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3,063,338

PICTURE AND WORD MESSAGE HOLDER

Filed Sept. 8, 1958

2 Sheets-Sheet 1

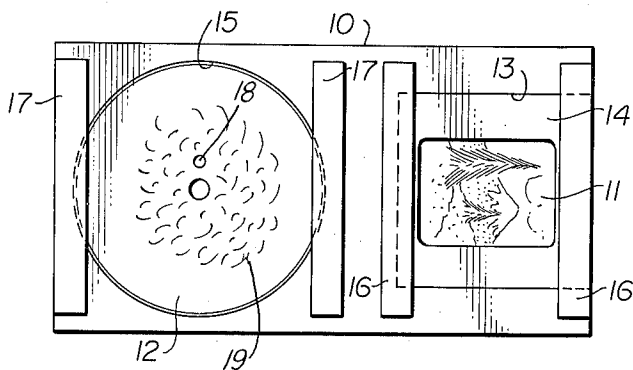


FIG. 1

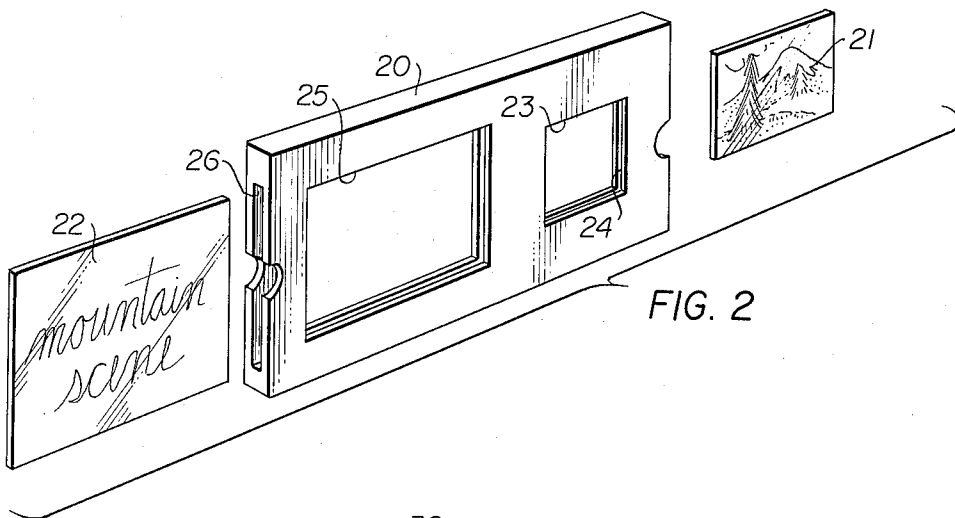


FIG. 2

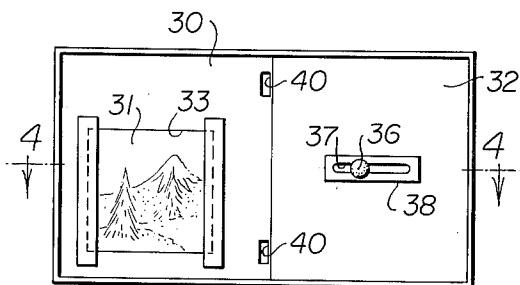


FIG. 3

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2 Sheets-Sheet 2

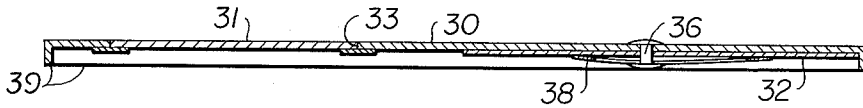


FIG. 4

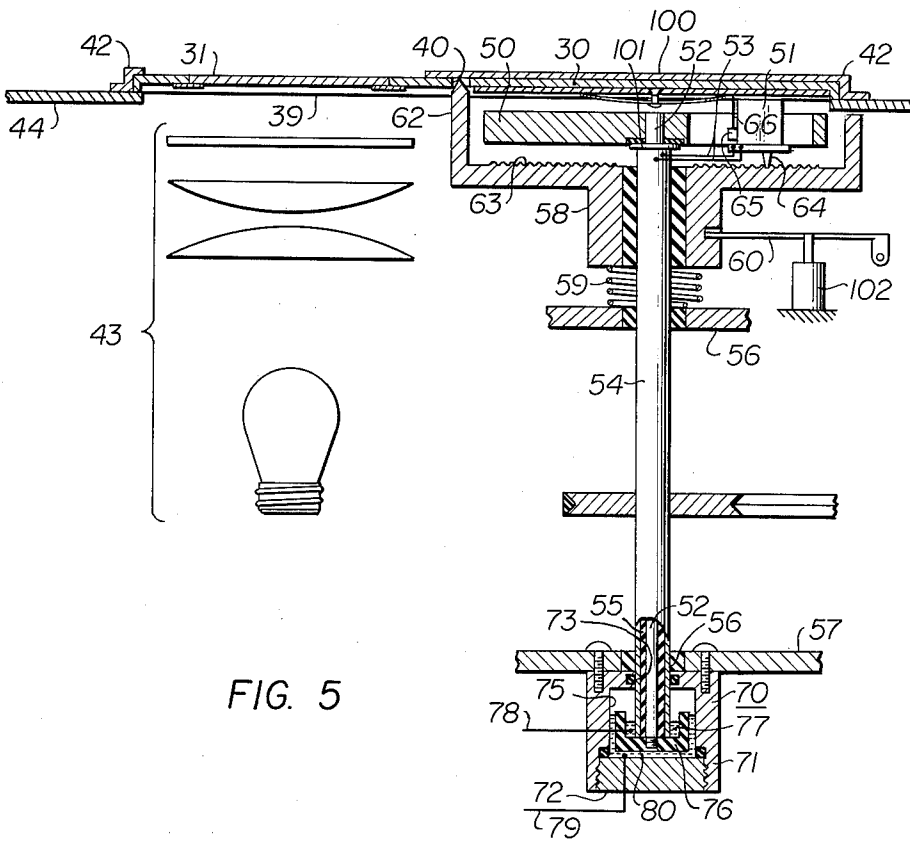


FIG. 5

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PICTURE AND WORD MESSAGE HOLDER

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2 Claims. (Cl. 88—28)

This invention is directed to a related visual and audio reproduction form recording means, and more particularly, to a holder for holding two message transmitting intelligences, one of which is a photographic transparency.

It is desirable for amateur photographers to have the means to present a word message to describe slide transparency pictures when they are projected on a screen. This permits the photographer to provide an accurate description of a picture and facilitates the creation and presentation of a pleasing, uniform description of a still picture story from a permanent related unitary source.

In United States patent application Serial No. 696,435, filed November 14, 1957, under the title, "Automatic Exhibiting and Playing Mechanism for Combination Photograph-Record Unit," one type of dual intelligence message holder was disclosed along with a mechanism for simultaneously projecting a visual and an audible message. This disclosure is a continuation-in-part of the previously filed application with particular regard to the unitary holder thereof for a transparency slide and audio record. Application Serial No. 696,435 discloses additional concepts with regard to the principle of simultaneously reproducing an audio record and projecting a visual image.

One of the principal objects of this invention is to provide a novel and improved multiple recording holder, which holder carries complimentary reproducible intelligences, one of which delineates the other.

Another of the objects of this invention is to provide a holder with such multiple recordings which are related but not necessarily inseparably reproducible.

Another object of this invention is to provide a novel and improved slide transparency holder, which holder carries two intelligences for simultaneously projecting both a word message and a picture message.

Another of the objects of this invention is to provide a message holder having two intelligences wherein one of the intelligences is a picture transparency and the other intelligence is an audible intelligence in the form of an audio record.

Another and more specialized object of the invention is to provide a holder made in accordance with the foregoing objects in which the record is confined within the holder but free to be moved by sensing mechanism.

