

May 21, 1963

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3,090,158

TOY CAMERA

Filed Feb. 21, 1961

2 Sheets-Sheet 1

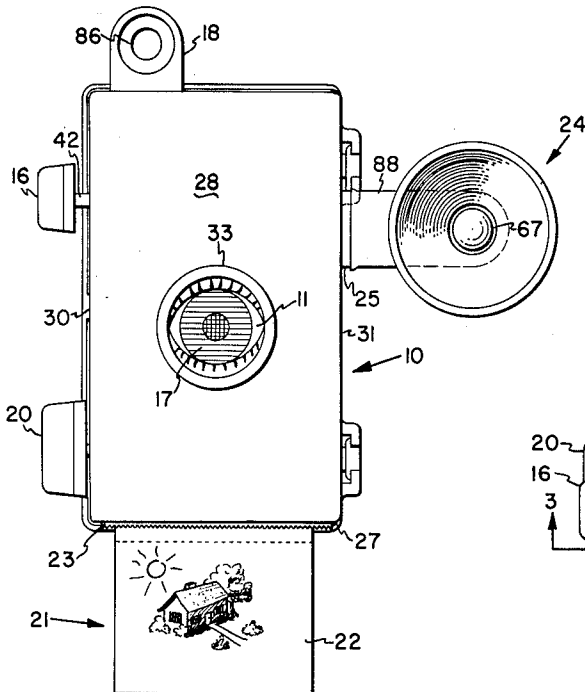


FIG. 1

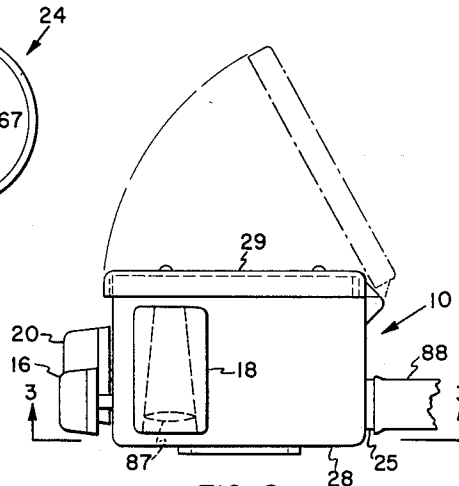


FIG. 2

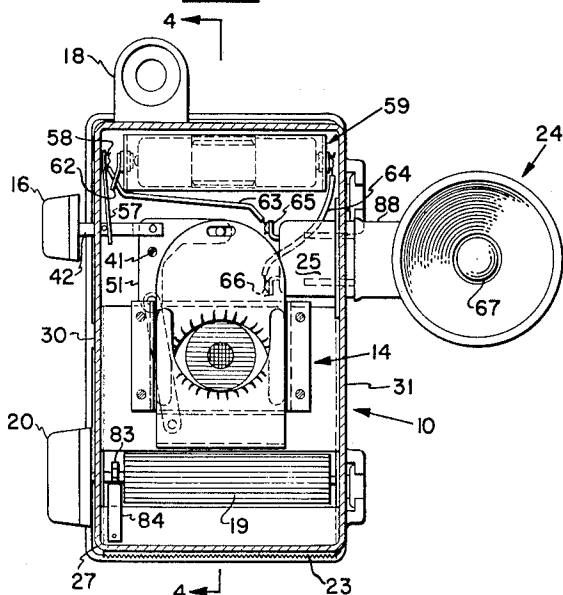


FIG. 3

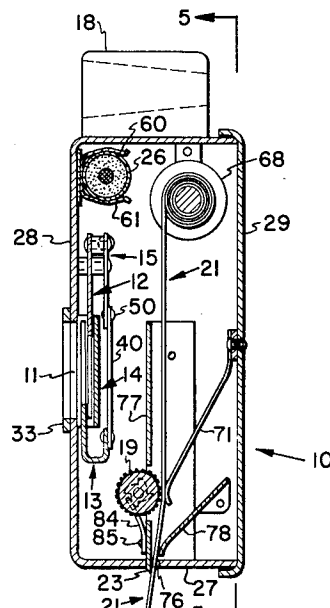


FIG. 4

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2 Sheets-Sheet 2

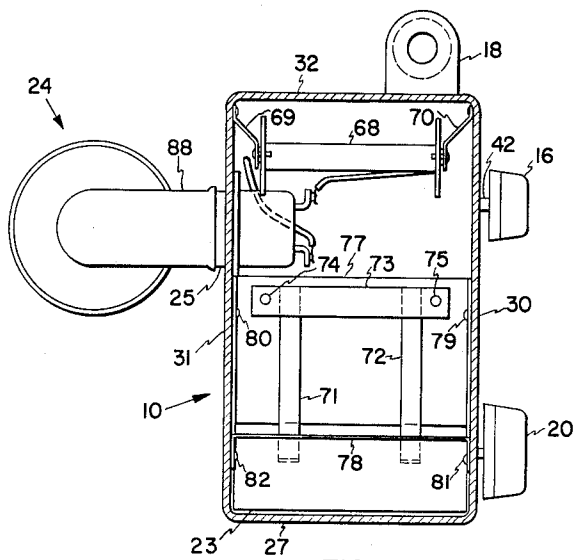


FIG. 5

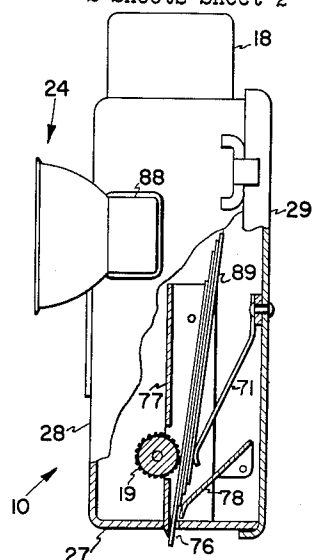


FIG. 9

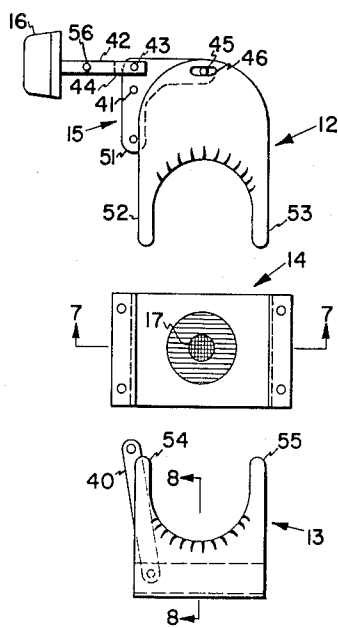


FIG. 6

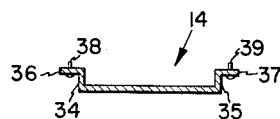


FIG. 7

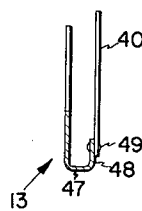


FIG. 8

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TOY CAMERA

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4 Claims. (Cl. 46—228)

This invention relates to toys and particularly to toy cameras. It relates more particularly to a toy camera in and by which at least some of the functions of a conventional camera are capable of simulation.

The present application is a continuation-in-part of an application Serial No. 821,832 filed in the United States Patent Office on June 22, 1959, and now abandoned.

The general object of this invention is to provide a toy camera which, while having operating elements representative of at least some of those of a conventional camera, is nevertheless of a simple and economical construction.

Within the scope of this general object, a particular object of this invention is to provide a toy camera having means for producing a flash as a shutter actuating button is depressed.

A further particular object of this invention is to provide a toy camera having means for ejecting a printed picture from within itself.

With these and other objects and advantages in view, the toy camera of this invention finds embodiment as a case or housing which has a lens opening at the front, button-actuated upper and lower shutters mounted therewithin to travel vertically behind the lens opening, a flash unit mounted on one side and which is connected electrically to be operated as the shutter button is depressed, a sight on the upper end above the lens opening, a picture-ejecting slot or opening in the lower end or base, and a knob-actuated roller therewithin whereby a picture card or a frame portion of a picture strip may be ejected through the aforementioned opening or slot.

