

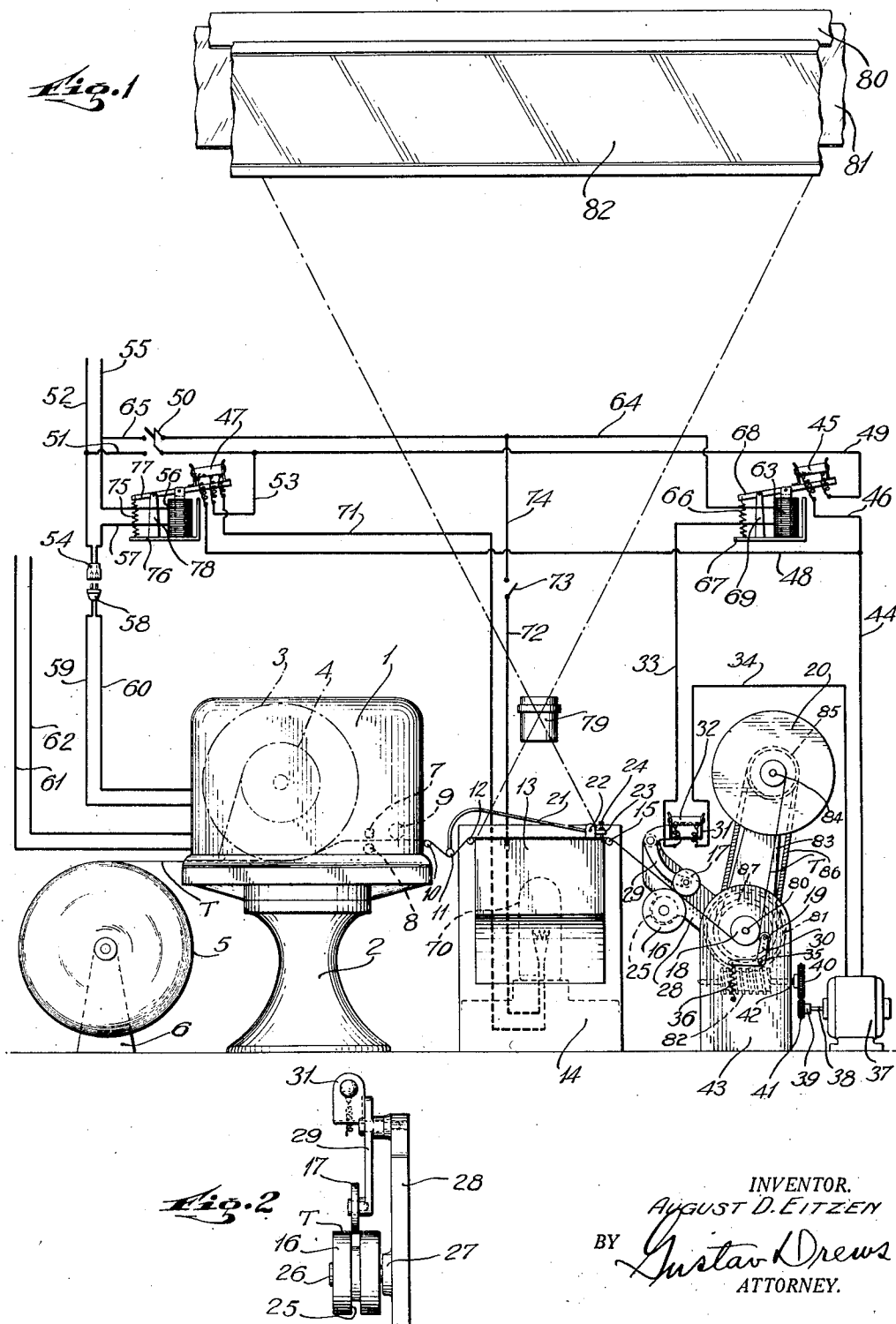
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A. D. EITZEN

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MESSAGE RECORDING MACHINE

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INVENTOR.  
AUGUST D. EITZEN  
BY *Gustav Drews*  
ATTORNEY.

