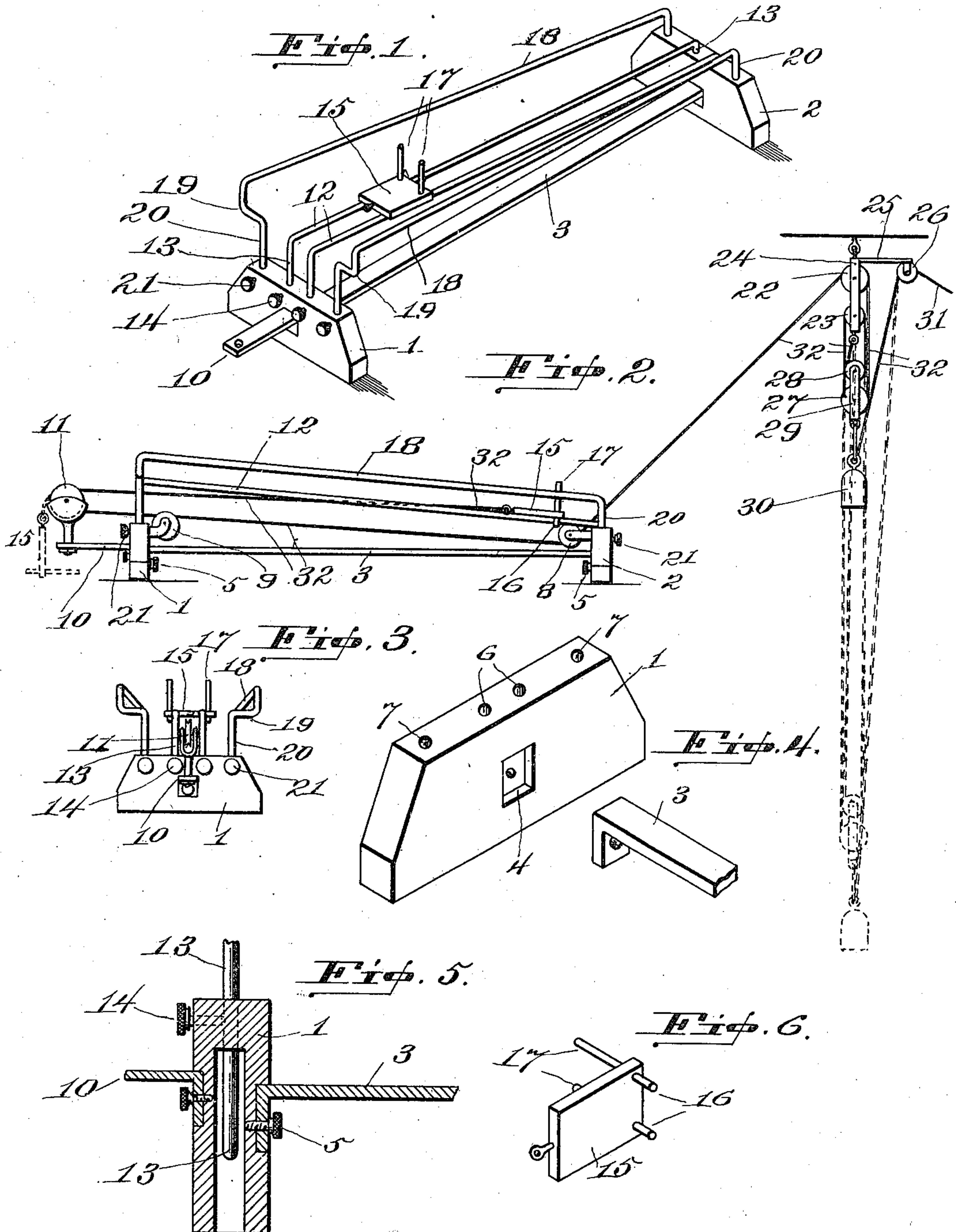


I. HOURWICH.  
AERIAL PROJECTING APPARATUS.  
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975,953.

Patented Nov. 15, 1910.



Witnesses  
Wm. E. Volk Jr.  
Isaac A. Hourwich

Inventor  
Iskander Hourwich  
By C. J. Reel  
Attorney



# UNITED STATES PATENT OFFICE.

ISKANDER HOURWICH, OF WASHINGTON, DISTRICT OF COLUMBIA.

## AERIAL PROJECTING APPARATUS.

975,953.

Specification of Letters Patent.

Patented Nov. 15, 1910.

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*To all whom it may concern:*

Be it known that I, ISKANDER HOURWICH, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Aerial Projecting Apparatus, of which the following is a specification.

This invention relates to toy projectors aerial, and pertains especially to a cast off device applicable to various articles or devices adapted to be carried and propelled thereby and projected or discharged therefrom.

The object of the invention is to provide certain novel and peculiar arrangement of the parts constituting the invention, whereby the momentum of the article or object being cast off may be varied and controlled as desired.

A further object of the invention is to provide a collapsible or knock down device for aerial projection, adapted to be expeditiously assembled, and to furnish special means for sliding or propelling an object or article on the device and casting it free thereof at various speeds.

While the invention is primarily intended for aeroplane toys or miniature models thereof, various other toy devices, objects and articles may be operated thereby, and its application is not intended to be limited in this respect.

In the accompanying drawings forming part of this application: Figure 1 is a perspective view of the blocks, tracks and cast-off plate. Fig. 2 is a side elevation showing the cords connected and the device set for projecting an object or toy, the dotted line showing the position of the parts after projecting. Fig. 3 is a front end view. Fig. 4 is a perspective view of one of the base blocks and one end of the tie bar. Fig. 5 is an enlarged sectional view of one of the base blocks. Fig. 6 is an inverted perspective view of the cast-off plate.

