

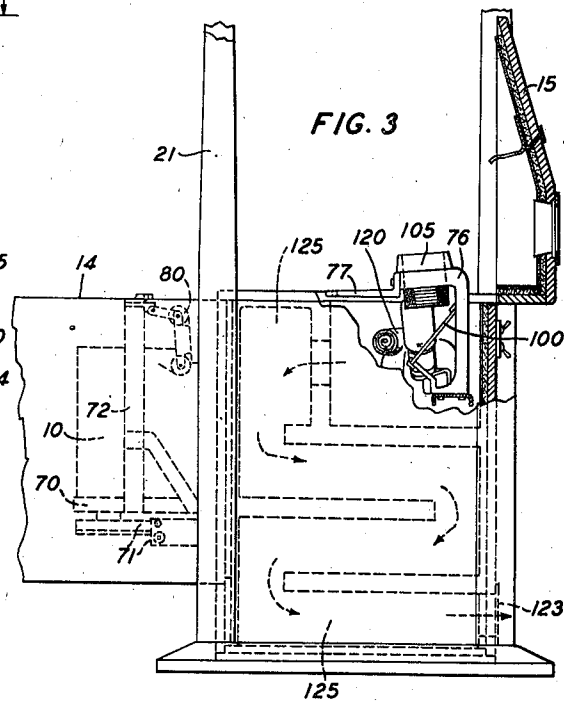
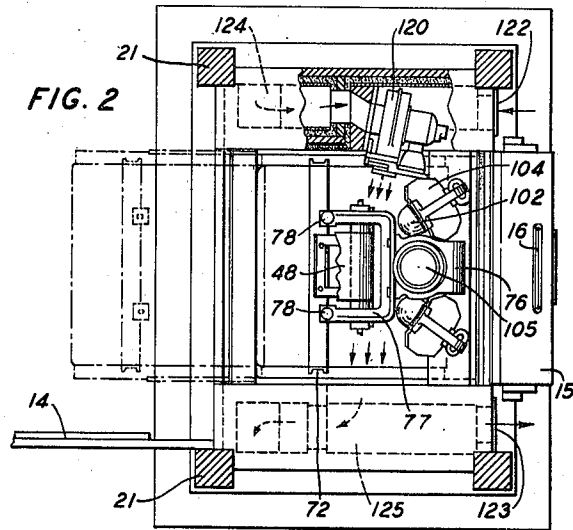
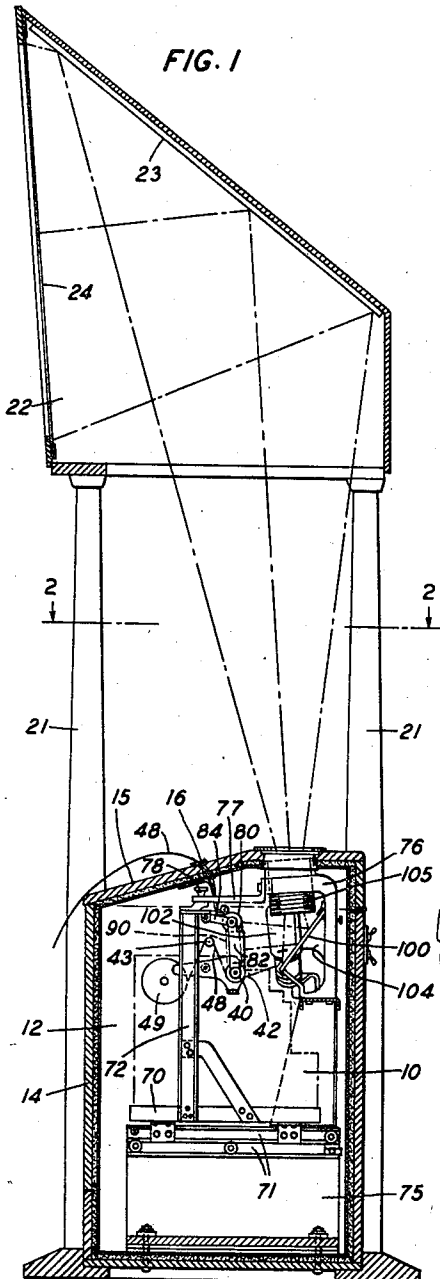
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RECORD DISPLAY DEVICE

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RECORD DISPLAY DEVICE

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3 Claims. (Cl. 88—24)

This invention relates to improvements in record display devices and particularly to devices of this type serving as news projectors and employing a telegraph recorder in which the supply of recording paper or the like must be replenished at intervals by unskilled persons and with minimum interruption to the operation of the device.

In telegraphic news projectors of this type it is desirable to use a telegraph recorder of standard design in combination with the equipment for optical display of a portion of the recorded news message.

