

(No Model.)

J. B. COLT.  
MAGIC LANTERN.

No. 430,114.

Patented June 17, 1890.

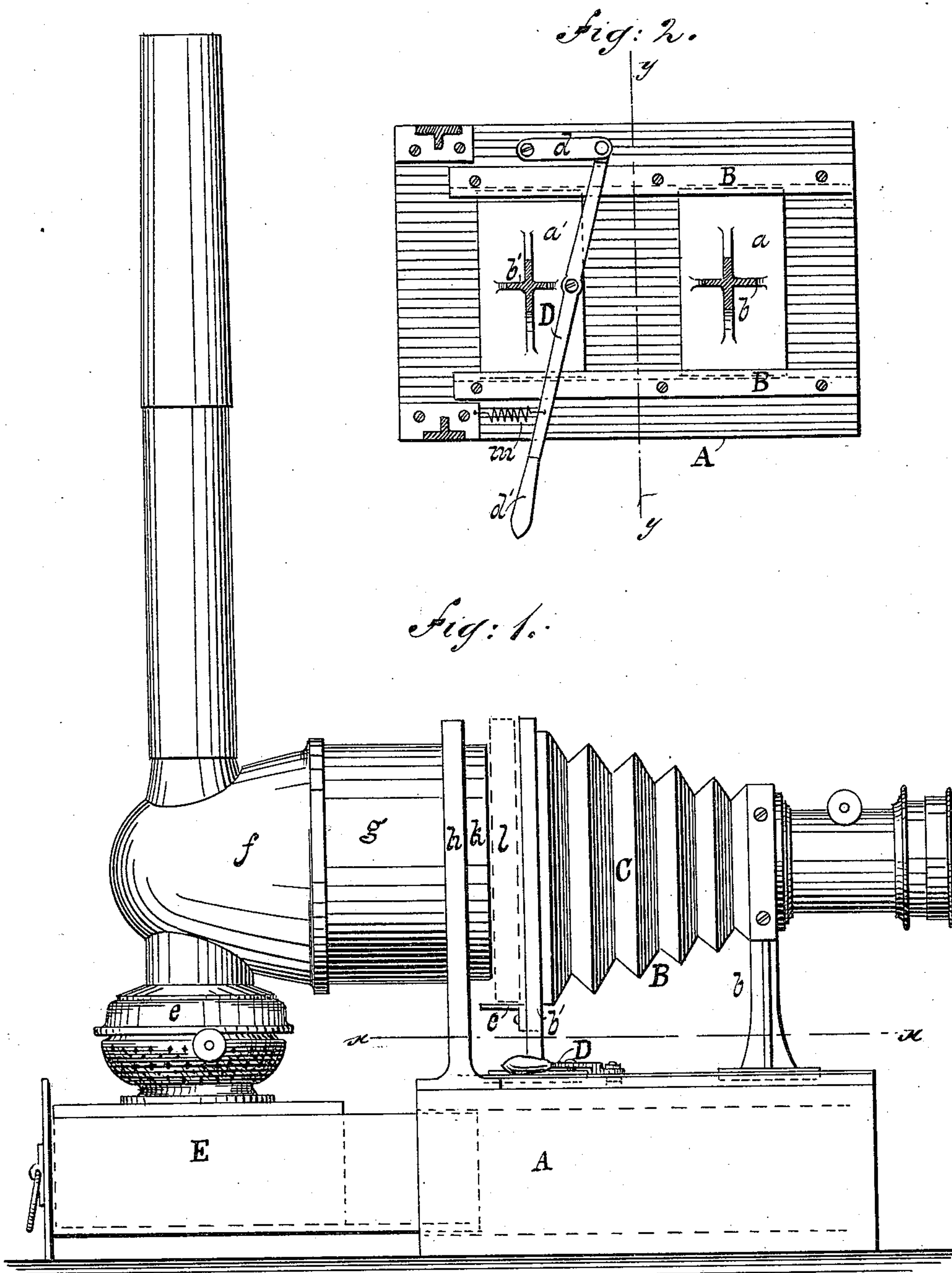


Fig. 1.

