July 24, 1951 C. P. COLLINS ET AL 2,561,342

FILM TRANSPORT CASE

Filed May 12, 1948 2 Sheets-Sheet 1

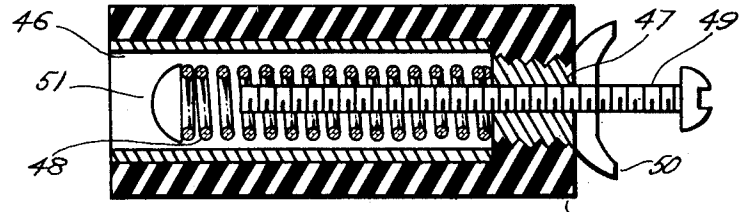


FIG. 5

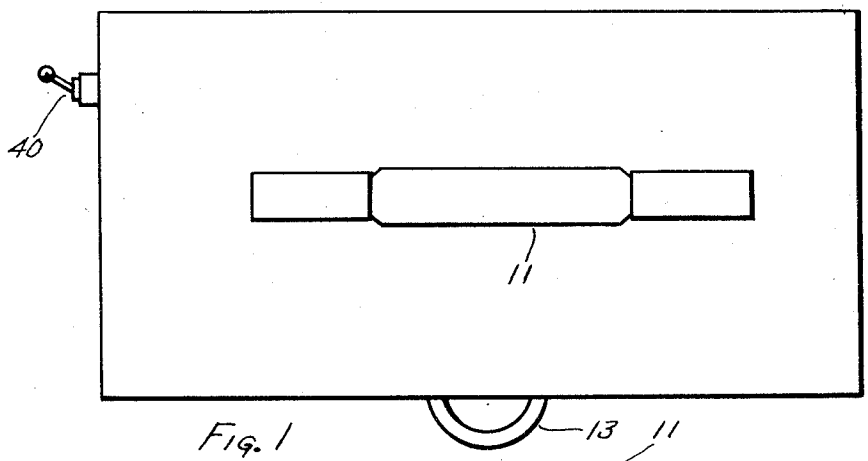


FIG. 1

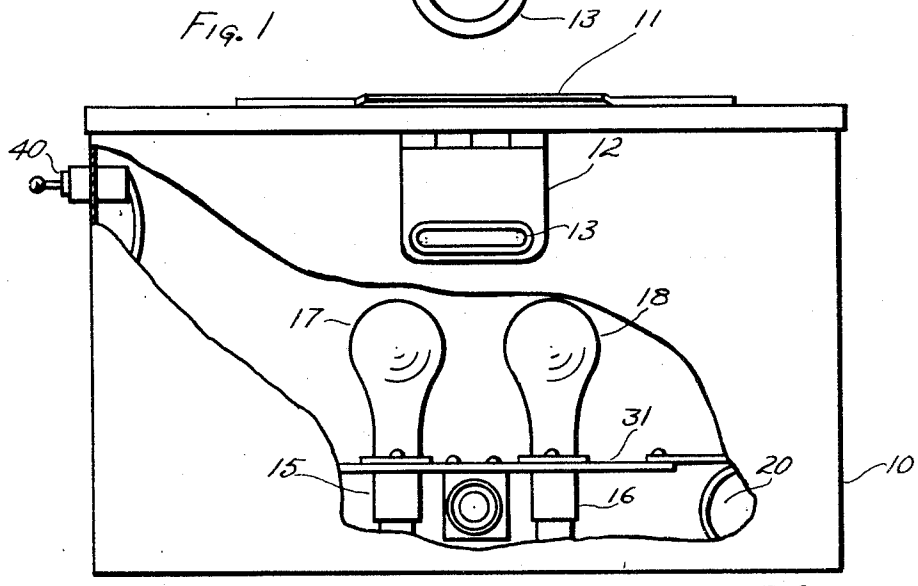


FIG. 2

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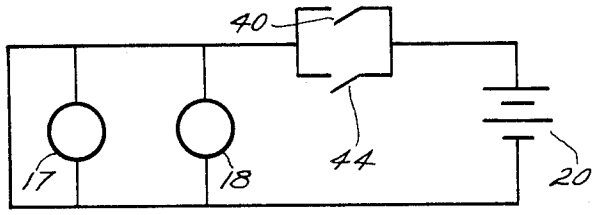


