B. B. LACY.

CARBON HOLDER FOR ELECTRIC ARC LAMPS.

APPLICATION FILED JULY 24, 1911.

1,090,726.

Patented Mar. 17, 1914.

Fig. 1.

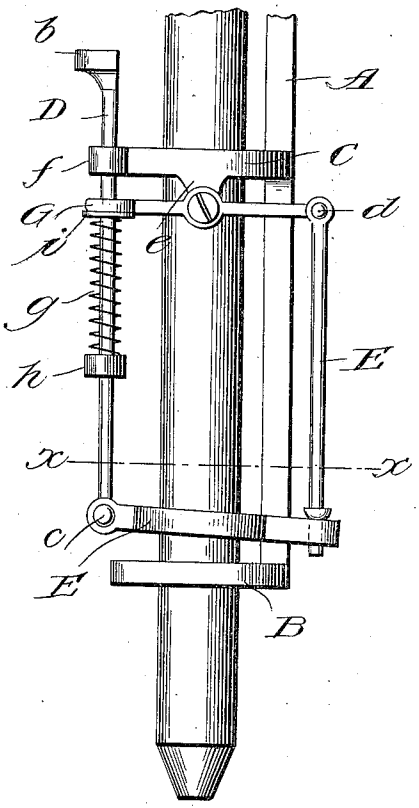


Fig. 2.

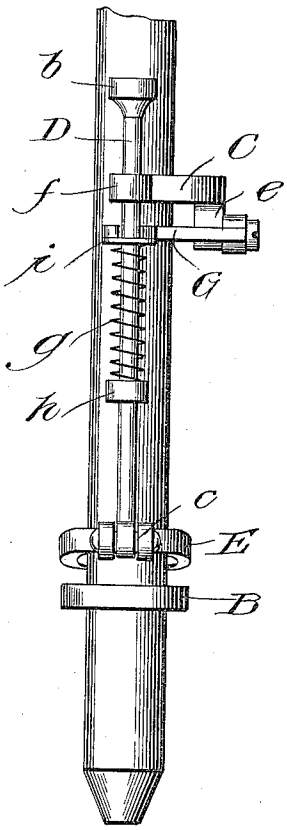
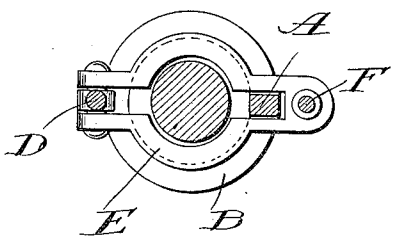


Fig. 3.



WITNESSES

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BENJAMIN BURTON LACY, OF HOUSTON, TEXAS, ASSIGNOR TO HENRY E. ELROD.

CARBON-HOLDER FOR ELECTRIC-ARC LAMPS.

1,090,726. Specification of Letters Patent. Patented Mar. 17, 1914.

Application filed July 24, 1911. Serial No. 640,273.

To all whom it may concern:

Be it known that I, BENJAMIN B. LACY, a citizen of the United States, and resident of Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Carbon-Holders for Electric-Arc Lamps, of which the following is a specification.

The present invention relates to carbon-holders for electric-arc lamps and has for its purpose to provide an arrangement of that character wherein the carbon clutch or lifting member is more positively and effectively caused to perform its function.

In carbon-holders and feeders as now generally used, the dog member of the carbon clutch depends in part upon gravity to perform its canting action, and for this reason, is unreliable to the extent that its operation is not at all times positively assured. In the arrangement here proposed, it is therefore, the purpose to devise a means whereby the canting dog is caused to be positively actuated to grip the carbon in direct proportion, substantially, to the extent of movement at which the carbon is lifted in creating the arc.

Summarily stated, the structure contemplated consists of the usual supporting frame, the canting dog and its lifting rod which is actuated by the controller, and associated with these parts is a spring and lever arrangement, which operates to depress one side of the dog while the opposite side thereof is being lifted, and through the movement which affects the latter.