Another related and more specialized object of the invention is to provide a holder in which the word intelligence takes the form of a nonrotatable record.

In patent application Serial No. 759,484, filed September 8, 1958, under the title, "Slide Projector," several concepts have been disclosed which are pertinent to the same overall development as this and the above referenced copending application. In the later filed pending case, a slide projector having two optical systems of different powers of magnification is disclosed in combination with a slide holder for holding both a picture message and a word message.

Accordingly, another and related more specialized object of this invention is to provide a double intelligence slide holder in which one intelligence takes the form of a photographic transparency, and the other intelligence takes the form of a word message transparency.

Other objects and a fuller understanding of the invention may be had by referring to the following specification and claims, taken in conjunction with the accompanying drawings, in which:

FIGURE 1 is a bottom plan view of a slide holder hav-

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ing a photographic transparency carried therein and a rotatable record;

FIGURE 2 is an exploded perspective view of an alternate form of holder wherein one of the intelligences takes the form of a photographic transparency, and the other the form of a word message transparency;

FIGURE 3, is a top plan view of another alternate form of the holder invention wherein a nonrotatable record is carried in combination with a transparency.

FIGURE 4 is a sectional view taken along the line 4—4 of the device of FIGURE 3; and,

FIGURE 5 is a cross-sectional partially schematic view of a mechanism for projecting the intelligences of the holder of FIGURES 3 and 4.

This invention is directed to the general concept of providing an inexpensive system which is suitable for use by an amateur photographer to project photographic transparencies and to simultaneously delineate the projected transparency. This invention is directed to the concept of the provision of a dual intelligence holder for such a system. FIGURE 1 shows such a dual intelligence holder in the preferred form which was disclosed in patent application Serial No. 696,435, referred to above. In FIGURES 2 through 4, other types of dual intelligence holders are shown which embody the same overall concept as the device of FIGURE 1.

In a slide projector for amateurs, it is highly important that the mechanism be inexpensive, simple and flexible. It is important that an inexpensive means for providing a delineating message be provided and that that inexpensive means be highly flexible so that the message may be changed from time to time. Further it is desirable to have a holder in which both the delineating message and the picture message can be changed from time to time in order that as new pictures are added, a change may be made in an overall prearranged projection sequence to facilitate providing a picture story, with continuity, and at relatively low cost.

In the device in FIGURE 1 a holder 10 carries a photographic transparency 11 and a record 12. The holder 10 is preferably a thin, rectangular member formed of cardboard or other suitable, relatively rigid material. The holder has a first space 13, which receives the transparency 11 and the transparency mounting 14. Means are provided to hold the picture 11 and its mounting 14 in the space 13. This means may simply take the form of friction between the holder 10 and the mounting 14. In the disclosed arrangement of FIGURE 1, strips 16 are provided which hold the mounting 14.

The holder 10 has a second space 15 which is circular in this embodiment and which receives the audio record 12. Strips 17, which correspond to the strips 16, are positioned on opposite sides of the holder 10 in such a manner as to partially overlie the cut-out portion 15. The disc record 12 is positioned within the circular cut-out portion 15 and is supported therein by the strips 17. The cut-out portion 15 has a slightly larger diameter than the diameter of the disc record 12. The disc record 12 is thus free to rotate in the cut-out portion 15 and between the overlying portion of the strips 17.

As described in the copending application Serial No. 696,435, the disc record 12 may be of any known type. The size of the record will be determined by the amount of time for a necessary comment of suitable length to be recorded thereon, the speed of the rotating disc, and the fidelity desired. The usual practice of providing an eccentric groove portion near the center of the disc record 12 may be followed so that the tone arm or pick-up arm will be pulled to the inner position and thus provide a means for initiating an automatic changing operation.