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## MESSAGE RECORDING MACHINE

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

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This invention relates to message recording machines in general and more especially to stock quotation projecting machines.

Among the main objects of the present invention, it is aimed to provide an improved message recording machine in which the machine will effectively discharge the strip for a given job to clear the machine ready for the succeeding job.

It is another object of the present invention to provide an improved stock quotation projecting machine in which a strip sufficient to take a complete trading day's record may be supplied and the machine will effectively discharge such strip at the end of the day's run to clear the machine ready for the succeeding day's run.

It is still another object of the present invention to provide an improved wiring system for controlling the stock quotation projecting machine associated with a high speed ticker in which a strip sufficient to take a complete trading day's run may be supplied and the machine will effectively discharge the strip after completing the day's run to clear the machine ready for the succeeding day's run.

It is still another object of the present invention to provide an improved control mechanism for shutting off the current when the end of a strip has been reached or a rupture takes place in the tape.

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

Figure 1 is a front elevation of a stock quotation projecting machine including the switches, wiring and the like illustrated diagrammatically; and

Fig. 2 is a fragment enlarged end elevation of a part of the tape controlling mechanism.

In the embodiment illustrated, the housing 1 is shown of the type generally used for housing a high speed ticker mounted on the pedestal 2. The dash and dot line 3 indicates the location of the ordinary ticker strip of tape mounted on the reel 4. For an ordinary day's run, it has been found that the space afforded within the housing 1 of a high speed ticker is not sufficient to accommodate a tape roll having sufficient length of strip to supply said day's run when a ticker tape is used varying in thickness from .002 to .003 inch. In other words, with the present invention, the tape is preferably composed of a washable stock, such for instance as cellulose acetate which may be subjected to a cleaning treatment after a day's run and be in condition to be used again for which purpose it has been found due to the extra wear to which such tape will be submitted that the tape be preferably formed of a thicker stock, to wit of .002 to .003 inch in thickness as compared

to .001 inch the thickness of the tape heretofore used. When tape of this thickness and of the required length to suffice for a day's run, to wit about nineteen hundred feet, is used, the diameter of the resulting roll is such that the dimensions of the housing 1 of the high speed ticker are not sufficient to accommodate the same. For this reason, the roll of tape 5 is preferably mounted on a bracket 6 outside of the housing 1 as shown.

The tape T from the roll 5 passes through the lower end of the housing 1 and preferably the feeding rollers 7 and 8 of the high speed ticker shown in dotted lines are anchored out of operation in spaced relation as indicated. The tape T then passes under the type wheel 9 and from there over the pin 10 and then under the finger 11 to and over the pin or roller 12 at the entrance end of the light aperture on the top of the extension 13 of the lamp housing 14, after which it will pass over the pin or roller 15 at the discharge end of the light aperture, then pass between the rollers 16 and 17 to the tape pulling sheave 18 in engagement with which the tape is maintained by the friction roller 19.

From the pulling sheave 18, the tape T passes up to the rewind reel 20. The finger 11 is disposed at the end of an elongated lever 21 pivotally mounted on the bracket 22 preferably adjacent to the discharge end of the light aperture. The short arm 23 of the lever 21 is preferably provided with an adjustable stopping screw 24 to limit its movement and in turn the movement of the finger 11 when cooperating with the tape T between the rollers 10 and 12.

The roller 16 is provided with an annular slot 25 and mounted on the stub shaft 26 journaled in the bearing 27 of the arm 28. At the upper end of the arm 28, there is pivotally connected the lever 29 having journaled at its lower end the narrow roller 17 disposed to register with the slot 25 when the tape T clears the roller 16 or when a rupture appears in the tape T.

The upper end of the lever 29, see particularly Fig. 1, has mounted thereon the spring clips 31 to receive between them the fluid mercury tube 32 provided with two contacts connected to the conductors 33 and 34. The contacts and fluid mercury are so disposed that when the roller 17 rides on the tape T out of the recess 25, contact will be established between the two contacts of the conductors 33 and 34 and when the roller 17 rides or projects into the recess 25, the fluid mercury will leave one of the contacts to break the circuit.