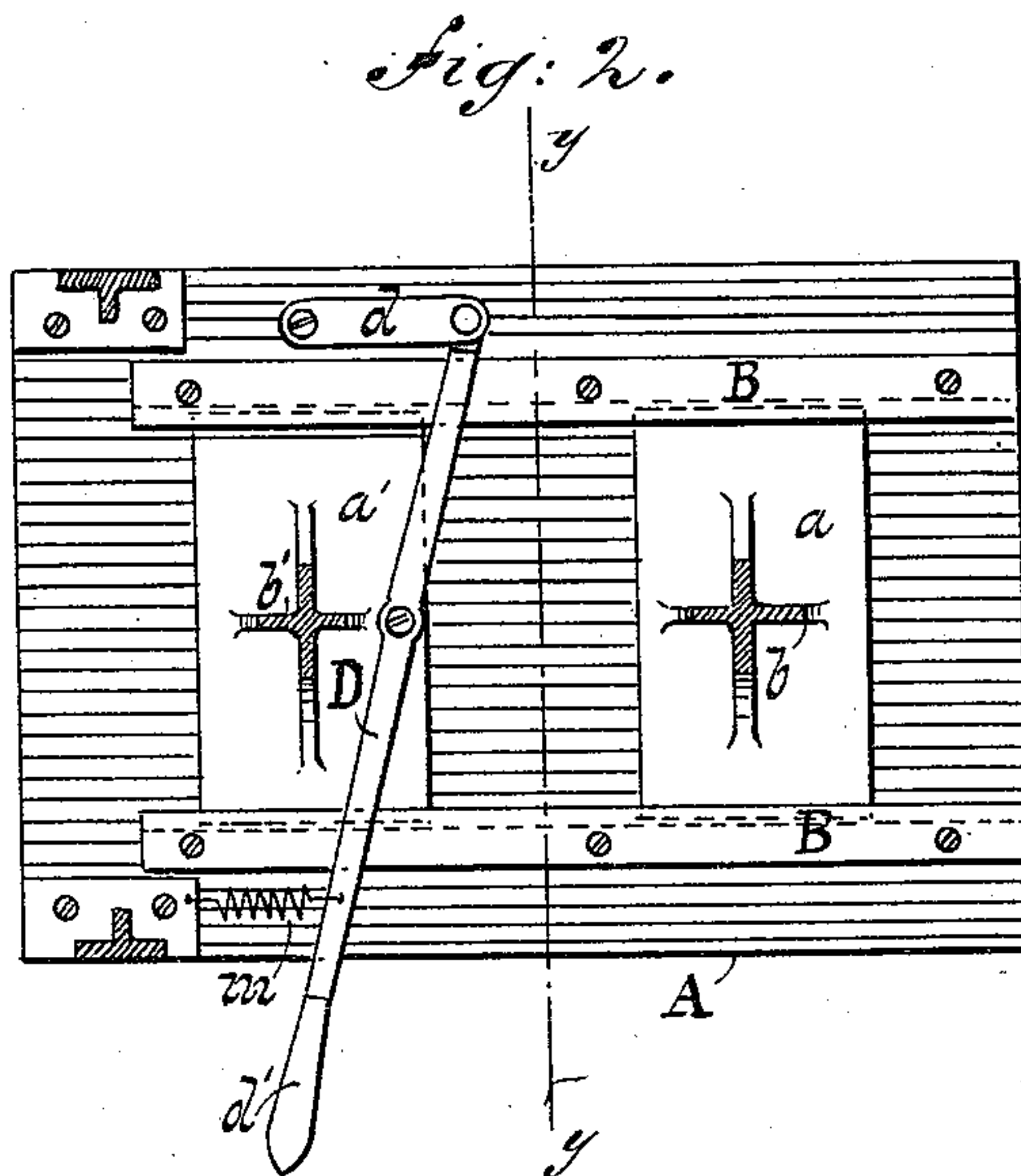


Fig. 2.

