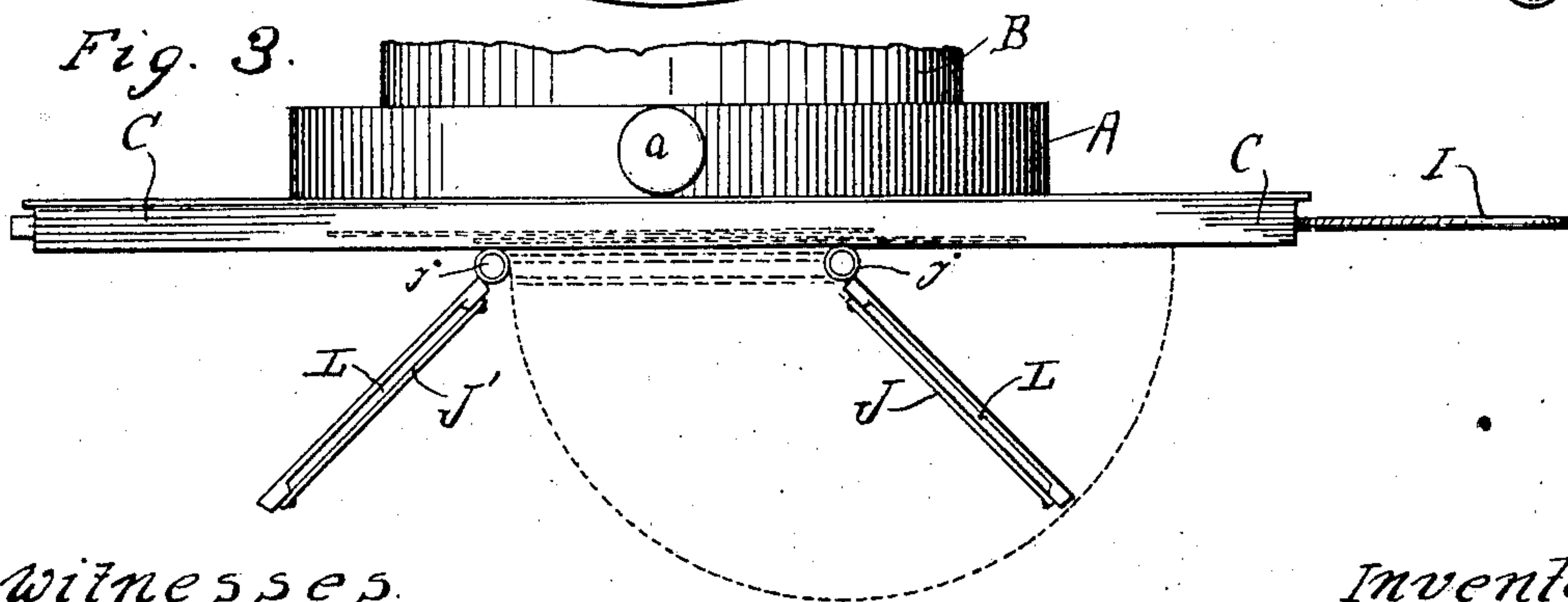
