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TOY FOR SIMULATING THE EJECTION OF A PILOT
PARACHUTING FROM A JET AIRSHIP

Filed May 6, 1957

2 Sheets-Sheet 1

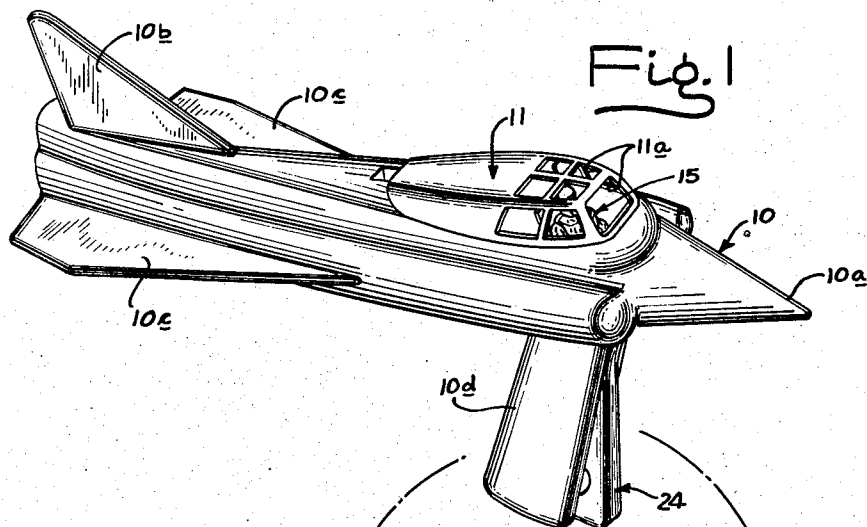
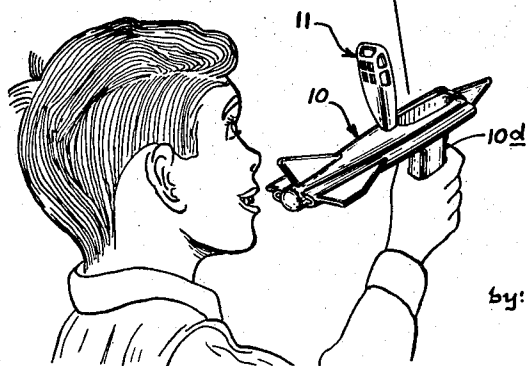
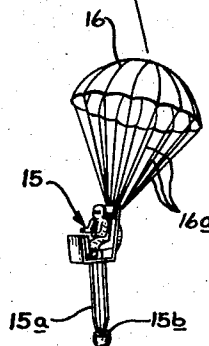


