the lamp pulled down, the chain *G* is drawn between the plates *H* and *K*, and as it descends it causes the barrel *C* to revolve, the winding-post *D*, being prevented from revolving by the square *c* thereof in the square hole *n* of the plate *H*, causes the spring to be wound with more or less tension around the winding-post *D*, the tension of the spring, or its resilient force, being sufficient to counterbalance the weight of the lamp and to prevent it from descending below any place where it is desired it shall be located, the tension of the spring being maintained by the weight of the lamp. As the barrel *C* revolves, the pawl *f*, which engages with the ratchet *E*, causes this ratchet to turn on the bearing *e* of the winding-post *D*. In the act of pushing the lamp upward, so as to enable it to ascend to the ceiling and be out of the way, the barrel *C* turns in a reverse direction on the boss *m*, and within the recesses *l* and *o* of the plates *H* and *K*, and the pawl *f* no longer actuates the ratchet *E*, the ratchet therefore remaining stationary while the barrel *C* revolves in this reverse direction.

To adjust the free turning of the barrel *C* to the weight of the lamp or other object suspended therefrom, the thumb-nut *L* is turned more or less against the outer surface of the plate *K*, bringing upward to a slight extent the winding-post *D*, carrying with it the ratchet *E* until its upper surface, *s*, is brought more or less in contact with the under side of the plate *K*, thereby increasing the friction between this ratchet and plate, so that the ratchet will turn less easily on its bearing *e* on the winding-post *D*; and inasmuch as the pawl *f* engages in the ratchet *E* it is obvious that the turning of the section *A* of the barrel *C* will be retarded to some extent; and since this section is secured to the section *B* the revolving of the entire barrel *C* is more or less checked, so that by means of the thumb-nut *L* the free turning of the barrel *C* may be adjusted to the weight of the ob-

ject suspended therefrom, as before stated, the tension of the spring about the winding-post *D*, together with the friction of the ratchet *E*, being sufficient to keep the lamp in any given position, whether the chain *G* be extended to its full length or be entirely within the plates *H* and *K* and around the barrel *C*. To facilitate the action of the chain when pulled out or pushed in, a roller, *r*, is journaled between the lower parts of the plates *H* and *K*, which acts as a friction-roller. Since the pawl *f* does not engage in the ratchet *E* when the barrel *C* revolves in a contrary direction, there is no obstacle opposed to the free ascent of the chain *G* and the object suspended by it, so that this object can be readily restored to the ceiling when desired.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A device for suspending lamps, &c., having the following elements in combination: a barrel, *C*, composed of sections *A* and *B*, and containing within it a coil-spring, *F*, a winding-post, *D*, with a square, *c*, at one end, and a screw-thread, *d*, at the other end, and also a pawl, *f*, and spring *g*, a ratchet, *E*, revolving on said winding-post *D*, recessed plates *H* and *K*, inclosing said barrel *C*, a jointed chain, *G*, surrounding the barrel *C* and descending between the plates *H* and *K*, and a thumb-nut, *L*, all constructed and arranged substantially as and for the purpose described.

2. In a device for suspending lamps, &c., a revolving spring-barrel, *C*, and jointed chain *G*, in combination with a winding-post, *D*, and thumb-nut *L*, substantially as and for the purpose described.

3. In a device for suspending lamps, &c., the combination of a revolving ratchet, *E*, with a plate, *K*, and thumb-nut *L*, as and for the purpose described.

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Witnesses:

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