

(No Model.)

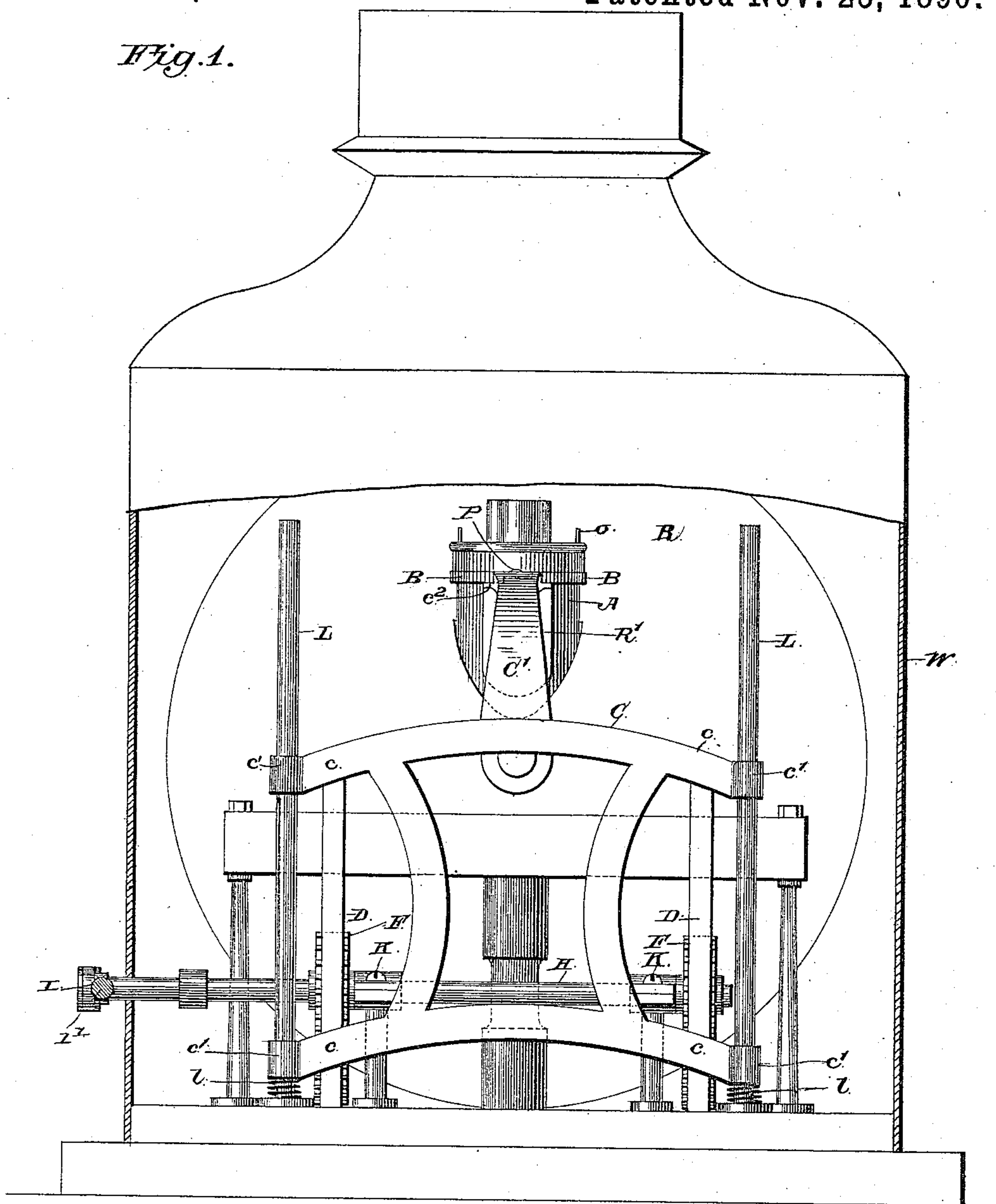
2 Sheets—Sheet 1.

W. R. MUSSER.
SIGNAL LANTERN.

No. 441,323.

Patented Nov. 25, 1890.

Fig. 1.