Fig. 4

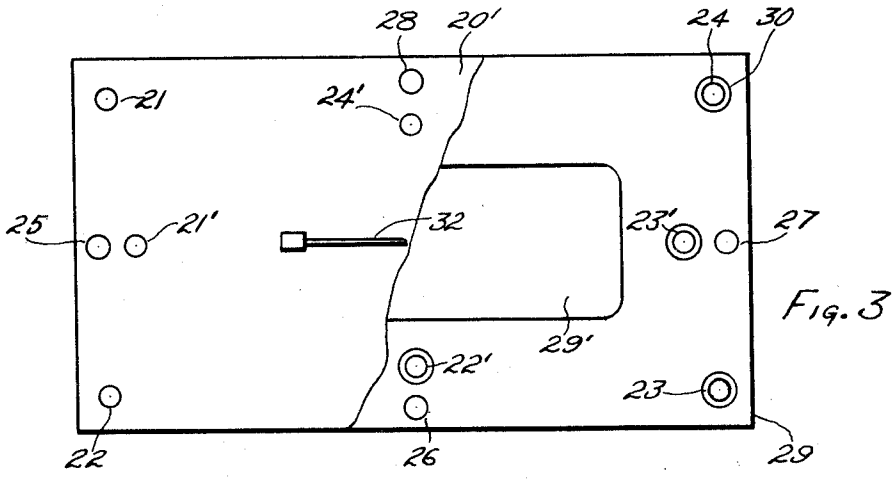


Fig. 3

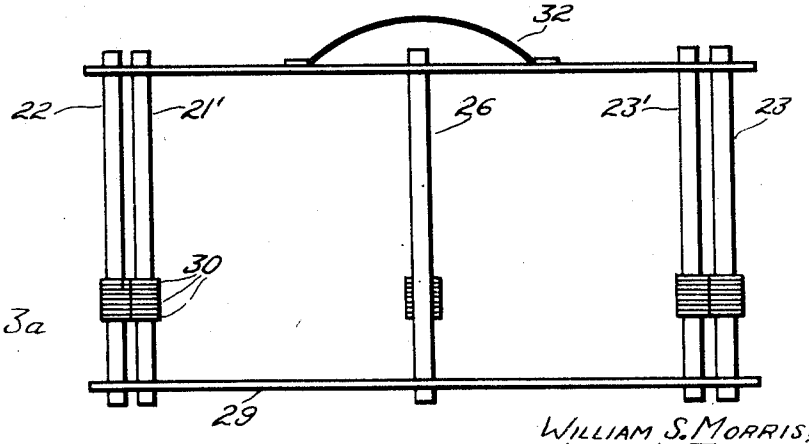


Fig. 3a

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FILM TRANSPORT CASE

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3 Claims. (Cl. 95—1)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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The invention described in the following specification and claims may be manufactured and used by or for the Government for governmental purposes without the payment to us of any royalty thereon.

This invention is in containers and especially is a container for insuring the secure transport of exposed photographic film.

The exact situation for which the invention is intended involves the transport of exposed photographic films bearing confidential information. It may be desirable in such cases and is of utmost importance where military information is involved to preclude the possibility of such films falling into unauthorized hands in the event of an accident or attack which might incapacitate the courier.

The principal object of our invention is to provide a carrying case for a photographic film with shock-responsive means for effectively destroying the contents of the case.

Another object of the invention is to provide a transport case for exposed but undeveloped film with shock-sensitive light-operated means for rendering film unintelligible.

A further object is to provide a novel adjustable shock-sensitive switch.

Additional objects will be apparent from a reading of the following specification and claims.

In the drawings:

Figure 1 is a plan view of the exterior of the transport case of our invention;

Figure 2 is an elevation of the case with the front thereof broken away and the film holder removed therefrom;

Figure 3 is a plan view, partly broken away, of the film-holding insert for the box of Figure 1;

Figure 3*a* is an elevation of the insert or rack;

Figure 4 is a schematic wiring diagram of the circuits utilized in the transport case; and

Figure 5 illustrates, in section, the novel switch which forms an important part of the present invention.

Referring to the drawings and particularly to Figures 1 and 2, 10 represents the exterior of the transport case. The case is made of lightproof material, preferably metal. It is equipped with a handle 11, a hasp 12, and a staple 13. In use, the box top is adapted to be secured by a padlock (not shown).

In the lower part of the box and approximately centrally thereof are arranged two sockets 15 and 16 into which are fitted photoflash bulbs 17 and 18 connected in a manner which will be later described to a power source, as battery 20.

