May 4, 1937. A. D. EITZEN 2,078,936

STOCK QUOTATION PROJECTING MACHINE

Original Filed Aug. 30, 1933 2 Sheets-Sheet 1

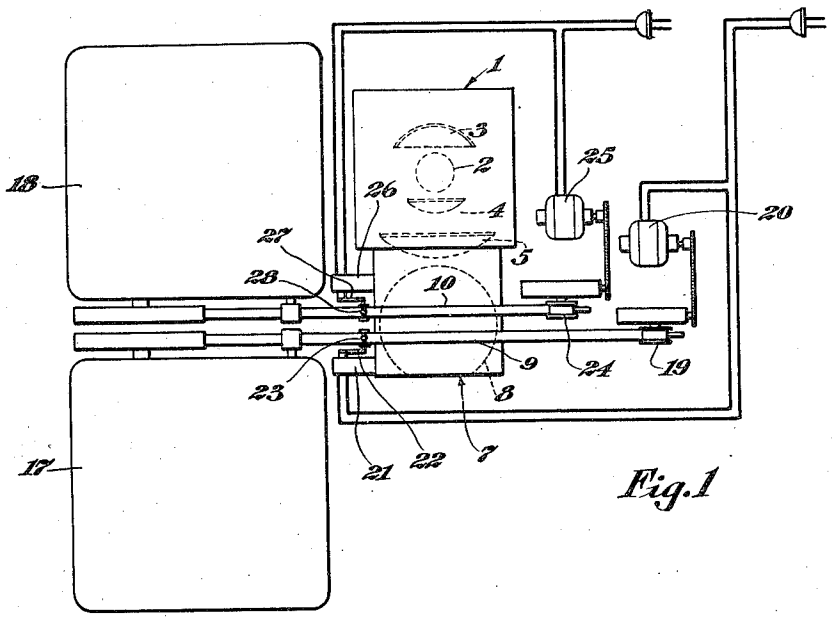

Fig. 1

Fig. 2

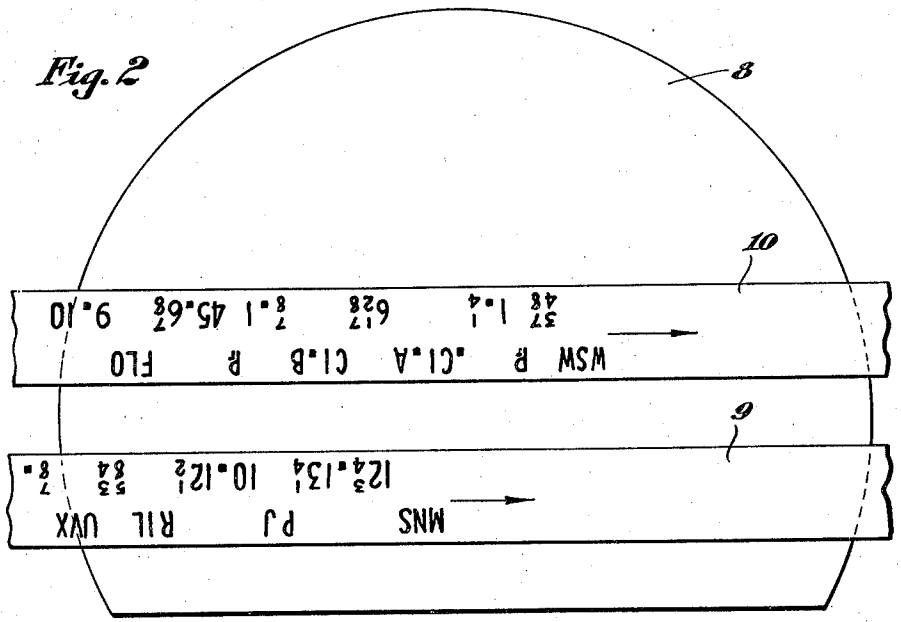

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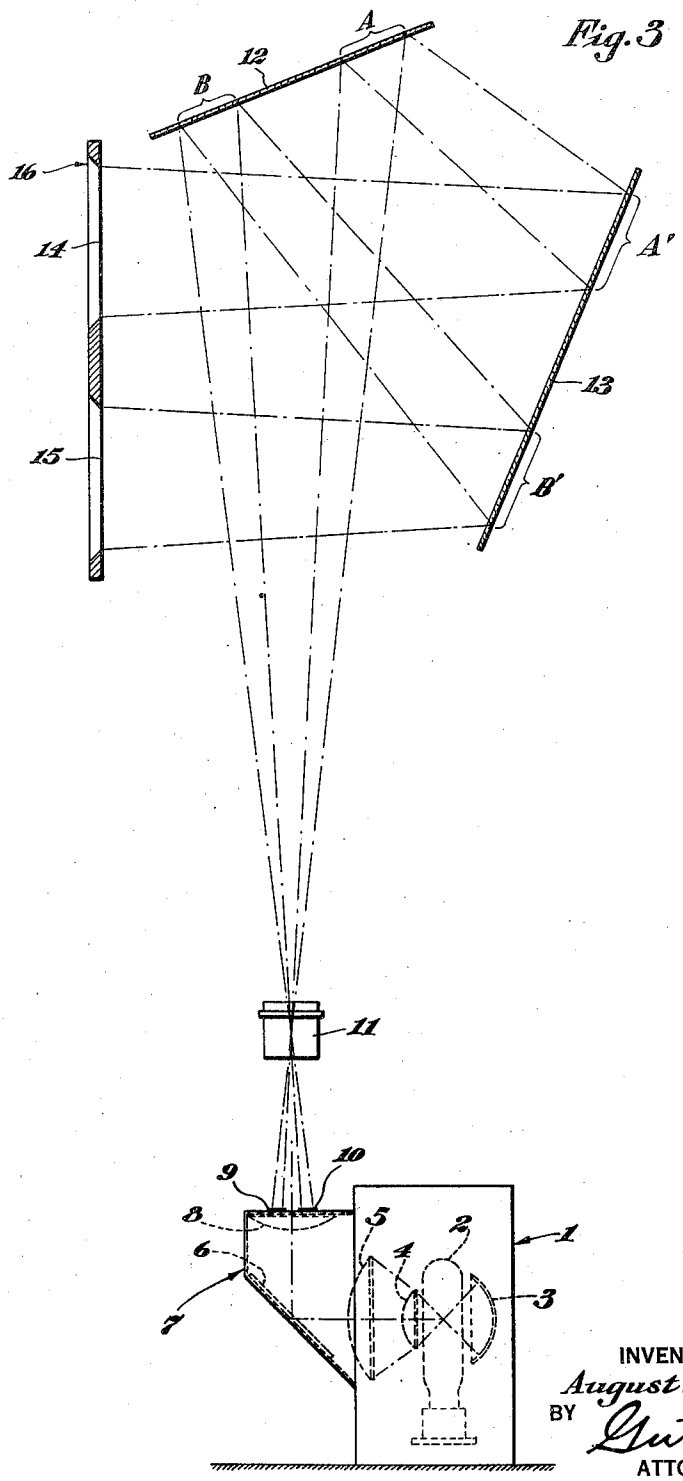
Fig. 3



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STOCK QUOTATION PROJECTING MACHINE

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Renewed August 30, 1935

13 Claims. (Cl. 88—24)

This invention relates to stock quotation projecting machines in general and more especially to machines for projecting the stock quotations of a plurality of printers or tickers onto a single or plurality of screens by a single projector.

Among the objects of the present invention, it is aimed to provide an improved stock quotation projecting machine for association with a plurality of printers or tickers, a plurality of tape pullers, a single projector, and one or more screens preferably disposed in the same plane.

Specifically it is an object of the present invention to provide an improved stock quotation projecting machine having a single projector, one or more screens in the same plane, two printers one standard and the other of reverse construction, and two tape pullers whereby the messages or quotations of two different printers or tickers transmitting different messages or quotations may be simultaneously projected as quickly with one as with the other.