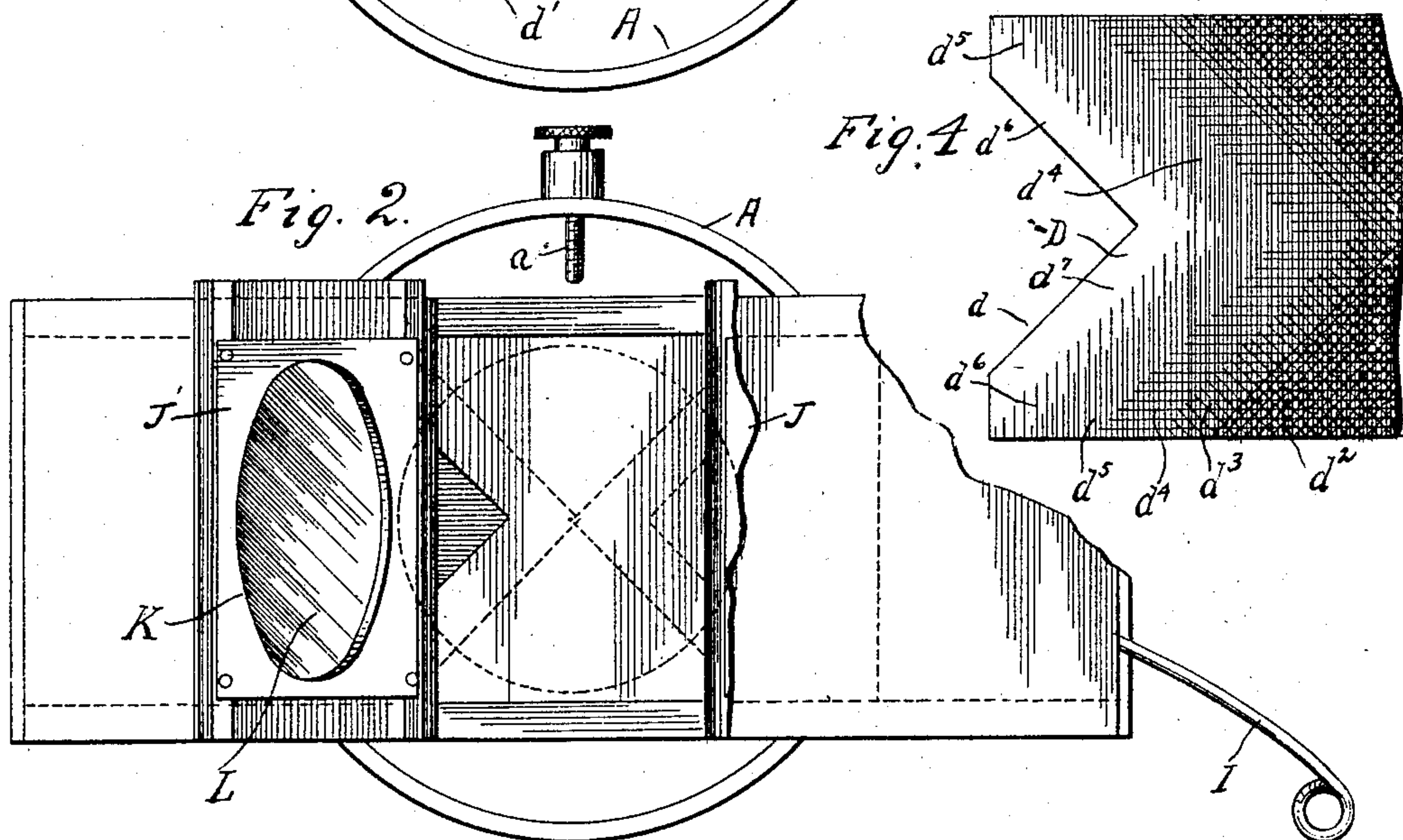
