

Feb. 6, 1934.

A. D. EITZEN

1,945,522

DOUBLE PROJECTING MACHINE

Original Filed May 13, 1930

2 Sheets-Sheet 1

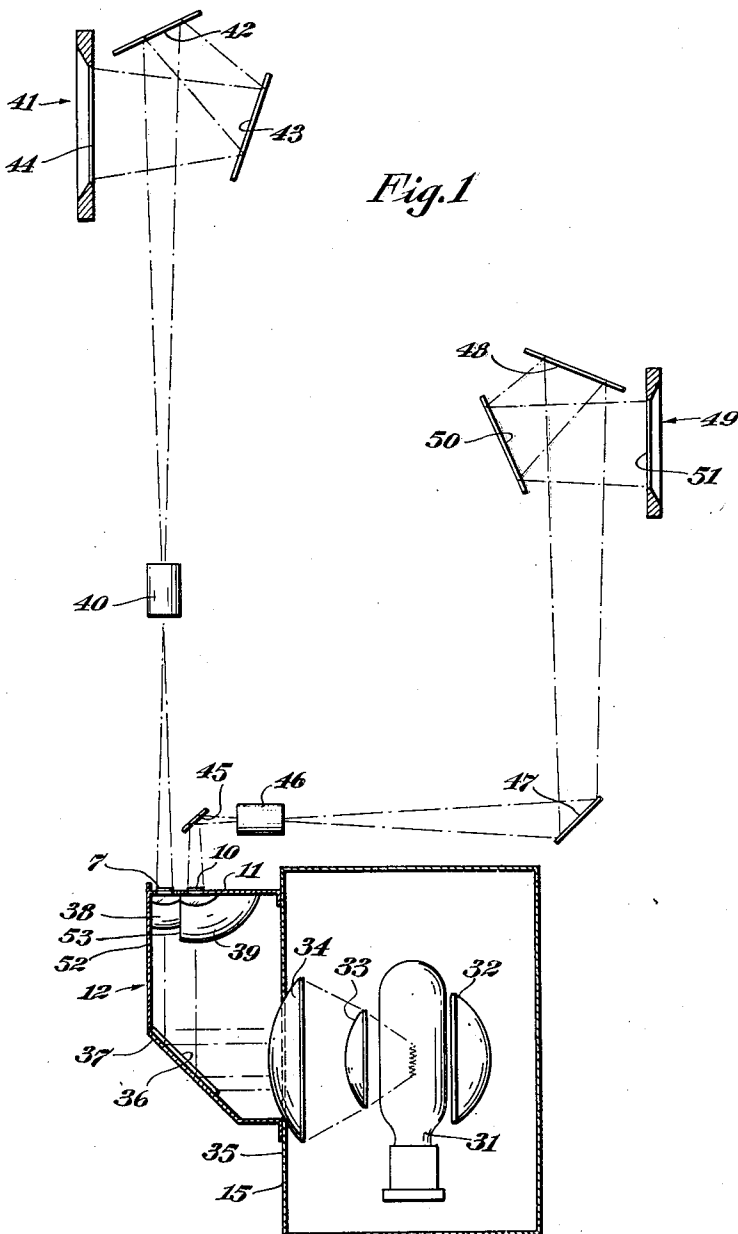


Fig. 1

INVENTOR
August D. Eitzen
BY *Gustav Drews*
ATTORNEY

Feb. 6, 1934.