The frictional roller 19 is journaled at the end of the bracket 30 which is pivoted at 35 and provided with a spring 36 which yieldably maintains the roller 19 in engagement with the tape.

The pulling sheave 18 is mounted on the shaft 38 on which is fixed the worm wheel 31 in mesh

with the worm 82. The motor 37 is connected to drive said worm 82, it having the shaft 38 on which is mounted the sheave 39 which is connected to the sheave 40 by the belt 41, the sheave 40 being mounted on the end of the shaft 42 on which the worm 82 is mounted. From the housing 43 in which the worm wheel 81 and worm 82 are mounted, there extends upwardly the arm 83 at the upper end of which is journaled the shaft 84 of the reel 20. The shaft 84 is provided with a sheave 85 which is connected by the spring belt 86 with the pulley 87 on the shaft 80.

The conductor 34 is connected to one terminal of the motor 37, the other terminal of which is provided with the conductor 44 which is connected to one of the terminals of the mercury switch 45 by the conductor 46 and to one of the terminals of the mercury switch 47 by the conductor 48.

The other terminal of the mercury switch 45 is connected to the conductor 49 which may be connected by the two pole switch 50 the conductor 51 connected to one of the main leads 52. The mercury switch 47 has three terminals, the second one of which is connected by the conductor 53 to the conductor 49. The main lead 52 is connected to the outlet 54. The other main lead 55 is connected to the magnet 56 which in turn is connected by the conductor 57 to the outlet 54. The outlet 54 is adapted to receive the outlet plug 58, the conductors 59 and 60 of which are connected to the motor of the ticker formed in the housing 1. The telegraphic lines for the ticker are indicated by the conductors 61 and 62 when the two pole switch 50 is closed, the outlet plug 58 connected to the outlet 54, the roller 17 raised with a portion of the tape T disposed between it and the roller 16. At the beginning of a day's run, the mercury switches 47 and 45 will be in open circuit or raised position and the mercury switch 32 in contact making and raised position as illustrated in Fig. 1. Thereupon, when the transmission of messages begins, the circuit to the conductors 59 and 60 will be immediately closed to establish a current in the magnet 56 to lower the mercury switch 47 into contact making position whereupon the current for the motor 37 will be initially established by passing from the main lead 52 through the conductors 51, 53, mercury switch 47 and conductors 48 and 44 to the motor 37 and from the motor 37 through the conductor 34, mercury switch 32, conductor 33, magnet 63, conductor 64 to the two pole switch 50 and from the switch 50 through the conductor 65 to the other main lead 55.

As soon as the current thus passes through the magnet 63, it will in turn cause the mercury switch 45 to descend and make contact from the conductor 46 to the conductor 49 so that immediately thereafter the current for the motor 37 will thereupon pass to the conductor 44 by way of the mercury switch 45 also, or in parallel with the mercury switch 47, that is from the main lead 52 through the conductors 51, 49, mercury switch 45, conductors 46 and 44 to the motor 37 and from the motor 37 by the way already described, to wit through the conductor 34, mercury switch 32, conductor 33, magnet 63, conductors 64 and 65 to the other main lead 55.

From the foregoing, it will be seen that if the current has once been caused to pass through the magnet 63 to close the mercury switch 45 for the motor 37, the current will continue to pass through the motor 37, irrespective of the position of the mercury switch 47. This is done so that if the operation has been initiated at the begin-

ning of the day, the motor 37 and in turn the tape pulling sheave 18 will continue to draw the tape through the projecting machine until either the tape is broken or the roll 5 has been exhausted.

When the tape is broken or the roll has been exhausted so that no tape passes between the pressure roller 17 and the idler 16, the roller 17 will drop into the space 25, see Fig. 2, to cause the mercury switch 32 to descend and break the circuit at such point thereby interrupting the current through the magnet 63 in turn to permit the mercury switch 45 again to be raised by the spring 66 and cause the mercury switch 45 to break the connection between the conductors 46 and 49.

