(No Model.)

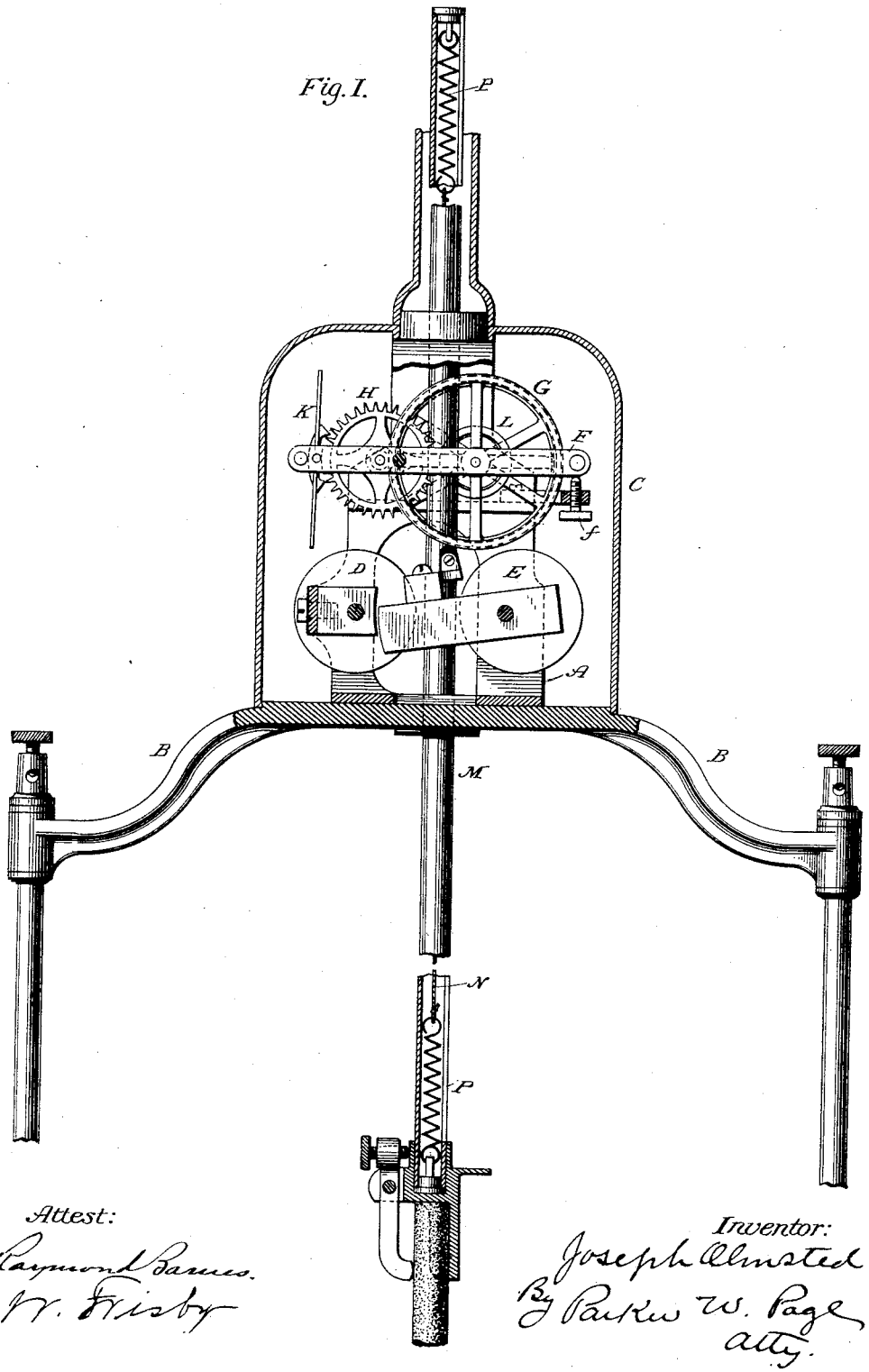
2 Sheets—Sheet 1.

J. OLMSTED.

ELECTRIC ARC LAMP.

No. 263,296. Patented Aug. 22, 1882.

Fig. I.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

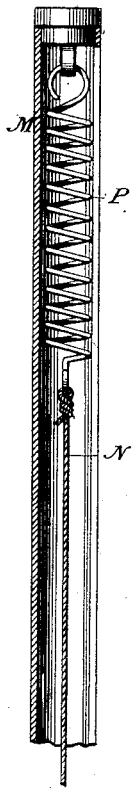

Fig. 3.

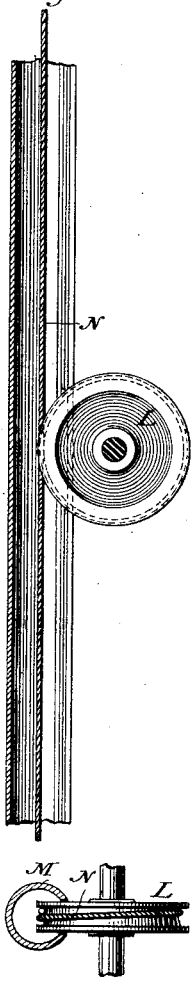

Fig. 4.