It is an object of the invention to provide an equipment in which the recorder or printer may be made readily accessible for change of recording paper and color ribbon without disturbance to other parts of the equipment.

It is a further object of the invention to provide a projector equipment in which the recording device for the purpose of servicing may be at least partly withdrawn from the cabinet and the other parts of the equipment without interference therewith.

It is a further object to arrange the fixed parts of the optical system in such a display device in relation to the removable printer and its record so that a steady image of the record may be secured.

In accordance with a feature of the invention, the recording printer is placed within a cabinet or box which has a door in its front side, and the printer is mounted on telescoping tracks so that it may be easily pulled from its normal operating position and at least part way out through the door opening for servicing. Parts of the optical system, such as the projecting objective and the illuminating lamps and a ventilating system including long sound-proof passages and air circulating means are also located within this cabinet. These parts of the equipment are arranged to the rear and two sides of the printer in such a manner as not to interfere with the withdrawal of the printer from its normal operative relation with this equipment.

In accordance with another feature of the invention special guiding means for the recording paper is mounted on a framework for cooperation with the ordinary platen or paper feeding means on the printer for exposure of an area containing several lines of the record to the optical system. This frame is mounted together with the recording device or printer on the telescoping tracks to move as a unit with the recording device. The parts of the optical system

which are located within the cabinet are mounted on a stationary frame; coordinating extensions are provided on the two frame structures which are normally fastened together in order to insure that the exposed area of the record and the optical elements under normal operating conditions form a mechanical unit which, when subjected to vibrations caused by the printing operations, will vibrate in unison and thus produce a steady image. These extensions are easily disconnected by means of finger screws when the typewriter is to be withdrawn.

These and other features, capabilities and advantages of the invention will appear from the following description of one specific embodiment of my invention, which are illustrated in the accompanying drawing in which—

Fig. 1 is a vertical sectional view of one embodiment of the invention.

Fig. 2 is a view taken on line 2—2 of Fig. 1 showing the arrangement of the equipment in the lower apparatus compartment; the lid of the compartment being open.

Fig. 3 is a partial side view of the lower cabinet, as it is shown in Fig. 2.

The invention relates to a projecting device such as disclosed in an application for patent Serial No. 759,163 filed by Harry Pfannenstiehl on even date with the filing of the present application.

For a full understanding of the operation of a complete station to which the features of the present invention may be applied, reference should be had to the disclosure in U. S. Patent No. 1,904,164 to S. Morton et al. issued on April 18, 1933, of a telegraph printer of the page printer type suitable for the purposes of this invention. Only such parts of the device shown in that patent are referred to in the following description and shown on the attached drawing as are necessary to facilitate an understanding of the features and operation of the present invention.

Referring to the drawing the projector comprises a general structure having a lower compartment 12 and an upper compartment 22; the latter is supported directly above the lower compartment by means of four posts 21. The lower compartment 12 contains the telegraph printer 10 with its recording strip 48, and certain parts of the optical system, namely the viewing mirror 100, the objective lens 105 and the illuminating lamps 101 and 102. The upper compartment, which is open at the bottom contains a large mirror 23 and the screen 24 of translucent mate-

rial for displaying the image of the record on strip 48 before an audience.

The telegraph printer 10 is set on a slidable frame 70 which is placed on a stationary base 75, and it is held rigid with respect to the optical system, i. e., projecting lens, lamps and reflecting mirror, by means of the thumb screws 78 which clamp the movable frame 70 to the stationary base 75, which in turn is suitably mounted in the bottom of compartment 12.

As already stated, the printer 10 is of a type particularly suited for the present purpose in that it has a printing roller or platen 40 which is stationary except for the case shift and line shift motions, both of which can be observed in the image on the screen 24, and in having visible printing which permits the optical system to observe the actual printing of the message as readily as can a typist operating an ordinary typewriter.

The printer carries a supply roll 49 of standard opaque paper strip 48 of sufficient width for page printing, and the paper is led over the paper straightening rod 43 and about the platen 40 in the usual manner. The paper is then passed behind the color ribbon 42 at the line of printing.

Special guiding means for the paper strip have been attached to the platen structure of the standard telegraph printer 10 in order that the paper may form an area for simultaneous projection and display of several recorded lines, including the line being printed.

The guide means consist of a guide roller 80 pivoted in parallel levers 84 (only one appears in the drawing) to two steel uprights 72 which form part of the removable frame 70. The guide roller 80 is substantially similar to platen 40 and is mounted in a pair of brackets 82 for parallel movement therewith during shifting. The guide roller 80 is driven from the platen shaft by suitable means, such as a chain and sprocket arrangement 90, to partake with the platen in the line feed movement. For further details of the guiding means for the recording strip reference may be had to my application for patent Serial No. 759,164 filed on even date with the filing of the present application.