The spring 66 as illustrated connects the base 67 of the magnet 63 with one end of the lever 68 pivotally connected to the bracket 69. The other arm of the lever 68 has mounted thereon the fluid mercury container of the fluid mercury switch 45 as illustrated.

When the circuit is established through the conductors 59 and 60 initially with the beginning of the day's run, it will at the same time automatically establish the current to the lamp 70 in the lamp housing 14.

The third terminal of the mercury switch 47 is connected by the conductor 71 with one terminal of the lamp 70 and the other terminal of the lamp 70 is connected by the terminal 72 to the switch 73 which is in turn connected by the conductor 74 to the conductor 64. In other words, when the switch 73 is closed before the start of a day's operation, and thereupon the current is established through the magnet 56 as aforesaid, in turn to cause the mercury switch 47 to descend, it will not only close the connection from the conductor 48 to the conductor 53 but also the connection from the conductor 71 to the conductor 53 so that the current will pass from the main lead 52 through the conductors 51, 49, 53 and 71 to the lamp 70 and from the lamp 70 through the conductors 72, 74 and 64 back to the other lead 55.

From the foregoing, it will also appear that when the circuit initially established through the conductors 59 and 60 by the telegraphic line denoted by the conductors 61 and 62, and a ticker motor relay the current from the lamp 70 will continue until the current through the conductors 59 and 60 is interrupted. When the current through the conductors 59 and 60 is interrupted at the end of a day's run, the current for the magnet 56 will of course be interrupted in turn to permit the spring 75 to raise the mercury switch 47 out of contact making position and thus interrupt the current to the lamp automatically. This interruption of the current by the mercury switch 47, however, will not affect the current to the motor 37 since as aforesaid, when the mercury switch 45 has once been closed, the current to the motor 37 can pass thereto by way of the mercury switch 45 instead of by way of the mercury switch 47 from the conductors 49 and 51 of the main lead 52.

The spring 75 for normally maintaining the mercury switch 47 in contact breaking position, connects the base 76 with one arm of the lever 77, which lever is pivoted to the bracket 78, the other arm of which has mounted thereon the fluid mercury container of the mercury switch 47.

The images from the projecting machine will as well known with devices of this type pass up through the objective lens in the housing 79 to the mirror 80 and then be deflected onto the mirror 81 to be in turn deflected onto the screen 82. The tape T used with the present device is preferably

composed of cellulose acetate or such like film stock that can be washed at the end of a day's run, since the present machine can be used and is especially adapted for use with a single tape that can be repeatedly used from day to day. In other words, with the present machine, the tape at the end of a day's run need not be destroyed and wasted but if made of washable stock such as thicker and stronger cellulose acetate may be washed at the end of a day's run and returned to the supply from which the tapes for the succeeding day's run are taken.

Furthermore, with a machine of this type, the attendant or broker need not pay any attention to the supply of tape required any further than to see that a roll is supplied and connected to the machine before the beginning of a day's run. It will thus be possible for the servicing company to collect the rolls of tape at the end of a day's run, at the same time connecting a fresh roll of tape for the succeeding day's run, forwarding such used rolls of tape to the washing station, there to be cleaned and prepared for repeat use.

It has been found depending upon the activity of the market today, a tape of about nineteen hundred feet in length will be more than sufficient to supply the required day's run. If on the other hand, the market should become more active, it would of course be a simple matter to supply a longer tape.

It is of course 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 stock quotation projection machine, the combination with a motor driven ticker, of wiring for connecting the motor of said ticker to a source of current, a lamp, wiring connecting said lamp in parallel with said ticker to the source of current, a switch in said lamp wiring normally open, and a magnet connected to said ticker wiring in series with said ticker and operatively connected to close said lamp switch when the current to said ticker is established in turn to control the current of said lamp.

