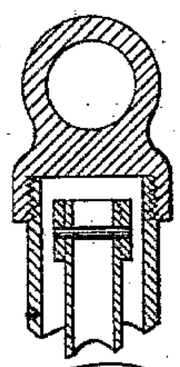
(No Model.)

C. RICHTER.

ELECTRIC ARC LAMP.

No. 283,662. Patented Aug. 21, 1883.

Fig. 1.



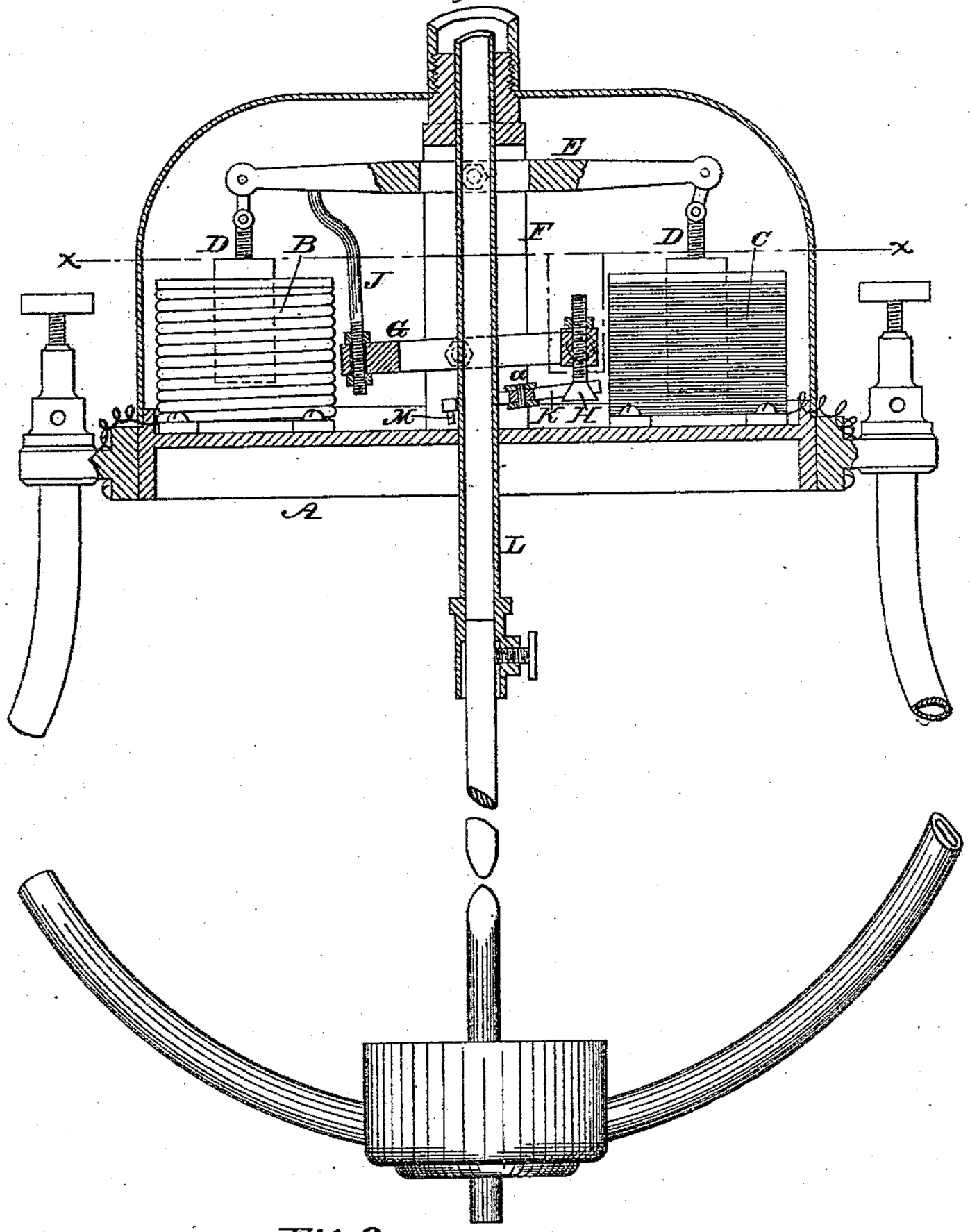
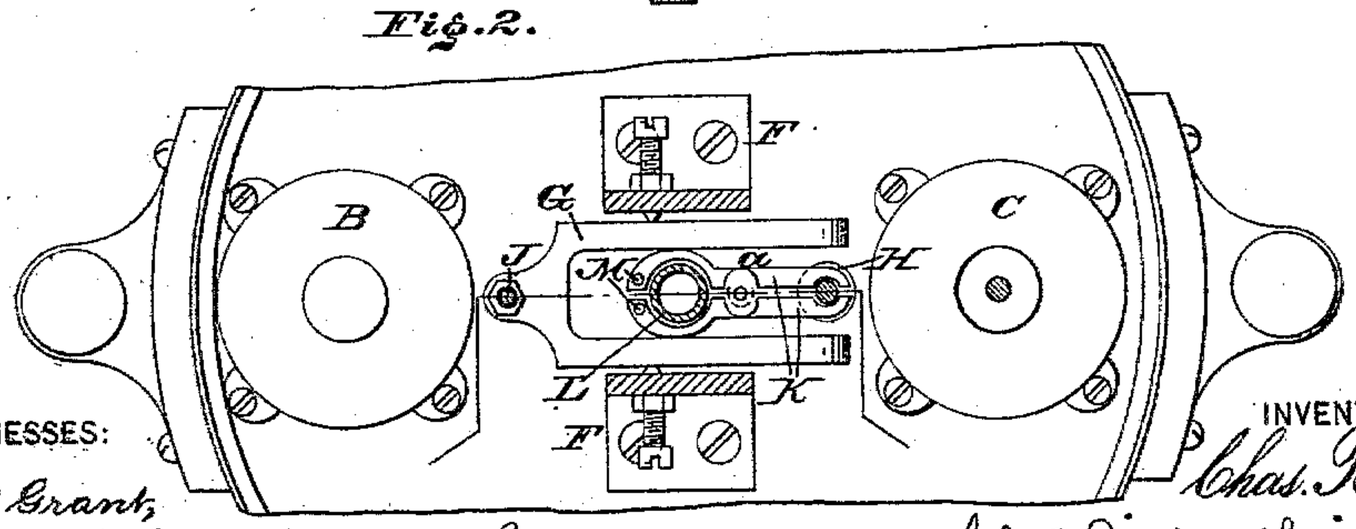


