

No. 721,261.

PATENTED FEB. 24, 1903.

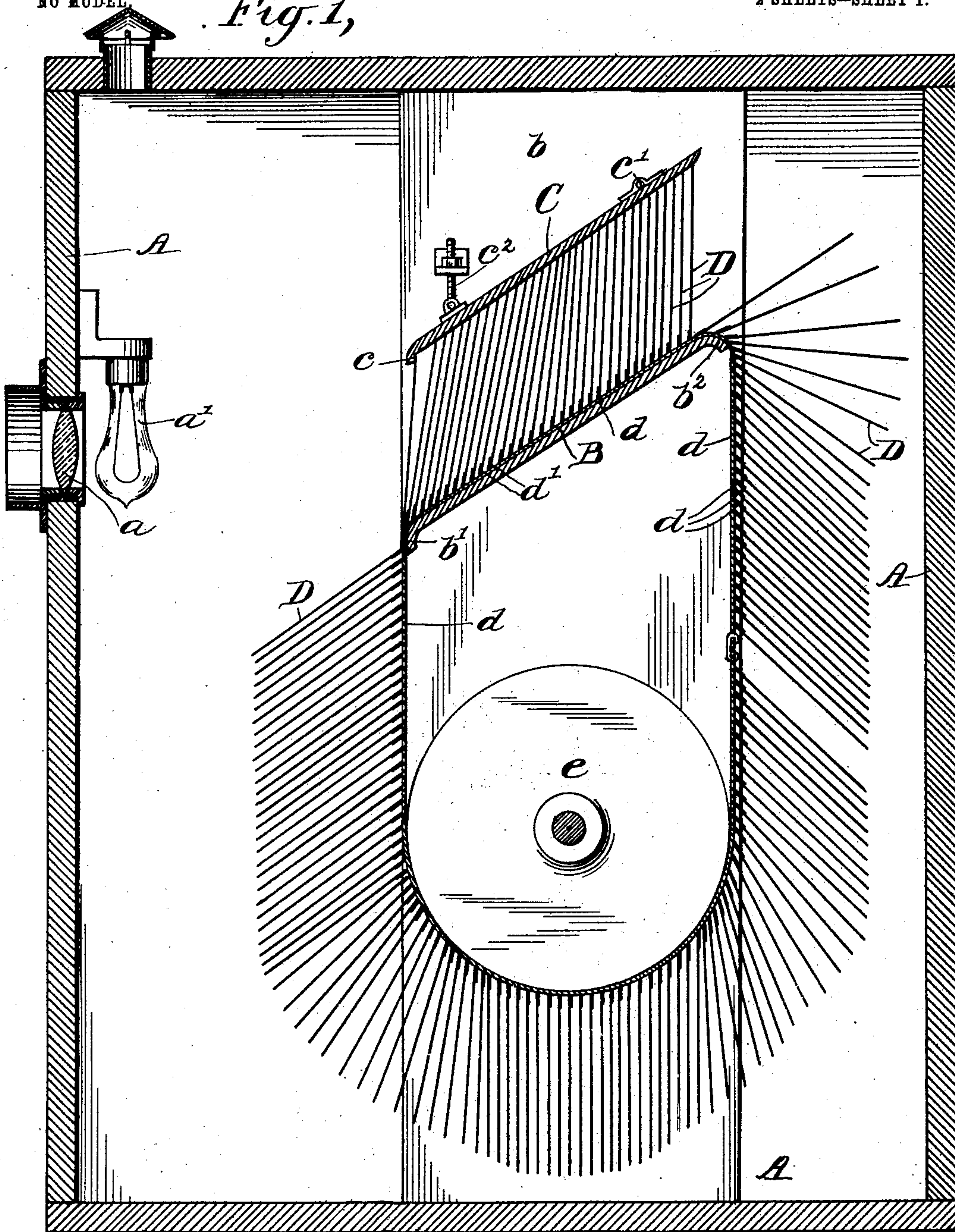
W. P. WARREN.  
MOVING PICTURE MACHINE.

APPLICATION FILED JULY 18, 1900.

NO MODEL.

