Dec. 27, 1966 F. G. THOMAS, JR 3,293,793

TOY SKI SHOOT

Filed Dec. 9, 1964

FIG. 1.

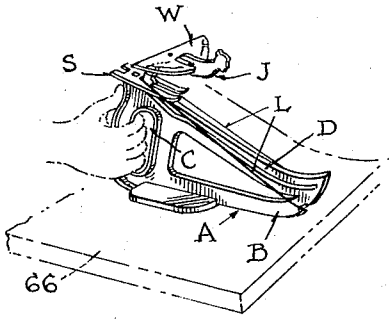


FIG. 10.

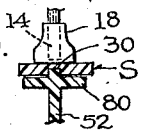




FIG. 9.



FIG. 7.

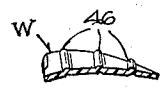


FIG. 6.

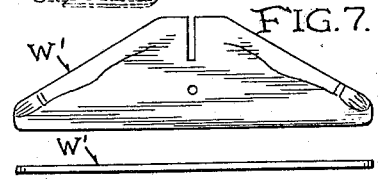


FIG. 8.

FIG. 4.

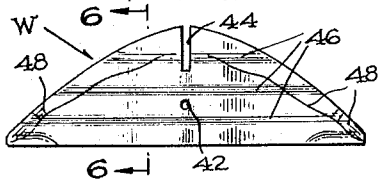




FIG. 5.

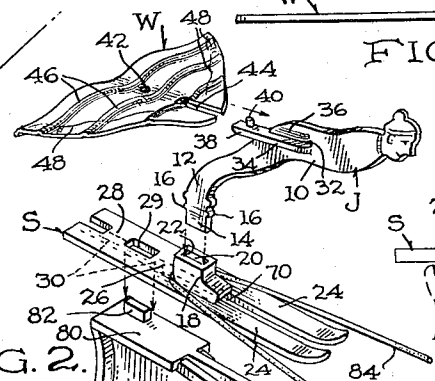


FIG. 2.

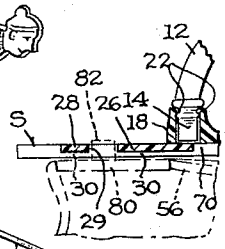


FIG. 11

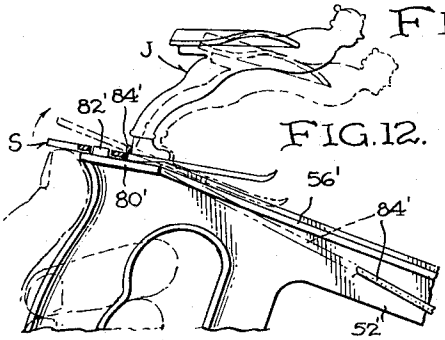
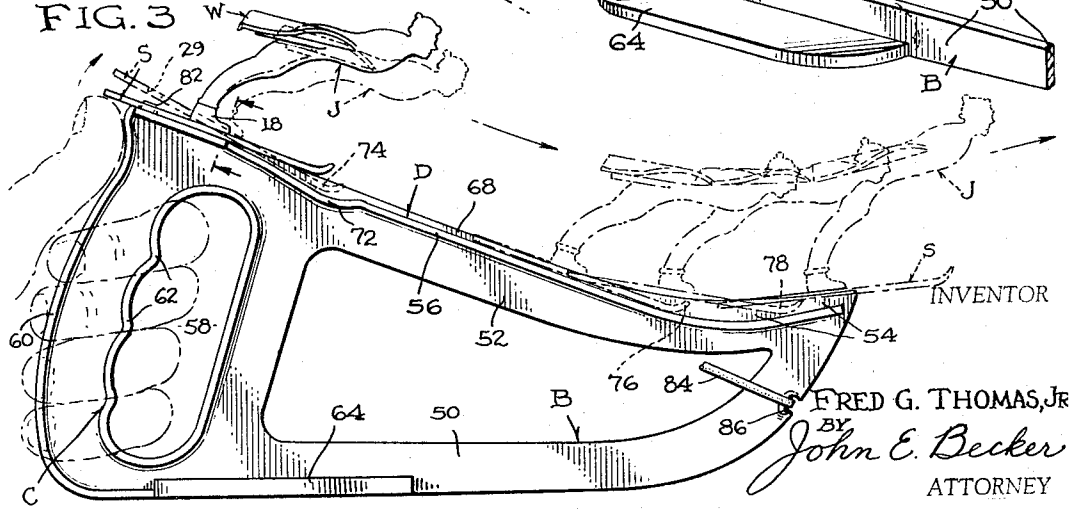


FIG. 12.