The disc record 12 may be made of any known material

which can be used to record sound. In particular, the underside of the record illustrated in FIG. 1 may be provided with a paramagnetic material, such as with a coating of iron dust 19. Due to the small size of the disc record, it will have very little weight. Therefore, by providing a record turntable (not shown) having permanent magnets, the magnetic force between the paramagnetic material and the permanent magnets forms an additional means to hold the disc record firmly in position during playing thereof. While the disc record 12 is illustrated as having iron dust 19 on its undersurface, it will be understood that any suitable paramagnetic material may be used. For example, it has been found that steel shim stock .003 to .005 inch in thickness gives satisfactory results. Thus it will be seen that there is provided a convenient means for playing a relatively small phonograph record without loss of quality and transcription due to slipping of the record when being played. This is of substantial importance since without some means of fixing the record positively on the turntable while it is being played, the drag of the needle of the pick-up arm might tend to cause slippage and thus result in unsatisfactory performance.

In addition to the means provided to affix positively the disc record to the turntable, there is also provided an offset hole 18 which cooperates with a pin on the recording turntable (not shown). The hole 18 matches with the position of the pin so that when the disc record is being cut by the recording arm the disc record will be firmly affixed against slipping. This is necessary because of the fact that substantially more force is exerted by the cutting needle when the commentary is being recorded on the disc record.

FIGURE 2 is an illustration of another embodiment of the invention. The holder 20 carries a picture transparency 21 which corresponds to the transparency 11 and may include the mounting 14. A second transparency 22 is provided. The second transparency 22 is the second intelligence and it carries a visual word message. To emphasize the versatility of this invention, the second transparency 22 is illustrated considerably larger than the picture transparency 21. These transparencies are suitable for a projector of the type disclosed in applicant's copending application for patent, Serial No. 759,484 referenced above. When used in a proper proportioning projector, the transparency 22 permits even a larger and relatively crudely formed word message to be used. The dual image projector of Serial No. 759,484 provides two optical systems of different powers of magnification to permit projection of such a large word message in a fashion which will not overpower the picture message. The word and picture messages are nonetheless simultaneously projected in a fashion which is artistically proportioned. The word message may be a permanent standardized transparency, a permanent non-photographic transparency, or even a transparency for removable temporary writing.

The holder 20 has a picture receiving space in the form of an aperture 23 formed transversely in it. The aperture 23 corresponds to the aperture 13. An access slot 24 is provided to permit ready insertion of the picture transparency 21 in the aperture 23. A second transparency receiving aperture 25 is provided. This second aperture 25 is, like the first aperture 23, formed transverse of the holder. The second aperture 25 performs a function corresponding to the aperture 15 in that they both carry a word message intelligence. A second access slot 26 is provided to permit the transparency 22 to be telescopically inserted into the aperture 25.

In FIGURES 3 and 4 yet another type of double intelligence slide holder is disclosed. This type holder incorporates the same fundamental concepts presented by FIGURES 1 and 2. In FIGURE 3 a holder 30 is provided. The holder 30 carries a transparency 31 which corresponds to the transparencies 11, 21. The holder 30 also carries a word message transmitting media in the

form of a nonrotatable record 32 which corresponds to the rotatable record 12 and the picture transmitting media 22 in function.

The holder 30 is also preferably thin, flat and rectangular, for storage, transport, and convenience. It has a first space 33 in which the transparency 31 is mounted. The transparency 31 is held in the space 33 by suitable means which may correspond either to the strips 16 or the slot 24. The record portion 32 is a magnetic record coating. The magnetic coating is sprayed, painted, or cemented directly to the holder 30 and forms a part of the holder 30. A very slight lip 32 is provided to prevent the magnetic material from rubbing action during shipping and handling.

Alternately, the embodiment of FIGURES 3 and 4 may be made with the picture and record laminated rather than longitudinally spaced. In such case a reflective projection system is used.

