June 18, 1929. J. W. DECKER 1,717,838

NEWS PROJECTING MACHINE

Filed July 16, 1926

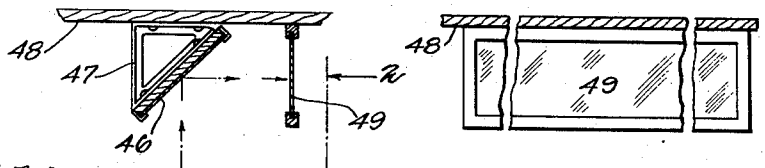
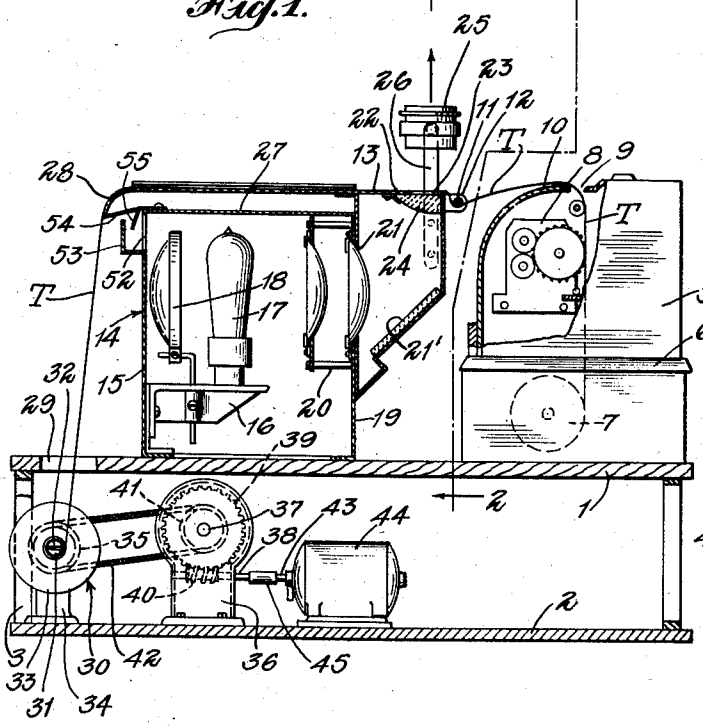


Fig. 1.



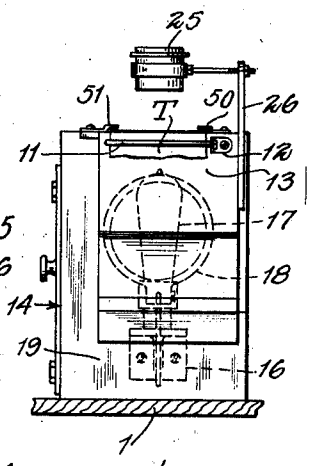


Fig. 2.

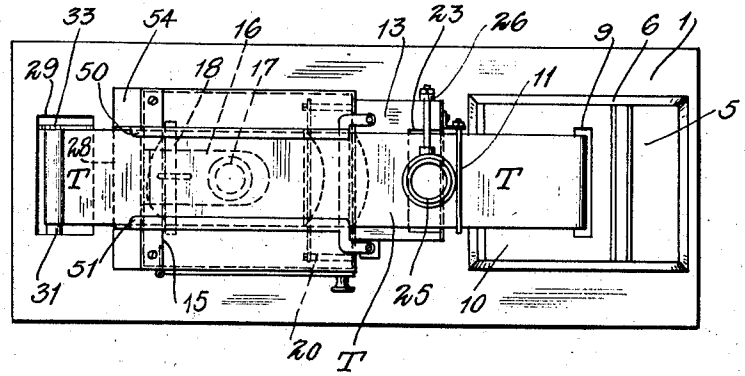


Fig. 3.

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UNITED STATES PATENT OFFICE.

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NEWS-PROJECTING MACHINE.

Application filed July 16, 1926. Serial No. 122,814.

This invention relates in general to machines for projecting news and quotations as they are printed by a ticker and more particularly to a projecting machine in which the news is printed transversely of the tape in a series of rows, and in which the tape is advanced a line space at a time.

Among the objects of the present invention, it is aimed to provide a combination of projecting machine and ticker mechanism in which the printed matter is printed transversely of the tape and whereby the printed matter may be projected to a screen disposed above the ticker mechanism.