The invention is shown in its preferred embodiment in the accompanying drawing, wherein,

Figure 1 is a side elevation thereof; Fig. 2 is an end view of the same; and Fig. 3 is a plan view in section on the line *x*—*x* of Fig. 1.

Referring to the several figures in further detail and with corresponding parts referred to by the same characters throughout, A designates a vertically disposed bar of the supporting frame and at whose lower end is formed the upper carbon-guiding ring B. The bar A has also formed therewith, a laterally disposed arm C, which, on its free end, is provided with an offset apertured lug *a* within which is mounted to have movement, the clutch lifting lever D. On its upper end, the rod D is fitted with a shoulder *b*, which latter coöperates with the arm of the controller after the usual manner. On its lower end, the rod D has pivoted thereto at *c* the clutch ring E, which, when canted, engages with and lifts the carbon as will be obvious. To render this canting action of the clutch ring E more positive, said ring is, on that side opposite its pivotal mount, connected with a canting rod F, which rod has its upper end *d* pivotally connected with the lever G, which is in turn pivotally mounted on the lug *e* of the arm C. The free end of the lever G is formed with an eye *f* through which passes the lifting rod D. Coöperating with the lever G and the canting rod F is an actuating or accelerating spring *g*, said spring being mounted upon and surrounding the rod D. The lower end of the spring *g* is seated upon a shoulder *h*, fixed upon the rod D and the upper end thereof lies against the washer *i*, which washer in turn binds against the eye *f*. With this arrangement, it will be clear that with lifting the rod D, the spring *g* is tensioned against the pivoted lever G and with this lever depressing the rod F, the resultant effect is that the clutch ring E is canted positively and substantially on the instant that the lifting rod D is raised. On the lowering of the rod D, the reverse movement of that just described is effected and in precisely the same period of time.

I claim:—

1. In a carbon-holder for electric-arc lamps, the combination of a vertical bar formed with a carbon-guiding ring and an arm, a clutch ring for the carbon, a lifting rod for said clutch ring mounted in the said arm, a lever pivotally mounted on the arm and having connections with said lifting rod, a canting rod connected with said lever and with the clutch ring and adapted to depress its adjacent side of said clutch ring when the lifting rod raises the opposite side thereof.

2. In a carbon-holder for electric-arc lamps, the combination of a vertical bar formed with a carbon-guiding ring and an arm, a clutch ring for the carbon, a lifting rod for said clutch ring mounted to have movement within said arm, a lever pivotally mounted on said arm and having one end formed with an eye through which the lifting rod passes, a spring mounted on said lifting rod and having one end disposed against the eye of said lever, and a canting rod pivotally mounted on the opposite end

of said lever and having connection with the said clutch ring, said canting rod being actuated through the pivoted lever and lifting rod, and operable to effect the depression of one side of said clutch ring simultaneously with the lifting of the opposite side thereof.

3. In an electric arc lamp, the combination of a vertical member provided with a carbon guiding ring and an arm, a carbon sliding in said ring, a clutch for the carbon, a lifting rod for said clutch having one end slidably mounted in the said arm, a lever pivotally mounted on the arm, and having connection at one end with said lifting rod, a second rod connected with the other end of said lever and with the clutch and adapted to depress one part of said clutch when the lifting rod raises the opposing part thereof.

4. In an electric arc lamp, the combination of a vertical member provided with a carbon guiding ring and an arm, a carbon sliding in the ring of said member, a clutch acting on said carbon, a rod connected to one part of said clutch, a second rod connected to another part of said clutch, a lever pivotally mounted on the arm, a pivotal connection between one rod and the lever on one side of the pivot of the latter and a yielding connection between the other rod and said lever on the other side of said pivot including an eye on the lever through which the rod passes and a spring having one end connected to the rod and the other abutting against the eye of said lever.

The foregoing specification signed at Houston, Texas, this 27th day of January, 1911.

BENJAMIN BURTON LACY.

In presence of—
W. H. FALKLER,
D. G. MAVRICO.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."