It is still another object of the present invention to provide an improved stock quotation projecting machine having a single optical system provided with one or two light apertures in the same plane and one or two screens in the same plane, two printers one standard and the other of reverse construction, and two tape pullers, in which the tape discharge ends of the printers are equally spaced from the entrance ends of the light apertures when two apertures are provided or from the common entrance end of a single light aperture when only one light aperture is provided.

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 plan more or less diagrammatically showing two tickers and a single projector constructed according to the present invention;

Fig. 2 is an enlarged fragmental plan showing a portion of a condenser and portions of the tapes of two tickers crossing the same; and

Fig. 3 is an end elevation partly in section showing the relative position of the projector, screen member and two tapes, diagrammatically showing the path of the light beams from the tapes to the screen member.

In the embodiment shown, there is preferably provided a single lamp housing 1 having a lamp 2, from which the light rays are directed by the reflector 3 in a horizontal direction to and through the condensers 4 and 5 to the inclined deflector 6 mounted in the extension 7 from which the rays are directed upwardly to and through the condenser 8 supported in the upper end of the extension 7 across which the two tapes 9 and 10 pass and from which the images produced of the markings on the tape are directed upwardly through the objective lens unit mounted in the casing 11 by which the same are directed upwardly onto the reflector or mirror 12, then onto the reflector or mirror 13 and finally onto the rear faces of the translucent screen portions 14 and 15 of the screen member 16.

As will clearly appear from Fig. 3, the light rays of the two tapes will converge in the lens unit mounted in the casing 11 and again diverge into two separate independent light beams striking the mirrors 12 and 13 and screen portions 14 and 15, defined by the areas A and A' of the mirrors 12 and 13 respectively and the screen portion 14 for the images of the tape 9 and defined by the areas B and B' on the mirrors 12 and 13 respectively and the screen portion 15 for the images of the tape 10.

It will also appear from the foregoing that the dimensions of the ultimate images on the screen portions 14 and 15 must obviously be substantially identical if the dimensions of the characters on the tapes 9 and 10 are substantially identical since the optical system is practically common for the images of both tapes except that different portions of practically the same light apertures are used formed by the condenser 8 and that different portions of the same mirrors 12, 13 and screen member 16 are used for the images of both tapes.

The tapes 9 and 10 are discharged by the printers 17 and 18 respectively. The printer 17 is of standard construction and for the purpose of this description will be designated as the right hand ticker or printer. The printer 18 will be substantially identical to the printer 17 in construction except that it will be constructed the very reverse of the printer 17 and therefore for the purpose of this description will be referred to as the left hand ticker.

It is of course obvious that the ticker 18 may also be constructed substantially identical to the ticker 17 except that its tape discharge end is formed on the reverse side to that on which the tape discharge end of the ticker 17 is formed. The tape 9 is discharged by the ticker 17 in the usual way and is caused to be drawn or pulled across the condenser 8 by a standard tape puller, such for instance as the tape pulling roller 19, drivingly connected with the motor 20, the circuit of which motor 20 is controlled by a switch formed

in the housing 21 having the lever 22 with a finger 23 on its free end to engage the tape 9 between the ticker and the light aperture in the usual way so as to respond to deflections in the tape and thereby establish or cut off the current to the motor 20 according to the operation or non-operation of the ticker 17.

The tape 10 is similarly caused to be drawn or pulled across the light aperture or condenser 8 as it is discharged by the ticker 18, this tape pulling mechanism being substantially identical to the tape pulling mechanism for the ticker 17 and consisting essentially of a tape pulling roller 24 drivingly connected to the motor 25, the electric conductors of which are connected to the switch formed in the housing 26 having the lever 27 with a finger 28 on the free end thereof riding on the tape 10 between the ticker 18 and the condenser 8 to respond to deflections in the tape to establish or cut off the current to the motor 25 according to the operation or non-operation of the ticker 18.

From the foregoing, it will be seen that by this arrangement of ticker construction, a single optical system can be used consisting of a single source of light, a common light aperture, a common screen member except that different portions of the common light aperture will be used by the two different tapes and similarly that two different portions of the common screen member will be used for the images of the two different tapes.