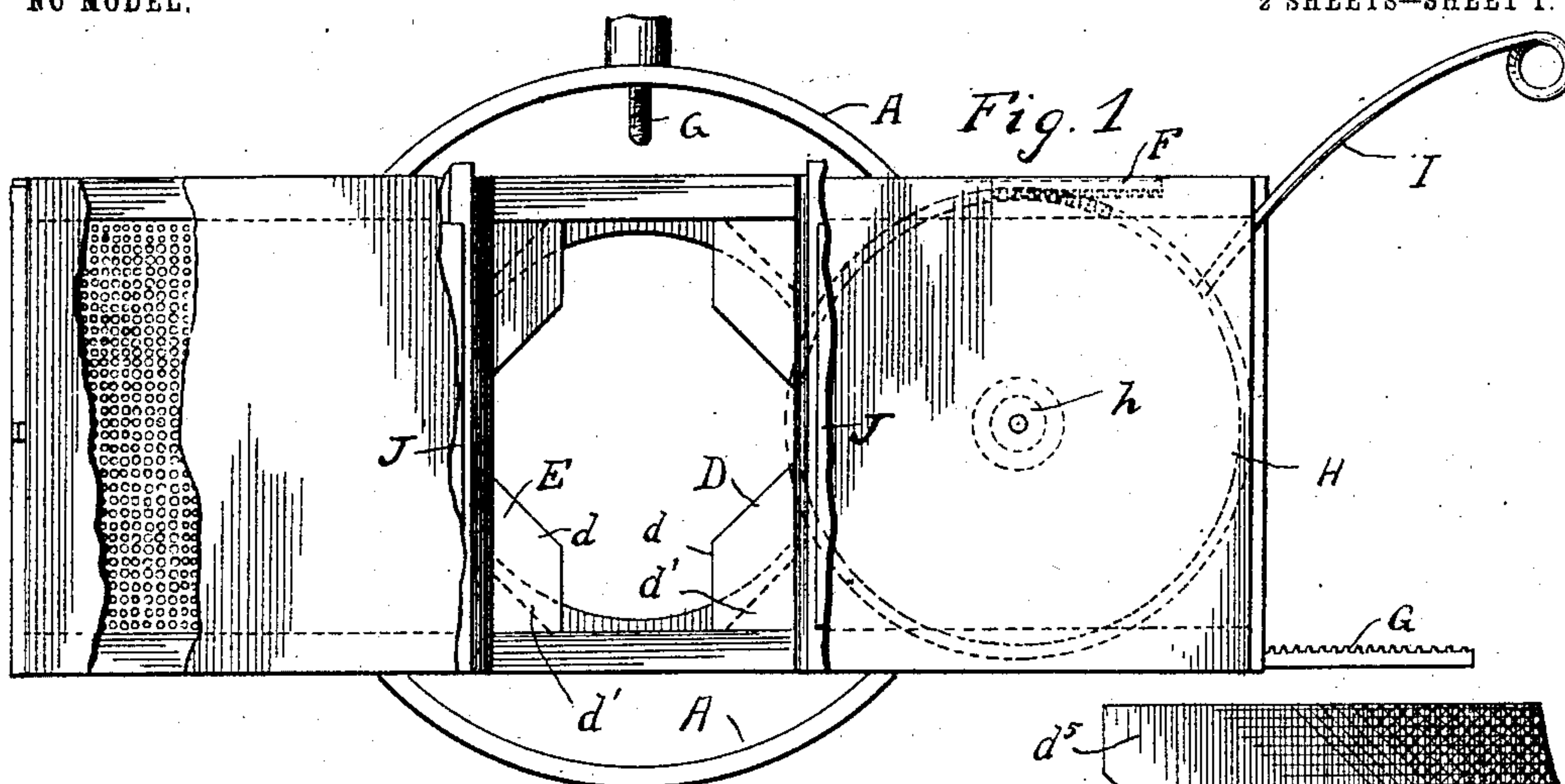