FIG. 3



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TOY SKI SHOOT

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10 Claims. (Cl. 46—81)

This invention relates to a toy for simulating ski jumping and more particularly to the combination of a toy ski jumper and launching ski jump or chute.

One primary object of the invention is to provide a toy of the aforementioned character in which the ski-jumper is provided with means to effect both a graceful take-off and sustained gliding jump followed by a ski-down landing.

Another object is to provide a toy combination of the aforementioned character which embodies a positive but inexpensive elastic launching means which is easy for children to manipulate.

Still another object is to provide an amusing and fascinating toy according to the preceding objects which may be fabricated of inexpensive, lightweight but durable materials including various plastics and/or balsam wood, and which preferably is scaled to a size adaptable to be readily held and easily manipulated in a child's hand.

A further object is to provide a toy combination having the aforementioned characteristics which is designed and fabricated for easy "knock-down" storage or assembly and disassembly of the component parts.

These and other objects and advantages are attained by the means described herein and will become more apparent from reading the following detailed description taken in conjunction with the illustrative drawing figures, and the novel features and inventive scope will be defined in the appended claims. In the drawing figures:

FIG. 1 is a perspective view of the toy combination depicting the use thereof and showing the intended path of and the skier-glider in dotted outline as it would appear in operative condition;

FIG. 2 is an enlarged perspective view of the toy combination, with the components thereof shown in an exploded manner, and with the chute shown broken away and partially in cross-section;

FIG. 3 is a side elevational view on a scale enlarged greater than that of FIG. 1 and showing the skier-glider in full lines in its initial starting position, and showing the same in broken outline in various sequential positions which it will assume during operation;

FIGS. 4 and 5 are top plan and rear elevational views respectively of one form of wing which may be used with the skier-glider;

FIG. 6 is a cross-sectional detail as taken on line 6—6 of the wing shown in FIG. 4;

FIGS. 7 and 8 are top plan and rear elevational views respectively of an alternative wing embodiment;

FIG. 9 is a fragmentary vertical cross-sectional view through one wing mounting assembly;

FIG. 10 is a fragmentary view partially in cross-section and partially in elevation showing the details of the joined ski construction relative to the chute component;

FIG. 11 is a fragmentary longitudinal cross-sectional detail view of the joined ski construction and its initial mounting relationship to the chute component, the latter of which is shown in broken outline; and

FIG. 12 is a fragmentary side elevational view, similar to the upper left-hand portion of FIG. 3, but showing an alternative embodiment of the ski chute structure.

Referring to FIG. 1, the foregoing objects are broadly achieved by the novel combination of the toy ski shoot assembly designated generally at A, which comprises a generally flat ski jump body B disposed in a vertical plane, said body B having a cut-out hand grip C and an

inclined runway or chute D of rail form, upon which the figure of a ski-jumper J, which is removably mounted upon a pair of skis S, straddles said rail and is launched by elastic catapult means L down and away from the body B in a graceful manner. To effect the graceful jump, the ski-jumper J is provided with a demountable, glide-sustaining wing member W, which preferably is embellished with indicia to simulate the outstretched arms of the skier with a cape disposed therebetween.

More specifically, the bodies of the ski jump B or chute D and that of the ski-jumper J and the skis S, are preferably stamped or otherwise suitably fabricated of a lightweight relatively thin but rigid, flat sheet material such as plastic, aluminum, balsam wood or the like.