Fig. 2



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Fig. 3

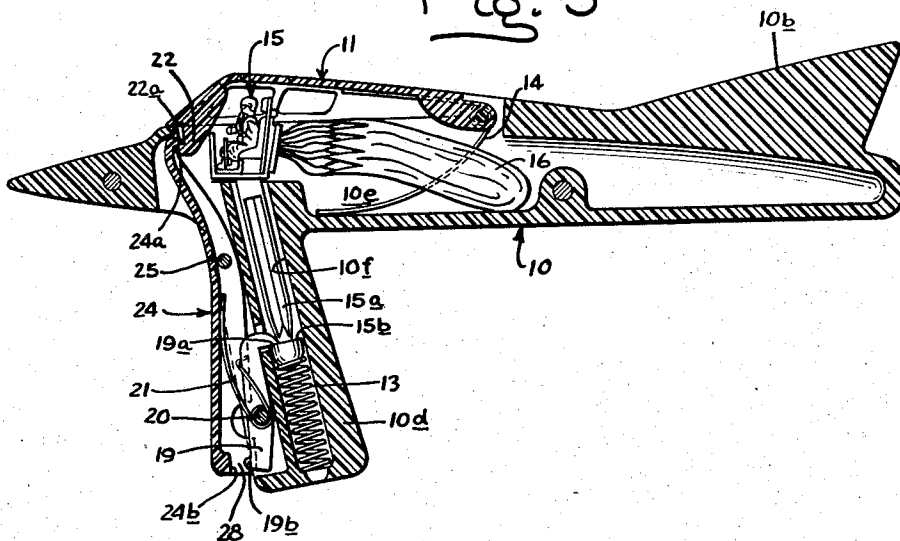
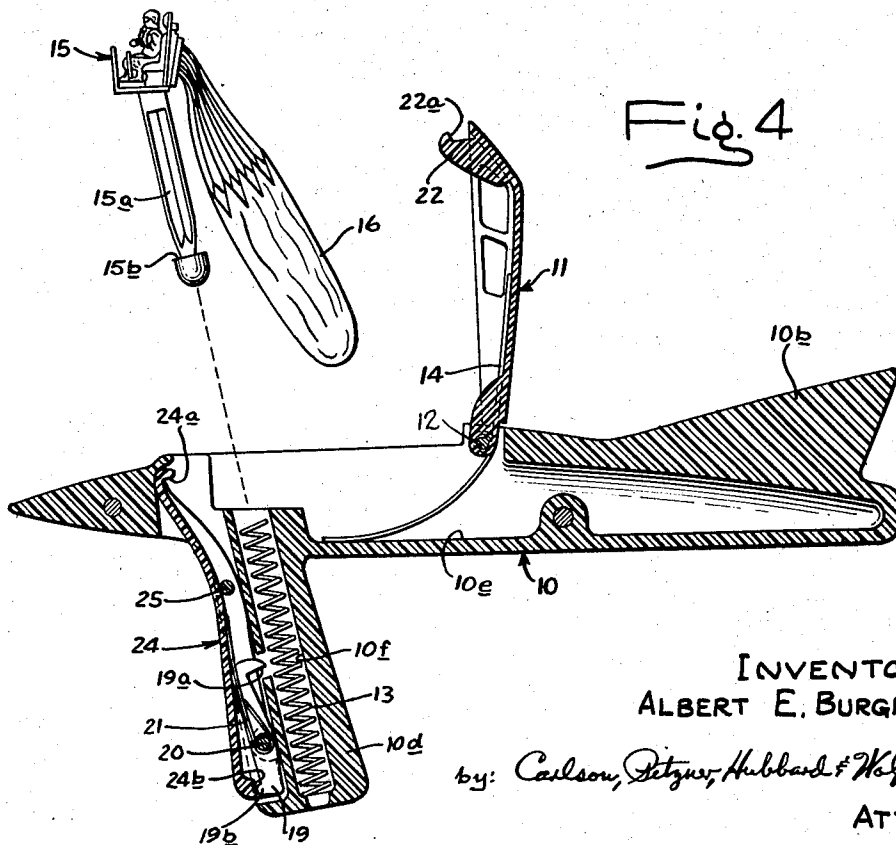


Fig. 4



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TOY FOR SIMULATING THE EJECTION OF A PILOT PARACHUTING FROM A JET AIRSHIP

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2 Claims. (Cl. 46—86)

The present invention relates in general to toys for the amusement of children, and in particular to a toy device for simulating the ejection of a pilot from a jet airship.

It is the general aim of the invention to bring forth a toy which in its operation and action resembles the process by which a pilot is removed from a modern jet airship in the event that difficulties occur.

Coordinate with that aim, it is an object of the invention to provide a toy which not only produces for the amusement of children the parachute descent of an object representative of a pilot who has bailed out of an airship, but which also first produces an action similar to the removal of the cockpit canopy of a jet plane, followed by a positive upward propulsion or "ejection" of the object which represents the pilot.

Still another object is to provide such a toy in which the canopy is moved clear of the pilot projectile and the pilot projectile propelled upwardly in sequence, all in response to the progressive movement of a single control member or trigger.

It is a further object to provide such a toy which is extremely simple in its operation, yet which is susceptible of economical manufacturing in rugged and durable form, and which will be a source of genuine amusement to children interested in modern aircraft.

Other objects and advantages will become apparent as the following description proceeds, taken in conjunction with the accompanying drawings, in which:

Figure 1 is a perspective view of a toy embodying the features of the present invention;

Fig. 2 is a perspective illustration of the manner in which the toy is used by a child; and

Figs. 3 and 4 are longitudinal sections of the toy shown in Fig. 1, and in which the several parts are respectively illustrated just before and just after the pilot-ejecting action.

While the invention has been shown and will be described in some detail with reference to a particular embodiment thereof, there is no intention to thus limit the invention to such detail. On the contrary, it is intended here to cover all modifications, alternatives, and equivalents falling within the spirit and scope of the invention as defined by the appended claims.

Referring now to the drawings, the exemplary embodiment of the invention there illustrated includes a body 10 which preferably is shaped in the general form of a high speed, streamlined, modern jet airship. For this purpose, the body as shown in Fig. 1 is formed with a pointed nose 10a and tapers smoothly from its mid-portion toward its rear end, having a relatively large vertical tail 10b and relatively small delta shaped wings 10c. For convenience in handling and manipulating the body, it is formed with a downwardly projecting handle 10d which may be grasped with one hand as illustrated particularly in Fig. 2.