A. D. EITZEN

1,945,522

DOUBLE PROJECTING MACHINE

Original Filed May 13, 1930

2 Sheets-Sheet 2

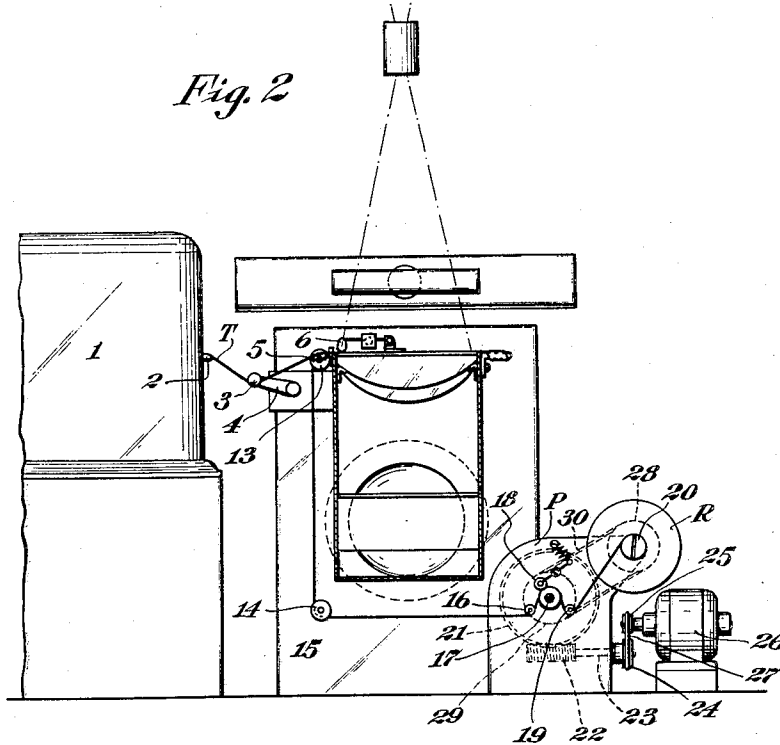
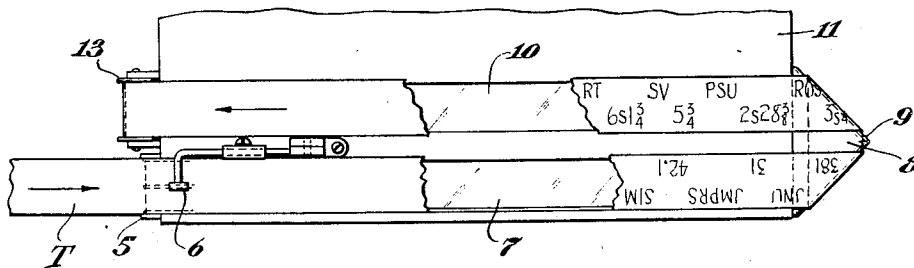


Fig. 3



INVENTOR
August D. Eitzen,
BY *Gustav Drews*
ATTORNEY

UNITED STATES PATENT OFFICE

1,945,522

DOUBLE PROJECTING MACHINE

August D. Eitzen, Rockville, N. Y., assignor to
News Projection Corporation, New York, N. Y.,
a corporation of New York

Application May 13, 1930, Serial No. 451,922
Renewed February 4, 1932

12 Claims. (Cl. 88—24)

This invention relates to stock quotation projecting machines and more especially to stock quotation projecting machines known as duplex projectors whereby successive portions of the same ticker tape as it issues from the ticker is projected by two different screens.

The stock quotation projecting machines in which successive portions of a tape as it issues from the ticker are projected on two independent screens are becoming extensively used due to saving in upkeep resulting from the fact that but one ticker can be used to serve two adjacent areas of activity where formerly two tickers had to be so used. With such machines for a single source of light, an added advantage arises from the saving in current and the lamps used.

With these duplex projecting machines, considerable difficulty has however been encountered due to the fact that the distances of the screens from the tape frequently varied considerably. These difficulties followed particularly from the fact that predetermined size and clearance of image were desirable, and that compactness of mechanism was always essential in view of the high cost of office space in brokers' offices and the like where these projection machines were generally used.

To these ends, the present invention aims to provide an improved stock quotation projecting machine of this double projecting type in which a different size and clearance of image may with accuracy be obtained on both screens, and at the same time, the space required for the apparatus be maintained at a minimum.

These and other features, capabilities and advantages of the invention will appear from the subjoined detail description of one specific embodiment thereof illustrated in the accompanying drawings in which

Figure 1 is a side elevation, partly in section, showing the lamp housing and screen housings and their appertinent parts more or less diagrammatically;

Fig. 2 is a front elevation of a stock quotation projecting machine, partly in section, omitting the screen housings; and

Fig. 3 is a fragmental elevation showing the position of the tape and light apertures relative to one another.

In the embodiment illustrated, the tape T issues from the ticker 1 passing over the abutment 2 down to and under the finger 3 of the lever 4, and then over the guide 5 under the finger 6 onto and over the light aperture 7. From the light aperture 7, the tape T passes onto the

conveyor 8 or the like mounted on the angle piece 9 and then up and over onto the aperture 10 adjacent and parallel to the aperture 7 formed in the platform 11 of the lamp extension 12. The tape T then passes parallel to the light aperture 7 to the roller 13 at the end of the extension 12 adjacent to the roller 5 and then down to the roller 14 secured to the side of the main lamp housing 15, then over to the tape puller P and finally onto the reel R, the tape T passing from the roller 14 under the idler 16, then over the tape pulling roller 17 in engagement with which it is maintained by the roller 18, and then down under the idler 19 to the shaft 20 of the reel R.