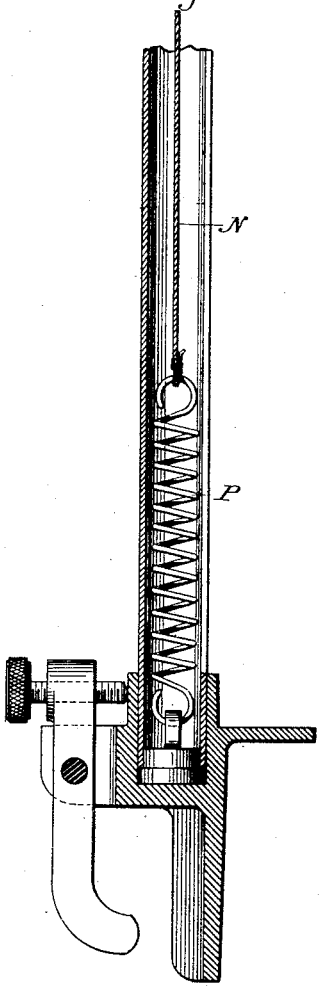

Fig. 5.

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UNITED STATES PATENT OFFICE.

JOSEPH OLMSTED, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR TO THE UNITED STATES ELECTRIC LIGHTING COMPANY, OF NEW YORK, N. Y.

ELECTRIC-ARC LAMP.

SPECIFICATION forming part of Letters Patent No. 263,296, dated August 22, 1882.

Application filed April 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH OLMSTED, a citizen of the United States, residing in Montreal, in the Province of Quebec and Dominion of Canada, have invented certain new and useful Improvements in Electric-Arc Lamps, of which the following is a specification, reference being had to the accompanying drawings.

My improvements relate to electric-arc lamps which contain one or more pairs of electrodes and devices for feeding the same. The improvements are generally applicable to such lamps whether they are constructed to move one or both carbons or electrodes; and they consist in a novel and useful device for connecting the movable carbon holder or holders with the feed-regulating devices. In previous lamps this connection has been effected by means of clamping mechanism, by the employment of a pinion which meshes with a rack on the carbon-holder, and also by the use of a pulley over which a cord or chain is passed that connects with the holder. In the lamps containing a cord and pulley, however, it has been customary heretofore to use a compensating-weight, or to attach the end of the cord to some moving part of the lamp mechanism independent of the holder. Under my present plan I connect the cord to opposite ends of the carbon-holder and give it one or two turns about the pulley, so that a vertical movement of the holder causes a rotary movement of the pulley, or vice versa.

The conditions under which I design applying this invention to practical purposes will be understood by reference to the accompanying drawings, which represent a lamp constructed in accordance with a patent granted to me January 17, 1882, and exhibit a carbon-holder connected to or with the regulating mechanism in the manner above described.

In Figure 1 are represented in elevation and part section the upper portions of a lamp embodying my invention. Fig. 2 is a sectional view of the upper portion of the carbon-holder with a cord and spring contained therein; Fig. 3, a sectional view of the central portion of the same, showing the pulley by means of which connection is made with the feed mechanism. Fig. 4 is a sectional view of the lower end of the carbon-holder; and Fig. 5 is a horizontal section of Fig. 3, taken just above the pulley.

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

A is a frame supporting the feed-controlling mechanism. It is mounted, in the usual manner, on a cross bar or plate, B, and carries an inclosing-casing, C. To the lower parts of said frame are secured the magnets D E, the former fixed, the latter pivoted, as in the patent above referred to. Above the system of magnets, the latter of which acts as or in the place of a movable armature, is pivoted the lever F, carrying a brake-wheel, G, a scape-wheel, H, and a retarding-escapement, K. On the shaft of the first member of the train—that is, the brake-wheel G—is a grooved pulley-wheel, L. To this latter the carbon-holder M is connected in the following manner: The holder consists of a tube slotted along the greater part of its length. To the opposite ends a cord, N, is connected, which passes by one or more turns around the grooved pulley L. For convenience and greater efficiency the cord is contained within the slotted tube, being attached to the opposite interior ends of the holder; and to take up slack and prevent the holder from slipping a spring or springs, P, are connected therewith, substantially in the manner shown. One spring may be sufficient to accomplish the desired object, though two may be used to advantage. The pulley L enters the slot in tube M and sustains the carbon-holder and carbon, allows it to feed, and obviates any lost motion, such as occurs in the case of a rack and pinion.

In conjunction with the lever F is an adjustable stop, *f*, and on the poles of the armature or movable magnet E is a lifting-arm in the path of movement of the brake-wheel G.

The remaining parts of the lamp and the operation of the mechanism hereinbefore described are similar in all respects to those set forth in my Patent No. 252,397, and, as in this case I am concerned only with the construction of the carbon-holder and the manner of connecting the same with the train of regulat-

ing-gears, a further exposition of these is not here given. I would state that the same or substantially similar means of connection may be employed with a great variety of lamps employing a train of wheels, and that the present form is given only as an illustration.

Having now described my invention, what I claim is—

1. In an electric lamp with feed-regulating mechanism containing a wheel or wheels, the combination, with a pulley-wheel constituting one of the train, of a carbon-holder and cord secured to opposite ends of the same and passing around the said pulley, substantially as and for the purpose set forth.

2. In an electric lamp of the kind described, the combination, with a grooved pulley-wheel forming one of the feed-regulating train, of a slotted carbon-holder and cord secured to opposite interior ends of the same and passing around the grooved pulley-wheel, substantially as set forth.

3. The combination, with a pulley-wheel constituting one of a train of regulating-gears, of a slotted carbon-holder, a cord secured to opposite interior ends of the same and passing around the pulley, and a spring or springs connected with the cord, substantially in the manner specified.

In testimony whereof I have hereunto set my hand this 10th day of April, 1882.

JOSEPH OLMSTED.

Witnesses:

RAYMOND F. BARNES,

W. FRISBY.