Witnesses

M. Fowler

Wm. Bagger

Inventor

William R. Musser

By His Attorneys,

C. Snow & Co.

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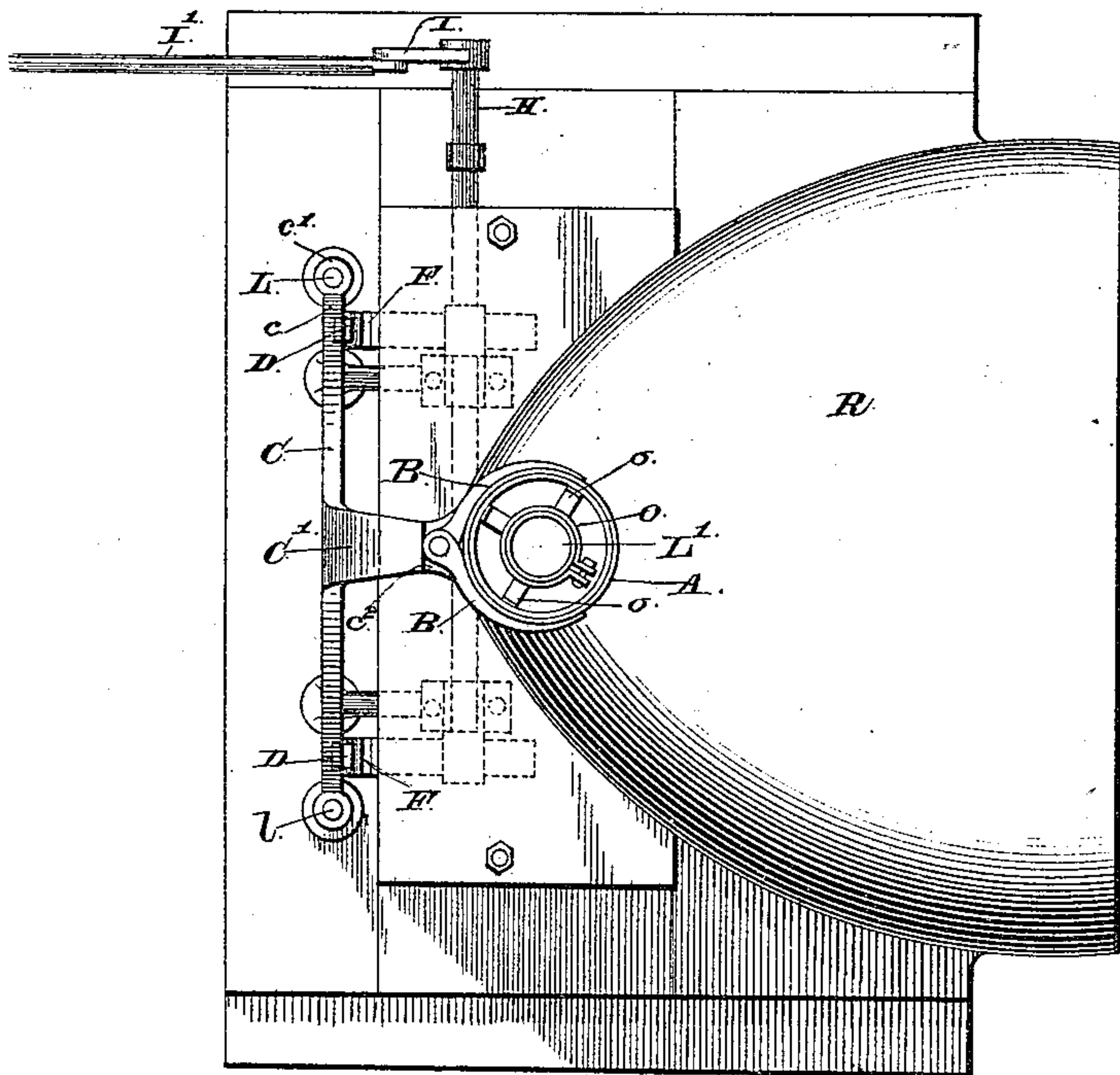


Fig. 2.