The recording strip is fed from the platen 40 over the guide roller 80 and out through a slot 16 in the lid 15 of compartment 12. In this manner the recording strip is passed through a plane area of exposure formed between the platen 40 and guide roller 80, and the paper is line fed simultaneously by both rollers and the exposed area is raised and lowered bodily with the two rollers during case shifting operations.

The optical system comprises a viewing mirror 100 or other reflector, such as a prism, placed opposite the exposed area of the record strip 48 at a 45° angle with the normal to said area, so that an inverted image of the area will be reflected upward through the objective or lens system 105 which extends through the lid 15. The image is received by the mirror 23 in the upper compartment 22 which is placed at a 45° angle with the axis of the lens 105, so that the image will be inverted again and thrown, greatly enlarged, on the translucent screen 24.

The light source for this optical system comprises two incandescent lamps 102, placed nearly in line with the viewing mirror 100 in front of the exposed record area, so that the image will be obtained by light reflected by the record strip. The light from the lamps 101, is intensified by curved reflectors 104 placed behind the lamps, which are designed in well-known manner to blur

the image of the lamp filaments on the paper strip so that the record will appear evenly illuminated on the screen 24.

The general arrangement is such that the printer proper may be completely removed from the guiding means and from its mounting in the compartment 12 with little difficulty.

Thus the compartment 12 has a lid 15 which opens upward and a door 14 which opens forward. The frame 70 is placed on telescoping file drawer racks 71 resting on the base 75 and permitting the printer and frame 70 with uprights 72 to be partly withdrawn from the cabinet 12; for this purpose it is only necessary to remove the finger-screws 78, 78, which attach the uprights 72 from the movable frame 70 by means of bars 77 to the bracket 76, which forms part of the stationary structure 75.

The stationary frame 75 is built up in the rear of the cabinet 12 and carries suitable brackets for the mounting of the mirror 100, the lamps 102 with their reflectors 104 and for a blower unit 120, for cooling the paper in front of the lamps. These parts are grouped behind and to the sides of the printer, so that they in no way interfere with the withdrawal of the printer on the telescoping racks 71.

The objective lens system 105 is mounted in a bracket 76 also fastened to the stationary steel frame 75 so that it too remains in position when the printer is removed. However, it has been found advantageous to provide a pair of connecting bars, 77 extending from the lens bracket 76 and bolted for easy detachment by the finger screws 78, 78 to the uprights 72 which are integral with the movable steel frame 70, in order that the printer with its exposed record area and the optical system including the objective 105 may vibrate as a unit, due to the printer operations, and in order that the vibrations may be damped to become practically unnoticeable in the image on the screen 24.

The blower unit 120 is supplied with air through a long ventilating passage 124 and forces the air out again from the compartment through a similar passage 125. These passages form tortuous passages for the noises developed inside the cabinet and connect to openings 122 and 123 in the rear wall of the cabinet. These passages are placed along the side walls of the cabinet 12 and thus leave space clear for the removal of the printer.

What is claimed is:

1. A message display projector including an automatic telegraph recorder having a recording strip of combustible material exposed for illumination and projection, an optical system comprising a source of illumination and an objective for projection of an image of the exposed strip, a ventilating system for keeping said exposed strip cool, and comprising two long sound-proof ventilating passages with openings toward said exposed strip, and a blower for forcing air across the space between said passages to pass over said exposed strip and a sound-proof cabinet enclosing said recorder and said optical and ventilating system and having openings for said ventilating system, characterized in this that said cabinet has a door in the side back of said recorder, that the elements constituting the optical system and the ventilating system are mounted in front of and to the sides of said recorder, and that said recorder is mounted on tracks for easy withdrawal from its operating position to pass at least part way out through said door without in-

interference with the elements of the optical and ventilating systems in their normal positions.

2. A record display device comprising a compartment having a front side arranged to be opened, a recording device centrally placed within said compartment on telescoping tracks for easy removal from its operating position at least part way through said door, said recording device having a record strip formed into an exposed area facing towards the rear of said compartment; optical means placed in fixed positions in the rear of said compartment with respect to said recorder and opposite said area and including illuminating means for said area, an observing reflector and a projecting lens system; a ventilating system comprising a blower mounted in fixed position at one side of said compartment with respect to said recorder for forcing air across said exposed area and further comprising two ventilating passages

to the outside of said compartment mounted on opposite sides of said recorder for renewal of air inside said cabinet and containing baffle surfaces of sound absorbing material.

3. A record display device in accordance with claim 2 in which said optical means are mounted on a stationary frame and said recording device is mounted on a frame movable on said telescoping tracks and having uprights for supporting said exposed area of the record strip, and in which said stationary and said movable frames are detachably fastened together at the base of said recorder to insure proper focus and at the said exposed area to insure that said area and said optical means oscillate in unison for production of a steady image when said recorder is being operated.

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