Specifically the invention provides in combination a lamp housing having a horizontal transparent support for the tape, a horizontal guide for the tape extending above the top of the lamp housing and spaced from the lamp housing by an air chamber, and a ticker mechanism disposed to one side of the lamp housing adjacent to the horizontal transparent support, whereby images of the printed matter on the tape will be projected upwardly through a projecting lens, into a deflecting mirror and from the deflecting mirror to a vertically extending screen disposed above the ticker mechanism.

Among the objects of the present invention, it is also aimed to provide an improved rewind mechanism for ticker tape in which the printed matter extends transversely of the same.

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

Figure 1 shows the various portions of the apparatus assembled in section;

Fig. 2 is a section substantially on the line 2—2 of Fig. 1; and

Fig. 3 is a plan view of the lamp housing and ticker.

As shown in Fig. 1, a platfrom 1 is provided spaced from the platform 2 by the end-members 3 and 4. On the right hand end of the platform 1 there is provided a housing 5 having a platform 6 beneath which there is supported in the usual way a roll of tape 7. On the platform 6 is mounted the ticker 8. The ticker 8 is of standard construction such as the Dow-Jones ticker in which the tape is advanced one line space at a time and the printed matter is impressed on the tape in lines extending transversely of the same. At the upper end of the housing 5, there is formed an opening 9 through which the tape T passes after leaving the ticker 8. The tape T is preferably transparent or translucent, ordinary ticker tape however being generally sufficiently translucent to give fairly good results. After leaving the opening 9, the tape passes over the shield 10 of the housing 5 to and under the bar 11 supported by the bracket 12 on the upper right hand end of the lens casing 13. The lens casing 13 extends from the right end of the lamp housing 14 which is supported on the platform 1 to the left of the housing 5. In the lamp housing and secured to the rear wall 15 thereof, there is formed the bracket 16 on the right hand end of which is mounted the lamp 17 and to the left of which is mounted the reflector 18. Secured to the inside of the wall 19 of the lamp housing, there is provided the condensing lens member 20 which extends through the opening 21 formed in the wall 19. To the right of the lens member 20 in the lens housing 13, there is secured a deflector or mirror 21′ inclined at an angle of about 45° to the wall 19. The upper wall member 22 of the lens housing 13 is provided with a transparent tape support 23 composed of glass beneath which there is formed another lens 24. Above the glass support 23 there is formed the projecting lens member 25 which is secured in position by a bracket 26 secured to the lens housing 13. The wall member 22 extends from the lens housing 13 above the lamp housing 14 and is spaced from the upper wall member 27 of the lamp housing to form an air chamber between the wall member 22 and the wall member 27 so that the support 22 may be protected by this air chamber from the heat created in the lamp housing 14. The left hand end of the wall member 22 or tape support is curved downwardly, as shown at 28. To the left of the lamp housing 14 the platform 1 is provided with an opening 29, the tape passing from under the bar 11 over the glass support 23 to the guide 22 and then over the curved portion 28 down through the opening 29 to the take-up reel 30. The take-up reel has a shaft 31 provided with an axially extending recess 32 and a disc 33 at the inner end of the shaft 31. The shaft 31 is mounted on the bearing bracket 34 and

has a rearwardly extending portion to receive the sheave 35. To the right of the bracket 34 there is provided a second bearing bracket 36 in which there is mounted a shaft 37 and a shaft 38. On the shaft 37, there is secured a worm wheel 39 in mesh with the worm 40 on the shaft 38. On the shaft 37 there is also secured a sheave 41 which is connected to the sheave 35 by the spring belt 42. The shaft 38 is connected to the shaft 43 of the motor 44 by the flexible connection 45. The tape T is initially secured to the shaft 31 by being threaded through the opening 32. It will be seen from the foregoing that the motor 44 through the worm 40 will drive the worm wheel 39 in turn to drive the sheave 41, which sheave 41 by means of the spring belt 42 will frictionally drive the sheave 35 in turn to rotate the shaft 31 and thereby wind up the tape T. Above the projecting lens 25, there is provided a deflector or mirror 46, in the present instance secured by the bracket 47 to the ceiling member 48. To the right of the mirror 46, there is positioned the screen 47 which is also secured to the ceiling member 48.