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Arranged to fit within box 10 is a rack member (Figures 3 and 3*a*) comprising a flat plate 20', eight depending rods 21, 21', 22, 22', 23, 23', 24, and 24', and bracing members 25, 26, 27, and 28, all of the members 20 through 28 being formed of some transparent plastic material. The depending rods extend to or into a web 29 provided with a central opening 29' for a purpose to be hereinafter described. Each of the rods 21 through 24' is provided with a plurality of washer-like members, as 30, which serve as spacers for a purpose which will hereinafter be described. The rack-like member of Figures 3 and 3*a* will, when fitted into case 10 and seated upon supporting member 31, surround flash lamps 17 and 18, the lamps, of course, extending upwardly through opening 29'. A handle 32 is provided for lifting the film-carrying rack.

Mounted on the exterior of case 10 and adjacent the top thereof is a snap switch 40 of any convenient type, by means of which it is possible to close a circuit through battery 20 and flash bulbs 17 and 18. This switch, of course, makes it possible for a courier intentionally to destroy the film he is carrying. The circuit for switch 40 is shown in Figure 4.

As noted above, however, the principal purpose of the invention is to provide a transport case for film wherein the contents of the case can be destroyed without the volition of the custodian thereof and particularly when the box is subjected to a shock as would accompany a train, automobile, or airplane accident. There is, therefore, provided in the circuit of flash bulbs 17 and 18 a second switch 44. This switch is best illustrated in Figure 5. There it can be seen to include a body member 45 formed of some insulating material and preferably of Lucite or other transparent plastic material. Secured in one end of the body member is a tube 46 of brass or other conducting material, this tube serving as one contact for the switch. A metal cylindrical member 47 is secured in the opposite end of body member 45. Secured to the inner extremity of member 47 and centrally thereof is a coil spring 48 of such length as to extend well into tube 46 along the axis thereof. Plug member 47 has a lengthwise threaded opening formed therein, and through this opening is screwed a cooperating spindle 49, a little longer, perhaps, than spring 48. Spindle 49, of course, can be extended or retracted relative to the spring by turning the same in a clockwise or counterclockwise direction. Wingnut 50 locks the spindle in place. Plug 47 serves as the second terminal member for

the switch. Suitable conductors (not shown) must be provided for plug **47** and cylinder **46**. Soldered connections may be used. In practice, it may be more convenient to provide readily separable connecting means.

Operation of the switch is very simple and requires but elementary description. Normally, spring **48** extends within cylinder **46** and close to but out of contact with the walls thereof. A sharp blow to the switch body **45**, however, or to the case in which it is mounted, will cause a momentary contact to be made between the end of the spring and the wall of the tube and thus will close a circuit through flash gulbs **17** and **18**. The operation is improved by securing to the end of spring **48** a small bead of solder **51**, or some similar weight.

The sensitivity of the switch can be varied by extending or retracting screw **49**. Withdrawing the screw, for example, will increase the length of the unsupported portion of the spring so that a smaller jar will cause the contact to be made. Adjustments are possible within very narrow limits. It has been found that in a film transport case as above described it is possible to so adjust the switch that a fall from a height of four feet will close the switch, whereas a drop of two feet will fail to do so. Similarly, the switch can be adjusted to operate responsive to a fall of twenty feet and not of eighteen feet.

In use, exposed but undeveloped film is wound upon the rack of Figures 3 and 3*a* and around the rods **21** through **24'**, spacers **30** being positioned between adjacent rows of film. The spacers serve two purposes: first, they prevent scratching of the film, and secondly and more important, they insure complete destruction of the film by exposing the same in single layers only to the light of the flash bulbs. Since the spacers are freely movable upon their rods, the rack can easily accommodate different widths of films.

The foregoing description is in specific terms, and many modifications will suggest themselves so that for an understanding of the true scope

of the invention reference should be had to the appended claims.

We claim:

1. The combination of a light-proof box, a light source centrally disposed within said box, means adapted to fit within said box and adjacent said light source for supporting a photographic film and exposing the same throughout substantially its entire extent to light from said source, and a shock-sensitive switch for energizing said light source.

2. The invention of claim 1, further characterized by a manually operable switch and light-proof means for operating the same from the exterior of said box.

3. The combination of a light-proof box, a light source disposed within said box, transparent means for supporting a photographic film in surrounding relation to said light source thereby to expose the same throughout substantially its entire extent to light from said source, and a shock-sensitive switch for energizing said light source.

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JAMES L. TRUMBO.

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