F. C. EDMONDS.
SINGLE LANTERN DISSOLVER.

APPLICATION FILED APR. 4, 1902.

NO MODEL.

2 SHEETS--SHEET 1.



Witnesses.
Otto E. Johnson.
Cora A. Adams.

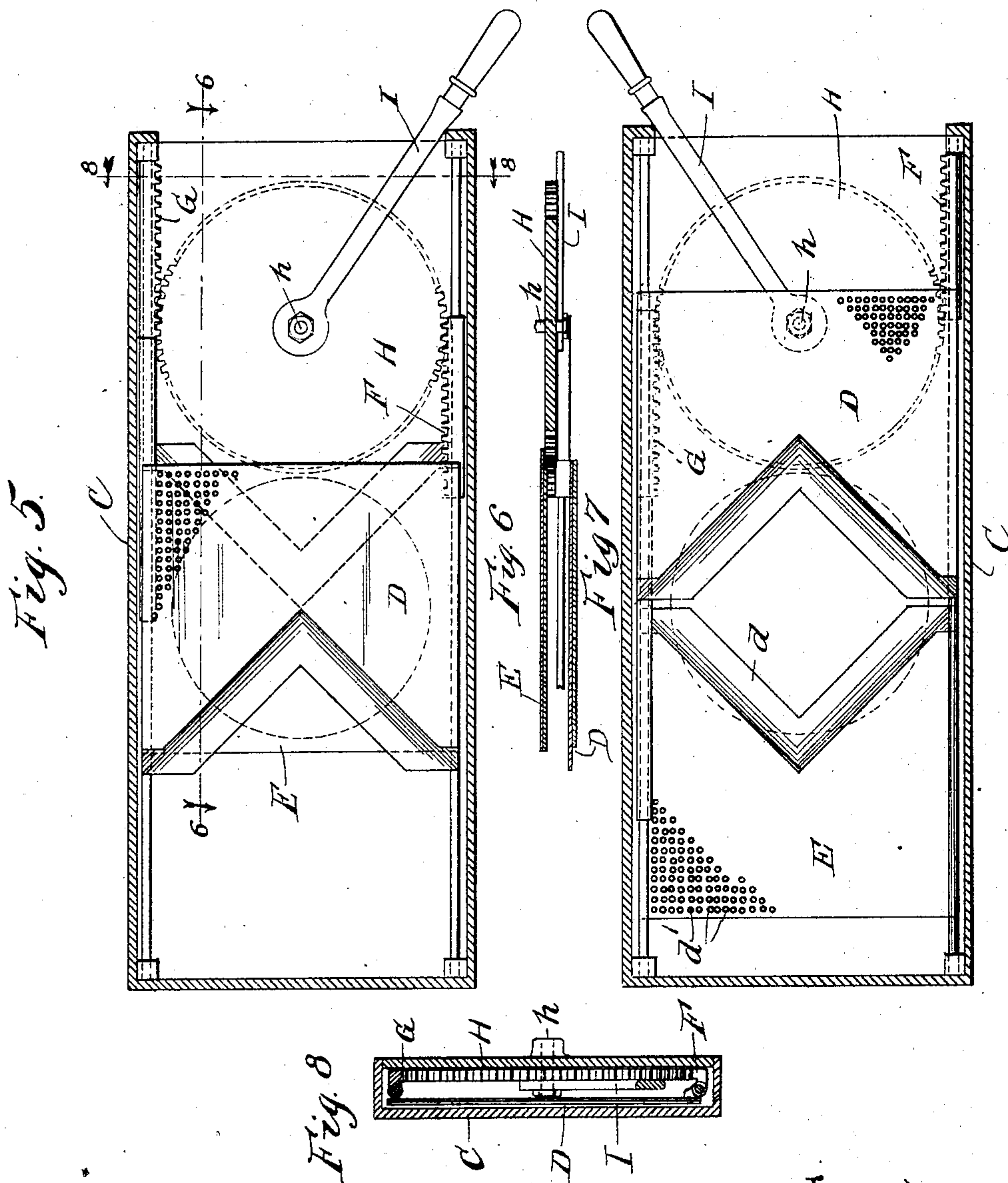
Inventor
Fredric C. Edmonds.
By Charles Turner Brown,
Att'y

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2 SHEETS—SHEET 2.



Witnesses:

J. S. Noble
Augusta Dettl

Inventor,

Fredric C. Edmonds,
By Charles Turner Brown,
Att'y.

UNITED STATES PATENT OFFICE.

FREDRIC C. EDMONDS, OF LINDSAY, CANADA, ASSIGNOR TO STEREOPTICON AND FILM EXCHANGE, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SINGLE-LANTERN DISSOLVER.

SPECIFICATION forming part of Letters Patent No. 724,452, dated April 7, 1903.

Application filed April 4, 1902. Serial No. 101,435. (No model.)

To all whom it may concern:

Be it known that I, FREDRIC C. EDMONDS, a subject of the King of Great Britain, and a resident of Lindsay, Ontario, Dominion of Canada, have invented certain new and useful Improvements in Single-Lantern Dissolvers, of which the following, when taken in connection with the drawings accompanying and forming a part hereof, is a full and complete specification, sufficient to enable those skilled in the art to which it pertains to understand, make, and use the same.

This invention relates to dissolvers used in connection with stereopticons.

The object of the invention is to obtain a dissolver which may be used with a single-lantern stereopticon and substantially the same results secured as are produced by the dissolvers now used on double-lantern stereopticons.

