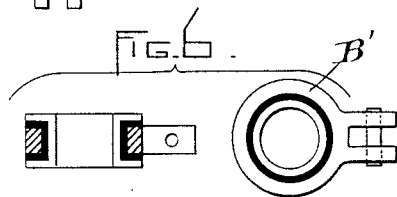
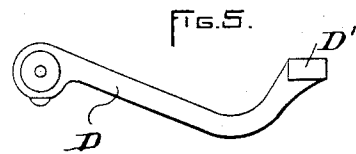
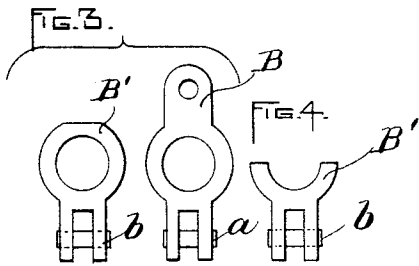
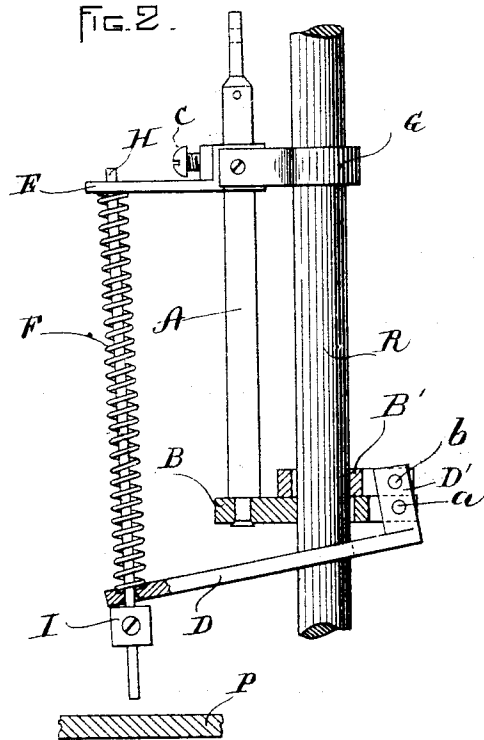
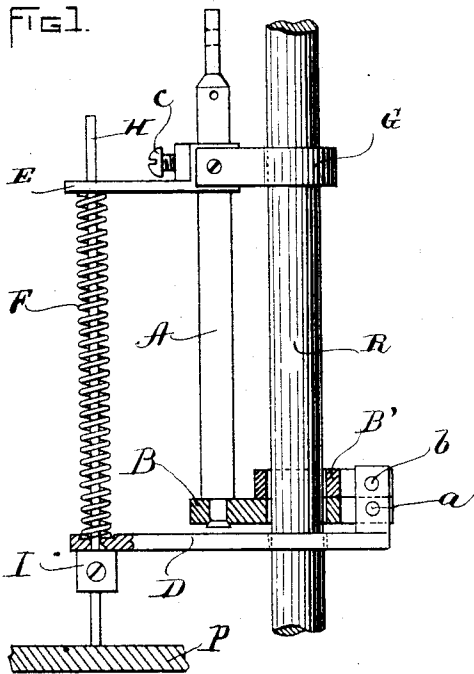


(No Model.)

W. B. LUCE.
ELECTRIC ARC LAMP CLUTCH.

No. 539,365.

Patented May 14, 1895.



WITNESSES

Fred C. Garth.
Geo. S. Dolloff

INVENTOR:

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WILLIAM B. LUCE, OF BROOKLINE, MASSACHUSETTS, ASSIGNOR TO E. S. RITCHIE & SONS, OF SAME PLACE.

ELECTRIC-ARC-LAMP CLUTCH.

SPECIFICATION forming part of Letters Patent No. 539,365, dated May 14, 1895.

Application filed March 15, 1894. Serial No. 503,733. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. LUCE, a citizen of the United States, residing at Brookline, in the county of Norfolk and State of Massachusetts, have invented a new and useful Clutch for an Electric-Arc Lamp, of which the following is a description.

My invention relates to improvements in a clutch for electric lamps, by means of which the carbon-rod is held firmly, lifted or easily loosened, and fed downward when necessary, the clutch having broad grasping surfaces and being very simple and strong in action.