2. In a stock quotation projection machine, the combination with a motor driven ticker, of wiring for connecting the motor of said ticker to a source of current, a lamp, wiring connecting said lamp in parallel with said ticker to the source of current, a switch in said lamp wiring normally open, a magnet connected to said ticker wiring in series with said ticker and operatively connected to close said lamp switch when the current to said ticker is established in turn to control the current to said lamp, a tape pulling motor, a motor control switch, a second magnet, and wiring for connecting said tape pulling motor, said second magnet and motor control switch to the source of current in parallel with said ticker and also connecting said second magnet and tape pulling motor in parallel with said lamp and lamp switch whereby the initial establishment of current in the ticker wiring will close said lamp switch to establish the current for said lamp and in turn energize said second magnet to close said motor switch and whereby in turn the interruption in the current in the ticker wiring will deenergize said first magnet to open said lamp switch but leave the current to said motor unaffected.

3. In a stock quotation projection machine,

the combination with a motor driven ticker, of wiring for connecting the motor of said ticker to a source of current, a lamp, wiring connecting said lamp in parallel with said ticker to the source of current, a switch in said lamp wiring normally open, a magnet connected to said ticker wiring in series with said ticker and operatively connected to close said lamp switch when the current to said ticker is established in turn to control the current to said lamp, a tape pulling motor, a motor control switch, a second magnet, wiring for connecting said tape pulling motor, said second magnet and motor control switch to the source of current in parallel with said ticker and also connecting said second magnet and tape pulling motor in parallel with said lamp and lamp switch, and a tape controlled switch responsive to an interruption or discontinuance in the tape supply connected to said tape pulling motor wiring in series with said second magnet, said tape controlled switch being operative to interrupt the current to said second magnet in turn to operate said tape pulling motor switch to discontinue the current to said tape pulling motor.

4. In a stock quotation projection machine, the combination with a supply reel, of a rewind reel, a predetermined supply of tape, a tape puller for drawing the tape through the projection machine from said supply reel to said rewind reel, and means for continuing the actuation of said tape puller when once started until the entire tape has been drawn from said supply reel to said rewind reel, said means including a control switch, a magnet having an armature operatively connected to close said control switch when a day's run is started, and a second switch operatively connected to respond to an interruption in, or at the end of, the tape supply, said control switch, magnet and second switch being connected in series when said control switch is closed.

5. In a stock quotation projection machine, the combination with a supply reel, of a rewind reel, a predetermined supply of tape, a ticker, tape drawing means, a motor for actuating said drawing means, a motor for actuating said drawing means, wiring for connecting said motor to a source of current, an electric switch for said wiring operatively associated with said ticker to be closed when the actuation of said ticker at the beginning of a day's run is initiated, and means for so closing said switch and for maintaining said switch so closed until the supply of tape has been exhausted including an armature operatively connected to said switch, and a magnet operatively connected to said armature and connected in series with said switch when so closed.

6. In a stock quotation projection machine, the combination with a supply reel, of a rewind reel, a predetermined supply of tape, a ticker, tape drawing means, a motor for actuating said drawing means, wiring for connecting said motor to a source of current, an electric switch for said wiring operatively associated with said ticker to be closed when the actuation of said ticker at the beginning of a day's run is initiated, means

for so closing said switch and for maintaining said switch so closed until the supply of tape has been exhausted including an armature operatively connected to said switch, a magnet operatively connected to said armature and connected in series with said switch when so closed, a pivotally mounted bracket, and a second electric switch in said wiring connected in series with said magnet and mounted on said bracket, the portion of tape between said supply reel and rewind reel supporting said bracket in raised position where said second switch is closed, the bracket being free to descend when the end of the tape has been reached in turn to permit said second switch to be opened to shut off the current to said motor.