2 SHEETS—SHEET 1.

*Fig. 1,*



WITNESSES:

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*Edw. C. Cruse.*

INVENTOR

*Walter P. Warren*

BY *Edwin H. Brown*

HIS ATTORNEY



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2 SHEETS—SHEET 2.

Fig. 2,

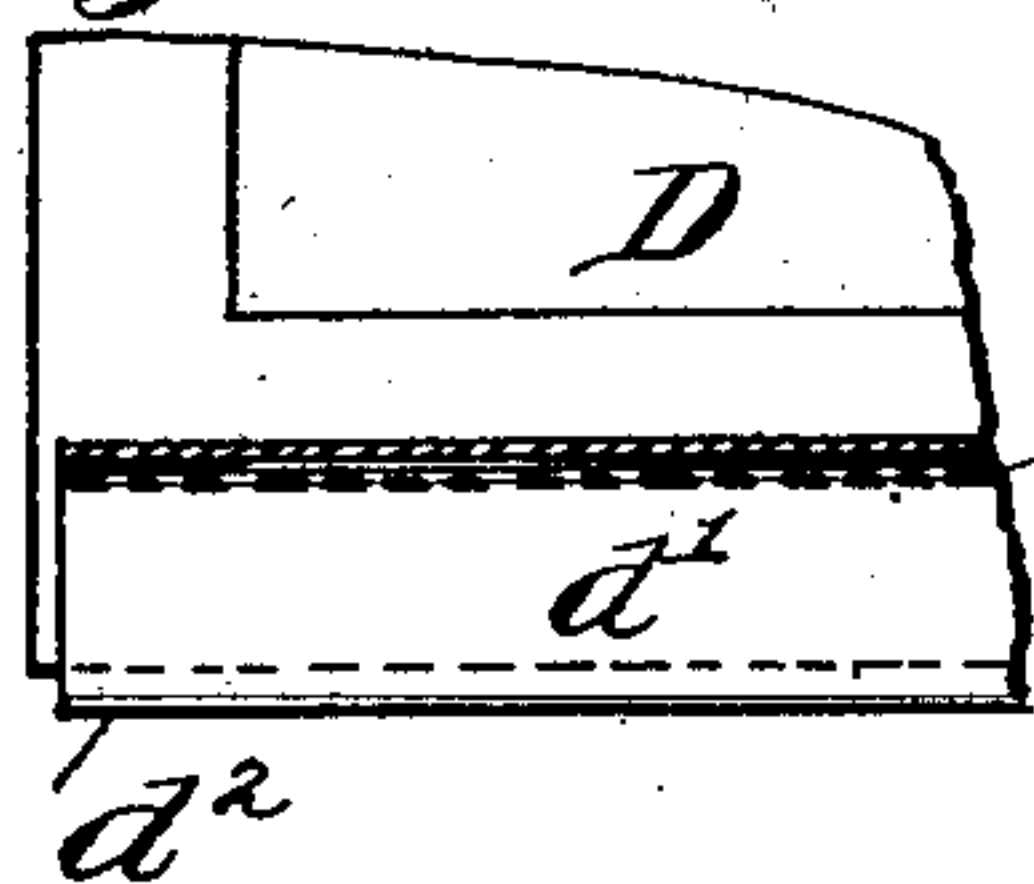
