

June 9, 1925

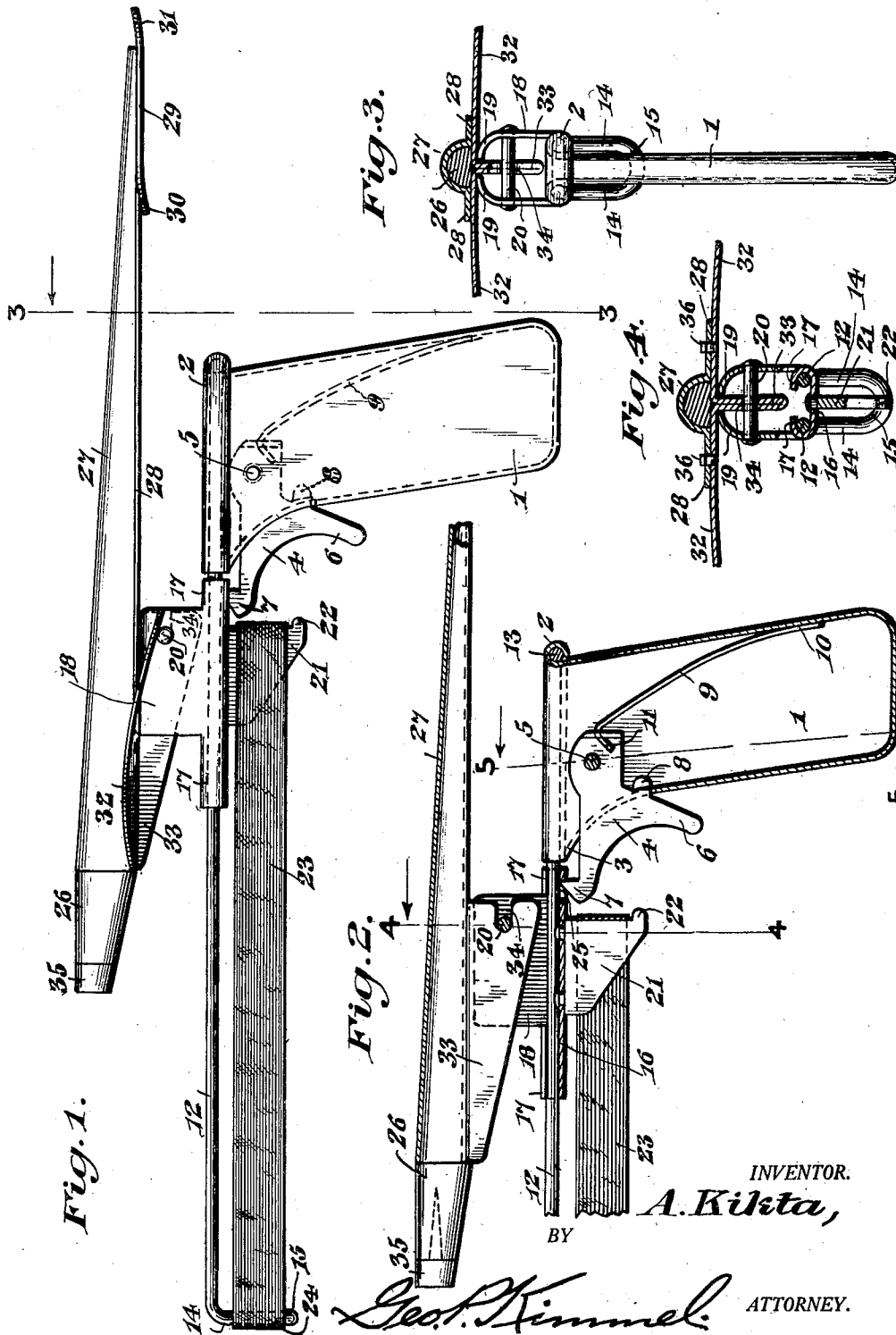
1,541,579

A. KIKTA

TOY AEROPLANE AND LAUNCHING DEVICE THEREFOR

Filed May 2, 1924

2 Sheets-Sheet 1



INVENTOR.

A. Kikta,

BY

Geot. Kimmel.

ATTORNEY.

June 9, 1925.