In the operation of this set-up, the tape will pass from the roll 7 through the ticker 8 in which the lines of printed matter will be impressed on the tape and from the ticker 8, the tape T will pass through the opening 9 over the shield 10 to the bar 11, under the bar 11 and over the glass support 23 to the guide 22 and from the guide 22, over the curved portion 28 to the wind-up reel 33. Since the tape T rests during the printing of a line, provision must be made for permitting the take-up or wind-up reel to rest at the same time. To this end, the spring belt 42 is provided which is sufficiently yieldable to slip when the tape T is arrested by the ticker 8 but will have sufficient frictional engagement with the sheaves 35 and 41 positively to rotate the shaft 31 as soon as the ticker advances the tape T in order to maintain the tape smooth on the support 23 and at the same time positively wind it on the shaft 31. In the projection of the printed characters, it will be seen that the light from the lamp 17 passes through the condensing lens 20 to the mirror 21 and then through the lens 24 and glass support 23 through the tape positioned thereon, whereupon the images of the characters on the tape will be projected through the projecting lens 25 to the mirror 46 and then to the screen 49. In order that the rows of printed matter will appear printed side up and reading from left to right, the printed surface of the tape T will face downward when it passes over the glass plate 23, thereupon the images of the characters on the tape T will be projected through the glass plate 23 inverted from left to right. As the images are received by the projecting lens 25, they will be inverted upside downside and still remain inverted from left to right. As the images are then received by the mirror 46, they will be set up into proper position to be deflected onto the screen 47 reading in their proper order from left to right.

In order to form lateral guides for the tape when passing over the shield 22, the bent ledges 50 and 51 are secured to the shield 22 and extend upwardly therefrom and inwardly toward one another, as shown in Fig. 3, the edges of the tape T moving over the shield 22 and under the ledges 50 and 51.

At the left hand upper end of the lamp housing 14, there is formed an opening 52 to permit the heated air in the lamp housing to pass therefrom. The walls 15 and 27 of the housing 14 are provided with baffle plates to deflect the heated air leaving the housing 14 through the opening 52 in a downward direction so that such heated air will not pass up through the wall 27 and guide 26. The wall 14 has a member 53 that extends horizontally outward from the lower end of the opening 52 and then vertically upward. The wall 27 has two deflecting baffle plates 54 and 55, the baffle plate 54 extending to the left from the wall 27 to the lower end of the curved portion 28 of the plate 13, and the baffle plate 55 extending down to the right of the vertical portion of the member 53 so that the vertical portion 53 extends upwardly into the space between the baffle plates 54 and 55.

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. In a projecting machine, the combination with a translucent ticker tape having the printed matter reading transversely thereof and facing downward, of a lamp housing, a guide spaced from the upper wall of said lamp housing to form an air chamber between the upper wall of said lamp housing and said guide, means for intermittently drawing said tape along said guide from right to left, a support at the right hand end of said guide relative to the movement of said tape forming a light aperture, the tape passing over said support when moved by said drawing means, a lamp in said lamp housing, means for directing the rays from said lamp upwardly through said support and tape to project images of the characters formed on said tape, a projecting lens disposed above said lamp housing to receive the images of characters on said tape, a mirror disposed above said projecting lens to receive the images of the characters on said tape from said projecting lens, and a

screen to the right of said mirror and adjacent thereto to receive the images from said mirror.

2. The combination with a translucent ticker tape, of a support, means for drawing said ticker tape over said support from the right to the left thereof, a shield extending to the left of said support relative to the movement of said tape to form a guide for the tape, a lamp housing disposed below said shield and having an upper wall which is spaced from said shield to form an air chamber to prevent the heat in the lamp housing being directly transmitted to said shield, a lamp in said lamp housing, and means for directing the rays from said lamp upwardly through said support and ticker tape.

3. The combination with a translucent ticker tape, of a support, means for drawing said ticker tape over said support from the right to the left thereof, a shield extending to the left of said support relative to the movement of said tape to form a guide for the tape, a lamp housing disposed below said shield and having an upper wall which is spaced from said shield to form an air chamber to prevent the heat in the lamp housing being directly transmitted to said shield, a lamp in said lamp housing, means for directing the rays from said lamp upwardly through said support and ticker tape, there being an opening at the left hand upper end of the lamp housing relative to the movement of said tape, and baffle plates formed in said opening to direct the heated air from said lamp housing downwardly away from the air chamber formed beneath said shield.

4. The combination with a transmission ticker tape having reading matter extending transversely thereof and facing downwardly, of a projecting mechanism having a horizontal support, means for intermittently feeding said tape a line space, means for winding up said tape to draw the same from said support as it is being advanced, a lamp, means for directing the light rays from said lamp upwardly through said support and tape, said drawing means consisting of a driven shaft for receiving the tape to be wound up thereon, a driving shaft, sheaves on said driven shaft and driving shaft, and a spring belt connecting said sheaves to permit slippage when said tape is not being advanced by said feeding means.

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