Referring next to FIGS. 2 and 3, the ski-jumper J comprises a flat body **10** having the outline of a forward leaning ski-jumping figure, with a leg portion **12** terminating in a rectangularly shaped insert lug **14** having opposed notches **16, 16**, and adapted for a snap-in press fit into a ski boot member **18** which is provided with a complementary recess **20** and retaining lips **22, 22**. Ski boot **18** is fixedly mounted upon the upper surface of and approximately midway back on a pair of spaced apart skis **24, 24**. Skies **24, 24** are joined together by connecting webs **26** and **28** which are spaced slightly apart longitudinally to define a slot **29** therebetween, said skis being spaced apart laterally a distance only slightly more than the thickness of the chute body B, to assure an easy sliding fit thereover, as will be described in more detail hereinafter. The webs **26** and **28** are also undercut to define longitudinally directed grooves **30, 30** corresponding to the spacing of the skis and to provide a complemental and positive guide way for cooperation with the rail portion of the inclined runway or chute D.

The ski-jumper body **10**, the plane of which is adapted for vertical disposition relative to the skis **24, 24**, is further provided with a transverse slot **32** extending inwardly from the back edge of the thigh area of the skier and forwardly into the mid-portion of the body **10**. The slot **32** may be disposed generally parallel or at a slight positive angle relative to the plane of the skis **24, 24** and the body **10** is preferably provided with laterally widened supporting flanges **34** and **36** below and above the slot **32** respectively, as better seen in the detail of FIGS. 2 and 9, to receive and support the wing member W which is adapted to be inserted therein horizontally. It is apparent that if the slot **32** is disposed at said slight positive angle, the wing member W will have a positive so-called angle of attack to give the ski-jumper J more lift.

The supporting flange **34** preferably projects rearwardly to provide additional wing supporting surface as indicated at **38**, better seen in FIG. 2 and is provided with an upstanding wing-orienting peg-like member **40**, adapted to complementally receive the aperture **42** formed in the wing W. Wing W, which is shown to be of generally triangular outline having swept-back leading edges, is provided with a slot **44** adaptable to complementally cooperate with slot **32** for mounting of the wing W. While the wing W is shown with generally swept-back leading edges, it is to be understood that the wing shape may vary and include designs which embody a substantially straight leading edge, as would be provided by merely reversing the present wing W and having the slot **44** and aperture **42** reversed accordingly. Furthermore, it is contemplated that the wing may be provided with more than one aperture **42** in spaced alignment to provide for rearward or forward shifting adjustment of the wing if desired to adjust the flight or gliding characteristics of the ski-jumper J.

Many different forms of wing may be utilized but only two are illustrated. The wing W, as depicted in FIGS. 2–6, has a generally gull-like wing style and preferably is

fabricated of very thin resilient sheet material, such as plastic or aluminum and the like, and is shown provided with a plurality of lateral reinforcing ribs **46** to give it additional rigidity after the predetermined gull-like contour has been effected. The embellishing indicia representing the skier's outstretched arms is indicated at **48**.

FIGS. 7 and 8 are illustrative of a generally flat wing W' formed of balsa wood or the like and which may be provided with a slight dihedral, not shown, if desired. The cooperative orienting and mounting aperture and slot are preferably the same as in the previous wing W embodiment.

The launching body B and chute D form a generally triangular assembly comprising a base portion or arm **50** adapted for generally horizontal disposition, and an inclined runway portion **52** disposed angularly apart from said base portion and having an upturned forward "take-off" portion **54**. The said runway portion **52**, together with a pair of laterally projecting ski supporting strip flanges **56**, **56**, FIG. 2, which may be integrally fabricated with body B or subsequently fixedly attached to opposite sides thereof, comprises the launching chute D.

The hand grip C includes a cut-out area **58** provided between portions **50** and **52** at the rear end portion of the body B, and is preferably contoured and provided with strip material which is wider than the thickness of body B and which is fixedly attached in any suitable manner to provide a more comfortable and positive palm grip **60** and finger grip **62** handle area, as illustrated more clearly in FIGS. 2 and 3. A stabilizing flange **64** preferably extends laterally away from the opposite sides of the vertically disposed plane of body B and is preferably flush mounted with the bottom of base portion **50**, thereby providing means by which the ski jump body B may sit unaided upon a flat surface, such as a table or floor as shown in broken lines at **66** in FIG. 1.