The nature and substance of this invention will be more clearly perceived and fully understood by referring to the following description and claims taken in connection with the accompanying drawings in which:

FIG. 1 represents a front elevation view of the toy camera of this invention;

FIG. 2 represents a plan view looking downwardly upon the upper end of the toy camera;

FIG. 3 represents a front sectional elevation view of the toy camera taken along line 3—3 in FIG. 2 showing the shutter assembly, picture-ejecting roller, and battery for the flash unit in the housing;

FIG. 4 represents a transverse sectional elevation view of the toy camera taken along line 4—4 in FIG. 3 showing a picture strip wound therewithin and extending downwardly through the ejecting slot in the lower end of the camera;

FIG. 5 represents a rear sectional elevation view of the toy camera taken along line 5—5 in FIG. 4 showing the spool whereon a picture strip may be wound, and showing also the spring arms which exercise restraining control on picture strips or cards being ejected from the camera;

FIG. 6 represents an exploded view of the shutter assembly;

FIG. 7 represents a sectional view looking upwardly taken along line 7—7 in FIG. 6 through the bracket within the toy camera positioned against the front interior surface of the housing thereof in spaced alignment with the lens opening therein;

FIG. 8 represents a sectional view looking transversely taken along line 8—8 in FIG. 6 through the lower shutter of the toy camera, and

FIG. 9 represents a partially broken-away view of

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the toy camera in side elevation looking in the same direction as FIG. 4 and showing the camera loaded with a stack of picture cards.

Referring now in detail to the drawings wherein like reference numbers designate identical parts from figure to figure, the toy camera of this invention includes a case or housing 10 having a lens opening 11 in the front with an upper shutter 12 and a lower shutter 13 mounted to slide vertically in a bracket 14, and a bent lever 15 actuated by a button 16 for operating the shutters to cause the representation of an eye 17 painted or otherwise formed on bracket 14 to appear to wink in lens opening 11 as button 16 is pressed inwardly. Housing 10 also has a sight 18 positioned on its upper end, and a friction roller 19 on a shaft rotatably mounted within it and actuated by a knob 20 to eject a strip 21, having pictures in frames 22, from the lower end of the housing. The housing further has a cutting edge 23 for removing sections or frames from picture strip 21, and a flash unit 24 mounted in an electric socket or receptacle 25 in the housing and connected to a battery 26 whereby upon button 16 being pressed inwardly a circuit is completed to light the flash unit as the shutters operate.

Housing 10 made of any suitable material including a molded plastic itself comprises a base or lower panel 27, a front wall 28, a hinged back wall 29 detented in closed position, side walls 30 and 31, and an upper panel 32. Lens opening 11, which is provided with a rim 33 as shown in FIGS. 1 and 4, is positioned in front wall 28, and bracket 14 in which the shutters are slidably retained is mounted in alignment with the lens opening. Bracket 14 is provided with end sections 34 and 35 having flanges 36 and 37 respectively, and these flanges are secured to the inner surface of front wall 28 by rivets or other fasteners 38 and 39. As noted hereinbefore, a representation of an eye 17 is provided on the transverse surface of bracket 14 directed toward lens opening 11, so that as shutters 12 and 13 travel upwardly and downwardly respectively, an eye will appear to be looking out through the lens opening. This simulation of an eye and its action may be enhanced by providing representations of eyelashes on the outer surfaces of the shutters at the lower edge of shutter 12 and the upper edge of shutter 13. Such eyelashes are shown in FIGS. 1, 3, and 6.