In this way, it will also appear that if the tickers are equally spaced from the condenser 8 or light apertures formed by or above the same and the dimensions of the markings on the tape are substantially identical that the ultimate images on the screen will be substantially identical.

It will also appear that by this construction, the interval of time required for an image to appear on the screen member 16 for a character produced on the tape 9 will be substantially equal to that required for producing an image on the screen member 16 of a character produced on the tape 10.

Note should also be taken of the fact that negative type characters may be used on the type wheels of both tickers to produce positive impressions and that in at least this respect the printer 18 need not be the reverse of the printer 17, and that in turn positive type characters on the type wheels of the printers may be used when, as an instance, it is desirable to use a single mirror adjacent the screen, instead of two mirrors, such as the mirrors 12 and 13.

It is also obvious that the present system lends itself admirably for use where it is desirable to have the quotations from two tickers exhibited adjacent to one another. As an instance, a demand has risen for tickers rendering so-called express service, that is transmitting only the quotations of a few so-called leaders or only the quotations of the sales of a stock exceeding a certain predetermined volume. With the present system, one of the tickers may transmit the quotations now customary and the other ticker render such express service.

On the other hand, those brokers who wish to cater to the trader of commodities listed on exchanges, such for instance as the curb exchange, produce exchange or the like, other than on the New York Stock Exchange may wish to have the quotations from two of such exchanges transmitted adjacent to one another so that traders of the commodities on at least two such exchanges may conveniently have both reports transmitted adjacent to one another. The present system is uniquely adapted to fill the latter need.

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 right hand ticker and a left hand ticker having their tape discharging ends disposed adjacent to one another, of a light aperture common to the tapes of both tickers disposed adjacent to the tape discharging ends of said tickers, independent tape drawing mechanism for independently drawing the tapes across said aperture along parallel paths of movement, a screen member having two separated screen portions disposed in the same plane, and optical systems for directing the images of one of said tapes to one of said screen portions and for directing the images of the other of said tapes to the other of said screen portions.

2. The combination with a right hand ticker and a left hand ticker having their tape discharge ends disposed adjacent to one another, of parallel light apertures disposed adjacent to the tape discharge ends of said tickers, independent tape drawing mechanism for independently directing the tapes across said light apertures, a screen member having two separated screen portions disposed in the same plane, a common objective lens for receiving the images of both of said tapes, deflecting means for receiving and directing images of one of said tapes to one of said screen portions, and another deflecting means for receiving and directing the images of the other of said tapes to the other of said screen portions.

3. The combination with a right hand ticker and a left hand ticker having their tape discharge ends disposed adjacent and parallel to one another, of a condenser forming parallel light apertures disposed adjacent to the tape discharge ends of said tickers, independent tape drawing mechanism for independently drawing the tapes across said light apertures, a screen member having two separated screen portions disposed in the same plane, and an optical system including deflecting means for directing the images of one of said tapes to one of said screen portions, and another deflecting means for directing the images of the other of said tapes to the other of said screen portions.

4. The combination with a right hand ticker and a left hand ticker having their tape discharge ends disposed adjacent to one another and discharging in the same direction and having negative type to produce positive impressions, of a condenser having parallel light apertures disposed adjacent to the tape discharge ends of said tickers, independent tape pullers for independently drawing the tape from said tickers across said light apertures, a screen member having two separated screen portions disposed in the same plane, a common objective lens for receiving the images from both of said tapes, and two mirrors, portions of said mirrors directing the images of one of said tapes to one of said screen portions and other portions of said mirrors directing the images of the other of said tapes to the other of said screen portions.

5. The combination with a pair of tickers, of a condenser forming parallel light apertures disposed adjacent to the tape discharging ends of

said tickers, independent tape pullers for independently drawing the tapes from said tickers across said light apertures in the same direction, a screen member having two separated screen portions disposed in the same plane, a common objective lens for receiving images of the tape markings disposed at said light apertures, and deflecting means having surfaces for receiving the images of one of said tapes and directing them to one of said screen portions and having other surfaces for receiving the images of the other of said tapes and directing them to the other of said screen portions.