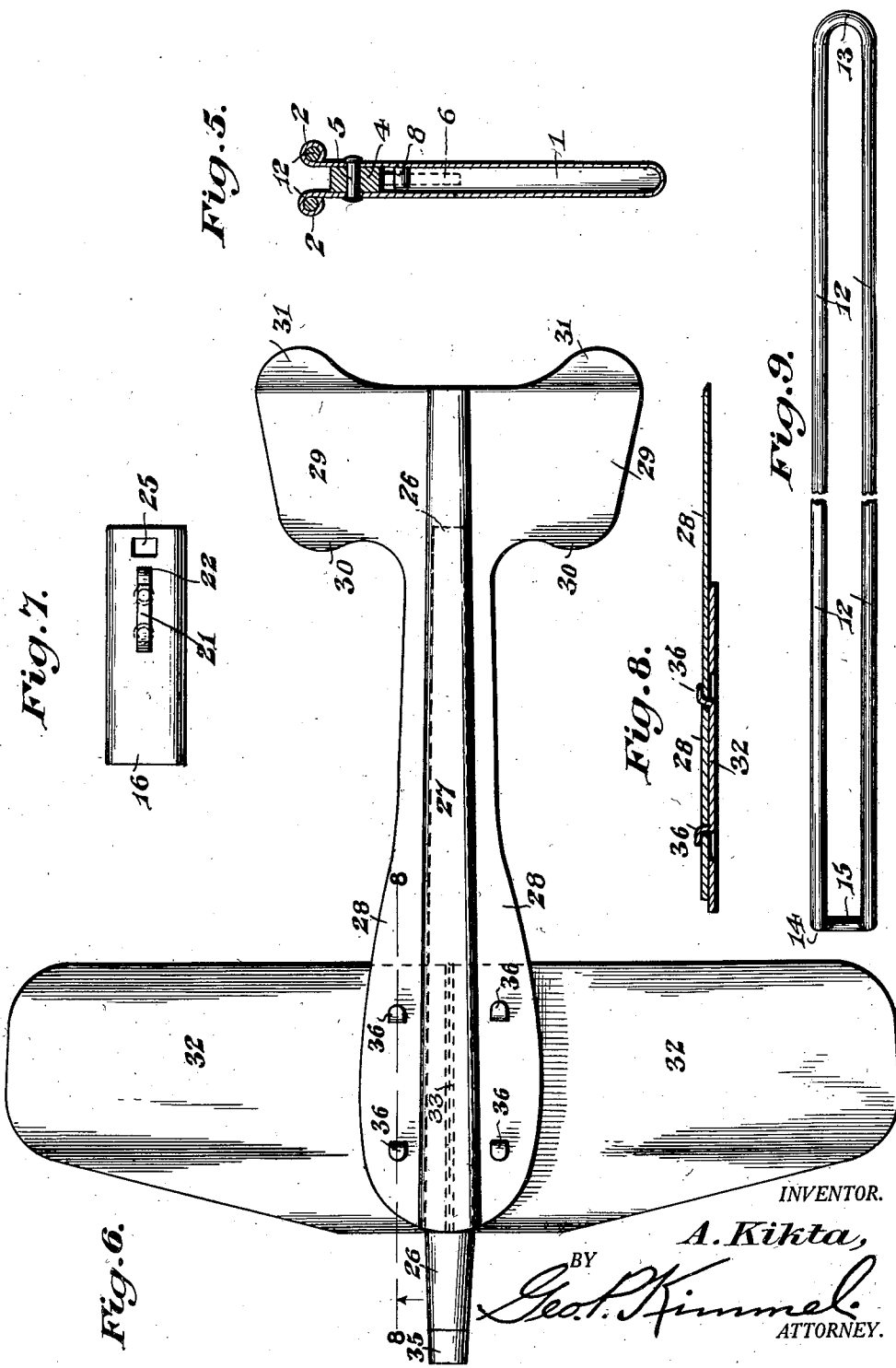
1,541,579

A. KIKTA

TOY AEROPLANE AND LAUNCHING DEVICE THEREFOR

Filed May 2, 1924

2 Sheets-Sheet 2



INVENTOR.

A. Kikta,

BY

Geo. P. Kimmel.

ATTORNEY.

Patented June 9, 1925.

1,541,579

UNITED STATES PATENT OFFICE.

ALEX KIKTA, OF FLINT, MICHIGAN.

TOY AEROPLANE AND LAUNCHING DEVICE THEREFOR.

Application filed May 2, 1924. Serial No. 710,597.

To all whom it may concern:

Be it known that I, ALEX KIKTA, a citizen of the United States, residing at Flint, in the county of Genesee and State of Michigan, have invented certain new and useful Improvements in Toy Aeroplanes and Launching Devices Therefor, of which the following is a specification.

This invention relates to toys and pertains particularly to the class of toy aeroplane and launching devices therefor.

The primary object of this invention is the provision, in a manner as hereinafter set forth, of a toy aeroplane of the monoplane type and an improved launching device therefor which will project the plane into the air in a smooth and easy manner.

Another object of this invention is the provision, in a manner as hereinafter set forth, of an aeroplane or glider of improved design, sturdy construction, and so built and balanced as to sail through the air in a smooth and graceful manner.

A still further object of this invention is the provision, in a manner as hereinafter set forth, of a plane projecting device having the appearance of a toy pistol and having a reciprocable carriage moving longitudinally thereof for supporting and launching the plane.

A further and final object of the invention is the provision, in a manner as hereinafter set forth, of a toy aeroplane and launching device therefor of neat and attractive design, strong, light and easily handled and controlled, having few movable parts to get out of order, and inexpensive to manufacture.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming part of this specification, with the understanding that the invention is not confined to any strict conformity with the showing of the drawings, but may be changed and modified so long as such changes and modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Figure 1 is a side elevation of the device embodying this invention, the same being shown in set position ready for the launching of the plane.

Figure 2 is a longitudinal sectional view

through the rear portion of the launching device and through a part of the plane.