The shutters are actuated by button 16 through lever 15 and a link 40. Lever 15 is pivotally mounted in housing 10 by a pin 41, and a stem 42 which passes slidably through side wall 30 and on the outer end of which button 16 is positioned is pivotally connected to lever 15 by a pin 43 that extends through a yoke 44 formed in the inner end of the stem. Inward movement of button 16 and stem 42 causes lever 15 to rotate in a clockwise direction from its position shown in FIG. 3, with a pin 45 fixed in lever 15 and extending through a slot 46 in upper shutter 12 being moved downwardly to depress the upper shutter. Lower shutter 13 is provided with a backwardly extending base section 47 from the rear edge of which an arm or flange 48 extends upwardly for a short distance. Link 40 is pivotally connected at its lower end to this arm of the lower shutter by a pin 49. At its upper end, link 40 is pivotally connected by a pin 50 to the lower end of a depending arm 51 of lever 15. Accordingly, link 40 pulls lower shutter 13 upwardly when lever 15 is turned in a clockwise direction.

Upper shutter 12 is provided with two depending fingers 52 and 53, and lower shutter 13 is provided with two upwardly extending fingers 54 and 55. The fingers of each shutter are always overlapped on the other shutter. Stem 42 of button 16 is provided with a cross pin 56 that is positioned to be borne upon by a leaf spring 57 mounted on side wall 30 by a pin 58. A battery

bracket 59 is mounted against the interior surface of front wall 28 of housing 10, and battery 26 is held within this bracket by clip arms 60 and 61 thereof. There are insulated electrical terminals at either end of bracket 59 whereat contact is made by the central or pole and outer or case electrodes of the battery. Attached to the left hand terminal of the battery bracket as shown in FIG. 3 is a leaf type contact 62 which is bent toward but normally does not touch leaf spring 57; that is, contact 62 does not touch spring 57 when there is no pressure on button 16.

Wire connections 63 and 64 are made respectively from pin 58 (and so from leaf spring 57) to terminal 65 of flash unit socket 25 and from the right hand terminal of battery bracket 59 to terminal 66 of the flash unit socket. This socket may be so positioned that the flash unit extends from one side or the other of the housing. The flash unit may likewise be located on the front of the housing, or indeed at any suitable point thereon. Normal action of spring 57 bearing against cross pin 56 is to hold stem 42 and button 16 to the left as seen in FIG. 3, and itself out of touch with leaf contact 62. At the same time, the normal action of spring 57 is to keep the shutters open; that is, in the relative positions in which they are shown in FIG. 3. The shutters themselves and their operating linkage may be suitably weighted to have this tendency also.

Upon inward movement of button 16, that is, upon this button being depressed toward housing 10, cross pin 56 will flex spring 57 inwardly sufficiently to put this spring in touch with leaf contact 62. When these parts do touch, an electrical circuit will be completed through light bulb 67 of flash unit 24 to illuminate this bulb. This circuit may be traced from terminal 65 of socket 25 along wire 63 to pin 58, from pin 58 along spring 57 to the point at which this spring touches contact 62, along contact 62 to the left hand terminal of battery bracket 59, from this terminal through battery 26 to the right hand terminal of the battery bracket, from this terminal along wire 64 to terminal 66 of flash unit socket 25, from terminal 66 along internal wiring and contacts of socket 25 and flash unit 24 to light bulb 67, through the filament of the light bulb, and from the light bulb along internal wiring and contacts of flash unit 24 and socket 25 back to terminal 65 of the flash unit socket.

The picture strip 21 is wound or rolled on a spool 68 rotatably mounted in spring clips 69 and 70 in the upper end of housing 10 as illustrated in FIG. 5. This spool may be prewound with the picture strip before the insertion of it, the spool, between clips 69 and 70. The mounting of spool 68 between the spring clips is such to allow easy removal of the spool, after back wall 29 has been rotated outwardly on its hinges from its normally closed and detented position as shown in broken outline in FIG. 2, for providing access to battery 26 in bracket 59 that this battery may be removed and replaced. From spool 68 the unwound portion of picture strip 21 extends downwardly through the camera housing and passes in contact with friction roller 19 as shown in FIG. 4. The picture strip is urged against the friction roller for good pulling engagement therewith by spring arms 71 and 72. These arms are affixed by any suitable means such as riveting or spot welding in spaced and substantially parallel relation on cross piece 73. This cross piece is in turn fastened against the interior surface of back wall 29 of housing 10 by two rivets 74 and 75.