6. The combination with a right hand ticker and a left hand ticker having adjacent tape discharge ends, of parallel and adjacent light apertures disposed adjacent to the tape discharging ends of said tickers, independent tape pullers for independently pulling the tapes discharged by said tickers across said light apertures in the same direction, an independent screen for each of said tapes, an objective lens common to both of said tapes, and deflecting means having surfaces for receiving images of one of said tapes and directing them to one of said screens and having other surfaces for receiving the images of the other of said tapes and directing them to the other of said screens.

7. The combination with a right hand ticker and a left hand ticker having adjacent parallel tape discharge ends, of a projector having a common source of light, two adjacent parallel light apertures for receiving the light rays from said source of light disposed adjacent to the tape discharge ends of said tickers, independent tape pullers for independently pulling the tapes discharged by said tickers across said light apertures in the same direction, an independent screen for each of said tapes, an objective lens common to both of said tapes, and deflecting means having surfaces for receiving the images of one of said tapes and directing them to one of said screens and having other surfaces for receiving the images of the other of said tapes and directing them to the other of said screens.

8. The combination with a right hand ticker and a left hand ticker having their tape discharging ends disposed adjacent to one another, of a light aperture common to the tapes of both tickers disposed adjacent to the tape discharging ends of said tickers, tape drawing mechanism for drawing the tapes across different parts of said aperture, and optical systems for directing the images of said tapes to different screen surfaces.

9. The combination of a right hand ticker having tape discharging means for discharging tape in a left hand direction from its tape discharging face and a left hand ticker having tape discharging means for discharging tape in a right hand direction from its tape discharging face, said tickers having their tape discharge ends disposed adjacent to one another and the alined faces of said tickers extending co-extensively opposite to one another and perpendicular to the paths of movement of the tapes from said tickers, both tapes moving in the same direction, adjacent light apertures disposed adjacent to the tape discharge ends of said tickers, independent tape drawing mechanism for independently directing the tapes across said light apertures, and deflecting means for receiving and directing the images of said tapes to different screen surfaces.

10. The combination with a right hand ticker and a left hand ticker having their tape discharge ends disposed adjacent and parallel to one another, of a condenser forming adjacent light apertures disposed adjacent to the tape discharge ends of said tickers, independent tape drawing mechanism for independently drawing the tapes across said light apertures, and an optical system including deflecting means for directing the images of said tapes to adjacent screen surfaces.

11. The combination with two tickers having their tape discharging ends disposed adjacent to one another, of a light aperture common to the tapes of both tickers disposed adjacent to the tape discharging ends of said tickers, independent tape drawing mechanism for independently drawing the tapes across different parts of said aperture, and optical systems for directing the images of said tapes to different screen surfaces.

12. The combination of a right hand ticker having tape discharging means for discharging tape in a left hand direction from its tape discharging face and a left hand ticker having tape discharging means for discharging tape in a right hand direction from its tape discharging face, said tickers having their tape discharging faces disposed co-extensively adjacent and parallel, with their tape discharging ends disposed adjacent to one another, both tapes moving parallel to one another and in the same direction, adjacent light apertures disposed adjacent to the tape discharging ends of said tickers, independent tape drawing mechanism for independently directing the tapes across said light apertures, and deflecting means for receiving and directing the images of said tapes to different screen surfaces.

13. The combination of a right hand ticker having tape discharging means for discharging tape in a left hand direction from its tape discharging outlet, and a left hand ticker having tape discharging means for discharging tape in a right hand direction from its tape discharging outlet, said tickers having their tape discharging outlets disposed adjacent to one another with both tapes moving in the same direction, tape supporting means disposed adjacent to the tape discharging outlets of said tickers, tape advancing mechanism for advancing the tapes across said supporting means as discharged from said outlets, and optical systems for directing images of the markings formed on the tapes at said tape supporting means onto different screens.

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