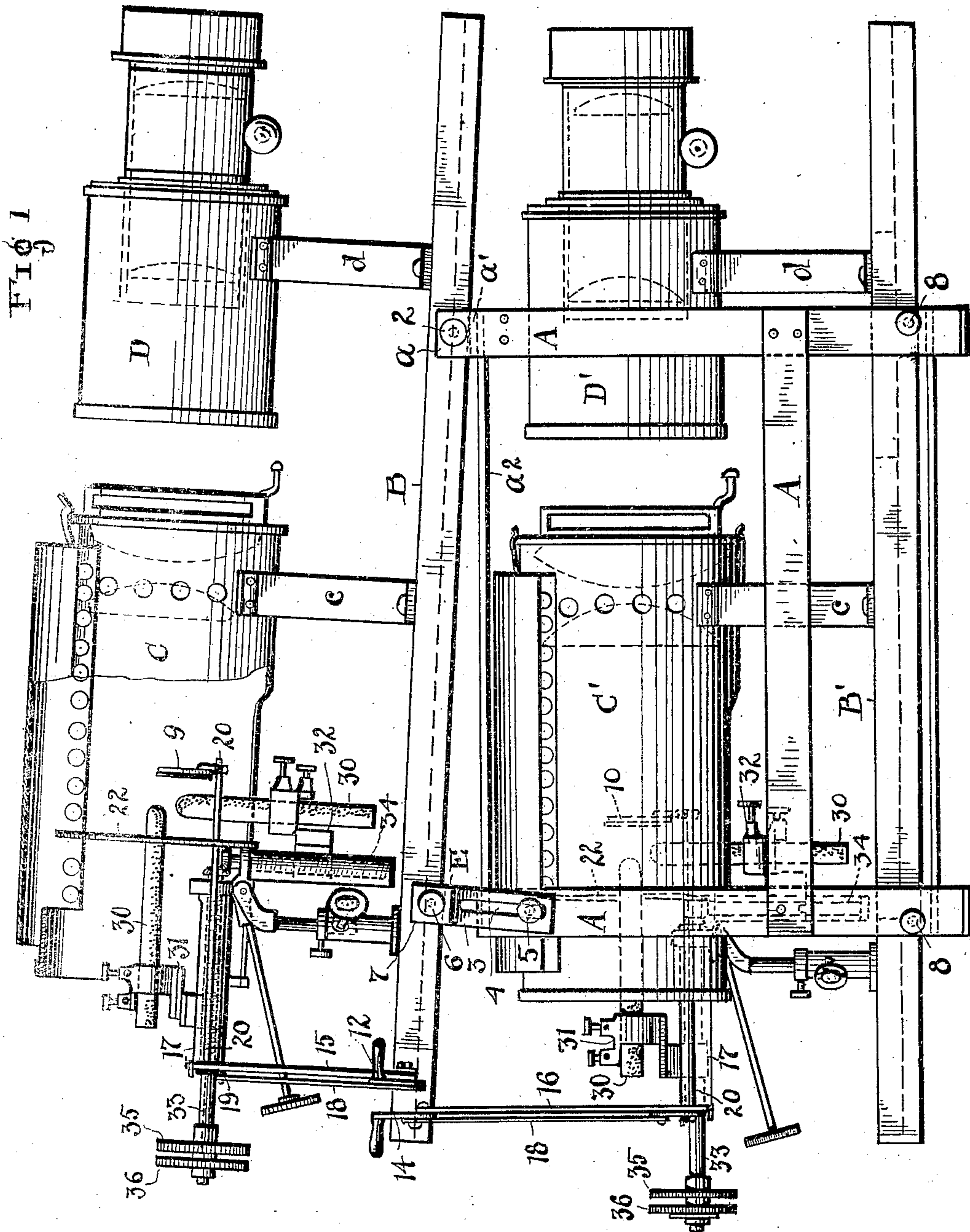


C. F. DUTTON, JR.
DISSOLVING STEREOPTICON.
APPLICATION FILED JAN. 18, 1907.

935,193.

Patented Sept. 28, 1909.
2 SHEETS—SHEET 1.



ATTEST
C. M. Fisher
R. A. Ketcham.