From the pressure points between friction roller 19 and spring arms 71 and 72, the unwound portion of picture strip 21 extends further downwardly and passes out of the camera through a slot 76 in lower panel 27 of housing 10. Guidance of the picture strip toward and into slot 76 is effected by baffles 77 and 78. Baffle 77 is a channel-shaped member which is fastened at its flange portions to side walls 30 and 31 of the camera housing

by rivets 79 and 80 or other suitable means. The web portion of baffle 77 is slotted to allow a portion of friction roller 19 to extend therethrough to make contact with picture strip 21. At its lower end, the web portion of baffle 77 extends slightly through the slot in housing lower panel 27, and the part so extending is sharpened and serrated to form cutting edge 23. Cutting edge 23 may, of course, be a separate member attached to baffle 77 rather than being formed integrally with this baffle. The other baffle, baffle 78, has a sloping, central guiding portion from which two ears or tabs are bent over whereat this baffle may be attached to housing side walls 30 and 31. This attachment is effected by rivets 81 and 82 or other suitable means.

On the shaft of friction roller 19 between this roller and its actuating knob 20 there is fastened a ratchet wheel 83 which is partially shown in edge elevation in FIG. 3 and in hidden outline in FIG. 4. The teeth of this ratchet wheel are disposed to co-act with a leaf spring 84 fastened to the web portion of baffle 77 by a rivet 85. Considering the parts of the toy camera of this invention as they appear in FIG. 4, friction roller 19 is prevented by ratchet wheel 83 and leaf spring 84 from being turned in a counter-clockwise direction; that is, the friction roller may be turned only in a clockwise direction as to eject another frame 22 of picture strip 21 from the camera housing. The ratchet action together with the action of spring arms 71 and 72 against friction roller 19 is useful in maintaining tension on and control over the picture strip. Ratchet wheel 83 and its co-acting spring 84 will also provide at least a slight clicking sound as roller 19 is turned by knob 20 to give further, audible simulation of the action of a conventional camera.

Upon rotation of friction roller 19 by knob 20, additional material of picture strip 21 is drawn down from spool 68, and strip material which has gone between the friction roller and spring arms 71 and 72 is ejected through slot 76 and past cutting edge 23, against which edge a single picture frame 22 or any desired number thereof may then be torn off. The movement of the picture strip is independent of other camera operations. In the usual sequence, button 16 is pushed first to actuate shutters 12 and 13, and cause a flash of bulb 67 in unit 24. Knob 20 is turned then to eject a portion of picture strip 21 from the toy camera.

When the toy camera of this invention is used to simulate the taking of a picture, the user or operator makes as though to observe his subject through sight 18. This sight is provided with an opening 86 as shown in FIG. 1 which may be clear and unobstructed. On the other hand, a small picture transparency 87 of an artistic or humorous nature may be provided in this opening as indicated in edgewise outline in FIG. 2. Another structural feature of the camera to be noted, this time in FIG. 5, is that flash unit 24 includes a bracket or base portion 88 which extends outwardly beyond side wall 31 of housing 10, and which is plugged into socket or receptacle 25 to achieve good electrical contact therein of its enclosed leads running to bulb 67. The flash unit is thus conveniently separable from the camera housing.

The toy camera of this invention may be of any suitable size and proportions while retaining a generally rectangular shape. In addition to dispensing pictures in continuous strip form as shown in FIGS. 1 and 4, the camera may also dispense pictures in the form of individual cards. A stack or deck of picture cards 89 may be loaded into the camera as shown in FIG. 9 with friction roller 19 bearing against one side of the stack and spring arms 71 and 72 bearing against the opposite side. As the friction roller is turned by manipulation of its knob 20, the cards will be slid downwardly successively one over the other and ejected from camera housing 10 through slot 76.