Referring further to the ski-supporting strips **56**, **56**, FIGS. 2 and 3, it is apparent that they are mounted in an irregular but predetermined manner with respect to the top edge of the rail or runway portion **52**, to accommodate primarily the forward portions of skis S of the jumper J during various launching positions, as shown in broken outlines in FIG. 3, and as will be explained more fully hereinafter. The strips **56**, **56** are mounted down from the top edge of said rail along the central straight portion **68** a distance not exceeding the thickness of the skis S and the depth of a guiding slot **70** defined by the skis and the boot of skier J, thereby serving to stabilize the ski-jumper J during launching, while at the rear portion of the rail, said strips are angularly dipped downward as indicated at **72** to accommodate the tip or forward ends of the skis S during initial launching condition as indicated in dotted lines **74**, FIG. 3. As the jumper J and skis S progress down the inclined runway or chute, it is apparent that, because the skis S are fairly rigid, the forward ends thereof will course deeper along the forward end of the runway where it curves upward to define the "take-off" portion **54**, as indicated in broken lines **76** and **78**, while the mid-portion of the skis beneath and adjacent the boot of the skier, continue to straddle and course along the rail being limited only to the depth of the slot **70** defined therebetween and beneath said boot.

A mounting platform **80** as depicted in the form shown in FIGS. 2 and 3, is mounted substantially flush with and at the same angle of inclination as the runway or chute D, is provided with an upstanding lug **82**, which serves to initially orient and anchor the ski-jumper J thereon by cooperation with its slot **29**, with the rear portion of the skis S projecting rearwardly behind the platform **80** for releasable engagement by the thumb of the person launching the same, FIG. 3.

The catapult means L include an elastic band **84** adapted to be anchored within a slot or recess **86** provided in the forward edge of base portion **50**, and to be freely stretchable behind the ski boot **18** of jumper J preparatory to launching same. Launching of the jumper-glider J is effected by merely moving the thumb upward beneath the rear of the skis to tilt it off of the anchor lug **82** as clearly shown in FIG. 3, whereupon the reason for dipped or recessed areas **72** of the guideways **56**, **56** becomes apparent in that they accommodate the forward ends of the skis for a fraction of a moment as indicated at **74**. The ski-jumper or jumper-glider J is pulled down the chute and is projected upwardly and forwardly away from the "take-off" portion **54** responsive to the contraction of the stretched elastic launching band **84**.

The ski-jumper-glider J achieves a graceful gliding jump due to the wing member W providing the prerequisite lift, in combination with the flat body area of the jumper and the depending skis S which combine respectively to lend lateral and vertical stability thereto.

The rail of the chute and the cooperative ski elements may be fabricated of a commercially available plastic composition known as "Teflon," which inherently has a slippery characteristic to endeavor to provide the combination with greater friction-free efficiency.

Referring to the modified chute embodiment depicted fragmentarily in FIG. 12, the only difference is that the guide strips **56'** remain uniformly inclined and spaced down from the top edge of the track rail, and are not dipped as at **72** in the former embodiment. The aforesaid dip **72** is eliminated in this embodiment by mounting of the platform **80'** at a slight angle relative to the inclination of the chute **52'**, as clearly shown, whereby the forward portion of the skis S' define an acute angle with the ski chute and guides **56'** preparatory to launching. It is preferable that at least a portion of the track rail **68** be longitudinally extended in alignment over onto the platform and to project up between but not exceeding thickness of the skis S to assure that the skis are not impeded by the latter and attain the proper straddling orientation during and responsive to launching by the elastic band **84'**. Otherwise the components of the chute and ski-jumper or glider remain the same and are unchanged except for a choice of the wing members W or W', as aforementioned.

The operation is obvious from the foregoing detailed description and need not be repeated, and it is apparent that a novel and useful combination ski chute and jumper-glider has been evolved which achieves all of the objectives and advantages as set forth in the preamble of this specification.