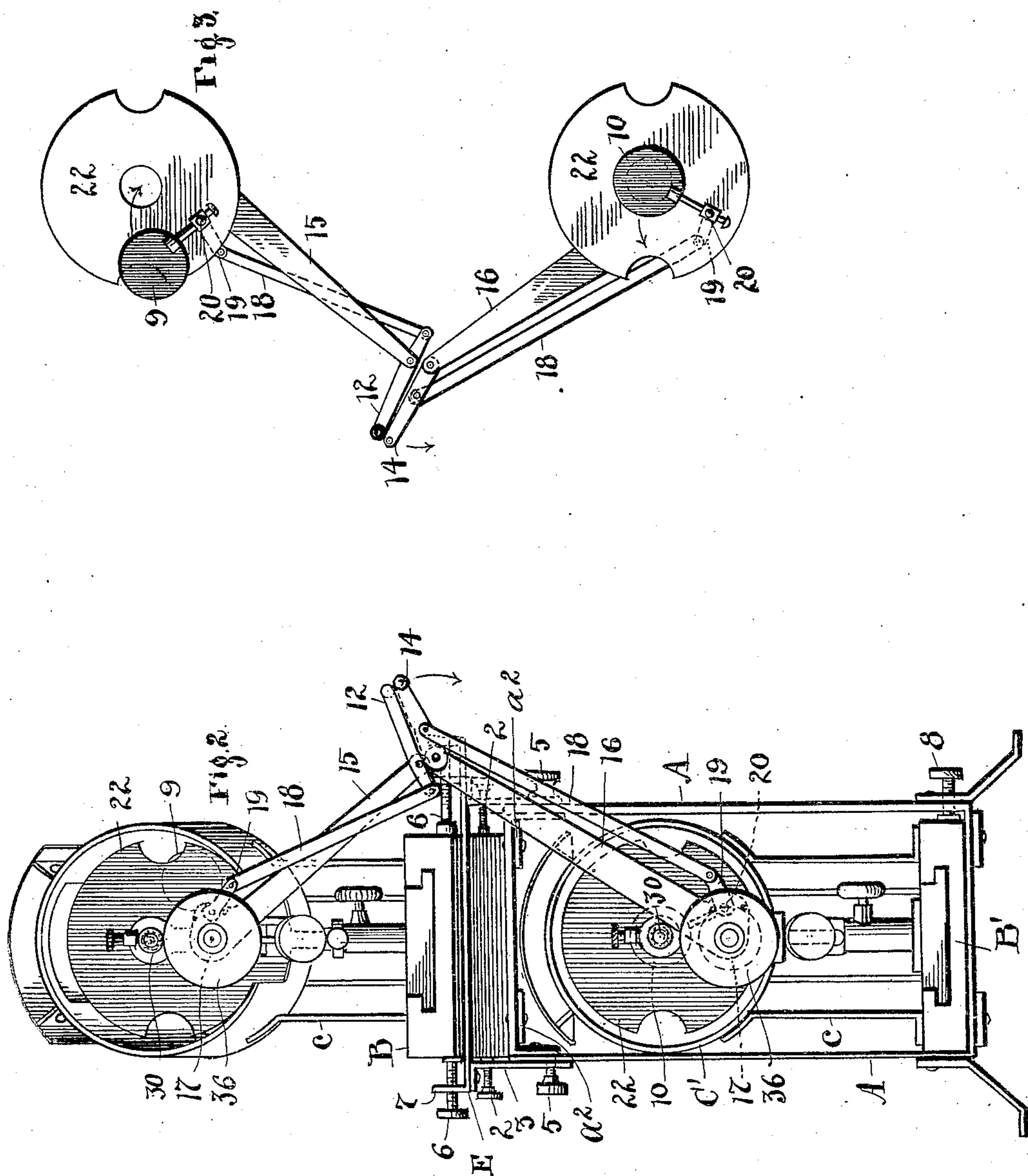
INVENTOR
Charles F. Dutton Jr.
By Fisher & Wooster ATTYS.

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UNITED STATES PATENT OFFICE.

CHARLES F. DUTTON, JR., OF CLEVELAND, OHIO.

DISSOLVING-STEREOPTICON.

935,193.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed January 18, 1907. Serial No. 352,863.

To all whom it may concern:

Be it known that I, CHARLES F. DUTTON, Jr., a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Dissolving-Stereopticons, and do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a dissolving stereopticon, and consists in the construction, combination and arrangements of parts, substantially as shown and described and particularly pointed out in the claims.

Referring to the accompanying drawings forming part of this specification, Figure 1 is a side elevation of the machine. Fig. 2 is a rear elevation thereof with the several movable parts in position showing one lantern open and the other closed, and Fig. 3 is a diagrammatic view of the said parts in the same position as Fig. 2, but as taken from the other end of the machine.

The invention herein has to do more particularly with the machine in a dual character and wherein two lamps or lanterns are operatively combined in a unitary structure, whereby perfect dissolving views may be projected as will hereinafter fully appear. Notwithstanding, however, each lantern is necessarily complete in itself as each is designed to be used alone as occasion may require.

The dissolving mechanism consists of two stereopticon lamps or lanterns connected with each other and with a suitable rheostat in series. Each lamp is furthermore provided with a shutter operating between the arc and the condensing lenses. Dissolving is performed by running the carbons together in one lamp and apart in the other. When the carbons touch each other the light in that lamp gradually dims and goes out. At the same time the carbons in the other lamp are separated and the light gradually comes on. During the time that a lamp is off the shutter or screen is closed to prevent the lamp from flashing on. When the carbons of both lamps are separated at the same time, both lights will be on and the pictures will appear on the screen superimposed. For

rapid dissolving both lamps are operated at the same time and dissolving is performed by alternately opening and closing the shutters.