The tape pulling roller 17 is fixed to the worm wheel 21 in mesh with the worm 22 mounted on the shaft 23 having fixed thereon the pulley 24 which is connected to the pulley 25 of the motor 26 by the belt 27. The reel R is provided with a sheave 28 which is connected to the sheave 29 on the shaft 17 of the worm wheel 21 by the flexible belt 30.

In the lamp housing 15, there is located the lamp 31 provided with the reflector 32 to concentrate the rays on the condenser 33 which forms a cone of light and directs it onto the condenser 34 secured adjacent to the wall 35 of the lamp housing 15 which forms a parallel beam of light and directs it onto the mirror or reflector 36 formed on the wall 37 of the extension 12, which directs the beam of light upwardly at right angles onto the two condensers 38 and 39 disposed beneath the light apertures 7 and 10 respectively. From the light aperture 7, the beam of light is directed in a cone through an objective lens 40 into the screen housing 41, the beam being first received by the mirror 42 of the screen housing 41 and then reflected onto the mirror 43 and from the mirror 43 reflected onto the screen 44.

The portion of the beam passing through the light aperture 10 is received by the reflector 45 and directed at right angles through the objective lens 46 onto the mirror 47 from which it is reflected at right angles onto the mirror 48 of the screen housing 49. From the mirror 48, this portion of the beam then passes onto the mirror 50 and then onto the screen 51 so that the images formed on the screens 44 and 51 will face in opposite directions and move in planes parallel with one another.

In the present instance, the condenser 38 is more shallow than the condenser 39, and has two of its segments cut off so that one of its plane faces engages the wall 52 of the extension 12

and its other plane face engages the plane face 53 of the condenser 39 which has only one segment cut off in the present instance to form the face 53 adjacent to the condenser 38. With this arrangement, the effective areas of the condenser 38 are retained and the less effective segment of the condenser 39 cut off whereby the beam of light issuing from the mirror 36 may be divided to form two closely adjacent beams of light of different focal length, the condenser 38 having a longer focal length than the condenser 39.

When the so newly formed beams of light are formed by the condensers 38 and 39 closely adjacent to one another, a minimum number of characters are delayed in passing from the light aperture 7 to the light aperture 10 when passing around the angle piece 9. Furthermore, the extension 12 in width will only be slightly increased as compared to an extension having but a single condenser such as the condenser 39. Still furthermore, by this arrangement, a saving in cost can be effected by cutting one segment from the thicker condenser, to wit, the condenser 39, and two segments from the thinner condenser, to wit, the condenser 38.

It is obvious that various changes and modifications may be made to the details of construction without departing from the general spirit of the invention as set forth in the appended claims.

I claim:

1. The combination with a ticker, of a projecting machine having two adjacent parallel light apertures, a guide from one light aperture to the other, a tape puller for pulling the tape across one light aperture around said guide and across said other light aperture as it issues from said ticker, a screen housing for each light aperture, an objective lens interposed between each light aperture and its screen housing, a single source of light, and a condenser for each light aperture, said condenser lenses receiving a single beam of light from said light source and dividing it into light beams of different focal length.

2. The combination with a projecting machine having two adjacent parallel light apertures, of a tape guide between said light apertures, a tape puller for pulling the tape across one light aperture around said guide and across said second light aperture, two objective lenses having different focal lengths, one lens for each light aperture, a single source of light, a condenser for each light aperture, and reflectors for directing a light beam onto said condensers, said condensers having different focal lengths and separating said light beam into light beams of different focal lengths and directing them onto their objective lenses.

3. The combination with a projecting machine having two adjacent parallel light apertures, of a tape guide between said light apertures, a tape puller for pulling the tape across one light aperture around said guide and across said second light aperture, two objective lenses having different focal lengths, one lens for each light aperture, a single source of light, a condenser for each light aperture, and reflectors for directing a light beam onto said condensers, said condensers having different focal lengths and separating said light beam into light beams of different focal lengths and directing them onto their objective lenses, and having segments cut off to form plane faces, the resulting plane faces of said condensers abutting one another.