8. In a stock quotation projection machine, the combination with a supply reel, of a rewind reel, a continuous strip of washable tape sufficient for a day's run adapted to be connected to said supply reel at the beginning of a day's run, a tape puller for pulling the tape through the projection machine from said supply reel to said rewind reel, and means for continuing the actuation of said tape puller when once started until the entire tape has been drawn from said supply reel to said rewind reel so that said tape may be washed at the end of a day's run and at the same time be replaced, said means including a control switch, a magnet having an armature operatively connected to close said control switch when a day's run is started, and a second switch operatively connected to respond to an interruption in, or at the end of, the tape supply; said control switch, magnet and second switch being connected in series when said control switch is closed.

9. In a stock quotation projection machine, the combination with a supply reel, of a rewind reel, a predetermined length of tape sufficient for a day's run mounted on said supply reel at the beginning of a day's run, a tape puller for drawing the tape through the projection machine from said supply reel to said rewind reel, and means for interrupting the actuation of said tape puller only when said length of tape has been completely wound upon said rewind reel, said means including a control switch, a magnet having an armature operatively connected to close said control switch when a day's run is started, and a second switch operatively connected to respond to an interruption in, or at the end of, the tape supply, said control switch, magnet and second switch being connected in series when said control switch is closed.

10. In a stock quotation projection machine, the combination with a supply reel, of a rewind reel, a predetermined length of tape sufficient for a day's run mounted on said supply reel at the beginning of a day's run, a tape puller for drawing the tape through the projection machine from said supply reel to said rewind reel, and means engaging the portion of the tape extending from the supply reel to the rewind reel during the drawing action and operable to interrupt the operation of said tape puller when the supply reel has been exhausted, said means including a control switch, a magnet having an armature operatively connected to close said control switch when a day's run is started, a second switch connected in series with said magnet and control switch when said control switch is once closed, and a lever in engagement with said tape and operatively connected to said second switch.

11. In a stock quotation projection machine,

the combination with a supply reel, of a rewind reel, a predetermined length of tape sufficient for a day's run, mounted on said supply reel at the beginning of a day's run, a tape puller for drawing the tape through the projection machine from said supply reel to said rewind reel, and means supported on the portion of tape extending from the supply reel to the rewind reel during the drawing action to maintain the actuation of said tape puller and operable to interrupt the operation of said tape puller when the tape on the supply reel has been exhausted and the support for said means thus withdrawn, said means including a control switch, a magnet having an armature operatively connected to close said control switch when a day's run is started, a second switch connected in series with said magnet and control switch when said control switch is once closed, and a lever in engagement with said tape and operatively connected to said second switch.

12. The combination with a motor driven ticker, of wiring for connecting the motor of said ticker to a source of current and responsive to establish an electric circuit through said motor when a message is transmitted to said ticker, a lamp, wiring connecting said lamp in parallel with said ticker to the source of current, and means including a switch controlled by the current passing through the wiring of said motor to control the current passing through the wiring of said lamp.

13. The combination with a supply reel, of a predetermined supply of tape, a tape puller for drawing the tape through the projection machine from said supply reel, and means for continuing the actuation of said tape puller when once started until the entire tape has been drawn from said supply reel or an interruption in the tape supply occurs, said means including a control switch operatively connected to close after a run of tape is started and a second switch operatively connected to respond to an interruption in, or the end of, the tape supply to interrupt the operation of said tape puller.

14. The combination with a supply reel, of a continuous strip of washable tape sufficient for a day's run adapted to be connected to said supply reel at the beginning of a day's run, a tape puller for pulling the tape through the projection machine from said supply reel, and means for continuing the actuation of said tape puller when once started until an interruption in the tape supply occurs or the entire tape has been drawn from said supply reel so that said tape may be washed at the end of a day's run, said means including a control switch operatively connected to close after a day's run is started and a second switch operatively connected to respond to an interruption in, or the end of, the tape supply, said control switch and second switch being connected in series when said control switch is closed.

15. The combination with an electric printer, of wiring for including said printer in an electric circuit and responsive to establish an electric circuit when a message is transmitted to said printer, a projection machine lamp, wiring in parallel with the wiring for said printer for including said lamp in an electric circuit, and means associated with said printer to control the current passing through the wiring for said lamp.

AUGUST D. EITZEN.