It will be understood that modifications, within the scope of the appended claims, may be made in the design

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and arrangement of the camera parts without departing from the spirit of this invention. It will be understood particularly that the action of shutters 12 and 13 may be reversed; that is, the shutters and their operating linkage be so arranged that when the shutter actuating button 16 is pushed the shutters will open to expose a representation of an eye 17, and then close to conceal this representation when pressure on button 16 is relieved.

What is claimed is:

1. A toy camera which includes (1) a housing characterized by a lens opening in one wall thereof and by a slot in one wall thereof, (2) at least one shutter member movably mounted in said housing and aligned with the lens opening therein, (3) a first manipulatable member extending from one side of said housing, (4) means operatively connecting said first manipulatable member with said shutter member whereby upon actuation of said first manipulatable member said shutter member is moved in a fashion visible through said lens opening, (5) a spool rotatably mounted in said housing whereon a strip of pictures may be wound, (6) means within said housing adapted to receive an unwound portion of a picture strip from said spool and eject the same through said slot, said means comprising (i) a friction roller, (ii) at least one spring arm biased toward said roller and between which and said roller said picture strip is adapted to pass intermediate said spool and said slot, and (iii) ratchet means permitting continuous rotation of said friction roller in one direction only, (7) a second manipulatable member extending from one side of said housing, and (8) means operatively connecting said second manipulatable member with said friction roller whereby upon actuation of said second manipulatable member said friction roller is rotated in the direction permitted by said ratchet means to eject a picture strip from said housing through said slot.

2. A toy camera according to claim 1 which further includes (9) a flash unit mounted on said housing, (10) a battery mounted in said housing, and (11) means in said housing for completing an electrical circuit through said battery and said flash unit as said first manipulatable member is actuated to move said shutter member.

3. A toy camera which includes (1) a housing characterized by (i) a lens opening in one wall thereof, (ii) a slot in one wall thereof, and (iii) one wall of an openable nature to expose the interior of said housing, this wall being a wall other than the one in which said slot is defined, (2) a plurality of shutter members movably mounted in said housing and aligned with the lens opening therein, (3) a button extending from one side of said housing, (4) means operatively connecting said button with said shutter members whereby upon said button being depressed toward said housing said shutter members are moved in a fashion visible through said lens opening to simulate the winking of an eye, (5) spring biasing means whereby said button is maintained normally in a raised position with respect to said housing and

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said shutter members are maintained normally in an open position with respect to said lens opening, (6) a slotted baffle member in said housing whereagainst a stack of picture cards may be loaded, (7) means within said housing adapted to eject cards through said slot in said wall from the stack of picture cards loaded against said baffle, said means comprising (i) a friction roller extending part way through the slotted region of said baffle member, and (ii) at least one spring arm biased toward said roller and between which and said roller said stack of cards is adapted to be held, (8) a knob extending from one side of said housing, and (9) means operatively connecting said knob with said friction roller whereby upon turning of said knob said friction roller is rotated to eject cards from said stack of cards one after another from said housing through said slot.

4. A toy camera which includes (1) a housing characterized by (i) a lens opening in one wall thereof (ii) a slot in one wall thereof, and (iii) one wall of an openable nature to expose the interior of said housing, this wall being a wall other than the one in which said slot is defined, (2) a plurality of shutter members movably mounted in said housing and aligned with the lens opening therein, (3) a button extending from one side of said housing, (4) means operatively connecting said button with said shutter members whereby upon said button being depressed toward housing said shutter members are moved in a fashion visible through said lens opening to simulate the winking of an eye, (5) spring biasing means whereby said button is maintained normally in a raised position with respect to said housing and said shutter members are maintained normally in an open position with respect to said lens opening, (6) a spool rotatably mounted in said housing whereon a strip of pictures may be wound, (7) means within said housing adapted to receive an unwound portion of a picture strip from said spool and eject the same through said slot, said means comprising (i) a friction roller, and (ii) at least one spring arm biased toward said roller and between which and said roller said picture strip is adapted to pass intermediate said spool and slot, (8) a knob extending from one side of said housing, and (9) means operatively connecting said knob with said friction roller whereby upon turning of said knob said friction roller is rotated to eject a picture strip from said housing through said slot.

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