4. The combination with a ticker tape, of a projecting machine having two successive parallel

adjacent light apertures in the same plane, a tape puller for pulling the tape across said successive light apertures, a guide for guiding the tape when so being pulled from one light aperture to the other, a source of light, a condenser for each light aperture, and means for directing a light beam from said light source onto said condensers, said condensers dividing the light beam and directing it through said light apertures onto said tape, said condensers having different focal lengths.

5. The combination with a ticker tape, of a lamp housing having a lamp, an extension on said lamp housing having two parallel adjacent light apertures for said tape, a condenser for each light aperture, means for directing a light beam from said lamp onto said condensers, a tape puller for pulling the tape across said successive light apertures, a screen housing for each light aperture, each screen housing having a screen, the screens being disposed in parallel planes and facing in opposite directions, and means for directing the images formed by the light beams passing through said tape into said screen housings.

6. The combination with a ticker tape, of a lamp housing having a lamp, two screens disposed in vertical planes and parallel with one another facing in opposite directions and at different distances from said lamp housing, a compact extension on said lamp housing having an upper horizontal wall and an adjacent outer vertical wall, two adjacent parallel elongated light apertures in said upper wall, one of said light apertures for each of said screens, a condenser of long focal length for the aperture of the screen disposed at the farther distance from said lamp housing, a second condenser of shorter focal length for the aperture of the screen disposed at the shorter distance from said lamp housing, means for directing a light beam from said lamp onto said condensers, the condenser of short focal length being cut with a plane lateral face, the condenser of long focal length being cut with two plane lateral faces with one of its lateral faces abutting against the outer wall of said extension and the other plane face abutting against the plane face of said other condenser, and a tape puller for pulling the tape across said successive light apertures.

7. The combination with a projecting machine having two adjacent parallel light apertures, of an objective lens for each light aperture, a single source of light, and a condenser for each light aperture, said condensers having different focal lengths and being cut to present plane faces to one another and disposed in engagement with one another for receiving a single beam of light from said light source and dividing said light beam into light beams of different focal lengths and directing them through their light apertures onto their objective lenses.

8. The combination with a projecting machine having two adjacent parallel light apertures, of two objective lenses having different focal lengths, one lens for each light aperture, a single source of light, a condenser for each light aperture, and reflectors for directing a light beam onto said condensers, said condensers having different focal lengths and separating said light beam into light beams of different focal lengths and directing them onto their objective lenses.

9. The combination with a projecting machine having two adjacent parallel light apertures, of two objective lenses having different focal lengths, one lens for each light aperture, a single source

of light, a condenser for each light aperture, and reflectors for directing a light beam onto said condensers, said condensers having different focal lengths and separating said light beam into light beams of different focal lengths and directing them onto their objective lenses, and having segments cut off to form plane faces, the resulting plane faces of said condensers abutting one another.

10. The combination with a projecting machine having two successive parallel adjacent light apertures in the same plane, of a source of light, a condenser for each light aperture, and means for directing a light beam from said light source onto said condensers, said condensers having different focal lengths and being cut to present plane faces to one another and disposed in engagement with one another and dividing the light beam into light beams of different focal lengths and directing them through their light apertures onto their condensers.

11. The combination with a ticker tape, of a lamp housing having a lamp, two screens disposed in vertical planes and parallel with one another facing in opposite directions and at different distances from said lamp housing, a compact extension on said lamp housing having an upper horizontal wall and an adjacent outer vertical

wall, two adjacent parallel elongated light apertures in said upper wall, one of said light apertures for each of said screens, a condenser of long focal length for the aperture of the screen disposed at the farther distance from said lamp housing a second condenser of shorter focal length for the aperture of the screen disposed at the shorter distance from said lamp housing, and means for directing a light beam from said lamp onto said condensers, the condenser of short focal length being cut with a plane lateral face, the condenser of long focal length being cut with two plane lateral faces with one of its lateral faces abutting against the outer wall of said extension and the other plane face abutting against the plane face of said other condenser.

12. The combination with a projecting machine having two light apertures, of a single source of light, and a condenser for each light aperture, said condensers having different focal lengths and being cut to present plane faces to one another and being disposed with their cut plane faces in engagement with one another for receiving a single beam of light from said light source and dividing said light beam into two light beams of different focal lengths and directing them through their light apertures.

AUGUST D. EITZEN.

5
10
15
20
25
30
35
40
45
50
55
60
65
70
75

80
85
90
95
100
105
110
115
120
125
130
135
140
45