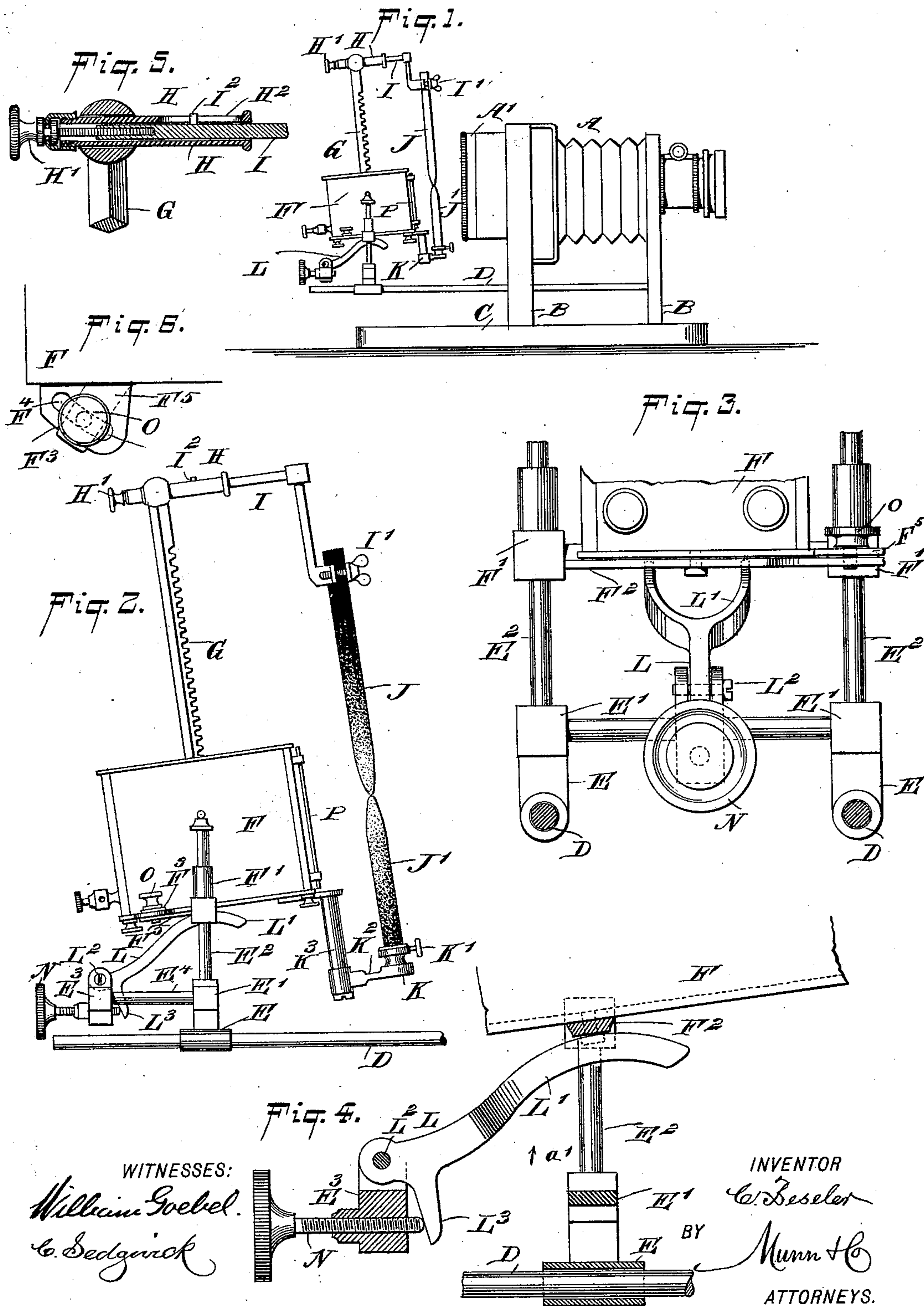


(No Model.)

C. BESELER.
ELECTRIC ARC LIGHT FOR MAGIC LANTERNS.

No. 521,362.

Patented June 12, 1894.



UNITED STATES PATENT OFFICE.

CHARLES BESELER, OF JERSEY CITY, NEW JERSEY.

ELECTRIC-ARC LIGHT FOR MAGIC LANTERNS.

SPECIFICATION forming part of Letters Patent No. 521,362, dated June 12, 1894.

Application filed March 16, 1894. Serial No. 503,865. (No model.)

To all whom it may concern:

Be it known that I, CHARLES BESELER, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Electric-Arc Light for Magic
5 Lanterns, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved electric arc light for magic
10 lanterns, which is simple and durable in construction, and arranged in such a manner as to enable the operator to conveniently and accurately adjust the light relative to the condenser of the magic lantern, to produce
15 the best results on the screen.

The invention consists of certain parts and details, and combinations of the same, as will be hereinafter described and then pointed out in the claims.

20 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement as applied. Fig. 2 is an enlarged side
25 elevation of the improvement. Fig. 3 is an enlarged end elevation of the raising and lowering device for the casing. Fig. 4 is a sectional side elevation of the same. Fig. 5 is
30 an enlarged sectional side elevation of the adjusting device for the upper carbon; and Fig. 6 is a plan view of part of the casing.