A further object of the invention is to obtain a dissolver for a single lantern which may be used to convert what is termed a "day" view into an "evening" view or a "night" view, respectively, as such views are known in the art.

It is well known to those familiar with the art that heretofore in order to avoid the appearance on the curtain of sliding the view into a lantern it has been customary to use two lanterns, both of which are focused on the curtain, and to alternately expose on the curtain a slide properly placed in one of such lanterns while a slide is being placed in the other one of the lanterns, and that in order to so expose the slide in one of the lanterns the light in the lantern is turned on, while in the lantern whereof the slide is not exposed to view the light is turned down or intercepted between the lantern and the curtain, and that in all cases where double-lantern stereopticons are used in the manner set forth the light in one lantern is gradually directed onto the curtain as the light in the other lantern is gradually taken from such curtain.

In the operation of the dissolver embodying this invention the light is gradually taken from all parts of the curtain and such light is then gradually directed onto all parts of the curtain, the curtain being so obscured at the time of the least light being directed there-

onto that the sliding of the lantern-slides into place in the single lantern of the stereopticon is not observable, while at no time is all the light of the lantern entirely taken from the curtain.

I have illustrated this invention by the drawings accompanying and forming a part hereof, in which—

Figure 1 is a front elevation of a dissolver embodying the invention, such dissolver being open with all the light of the lantern of the stereopticon to which it is attached passing therethrough and directed onto a curtain, the greater portion of the wings hereinafter described being broken away. Fig. 2 is a front elevation of the dissolver illustrated in Fig. 1, such dissolver being closed and a small proportion of the light from the lantern passing therethrough to the curtain and one of the hereinafter-described wings of the apparatus being largely broken away. Fig. 3 is a top edge view of such dissolver, showing a portion of the end of the lens to which the dissolver is attached; and Fig. 4 is a front elevation of one end of one of the slides of the dissolver. Fig. 5 is a longitudinal sectional view of the dissolver, showing the slides closed. Fig. 6 is a horizontal sectional view on line 6 6 of Fig. 5 viewed in the direction indicated by the arrows. Fig. 7 is a vertical sectional view longitudinally of the dissolver, like Fig. 6, with the slides open; and Fig. 8 is a sectional view on line 8 8 of Fig. 5 viewed in the direction indicated by the arrows.

A reference-letter applied to designate a given part is used to indicate such part throughout the several figures of the drawings wherever the same appears.

A is a ring fitting over the end of lens B, (see Fig. 3,) and *a a* are set-screws securing the ring A in place.

C is a frame attached to ring A.

D E are slides longitudinally movable in frame C.

F G are gear-racks fastened, respectively, to slides D and E.

H is a gear-wheel rotatably mounted on shaft *h*, and I is an arm attached to wheel H, by means of which arm such wheel is turned. The turning of the wheel H first in one direction and then in the other moves the slides

D and E to and fro in frame C. Slides D and E are right and left to each other, the ends which are adjacent when the dissolver is open overlapping when the dissolver is closed, and such ends constructed substantially as is indicated in Fig. 4 of the drawings—that is, V-shaped. (See Fig. 4.) In the construction illustrated in the drawings such slides consist, respectively, of a thin plate of transparent material, preferably mica, d , and a plate of perforated opaque material, preferably sheet metal, d' , superimposed upon each other with the ends of plates d extending beyond the ends of plates d' , respectively, as is shown in Fig. 1 by broken lines. In addition to extending the plates d beyond the plates d' the plates d are respectively roughened to a gradually-decreasing amount, as such roughening extends from the body of the plate to near the V-shaped end thereof, as is indicated by the shading d^2 d^3 d^4 d^5 d^6 . The extreme end d^7 of the plate is not roughened at all. This roughening may consist of sandpapering the plate or grinding it. The purpose of the perforations in plates d' is to permit some light from the lantern to pass therethrough, and the purpose of roughening the plates d is to diffuse the light from the lantern passing through such plates. By graduating the roughening of such plates d and perforating the plates d' , as described, when the slides D E are closed the light of the lantern is gradually shut off from the curtain until when the slides are closed the least light determined on will pass through the apparatus. By making the ends of the slides V-shaped and so arranged as to gradually diffuse the light passing therethrough, as described, and arranging such slides to gradually approach and recede from each other by the movement in one or the other direction of the handle or arm I of wheel H, as set forth, (because of gear-racks F G intermeshing with the gear-wheel H,) the curtain against which the light of the lantern is directed will appear to be darkened over the entire surface thereof and then gradually lightened over its entire surface, and when such curtain is darkest the lantern-slide can be moved into position in front of the lantern without such movement being observed on the curtain. The disagreeable appearance caused by sliding the lantern-slide into and out of position heretofore observable in single-lantern stereopticons is thus obviated, and an appearance closely resembling the effect obtained by double-lantern-stereopticon dissolvers is obtained.