It also relates to the brushes, by means of which sparking between the clutch and rod is reduced to a minimum.

I obtain these objects by mechanism illustrated in the accompanying drawings.

Figure 1 is a side elevation, partly in section, with the mechanism in such a position as to allow the carbon-rod to slip through it without hinderance. Fig. 2 is also a side elevation, partly in section, in the position of the clutch when the carbon-rod is held firmly in place. Figs. 1 and 2 also show the brushes bearing on the carbon-rod. Fig. 3 is a horizontal plan of the plates which grasp the carbon-rod. Fig. 4 is a modification of the plate B'. Fig. 5 is a plan of the lever. Fig. 6 is the movable plate with insulated bushings.

Similar letters refer to similar parts throughout the several views.

The clutch-rod A, is attached as usual in the mechanism of certain electric lamps, and to the lower end of it is attached the plate B, through which the carbon-rod R passes. The upturned arm D' of the lever D is pivoted to said plate B by the fulcrum pin *a*. The movable, sliding plate B' which presses against the carbon-rod is attached to the arm of the lever D at *b* and slips easily over the surface of the plate B. On the rod A is the adjustable arm D' held by the screw *c*, in any position on the rod A, as may be desirable so that the adjusting spring F, may have any desired tension. Attached to this arm E, are the brushes G, which clasp the carbon-rod R, and this arm also serves as a guide to the rod H. The rod H, passes through the arm E, and also at its other end through the lever D, and rests when the lamp is not in use on the plat-

form P. It has an adjustable stop I. The spring around the rod H, serves to depress the lever D, thereby working the mechanism of the clutch, and holding the carbon-rod R, firmly as shown in Fig. 2.

In action the mechanism of the lamp lifts the clutch, the spring F, depresses the lever D, which in turn moves the plate B', binding and holding the carbon-rod R, which is then lifted with the clutch. When the lamp feeds, the clutch together with the carbon-rod, is slowly lowered until the rod H, presses upon the platform P, sufficiently to overcome the resistance of the spring, and the adjustable stop I, striking the lever D, moves it upward thereby pushing back the plate B', and releasing the pressure upon the carbon-rod sufficiently to allow it to slip downward.

I do not confine myself to the use of a ring but a modification as shown in Fig. 4, can be used. The plates B, and B' may be also bushed with a material that can be replaced when worn out or insulated to prevent sparking as shown in Fig. 6.

I am aware that prior to my invention a clutch has been made with a combination of the adjustable spring and lever.

What I do claim, however, as my invention, and desire to secure by Letters Patent, is—

1. In a clutch for an electric arc lamp, the lifting rod A and a thickened clamping plate or ring B extending rigidly from its lower end and recessed to receive the carbon-rod, in combination with a movable ring or plate B', similarly recessed, resting on said rigid plate, and an operating lever having an upturned arm fulcrumed centrally on said rigid plate and pivoted to the movable plate, substantially as and for the purpose set forth.

2. In a clutch for an electric arc lamp the combination with the carbon-rod R, of a vertical lifting rod A, a recessed clamping plate or ring B, projecting rigidly from the rod A, a movable plate or ring B' above the rigid plate, and a lever D formed with a terminal arm D', pivotally connected to the two plates B, and B', and a tension spring F, substantially as and for the purpose specified.

3. In a clutch for an electric arc lamp the combination with the carbon-rod of a lifting rod A, a recessed plate or ring B projecting

rigidly from the foot of said rod A, a movable plate or ring B' above the rigid plate, a lever D formed with an upturned lateral arm D', pivotally connected to the plates B, and B', a
5 tension spring F, the brushes G, bearing upon the carbon rod R, the guide rod H, with the adjustable stop I, and the adjustable arm E, substantially as and for the purposes specified.

4. In a clutch for an electric arc lamp a

clutch ring or plate composed of an inner ring 10 or plate, a ring or plate of insulating material and an outer plate or ring substantially as and for the purpose specified.

WILLIAM B. LUCE.

Witnesses:

FRED C. GARTH,

GEO. S. DOLLOFF.