A mechanism for transmitting the two mediae of FIGURE 1 is shown in the copending application for patent Serial No. 696,435. As there disclosed, the mechanism for playing the record disc includes a rotatable, vertically reciprocal turntable, an automatic feeding mechanism for the holder units 10, and a tone arm. In operation, the record holder unit 10 is moved to a playing position of the record disc and a projecting position of the transparency slide. The turntable is then moved upwardly to rotatably engage the undersurface of the record disc between the strips 17 on the bottom side of the holder. At the same time, the tone arm is moved into playing engagement with the grooves on the upper surface of the record disc 12. The eccentric grooved portion near the center of the disc record 12 moves the tone arm to an inner position and initiates an automatic changing operation when the record disc has been played. This automatic changing operation is effected by a feeding mechanism which moves the holder 10 from the playing and projecting position and then moves a new holder 10 into operative position for playing of the record and projecting of the transparency slide.

A mechanism for transmitting the message of the dual intelligence holder of FIG. 2 is shown in the aforementioned application for patent, Serial No. 759,484. As environmental background for the double intelligence holders, and to disclose certain novel concepts with regard to projectors for the holders, a mechanism suitable for projecting the messages of the device of FIGS. 3 and 4 is shown in FIG. 5.

Referring to FIGURE 5, it will be seen that the message holder 30 is guided into position by slide track 42. A feed device such as shown in copending application for patent Serial No. 696,435 is convenient to feed successive holders 30 mechanically. A support is provided by portion 100 of the guide 42. The purpose of portion 100 is to prevent the slide holder 20 from buckling when the head bears upon it during a recording or reproduction. The head must bear upon the oxide with a definite pressure—about one and one-half ounces—and if this pressure is not correct, distortion and short oxide life will result as well as shortened life for the head.

A head carrier is shown generally at 50. The head carrier rotates relative to the fixed record 32 to carry and guide a sound head 51 on a spiral path, as will subsequently be described in more detail. The head carrier 50 has the appearance of a turntable but must not be mistaken for a turntable. It is a flywheel used to assure smooth movement of the head 51. This flywheel is of non-magnetic material in order not to affect the magnetized intelligence carried in the magnetic record. The flywheel could be applied anywhere on the rotating mechanism, but the illustrated mechanism is conventional.

The head carrier 50 is carried by a central shaft 52. The head 51 is connected through leads 53 to an outer shaft 54. The shafts 52, 54 rotate together to drive the head carrier 50. The shafts 52, 54 are electrical con-

ductors which are insulated from one another by a tubular insulator 55, with shoulder portion 101. Bearing means 56 are provided to guide the rotating shafts 52, 54.

A nonrotatable indexing member 58 is disposed about the shaft. The indexing member 58 is urged upwardly by a spring 59. A linkage 60, activated by a solenoid 102, is provided to shift the indexing member 58 downwardly at the conclusion of a playing cycle.

The indexing member 58 includes first and second indexing fingers 62. The record 32 has two locating apertures 40 seen best in FIGURE 3. These fingers positively locate the record with respect to the head carrier 50 and the remainder of the playing mechanism. The indexing member 58 also has a continuous spiral groove 63 formed in the inner surface. The spiral groove 63 receives a sound head guide finger 64. As the sound head 51 rotates, the sound head guide finger 64 follows the spiral groove 63. This following causes the sound head to trail a spiral path along the record 32 for either transcription or recording.

As thus described, there is no mechanism to limit the length of time or the degree to which the finger 64 will completely follow the spiral path established by the groove 63. Therefore, the mechanism would go completely through a time cycle established by the construction of the spiral groove 63 regardless of the length of the record message. At times, only a word or two of message will be needed, whereas at other times, the entire available space will be recorded. Therefore, according to one feature of this invention, the holder 30 includes a clip 38 which is secured to the surface of the record and acts as an adjustable trip mechanism. The clip 38 has a longitudinal slot 37. A pin 36 is carried centrally of the record and is headed to engage the clip 38. Inherent resiliency provides sufficient frictional holding to allow the clip 38 to be shifted longitudinally and retained in the selected position. A switch member 65 is carried on the side of the member 51 and is provided with a trip finger 66 as best shown in FIGURE 5. As the head 51 follows the spiral groove 63 in a reduced spiral path, the finger will eventually strike the clip 38 according to the selected position of the clip. Although the drawing does not illustrate it, leads from the switch 65 are brought out through a conventional slip ring assembly and extended to solenoid 102. Thus it can be seen that switch 65 serves the same general function as switch 58 of application 696,435 and solenoid 102 serves the same general function as solenoid 60 of patent application 696,435. By further employing the actuating linkage of application 696,435 it is possible to use essentially the same electric circuit as illustrated in FIGURE 10 of Serial No. 696,435. The trip mechanism may take on the form of an electronic sensory device, for example, or a more conventional electrically operated mechanical device. Because this feature is not a specific part of the basic teaching necessary to understand this invention, and may be adapted by any competent engineer, the several possible means thus far devised are not illustrated here.