The magic lantern A of any approved construction, is mounted in the usual manner on
35 the standards B erected on a base C, and the said standards support rearwardly extending guide rods D on which are fitted to slide the cross heads E, connected with each other by the usual cross bar E', as plainly shown in
40 Fig. 3. The cross heads E support posts E² on which are fitted to slide vertically the sleeves F' connected with each other by a cross bar F², on which is pivoted the arc light casing F containing the usual compensating
45 mechanism for the carbons, the said casing being also provided with binding posts for making the necessary connection with the conducting wires for the electricity. The compensating mechanism is provided with
50 the usual rack G mounted to slide in the casing F and carrying at its upper end a tube

H, in which is fitted to slide longitudinally a rod I, by means of a screw rod H' mounted to rotate in the said tube H and screwing in the inner end of the said rod I. The outer
55 end of the rod I is provided with a clamp I' for the upper carbon J, and the said rod is prevented from turning by a pin I² projecting from the rod, and engaging a longitudinally-extending slot H² formed in the tube H, as
60 plainly illustrated in Fig. 5.

In alignment with the upper carbon J is the lower carbon J' held in a socket K by means of said screws K', the said socket being provided with an arm K² mounted to swing
65 loosely on a stud K³ projecting downwardly from the front end of the casing F, as plainly shown in Figs. 1 and 2.

In order to raise and lower the casing F on the posts E², I provide a bell crank lever L
70 having the front end of its arm L' curved and forked to engage the under side of the cross piece F² carrying the casing F, as previously described. The bell crank lever L is fulcrumed at L³ on a projection E³ supported by
75 arms E⁴ from the cross heads E, and in the said projection E³ screws a screw rod N engaging the other arm L³ of the bell crank lever L, see Fig. 4. Now, it will be seen that by turning the screw rod N in one direction
80 it screws inward and presses on the arm L³ of the bell crank lever, so as to swing the latter upward in the direction of the arrow a', whereby the other arm L' on account of engaging the cross piece F² of the casing F
85 causes the latter to slide upward on the standards E². By turning the screw rod N in the opposite direction or rearward, the bell crank lever L will swing downward in the inverse direction of the arrow a', by the weight of the
90 casing F then sliding on the posts E².

The casing F, as previously mentioned, is pivoted on the cross piece F², and on the said casing near one rear corner is formed a projecting lip F³ (see Fig. 6) having a segmental
95 slot F⁴, the center of which is the pivot connecting the casing F with the cross piece F². Through this segmental slot F⁴ passes a set screw O screwing in a projection F⁵ forming part of the cross piece F², so that by screwing
100 up the set screw the lip F³ is clamped to the projection F⁵, so that the casing F cannot

turn on its pivot on the cross piece F². By unscrewing the set screw the casing F may be swung to the right or left, so that the contacting point of the carbons J, J' is brought
 5 into a central position relative to the condenser A' of the magic lantern A. On the front end of the casing F is held a shield P made of asbestos or other suitable material so as to shield the casing F and also form a
 10 sort of reflector for the arc light produced between the carbons J, J', directly in front of the said shield.

It will be seen that by the arrangement described, the casing F may be readily raised
 15 or lowered and turned sidewise, so as to bring the contacting point of the carbons J and J' into the proper central position relative to the center of the condenser A'. It will also be seen that the upper carbon J can be lon-
 20 gitudinally adjusted so as to hold it in proper relative relation to the lower carbon J' fixed in the socket K, as the latter being mounted on the arm K² swinging from the stud K³ enables the operator to adjust the said carbon
 25 J' relative to the center of the condenser A' whenever necessary.

By having the entire arc light arranged in such a manner that it can be longitudinally adjusted on the rods D, the contact point be-
 30 tween the carbons J, J', can be moved nearer to or farther from the condenser A', as the case may require.

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

1. An electric arc light for magic lanterns, comprising a casing mounted to slide verti-
 40 cally and supporting the carbons, a bell crank lever engaging with one arm the said casing, and means for imparting a swinging motion to the said bell crank lever to raise or lower

the said casing, substantially as shown and described.

2. An electric arc light for magic lanterns, comprising longitudinally-adjustable posts, 45 connected sleeves fitted to slide on the said posts, a casing pivoted on the cross bar connecting the said sleeves with each other, a bell crank lever engaging the said cross bar, and a screw rod engaging the said bell crank 50 lever to raise or lower the said casing, substantially as shown and described.

3. An electric arc light for magic lanterns, comprising sleeves fitted to slide vertically, a cross bar for connecting the sleeves with 55 each other, a casing pivoted on the said cross bar and provided with a lip having a slot, and a set screw screwing in a projection from the said cross bar and engaging the said slot in the lip, substantially as shown and described. 60

4. An electric arc light for magic lanterns; provided with a carbon carrier, comprising a tube supported on a rack, a rod fitted to slide 65 in the said tube and provided with a clamp for the carbon, and a screw rod turning in the said tube and screwing in the said rod, substantially as shown and described.

5. An electric arc light for magic lanterns, provided with a carbon carrier, comprising a tube supported on a rack, a rod fitted to slide 70 in the said tube and provided with a clamp for the carbon, a screw rod turning in the said tube and screwing in the said rod, and a pin projecting from the said rod and engaging a longitudinal slot in the said tube to prevent 75 the rod from turning, substantially as shown and described.

CHARLES BESELER.

Witnesses:

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