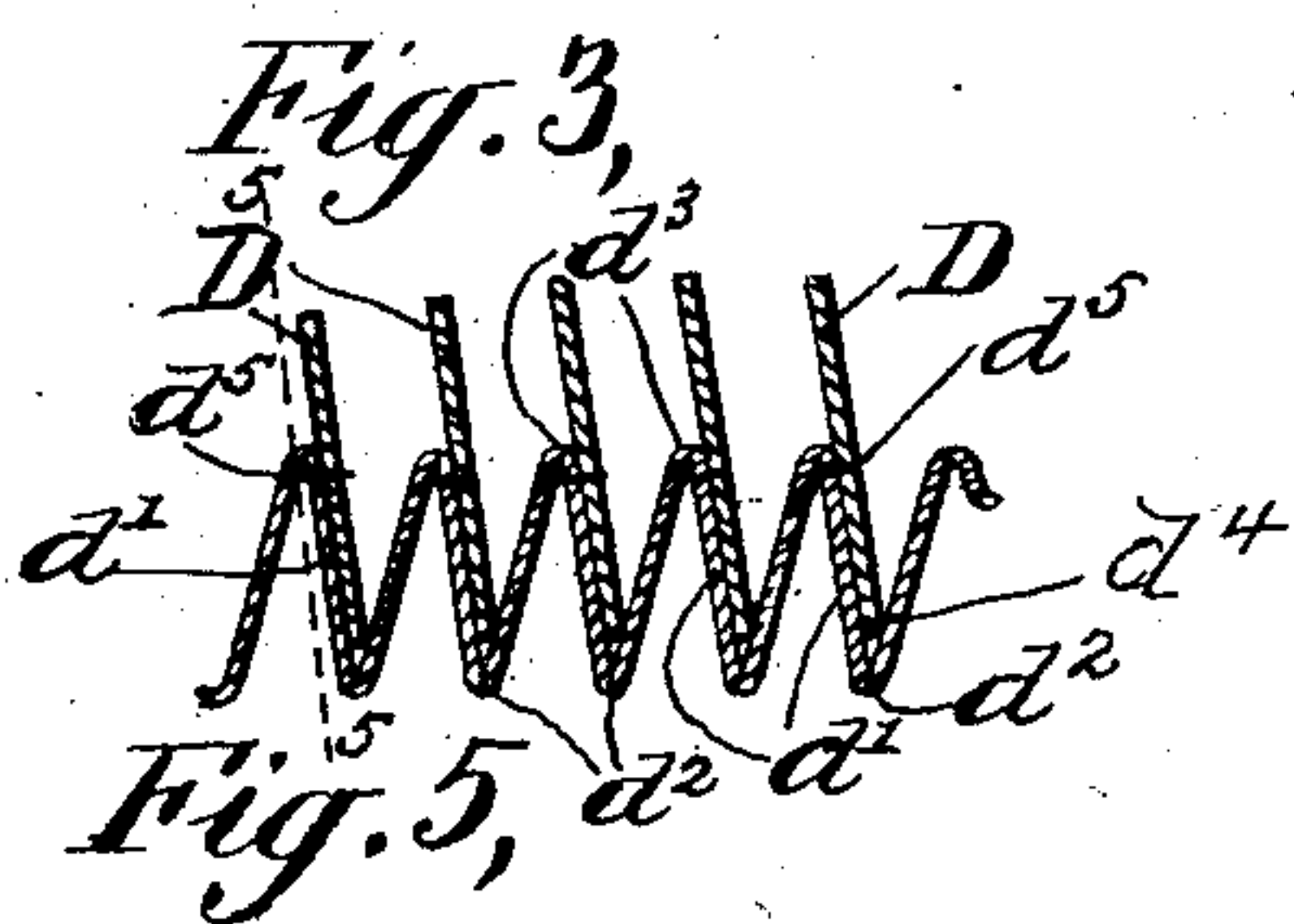
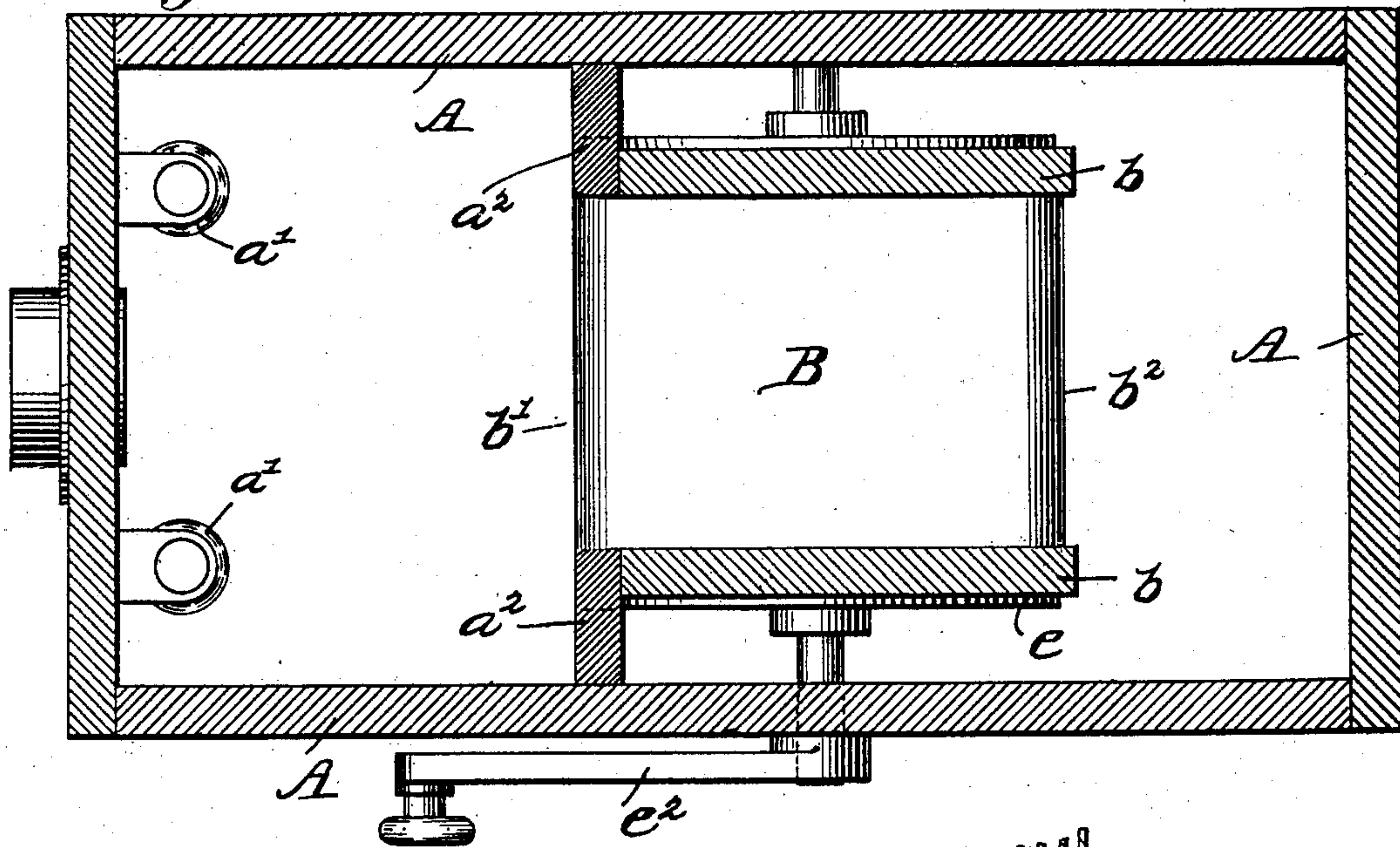
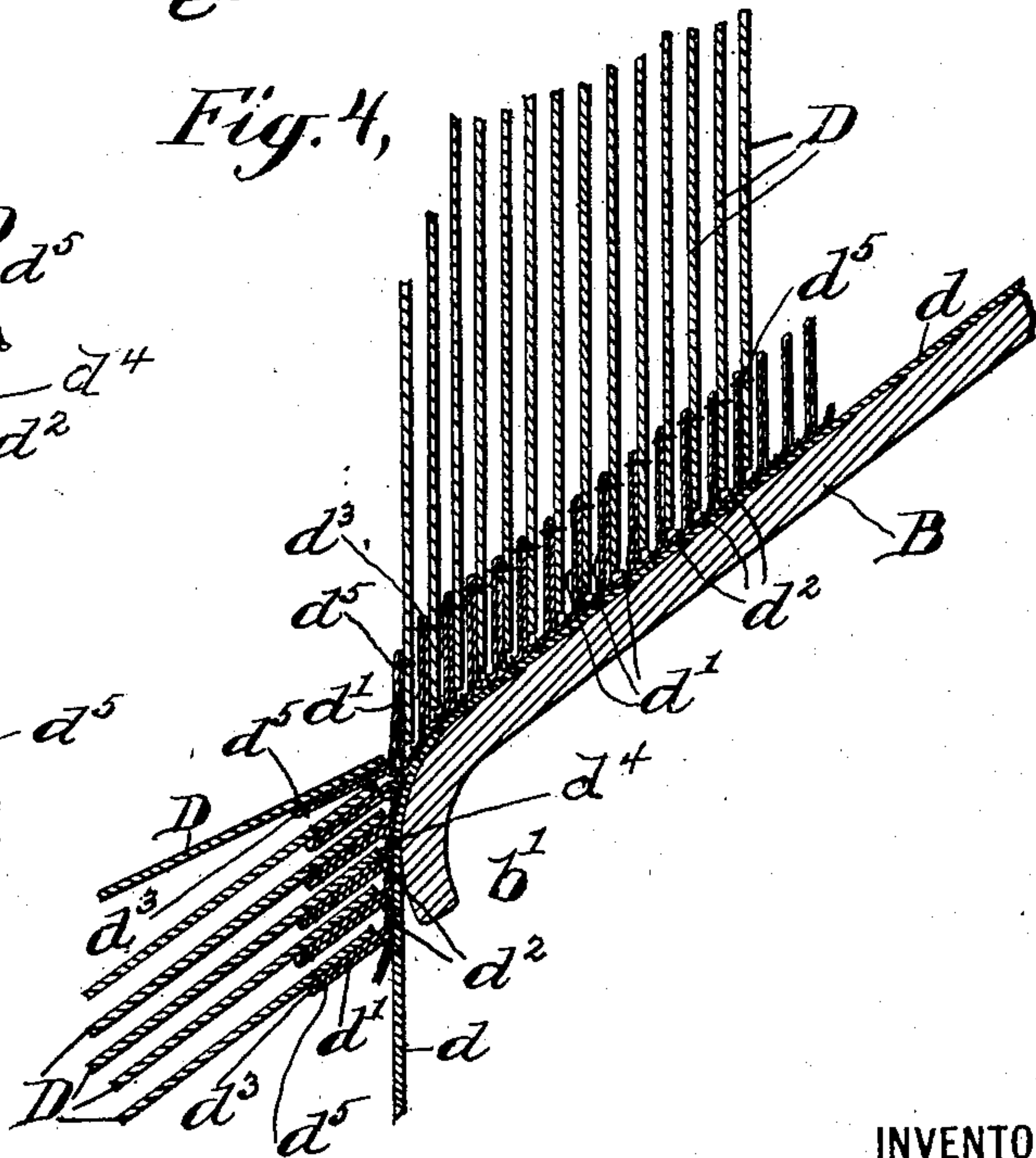