A liquid slip ring assembly is shown generally at 70. The illustrated preferred form of slip ring has mercury conduction, which can be carried in any position, but which yet is sure and positive and substantially free of short-circuiting. It includes a housing 71 with a suitable closure plug 72. The shafts 52, 54 project through a gasketed aperture 73 in the housing 70. Housing 70 has a contacting recess 75 formed therein. The ends of shafts 52, 54 terminate in recess 75. An insulating cup 76 is provided which is fixed to the ends of the shafts 52, 54. The cup 76 carries a first pool of mercury 77 which forms a contact between electrical connection 78 and the outer shaft 54. Contacting recess 75 carries a second pool of mercury 80 which is insulated from the first pool 77 by cup 76. The second pool of mercury 80 forms a contact between a second electrical connection 79 and inner shaft 52. It will thus be seen that

an electrical circuit is formed from electric connection 78, through the pool 77, the outer shaft 54, the leads 53, the head 51, and thence back through the inner shaft 52, the pool 80 and thence to the connection 79.

While the invention has been disclosed with a great deal of clarity and detail, it is believed that the invention essentially comprises a holder for supporting two information providing mediae, which holder has means for retaining a photographic transparency and a word message media.

Although the invention has been described in its preferred form with a certain degree of particularity, it is understood that the present disclosure of the preferred form has been made only by way of example and that numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and the scope of the invention as hereinafter claimed.

What is claimed is:

1. A photograph-phonograph record unit for permitting the simultaneous projecting of a photograph and the playing of a phonograph record disc, said unit comprising in combination a thin, flat rectangular member, said rectangular member being constructed from a material having sufficient thickness to permit repeated insertion and removal from a projector-phonograph, said member having a first defined space adjacent one end thereof for receiving said photograph therein, means carried by said rectangular member for fixedly supporting said photograph in said first defined space, said member also having a circular cut-out portion for receiving said record disc, said cut-out portion being spaced from said first defined space and having a diameter slightly greater than said record disc, and means carried on opposite sides of said member for supporting said record disc in said cut-out portion, said record disc supporting means overlying only peripheral portions of said record disc so that its lower surface is exposed for rotatable engagement by a turntable and the upper surface of said record disc is exposed for engagement by a tone arm.

2. A photograph-phonograph record unit for permitting the simultaneous projection of a photograph and the playing of a phonograph record disc, said unit comprising in combination, a flat rectangular sheet member, said sheet member being formed of a material having sufficient thickness to permit repeated insertion and removal from a projector-phonograph, said sheet member having a rectangular cut-out portion adjacent one end for receiving a transparency slide therein, transparency slide-supporting strips secured to the opposite sides of said sheet member, said transparency slide-supporting strips overlying opposed edge portions of said rectangular cut-out portion, said sheet member also having a circular cut-out portion at the end opposite said one end, said circular cut-out portion having a diameter slightly greater than said phonograph record disc whereby said phonograph record disc may be positioned in said circular cut-out portion for rotative movement and for lateral shifting movement, and record disc supporting strips secured to the opposite sides of said sheet member, said record disc supporting strips overlying only edge portions of said circular cut-out portion so that the bottom surface of said record disc is exposed for rotative engagement by a turntable and so that the upper surface of said record disc is exposed for engagement by a tone arm.

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