The advantages of this system are: 1st. Economy of current, the two lamps using no more electricity than a single lamp. 2nd. The high quality of the dissolving illusion, one light coming on while the other disappears in such a manner as to fully equal in effect the calcium with dissolving key. 3rd. The possibility of extreme rapidity in changing pictures by using mechanical shutter. 4th. Convenience. The mechanical shutter or screen is operated by the left hand, leaving the right hand entirely free to change slides. Also the construction of the shutter is such that the lanterns are not permanently tied together and may therefore be easily separated and used as single lanterns.

Now, having reference to the several views, A represents the main frame, which is a rigid part, and B and B' are immediate supporting frames for the lanterns arranged in the bottom and top respectively in frame A, substantially as shown, and adapted to be separately adjusted therein as the work requires. Lantern cylinders C and C' respectively, are adjustably mounted on these frames, and said cylinders are provided with suitable lenses as shown in dotted lines. Also, objective lens mountings D and D', respectively, are separately supported upon the respective frames B and B' in advance of lens or lantern cylinders C and C' and independently thereof on fixed and rigid posts *c* and *d* respectively. Respecting adjustments, frame B is shown as resting at its front end between side and top extensions *a* of the main frame on a cross portion *a'* thereof coincident with side bars *a''* connecting the ends of frame A, and a thumb screw 2, having a head on its inside to bear against one side of frame B, engages and holds said frame at this end. At the other end a bolster E having slotted standards 3 carries frame B and is supported from frame A by screws or bolts 5 engaged through slots 4 in the said bolster standards. Said frame B is further engaged at its sides by thumb screws 6 through fixed upward projections 7 on bolster E. Thus, said frames may have various adjustments vertically or laterally

as required, and lower frame B', is engaged by thumb screws 8 through one or both sides of frame A and adjustably thereby.

Now, as a means for con-joint manipulation of the lantern screens, 9 and 10 respectively, for each lantern, I employ separate levers 12 and 14 arranged one beside the other. Said levers are supported each on its own arm, 15 and 16 respectively, rigid with or upon one end of the fixed sleeve 17. Said levers are pivoted off their middle on said arms, and links 18 connect them with crank arms 19 rigid on rods 20 that run forward far enough to locate the said screens thereon at the right places in the lanterns. Said rods 20 have their bearings in the base of arms 15 and 16, respectively, and in the disk-shaped shields 22 in the respective cylinders. Thus an easy rocking movement of said screens is obtained and all this mechanism is light in weight as well as slight in form because it requires but a very little effort to throw said screens from one position to another. It is especially observed, however, that the handles 12 and 14 are located side by side, Fig. 2, and that they hold this relation in the manipulation of the screens either way. But their arrangement has this further peculiarity, that when both handles are turned to their limit in either direction together one lantern is opened and the other closed, and it depends on the direction of movement of the handles as to which one is opened or closed. But, although jointly operative when both handles are grasped by the thumb and finger, each is easily manipulated independently of the other when the need arises. Both lanterns are under perfect control of the operator, jointly or singly, and it is a great advantage to the operator to have such control by the use of one hand while operating the lanterns with the other hand, as in changing the lantern slides as well as for other purposes.

Light is provided by the carbons 30 for each lamp, which are provided with adjustable supports 31 and 32 respectively, and

screws 33 and 34 for the upper and the lower carbons, respectively, of each lamp, manipulated by hand wheels 35 and 36. 50

The lamps shown and described in this specification are the subject matter of invention and claim in a co-pending application by applicant Ser. No. 328,996, of August 3, 1906. 55

What I claim is:

1. In a dissolving stereopticon, a set of lanterns provided each with a movable screen adapted to shut off the light and a pair of hand levers for manipulating said screens arranged in such near relation to each other that both handles can be gripped by the same hand at the same time. 60

2. A dissolving stereopticon comprising two lanterns, a screen for each lantern and a lever and mechanism for controlling each screen, and supports on which said levers are pivotally supported side by side, whereby a single hand can grip and operate both levers simultaneously. 65 70

3. A dissolving stereopticon comprising two lanterns in the same vertical plane, a laterally movable screen for each lantern and operating mechanism therefor comprising a lantern on which the screen is mounted, a link and a controlling lever therefor and a rigid support for said lever, the levers for both lanterns being supported side by side and said mechanism arranged to open one screen and close the other in a joint operation of said levers. 75 80

4. The combination of a pair of projection lanterns each provided with a light screen, and means for manipulating said screens jointly or independently at the will of the operator by one hand, said means comprising independent levers pivotally mounted side by side. 85

In testimony whereof I sign this specification in the presence of two witnesses.

CHARLES F. DUTTON, JR.

Witnesses:

R. B. MOSER,

F. C. MUSSUN.