The same reference numerals denote the same parts throughout the several views of the drawings.

The base blocks 1 and 2 form supporting front and rear ends respectively. Such blocks or supports preferably being hollow, or partly so, and of sufficient weight, together with their attachments, to anchor the device for operation either inside or outside a room or other inclosure. The blocks are connected by a longitudinal tie bar 3, having

angle ends which fit recesses 4 in the inner face of the blocks flush therewith, and such ends are secured in the recesses by set-screws 5, or other suitable means, so as to permit the bar and the blocks to be readily disconnected. Each of said blocks has two pair of vertical holes 6 and 7 extending thereinto from the top thereof, the purpose of which will hereinafter appear. A guide sheave 8 is fixed to the inner face of the rear block 2, and a similar sheave 9 projects from the inner face of the front block 1. An arm 10 has one end secured in the outer face of the front block, and the other end thereof carries a sheave 11. This arm has preferably the same means of attachment with the block as the tie bar 3, and the sheave 11 may be removably secured to the arm. The said sheaves all being central of the blocks longitudinally.

A pair of parallel rods 12 are adjustable in the holes 6, of the blocks 1 and 2, by means of right angle-ends 13 and set screws 14. These rods stand above the top plane of the blocks and form runners or a track for a cast-off member or plate 15, provided with a pair of guide pins 16, which project from the under side thereof and over-hang the rods 12 so as to keep the plate from lateral displacement. A pair of stems 17 project from the upper side of the plate 15, for engaging a toy or other object to be cast off. Said stems may be a continuation of the pins 16, or only one stem may answer the same purpose.

A toy supporting track is elevated above the track 12, preferably on an incline upwardly from the rear block to the front block, and such track is composed of a pair of rails 18, having elbows 19, and ends 20, adjustable in the block holes 7 by means of set-screws 21. The elbows afford means for spacing these rods apart from the rods 12, and the rods 18 are preferably arranged to diverge from each other from the rear block to the front block, so as to hold toys or other objects of various size, and the stems 17 project upwardly sufficiently to engage the object to be cast off.

The plate is operated by a block and tackle device consisting of two fixed sheaves 22 and 23 suitably suspended by a sheave hanger 24 having an arm 25 provided with a fixed sheave 26, and two movable sheaves 27 and 28 mounted in a hanger 29; a weight 30 carried by the hanger 29; a hand cord 31



attached to the weight and operated over the sheave 26 for raising, holding and releasing the weight; and a rope or cord 32 having one end attached to the hanger 24, and extending through the tackle sheaves 22, 23, 27 and 28, and by way of the base block sheaves 8, 9 and 11, and having its other end attached to the front end or edge of the plate 15.

10 It will be understood that the downward movement of the weight will pull the cast-off plate forward, such plate carrying with it the toy or other object to be cast off; that the forward movement of the plate is limited by the sheave 11, whence it is moved to the rear of its track for re-setting; that the movement of the cast-off member or plate is governed by the movement and size of the weight; and that a toy or other object may be projected from the rails clear of them and of the cast-off member or plate.

It will be seen that the object to be projected may have its speed increased and diminished as desired; that various weights may be employed according to the weight and size of the object to be projected; and that the block and tackle may be placed in various positions and distances relative to the device.

30 Obviously the several parts of the device may be assembled and disassembled in a most expeditious manner.

I do not wish to be understood as limiting myself in the application of the device, its size, shape or material, nor to the particular block and tackle device for operating the cast-off member, but reserve to myself the right to vary the said devices in the practical working and mechanical construction thereof, without departing from the spirit of the invention as embodied in the claims to follow.

45 Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. An aerial projecting device comprising a double track one of which is off-set laterally from the other for supporting the object projected, a cast-off member slidable on the other track in engagement with said object, and means for sliding said member.

55 2. An aerial projecting device comprising a cast-off member, a track for said member, a track off-set laterally from and above the plane of the member track, and means for sliding said member.

3. An aerial projecting device comprising a track for the object projected, a slidable cast-off member, a track for the cast-off member within the said object track, and means for operating the cast-off member.

4. An aerial projecting device comprising a pair of base blocks, a track adjustable on the blocks for the object projected, a slidable cast-off member, a track for the cast-off member within the said object track and adjustable on the blocks, means for making said adjustments, and means for sliding the cast-off member.

5. An aerial projecting device comprising a front base block, a rear base block, rails supported by the blocks and converging from the front block to the rear block and forming a track for the object projected, parallel rods supported by the blocks between the said rails, a cast-off member slidable on the said rods and having projections adapted to engage such object for sliding it and means for sliding the cast-off member.

6. An aerial projecting device comprising a pair of base blocks, a tie-bar for fixing the blocks apart, a pair of tracks adjustable on the blocks, one of such tracks being elevated above the plane of the other track, a cast-off member slidable on the latter track, and means for sliding the cast-off member.

7. The combination, with the base blocks, the double tracks supported by the blocks, and a cast-off member slidable on one of the tracks, of the sheaves carried by the blocks, a block and tackle device having its cord or rope attached to the cast-off member and engaging said sheaves, a weight suspended from the block and tackle device, and a hand cord attached to the weight.

8. In a collapsible aerial projecting device, the combination, with the base blocks, a track the rails of which diverge from one to the other of the blocks, a track within the diverging rails, a cast-off plate slidable on the latter track and having projections which engage this track, means projecting from the plate into the other track for engaging the object projected, and means for sliding said plate.

In witness whereof I hereunto set my hand in the presence of two witnesses.

ISKANDER HOURWICH.

Witnesses:

J. ROSS COLHOUN,  
WM. E. VALK, Jr.