For the purpose of receiving a projectile representative of a pilot, to be described, the body 10 is formed as shown in Fig. 3 with a relatively large central cavity 10e

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which may be considered as corresponding to the cockpit of an airship. Opening downwardly from the floor in the forward portion of the cavity 10e is a relatively deep and narrow passage or well 10f, the latter being closed at its lower end and containing a relatively powerful compression spring 13 which, in a manner to be described serves to positively eject and propel a pilot-simulating projectile.

To complete the illusion of the body 10 as being a modern airship, the upwardly-opening cavity or cockpit 10e is closed by a canopy 11 which is preferably provided with a plurality of openings 11a representative of windshields and windows. The canopy 11 is movable between open and closed positions with respect to the cockpit cavity 10e as shown in Figs. 3 and 4, respectively. For this purpose, the canopy is pivoted at its aft edge on a pin 12 carried by the body 10. Resilient means are employed to bias the canopy 11 to its open position, such means here being shown in the form of a torsion spring 14, wrapped about the pin 12 with its opposite end pressing against the floor of the cavity and the underside of the canopy, respectively.

The toy of the present invention further includes a small projectile 15 to which is attached, by means of a plurality of chords or strings 16a, a foldable cloth parachute 16. Preferably, the projectile 15 is molded or shaped, as by die-casting plastic or other suitable material, in the shape of a small human pilot resting in an aircraft seat. Also, formed integrally with the projectile 15 is a downward projection 15a which is shaped and disposed to enter the well 10f of the body whenever the projectile is inserted into the forward portion of the cavity 10e. The lower end of the projection 15a is suitably rounded in order that it will engage and compress the spring 13 as an incident to such insertion.

Means are provided to releasably latch the projectile 15 after it has been inserted into the cavity 10e, and thus to hold the projectile against the force of the compressed spring 13. For this purpose, the downward projection 15a is formed with a transverse surface or lip 15b, that lip being disposed to be engaged by a snapping, self-engaging latching hook 19a formed on one end of a lever 19 which is pivoted, as on the pin 20, in the body 10. The latching lever 19 is yieldably biased in a counterclockwise direction (as viewed in Fig. 3) by one end of a torsion spring 21. Thus, as the projection 15a is inserted downwardly into the well 10f, its lower end will not only compress the spring 13, but in engaging the upper rounded surface of the latching hook 19a it will also shift the latter outwardly until it snaps into engagement with the transverse lip 15b. When this is accomplished, the projectile 15 is positively held in the cockpit cavity with the spring 13 under compression.

In order to permit closure of the canopy 11 and yet afford its movement to an open position, means are provided to releasably latch the canopy in the closed position illustrated by Figs. 1 and 3. Such latching means here take the form of a latching finger 22 attached at or formed integrally with the forward portion of the canopy, such finger being rounded at its lower forward end and having a flat, forwardly extending surface 22a. To cooperate with the latch finger, a movable latching hook 24a is formed on the upper end of a trigger 24 which is pivoted on the body to rock about a pin 25. One end of the torsion spring 21, which is wrapped around the pin 20 and bears at its opposite end against the lever 19, engages the trigger 24 below the pivot 25, and thus biases the trigger in a clockwise direction. It will be apparent that as the canopy 11 is manually moved to a closed position against the bias of its spring 14, the latch finger 22 will cam the latching hook 24a outwardly, after which the spring 21 will cause the latch

hook 24a to snap into locking engagement with the finger. Upon slight rocking of the trigger 24 in a counterclockwise direction (as viewed in Fig. 3), the latching hook 24a will be moved free of the latch finger 22, so that the canopy will spring to its open position under the influence of its spring 14.

For the purpose of causing the canopy 11 to first be opened, and the projectile 15 then propelled upwardly by the spring 13, means are provided to sequentially release the canopy latching means 22, 24a and the projectile latching means 19a, 15b, as an incident to the progressive movement of a single control member. In the present instance, that control member is the trigger 24 which, as explained above, when rocked slightly counterclockwise against the bias of the spring 21 will free the latching hook 24a from the latch finger 22. Additionally, lost motion connecting means are established between the lever 19, on which the latch hook 19a is formed, and the trigger 24 such that upon further clockwise rocking of the trigger, it will engage and shift the lever 19 to free the latch hook 19a of the lip 15b on the projection 15a. Such an arrangement as here illustrated takes the form of an ear 19b formed on the lower end of the lever 19 and normally disposed opposite a surface 24b on the lower end of the trigger 24, but with a lost-motion spacing 28 therebetween. By this arrangement, it will be seen that the single control member or trigger 24 serves to sequentially release the canopy latching means and the projectile latching means as the user closes his hand around the body handle 10d and progressively squeezes the trigger inwardly.