Fig. 4,



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WALTER P. WARREN, OF NEW YORK, N. Y.

## MOVING-PICTURE MACHINE.

SPECIFICATION forming part of Letters Patent No. 721,261, dated February 24, 1903.

Application filed July 18, 1900. Serial No. 24,026. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER P. WARREN, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Moving-Picture Machines, of which the following is a specification.

My invention relates to a moving-picture machine. I will describe such a machine embodying my invention and then point out the novel features thereof in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional view of a moving-picture machine embodying my invention. Fig. 2 is a transverse sectional view of the machine shown in Fig. 1. Fig. 3 is a detail sectional view showing a way of securing the objects to be moved. Fig. 4 is a detail sectional view showing the working position of the parts for moving the objects. Fig. 5 is a detail sectional view on the line 5 5 of Fig. 3.

Similar letters of reference designate corresponding parts in all of the figures.

A represents a suitable cabinet or casing. In one of its walls it is provided with a lens  $a$ , and adjacent the lens are a plurality of lights  $a'$ . These lights are so arranged that light-rays will be projected onto an object in the focal plane of the lens and reflected from the object through the lens. A partition or partitions  $a^2$  are arranged in the cabinet or casing to confine the light-rays to one portion thereof.

B represents a surface over which the objects to be reflected are moved into the focal plane of the lens  $a$ . The surface B is here shown as being inclined and held between two supports  $b$ . The ends  $b'$   $b^2$  are preferably rounded in order that a belt employed may move over the ends easily. Provided above the surface B is a guard C, which is for the purpose of holding an edge (preferably the upper) of an object. This guard is so arranged relatively to the object in front of the lens as that it will permit the object to come wholly within the focal plane of the lens. It is also adapted (in the case of pictures) to cause each picture to be brought into position to be reflected. It is here shown as having a lip  $c$ , with which the objects engage. It is also shown as being pivoted at  $c'$  to the supports

$b$  and provided with an adjusting device  $c^2$ . This device  $c^2$  is to adjust the lip  $c$  relatively to each object.

As shown, the machine or device is intended more particularly to exhibit pictures each one of which forms part of a series. The series of pictures when moved rapidly gives the impression that the scene of all the pictures has life. Each picture D is secured to a backing or band  $d$ , which is moved over the inclined surface and beneath the guard. Any desired means may be employed for moving the backing, and the backing may be in the form of an endless band, or its ends may be disconnected. In the drawings I have shown a drum  $e$  and a crank  $e^2$  for moving the backing and the backing as being in the form of an endless belt.

Each picture D is fastened to a strip  $d'$ , preferably of cloth, by stitches or other means  $d^5$ , and each strip is secured at one edge to the backing  $d$ . The connection between each strip  $d'$  and the backing is in the nature of a hinge or fulcrum, so that the picture is free to move forward and backward. The strips are also connected, so that a strain on one will be transmitted to the succeeding strips. For convenience the strips  $d'$  are shown as being comprised in a single piece, which is folded to form accordion plaits. The single strip is secured to the backing  $d$  at one set of folds  $d^2$ , which I shall term the "inner" folds, and the pictures D secured to the outer posterior sides of the plaits between the inner folds and the second or outer set of folds  $d^3$ . Each picture D will be between a pair of folds. The edge  $d^4$  of each picture does not extend directly into a fold  $d^2$ , but is slightly above it. This arrangement permits of the picture D being turned more easily. This method of mounting the several pictures permits of each picture having a fulcrum at one edge and the power for moving it located above the fulcrum and pulling against the lip  $c$ . The pictures are therefore turned more quickly on their fulcrums.

The operation of the device will be readily understood. The crank  $e^2$  is turned to move the backing  $d$  over the surface B. As the backing  $d$  is drawn over the curved end of the surface B and the upper edges of the pictures or objects come into engagement with



the check  $c'$  a fold  $d^2$  in advance of a fold  $d^3$ , at which point the picture is secured, bends through the intervening material to turn the picture on its fulcrum, which at the moment  
 5 will be the edge  $d^4$  of the picture.

What I claim as my invention is—

1. In a moving-picture machine, the combination of a suitable backing, an accordion-plaited strip secured thereto at its inner folds,  
 10 and a series of pictures secured to the accordion plaits upon the outer posterior sides thereof and above the folds secured to the backing.

2. In a moving-picture machine, the combination of a lens, lights adjacent to said  
 15 lens, an inclined surface down which a number of objects are successively brought into the focal plane of the lens, and an adjustable guard above said inclined surface, said guard  
 20 having a lip to engage the objects successively and to temporarily hold each object in the focal plane of the lens.

3. In a moving-picture machine, the combination of a lens, lights adjacent said lens,  
 25 an inclined surface, a band or backing movable over said inclined surface, a series of strips connected together and each having

one edge hinged to said band, a picture secured to the outer posterior side of each strip, said picture having one edge above the hinge  
 30 of its strip and below the line of its connection to the strip and means for exerting a strain on said strip which strain is communicated to the succeeding strips whereby the pictures or other objects are successively moved  
 35 on their hinges.

4. In a moving-picture machine, the combination of a suitable backing or band, an accordion-plaited strip carried thereby, the several  
 40 plaits of which are secured at their inner folds to said backing or band, pictures secured to the outer posterior sides of the plaits above the inner folds, and means for exerting  
 45 a strain on one end of the accordion-plaited strip whereby the several pictures are successively moved on their hinges.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER P. WARREN.

Witnesses:

GEO. E. CRUSE,  
 GEO. H. RAYMOND.