WITNESSES:  
*Chas. Vida.*  
*D. H. Carpenter.*

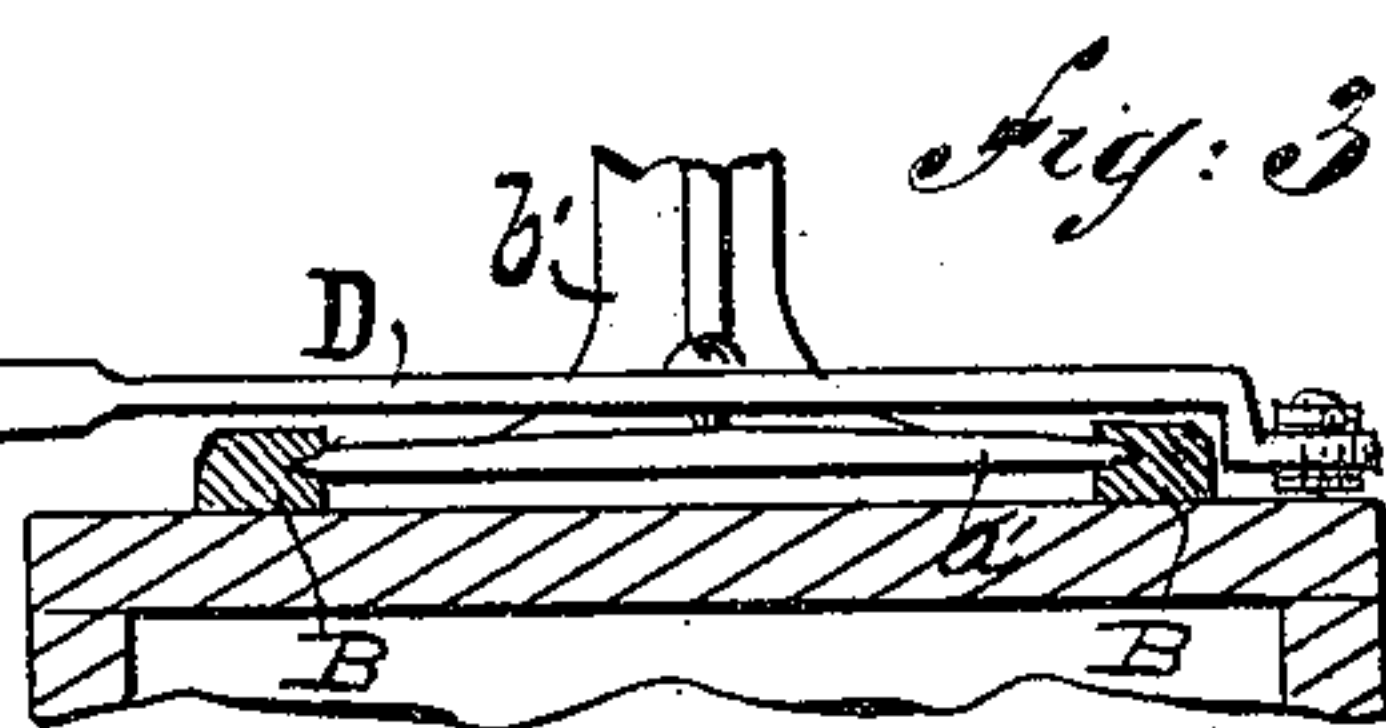


Fig. 3.

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# UNITED STATES PATENT OFFICE.

JAMES B. COLT, OF NEW YORK, N. Y.

## MAGIC LANTERN.

SPECIFICATION forming part of Letters Patent No. 430,114, dated June 17, 1890.

Application filed December 9, 1889. Serial No. 333,060. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. COLT, of New York city, in the county and State of New York, have invented a certain new and useful  
5 Improvement in Magic Lanterns, of which I declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 This invention is in the nature of an improvement in magic lanterns; and the invention consists in the mechanism, hereinafter described, for adjusting the slide-opening of a magic lantern.

15 In the accompanying sheet of drawings, Figure 1 represents a side elevation of my improved lantern; Fig. 2, a plan or top view of my improvement, and Fig. 3 a cross-section of the same.

20 Similar letters of reference indicate like parts in the several views.

The purpose of this invention is to quickly and certainly adjust the width of the space between the condenser and the bellows or  
25 body of a magic lantern. In this space or opening, as is well known, are inserted the slides on which the pictures to be presented are fixed, and as these slides vary in thickness it is obvious that a slide might be thin  
30 enough to permit the escape of light from the slide-opening, or, in fact, too thick to go into the opening at all, so that an adjustable opening is desirable. Besides, by rendering the opening quickly adjustable the lantern-operator need not be compelled to feel for the  
35 opening with the end of the slide, for by my improvement he can promptly separate the body of the lantern from the condenser and insert the slide from the top or almost any  
40 direction. To accomplish these desirable results, I construct the base A of my magic lantern with two grooved tracks B fixed to it, and fit into these tracks the bases *a a'* of the standards *b b'*. These standards support the  
45 front and rear parts of the bellows or body C of the lantern. To the standard *b'* are fixed brackets *c*. To the base A is pivoted one end of a link *d*, and to the other end of the link is pivoted one end of a lever D, and this lever  
50 is also pivoted to the base *a'*, the free end of the lever terminating in a handle *d'*. Supported in a draw E, or in some other way, is the lamp *e* of the lantern, its reflector *f* being united by the hood *g*, or in some other  
55 way, to the standard *h*, which supports the

condensing-glass *k*. Between this condenser and the rear part of the bellows or body C of the lantern is the space in which is placed the slide *l*, containing the picture to be projected by the lantern, the slide resting on and  
60 being supported by the brackets *c*.

Now with substantially the foregoing construction my lantern is operated by pushing back with the finger the handle *d* of the lever D, and as the lever is forced back it causes  
65 the base *a'* to slide in the tracks B, thereby collapsing the bellows C of the lantern through its supporting-standard *b'*. The condensing-lens *k* remaining fixed, the operation above described increases the distance between the  
70 condenser and the rear of the bellows, and so widens the space for the reception of the slide *l*, so that a slide of any reasonable thickness can be inserted from either the sides or the top of the slide-aperture with great prompt-  
75 ness, and, moreover, with the certainty that the slide will be confined reasonably light-tight between the condenser and the body of the lantern. This last feature may result  
80 from the reversal by the hand of the lever D, or it may result automatically from the retro-active elasticity of the bellows C, or of a spring *m* fixed to the lever D, as in Fig. 2.

Instead of employing the link *d*, it is obvious that the lever D may be slotted and piv-  
85 oted directly to the base.

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

1. In combination, a magic-lantern bellows  
90 or body supported on sliding standards, a condensing-lens, and an operating-lever D, pivoted to the base A and to one of the sliding standards of the bellows, as and for the purpose described.

2. In combination, the adjustable body of  
95 a magic lantern, with an operating-lever D constructed and combined to increase and lessen the space for the lantern-slides, as and for the purpose described.

3. In combination, in a magic lantern, a supporting-base A, tracks B, sliding standards *b b'*, an operating-lever D, and a condensing-lens *k*, as and for the purpose described.

JAMES B. COLT.

Witnesses:

G. M. PLYMPTON,  
WALTER WARD.