It is believed that the operation of the illustrated embodiment of the invention will be clear from the foregoing description. However, a brief résumé will be helpful. The parachute 16 attached to the projectile 15 is first folded, and the projectile is then inserted into the cavity 10e of the body 10, the canopy 11 being in its open position. As the projectile 15 is inserted into the body, the extension 15a passes downwardly into the well 10f, so that its lower end compresses the spring 13. As the rounded end of the projection 15a engages and moves downwardly past the rounded latch hook 19a on the lever 19, the lever is cammed in a counterclockwise direction against the bias of the spring 21; and then the hook snaps inwardly into locking engagement with the transverse lip 15b. As the projectile 15 is being inserted into the cockpit cavity 10e, the folded parachute 16 is placed in the rear portion of the cavity.

Subsequently, the canopy 11 is manually moved to its closed position against the bias of its spring 14, thus covering the projectile 15. As the canopy approaches a substantially fully closed position, the rounded surface at the lower tip of the latch finger 22 engages the upper surface of the latching hook 24a, camming the trigger 24a slightly counterclockwise until the hook 24a snaps into latching engagement with the finger surface 22a under the biasing influence of the spring 21. The toy is thus completely loaded and cocked and ready for operation, as illustrated in Fig. 3.

The user then grasps the body 10 by encircling the fingers of one hand around the handle 10b as shown in Fig. 2. He slowly and progressively tightens his fingers to squeeze the lower portion of the trigger 24 inwardly toward the handle. As a result, the canopy latching means 24a, 22 are first released, so that the canopy is flipped upwardly to its open position (Figs. 2 and 4) by its biasing spring 14. The canopy is thus clear of the ejection path of the projectile 15. Then, as the handle 24 is moved further, its lower end surface 24b engages the ear 19b, thus shifting the lever 19 counterclockwise against the bias of the spring 21 and freeing the hook 19a from

the transverse lip 15b. As a result, the compression spring 13 vigorously propels the projectile 15 vertically upward, as illustrated by the dashed line trajectory in Fig. 2, the parachute 16 billowing open near the top of the trajectory so that the projectile, which represents a pilot, drifts slowly downwardly on the opened parachute.

The present toy device is relatively simple and rugged in its construction. Yet, it simulates the action by which a pilot parachutes from a modern jet airship in that the canopy 11 is first released, and then the parachuting pilot positively propelled upwardly, just as in modern jet fighter planes. The release of the canopy and the ejection of the pilot are both caused in proper sequence by the progressive shifting of the trigger 24.

I claim as my invention:

1. In a toy, the combination comprising a body in the general shape of an airship and having a cockpit cavity formed therein, a canopy pivotally attached to said body and movable between open and closed positions with respect to said cavity, said canopy having a latch finger thereon, spring means for biasing said canopy to its open position, a projectile in the general shape of a pilot and seat therefor, a foldable parachute attached to said projectile, said projectile having a downward projection formed with a transverse lip on its lower end, said body having a well therein opening downwardly in said cavity, a compression spring disposed in said well, a control member pivoted in said body and having latching means on one end engageable with said finger to hold said canopy in closed position, means for biasing said member in a direction to engage said latching means with said finger, a lever pivoted in said body and having a latch hook engageable with the lip on said projection when the latter is inserted in said well to compress said spring, and lost motion connection means between said control member and said lever for shifting the latter to release said latch hook only after the control member has been moved sufficiently to release said canopy latching means.

2. In a toy, the combination comprising a body having an upwardly opening cavity therein, a canopy pivoted at one end to said body and movable between closed and open positions with respect to said cavity, a latch finger on the other end of said canopy, spring means for biasing said canopy to its open position, a projectile and a foldable parachute attached thereto, said projectile having a downward projection, said body having a well therein opening downwardly in said cavity, a compression spring disposed in said well, said projectile and parachute being disposable in said cavity with said projection inserted into said cavity to compress said spring, a trigger pivoted on said body, latching means on one end of said trigger for engaging said latch finger and holding said canopy closed against the bias of said spring means, means for biasing said trigger in a direction to engage said latching means with said finger, a lever pivoted on said body and having means thereon to engage and releasably lock said projection in said well, and lost-motion connection means between said trigger and said lever for shifting the latter and releasing said locking means only after the trigger has been moved beyond the point of releasing said holding means, whereby as the trigger is progressively shifted the canopy is released and moved to its open position, and the projection is released so that the compression spring propels the projectile and parachute out of said cavity.

References Cited in the file of this patent

UNITED STATES PATENTS

1,845,613 Marx Feb. 16, 1932

FOREIGN PATENTS

1,071,879 France Mar. 10, 1954