The slides D and E, constructed as described and provided with the V-shaped ends, with mechanism whereby such slides are moved toward and away from each other and from the common center obtained by the meeting of the apices of the V-shaped ends, constitute the two parts of a shutter having a central point around which the shutter closes as such slides approach each other and around

which the shutter opens as such slides are moved from each other.

J J' are frames respectively connected to frame C by hinges $j j'$. Frames J J' are respectively provided with apertures K K, and L L are plates of colored glass removably inserted in frames J J', respectively. The frames J J' are broken away, showing only a portion thereof in Fig. 1 of the drawings, and frame J is broken away in Fig. 2 of the drawings. Either of the frames J J' may be turned in front of the opening in the dissolver, and the picture or view imposed on the curtain will be colored by the glass in such frame. By placing a light-red-colored glass in the frame which is turned in front of the dissolver what is termed a "sunset" scene is produced, and by placing a blue-colored glass in such frame what is termed a "night" scene is obtained. The same lantern-slide may thus be used for a day scene, an evening scene, or a night scene, as desired. Any colored glass may be used in frames J J' which will best produce the effect desired.

To those familiar with the art it is well known that the rays of light leaving the front glass of the objective lens are concentrated onto a small portion of such glass and do not at all times leave such glass at the same place or at the center of such glass, but do leave it at varying places around the center, and it is primarily because of this variation that I give the V shape to the adjacent ends of the sliding parts of the dissolver and also vary the opaqueness of such ends of such sliding parts, as described.

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

1. In a single-lantern dissolver the combination of a frame, longitudinally-movable slides in the frame, racks attached to the slides, a gear-wheel journaled in the frame, the teeth whereof engage with the teeth of the rack and a handle to the gear-wheel, such slides comprising, respectively, a plate V-shaped at one end, and gradually increasing in opaqueness from such end and an additional plate also V-shaped at one end, such additional plate provided with alternating opaque and clear places; substantially as described.

2. In a single-lantern dissolver the combination of a frame, longitudinally-movable slides in the frame, racks attached to the slides, a gear-wheel journaled in the frame, the teeth whereof engage with the teeth of the rack and a handle to the gear-wheel, such slides respectively V-shaped at adjacent ends, and gradually increasing in opaqueness from such V-shaped ends toward the body thereof and such V-shaped ends overlapping to shut off from passage therethrough some of the light directed upon it; substantially as described.

3. In a single-lantern dissolver the combination of a frame, a plurality of parts in the

frame arranged to close to a common center, mechanism to synchronously move such parts to and from the center, additional frames hinged to the first-named frame and colored glass in such additional frames; substantially as described.

4. In a single-lantern dissolver, the combination of a frame, a plurality of parts in the frame arranged to move in opposite directions, such parts, respectively, consisting of a plurality of plates, one of the plates of both parts provided with alternating opaque and clear places and the other plate increasing in

opaqueness from the end adjacent to the corresponding plate of the other part and such end projecting beyond the end of the first-named plate, and mechanism in the frame to synchronously move the parts in opposite directions: substantially as described.

Signed at Lindsay, Ontario, Dominion of Canada, this 27th day of February, 1902.

FREDRIC C. EDMONDS.

In presence of—

F. A. MCDIARMID,
JAMES A. PEEL.