While two specific forms and constructional details therefor have been illustrated and described, it is obvious the other structural variations may be made without departing from the inventive scope as defined in the appended claims.

I claim:

1. In a toy for simulating a dynamic ski jumped the combination comprising:

(a) a ski chute having an inclined runway with a mounting plate constituting a starting platform for the ski jumper disposed at the upper end thereof;

(b) a ski jumper including the body figure of a skier mounted on a ski assembly adapted to ride down said runway;

(c) lug means projecting upwardly from said starting platform and cooperable with an aperture in said ski assembly, said lug means being adapted to orient and temporarily anchor said ski jumped preparatory to the jump operation thereof;

(d) ski supporting and guiding rail means extending from the platform throughout the length of the chute and adapted to project upwardly between the ski assembly to prevent lateral movement of the ski assembly as it moves down the chute;

(e) catapult means attachable to said ski chute and to said ski jumper assembly; and

(f) said ski jumper having laterally extended wing means to effect a graceful and extended gliding jump responsive to being catapulted from said ski chute.

2. In a ski jump toy, the combination as defined in claim 1 wherein the ski chute is provided with handle means to enable the chute to be held in and operated by one hand of the user.

3. In a ski jump toy, the combination as defined in claim 1, wherein the ski chute is provided with a base plate to permit said chute to sit upright unaided by a potential user.

4. The toy combination as defined in claim 1, wherein

(a) the mounting platform is disposed coplanar with the inclined runway; and

(b) the ski supporting and guiding rail means are slightly dipped downwardly away from the inclined runway adjacent the front of said platform to accommodate the skis of the ski jumped responsive to being initially freed from said lug during the launching operation.

5. In a toy for simulating a dynamic ski jumper the combination as defined in claim 1 wherein:

(a) the runway is inclined downwardly terminating in an arcuate reversely inclined forward "take-off" portion; and

(b) said wing means is fabricated of exceptionally light weight semi-flexible thin sheet material having laterally extended reenforcing means.

6. A toy combination as defined in claim 1, wherein

(a) the body of the ski jumper is provided with a generally horizontally disposed slot to frictionally engage the wing means; and

(b) the wing means in sub-paragraph *e* of claim 1 includes a wing member adapted to be inserted in said body slot and to project laterally and generally horizontally from opposite sides of the body figure.

7. A toy combination as defined in claim 1, wherein

(a) the body of the ski jumper is provided with a generally horizontally disposed slot and a combined orienting and anchoring lug for the wing means; and

(b) the wing means in sub-paragraph *e* of claim 1 is frictionally engageable in said slot and includes a wing member having a complemental oppositely directed slot and an aperture spaced therefrom, said wing being inserted in said body slot and with the aperture therein coinciding over said lug.

8. The toy combination as defined in claim 1 wherein the wing means is provided medially thereof with orienting and anchoring means, the body figure of the skier is slotted to frictionally receive the wing means, and is further provided with a supplementary wing means supporting platform extending laterally from the body figure and having complementally formed wing-orienting and anchoring means thereon for cooperative engagement with the same on the wing means.

9. In a toy for simulating a dynamic ski jumper, the combination comprising

(a) a ski chute means having a downwardly inclined runway;

(b) a ski jumper-glider assembly including a relatively flat body member of a forwardly leaning figure of a skier mounted upon ski means adapted to slide down the runway;

(c) catapult means attachable to said ski chute and to the ski jumper-glider assembly;

(d) said ski jumper having a generally horizontally slotted midriff area with a combined orienting and anchoring lug means;

(e) aerodynamic lift imparting wing means including a wing member frictionally engageable in said slotted midriff area and having complementally formed slot means engageable with the flat body figure and an aperture spaced from said latter slot for selective engagement with said lug means aforesaid, said wing means and flat body member serving to effect a graceful jump and aerodynamically extended flight responsive to being catapulted from said ski chute.

10. The toy combination as defined in claim 9, wherein the wing member is generally delta shaped in plan view, dihedraled about a longitudinal medial area and provided with indicia whereby the wing member simulates the outstretched arms of the skier with a cape therebetween.

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