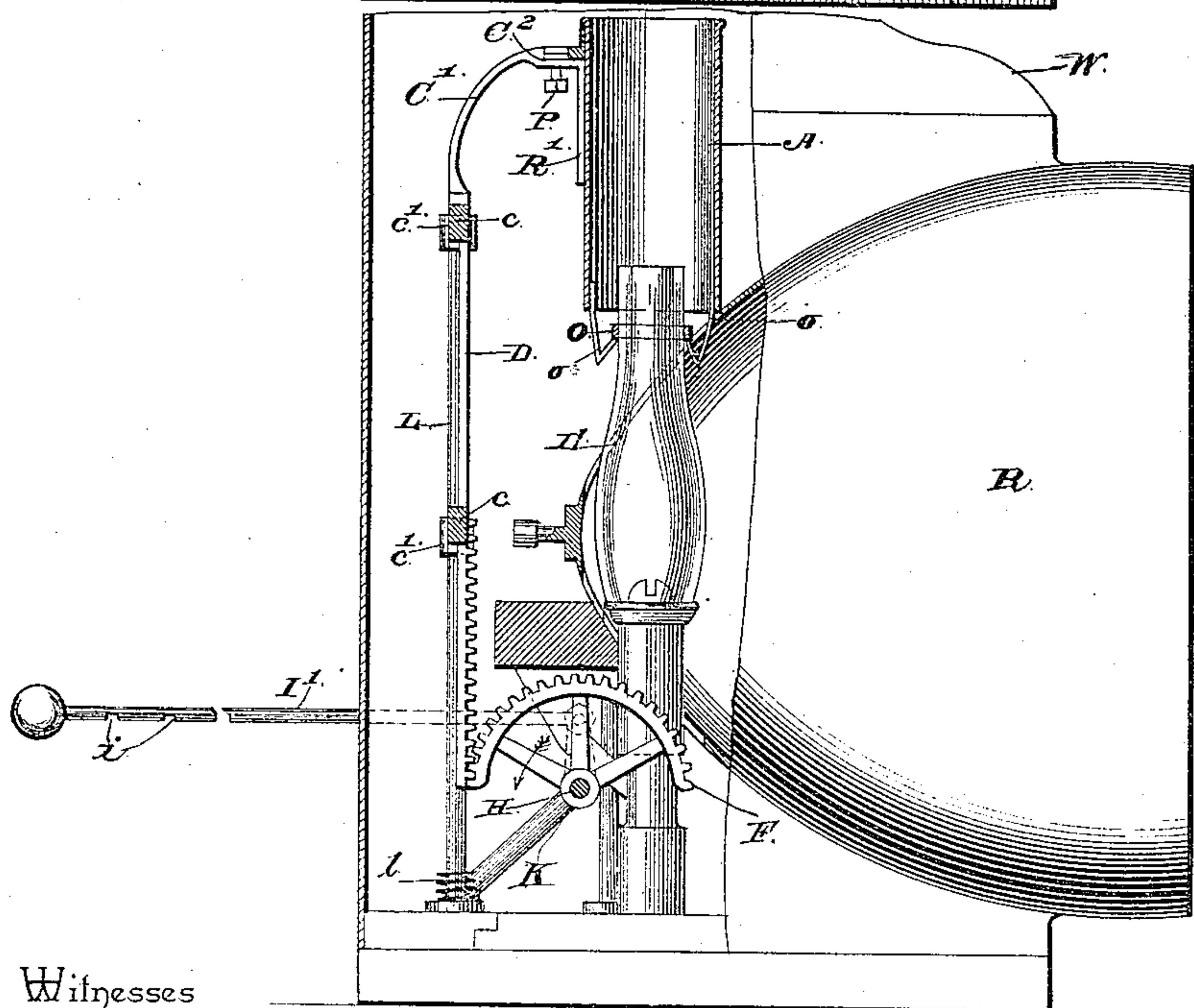


Fig. 3.

Witnesses

Inventor

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Wm. Baggett

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UNITED STATES PATENT OFFICE.

WILLIAM R. MUSSER, OF LYNCHBURG, VIRGINIA.

SIGNAL-LANTERN.

SPECIFICATION forming part of Letters Patent No. 441,323, dated November 25, 1890.

Application filed July 11, 1890. Serial No. 358,377. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. MUSSER, a citizen of the United States, residing at Lynchburg, in the county of Campbell and State of Virginia, have invented a new and useful Signal-Lantern, of which the following is a specification.

My invention relates to signal-lanterns for use upon railroads; and it consists in the construction and combination, with the head-light of a locomotive-engine, of a colored-glass cylinder and mechanism for operating the same in connection with the chimney of the lamp to change the color of the reflected light, which will be more fully hereinafter described, and pointed out in the claims.

I attain the objects by the mechanism illustrated in the accompanying drawings, wherein like letters of reference indicate similar parts in the several views, and in which—

Figure 1 is a rear view of the inside of a lamp-case with my improvement shown in connection therewith. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation partly in section.

W indicates a lamp-case of the construction usually used with locomotive-engines, and which is provided with the ordinary form of parabolic reflector R, and in the rear of which a lamp L' is mounted and passes through an opening in the said reflector, which is the common form of construction and will be readily understood.

In the rear of the lamp L' two upright rods or bars LL are mounted and secured, on which a cross-frame C has vertical movement by means of the arms c thereof, which are provided with collars c' on their outer ends, which pass over the said rods or bars LL. Projecting centrally upward from and formed integrally with the said cross-frame C is a curved arm C', having a shoulder c², formed in the top portion thereof, in which the rear ends of two semicircular clamping-arms B B are pivotally mounted and are adapted to be held in a fixed position by the clamping-bolt P passing therethrough. The projection or arm C' thence merges into a depending brace-plate R', which extends down therefrom. The semicircular clamping-arms B B embrace the upper portion of a colored-glass cylinder or supplemental chimney A immediately under a

head or depression formed of the upper portion thereof, while the brace-plate R' rests against the rear portion of said cylinder A and acts to steady the movement thereof.