Fig. 2.



WITNESSES:

A. P. Grant,

Wm. F. Kircher

INVENTOR:

Chas. Richter,

BY John A. Wiedersheim.

ATTORNEY.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES RICHTER, OF CAMDEN, NEW JERSEY.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 283,662, dated August 21, 1883.

Application filed November 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RICHTER, a citizen of the United States, residing in the city and county of Camden, State of New Jersey, have invented a new and useful Improvement in Electric-Arc Lamps, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a vertical section of the lamp embodying my invention. Fig. 2 is a horizontal section thereof in line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

My invention relates to improvements in the means for feeding electric-arc lamps; and it consists of novel clutch or clamping mechanism for the carbon-holder, as will be hereinafter fully set forth.

Referring to the drawings, A represents a plate, which is properly connected with the frame of an electric-arc lamp and supports the electro-magnets B C, the magnet B having its coils included in the main or arc circuit and the magnet C forming part of a shunt of high resistance about the lamp.

D represents the armatures of the magnets B C, the same being suspended from the ends of a lever, E, which is pivoted to a yoke or frame, F, connected to the plate A or frame of the lamp. To said yoke is also pivoted a lever, G, one end of which has pivoted to it the stem of a conical-shaped piece or head, H, and the other end has secured to it an arm, J, which rises therefrom, so as to be engaged by the end of the lever E, and thereby depressed.

K represents a pair of nippers, the two parts of which are pivoted together, as at *a*, and located below the lever G, the jaws of one end embracing the carbon-holder L and those of the other end embracing the head H, it being seen that the levers E G are bifurcated or spread to permit the passage of the carbon-holder, the pivots or bearing-screws of said levers being fitted to the sides of the same.

Depending from the end of the nippers, adjacent to the carbon-holder, are pins or studs M, which, when the nippers are lowered, are adapted to rest on the plate A. Under normal conditions of the arc the main magnet preponderates, thus drawing down the lever E, depressing the arm J, and raising the head H, the action of the latter forcing apart the contiguous ends of the nippers, whereby the opposite ends of the same clamp the carbon-holder and sustain it against downward movement. These conditions are reversed by the preponderating influence of the shunt-magnet, caused by the elongation of the arc, in which case the lever E rises, thus relieving the arm J and lever G, so that the head H and the nipper K lower, and the carbon-holder is permitted to fall with said nippers until the studs M reach the plate A and rest thereon. The head H continues to lower, the weight of the end of the lever with which it is connected being greater than the end which carries the arm J, and said head moves from the contiguous walls of the nippers, so that the opposite ends of the nippers separate and relieve the carbon-holder, which is thus permitted to continue its descent. The magnet immediately preponderates, and thus causes the lowering of the lever E, whereby the arm J and the connected arm of the lever G are depressed and the head H is raised, said head, as it enters the nippers, owing to its conical shape, forcing together the clamping portion of the nipper against the carbon-holder, which latter is thus raised with the head the height required to separate the carbon-points, and thus the feed is adjusted.

Owing to the delicacy of operation of the nippers on the carbon-holder, the adjustment of the feed is accomplished in a gradual and gentle manner, whereby there is no flickering or irregularity of the light.

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

1. In a feeding device for an electric-arc lamp, the carbon-holder, in combination with nippers formed of parts pivoted together, and an operating-head, said head being clasped by the nippers on one side of their pivot, and said carbon-holder by the nippers on the other side of said pivot, substantially as and for the purpose set forth.

2. The plate A and the carbon-holder, in combination with the nippers having studs on the end of said nippers, which clasp the carbon-holder, the other end of said nippers being adapted to clasp head H, substantially as and for the purpose set forth.

CHARLES RICHTER.

Witnesses:
JOHN A. WIEDERSHEIM,
A. P. GRANT.