In order that an equal space may be maintained around the chimney of the lamp L' and to prevent contact between the said chimney and the supplemental colored chimney or cylinder A, a spider collar O is clamped around the upper part of a lamp-chimney, which is provided with spring-arms oo, which engage with the inner side of the said supplemental chimney.

Between the light-support and the rods LL two journal bearings or boxes K K are mounted and secured to the bottom of the lamp-case W. A transverse shaft H is mounted and has movement in the said journal-boxes K K, and on the ends of which a pair of sector-gears F are keyed and are adapted to mesh with vertical racks D, secured to either side of the frame C. The end of the shaft H extends outside of the lamp-casing and has a crank-arm I mounted on the end thereof, to which one end of a pull or operating rod I' is secured to obtain the desired leverage. The pull-rod I' extends back into the cab of the engine and has a series of notches, as i, Fig. 3, formed therein for engagement with a projection in the cab for the retention of the said rod. Suitable coiled springs ll are mounted on the rods LL below the collars of the cross-frame C, whereby the movement of the said frame is cushioned and eased without shock.

The operation of my invention is as follows: As seen in Fig. 3, the normal position of the supplemental chimney or cylinder A is in the elevated position above the chimney of the lamp L'. When it is desired to bring the said cylinder A into use, the pull-rod I' is drawn back by the engineer or fireman in the cab of the engine, and the projection engaging the recesses i in the said rod is shifted from one to the other of said recesses, thus retaining the device at the desired adjustment. In drawing the pull-rod I' backward, as above stated, the shaft H is turned in the direction of the arrow, Fig. 3, and the sector-gears F revolve and mesh with the rack-bars D, connected to the frame C, which also lowers the supplemental colored chimney or cylinder A

over the chimney of the lamp L', and the reflected white light immediately is changed to a red or green light, depending upon the color of the said supplemental cylinder A.

5 By the use of my attachment in connection with head-lights and railway-signal lights generally an effective danger-signal to be used in case of immediate or anticipated danger can be brought into operation almost instantaneously and retained until its use is
10 desired to be dispensed with.

The improvement can readily be attached in connection with head-lights now in use without alteration to the present fixtures except to slightly enlarge the lamp-chimney
15 hole in the reflector.

Collisions and accidents are prevented by the use of my improved attachment, as a quick and effectual signal can be shown, which would
20 be reflected for a considerable distance and thereby be more readily perceivable.

It is obvious that many minor changes in the construction and arrangement of the parts might be made and substituted for those shown
25 and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, I claim—

1. In a head-light, the combination, with
30 the lamp, of a supplemental colored chimney or transparent cylinder adapted to be lowered over the light, means, as set forth, for operating and controlling the same, and a spider mounted upon the lamp-chimney and having
35 spring-arms bearing against the supplemental chimney or cylinder, substantially as set forth.

2. In a head-light, the combination, with the lamp, of a supplemental colored chimney or transparent cylinder adapted to be lowered
40 over the light, a vertically-movable frame having pivoted clamping-arms to which said cylinder is secured, the spider mounted upon the lamp-chimney and having spring-arms bearing against the supplemental chimney or
45 cylinder, and means, as described, for operating the said cylinder, as set forth.

3. In a head-light, the combination, with

the lamp, of a supplemental colored chimney or transparent cylinder adapted to be lowered
50 over the light, a spider mounted upon the lamp-chimney and having spring-arms bearing against the supplemental chimney or cylinder, a vertically-movable frame to which said cylinder is secured, a rack-bar connected
55 to said frame, a sector-gear mounted on a transverse shaft engaging with said rack, and means, as set forth, for operating the said parts, substantially as described.

4. In a head-light, the combination, with the lamp, of a supplemental colored chimney
60 or transparent cylinder adapted to be lowered over the light, a vertically-movable frame to which said cylinder is connected and which has bifurcated side arms and a central arm, upright rods on which said frame travels,
65 rack-bars connected to said frame, sector-gears meshing with the said rack-bars, a transverse shaft upon which said sector-gears are mounted, a crank-arm mounted on the outer end of said shaft, and a pull-rod connected to
70 said crank-arm and extending back into the cab of the engine, substantially as described.

5. In a head-light, the combination, with the lamp, of a supplemental colored chimney
75 or cylinder adapted to be lowered over the light, a spider O, having spring-arms mounted on the lamp-chimney and engaging with the supplemental cylinder when depressed, the cross-frame 6, having vertical movement on
80 uprights L and having a central curved arm C', semicircular brace-arms B B, pivotally mounted on the upper portion of the said central arm C' and adapted to embrace the supplemental cylinder, a brace-plate R depending from the end of the frame C', and
85 means, as set forth, for operating the said parts, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

W. R. MUSSER.

Witnesses:

E. J. MURPHY,
LEE W. SPRATLEN.