Figure 3 is a section taken upon the line 3—3 of Figure 1.

Figure 4 is a section taken upon the line 4—4 of Figure 2.

Figure 5 is a section taken upon the line 5—5 of Figure 2.

Figure 6 is a top plan view of the plane or glider used in connection with this invention.

Figure 7 is a bottom plan view of the launching carriage.

Figure 8 is a section taken upon the line 8—8 of Figure 6.

Figure 9 is a detail plan view of the carrying track.

Referring now to the drawings in detail wherein like numerals of reference indicate corresponding parts throughout the several views shown, numeral 1 indicates the stock or hand grip of the launching device. As is clearly shown, this hand grip is of the same type as the hand grip used in connection with automatic pistols, and this hand grip is of hollow, preferably pressed metal, closed on all sides except at the top. The top edge of the two sides and rear wall is rolled as at 2, and the inner or front wall has a vertical slot 3 cut therein, for a purpose to be hereinafter set forth.

Pivotaly secured between the side walls of the hand grip 1 adjacent the top thereof is a trigger member 4, retained in position by means of the pivot pin 5 which extends through and between the side walls of the hand grip 1 as is clearly shown in Figure 2. This trigger member 4 extends through the vertical slot 3 and has the finger engaging portion 6 and the forwardly extending hooked head 7 which is outside of the body of the hand grip 1. Formed upon the back of the finger engaging portion 6 is a transversely extending guide 8, the ends of which engage the inner sides of the side walls of the hand grip to steady the action of the trigger when the same is drawn backwardly.

Secured to the rear wall of the hand grip 1, and upon the inner side thereof is a resilient spring 9. As shown, the lower end of this resilient spring is secured to the rear wall of the hand grip adjacent the lower portion thereof as at 10, and the upper end of the spring is sprung forward from the wall and bent downwardly as at 11, to engage in the rear portion of the trigger 4

rearwardly of the pivot point 5. As will be clearly seen, the tendency of the spring 9 to bend forwardly and down will cause the rear portion of the trigger 4 to be depressed to raise the head 7.

Extending forwardly from the upper portion of the hand grip 1 is a pair of substantially elongated parallel bars 12 constituting tracks. The rear ends of these bars extend into the rolled portion 2 of the hand grip 1 and are secured together at their rear ends in the form of a loop 13. The forward ends of each of the bars 12 is turned downwardly at right angles as indicated at 14 and the lower portion of these right angled downturned ends are connected by means of the cross piece 15. It will thus be seen that the track member, extending forwardly from the upper end of the hand grip 1 is a single unit and when the hand grip is raised and the arm extended forward, the tracks or bars 12 will extend forwardly of the hand grip in the same manner as the barrel of a revolver.

Slidably mounted upon the tracks 12 is a launching carriage, comprising a substantially elongated plate 16 having the front and rear portion of each side edge turned inwardly as at 17 to engage over the track bars 12. The portion intermediate the turned edges 17, upon each side of the plate 16 is extended upwardly as at 18, and the top edge of each of these upstanding portions 18 is turned inwardly and are retained in opposed spaced relation, as at 19. These upstanding portions 18 comprise the plane support of the carriage. Connecting the plane supporting portions 18 of the carriage at the rear thereof is a plane engaging pin 20.

Secured upon the lower face of the plate 16 is a finger 21 having the lower rear edge extended slightly as at 22 to form a hook.

Engaged over the depending finger 21 is a carriage actuating member, here shown as a rubber band 23. One portion of the band 23 is secured to the depending portion 14 of the tracks 12 as indicated at 24, and the finger 21 engages in the loop of the band and when the carriage is drawn back, the band is placed under tension so that when the carriage is released, the tension of the band will move the carriage swiftly forward until the forward portion thereof comes in contact with the depending portions 14 of the tracks 12. In order that the carriage may be held in drawn-back position, with the band 23 under tension, an aperture 25 is formed through the rear part of the plate 16 and in this aperture 25, the head 7 of the trigger 4 engages. As soon as the carriage is drawn back the rear portion of the same will ride up upon the sloping face of the head 7 and the action of the spring 9 will force the head of the trigger up into the

aperture 25 of the plate as soon as the aperture has become rightly positioned. It may be seen that the carriage will thus be held in retracted position and the band 23 retained stretched between the depending members 14 and the finger 21 of the carriage, until the trigger 4 is actuated to release the carriage.

Applicant has here shown the actuating means for the carriage as in the form of a heavy rubber band as before stated, but applicant does not wish to confine himself to the use of this means of actuating the carriage, for the same may be actuated by the use of other resilient means such as an expansible spring.

The plane used in connection with this toy comprises a rigid substantially elongated central backbone 26, which backbone may be made of any light and strong material. Formed over the backbone 26 of the plane is a sheet of light metal such as aluminum or tin, the central longitudinal portion thereof being semicircular in contour as at 27, to fit over the backbone of the plane, and the edges of this semicircular portion 27 are flared outwardly as at 28. The forward part of these flared portions 28 are of greater width than the central portion as shown in Figure 6, and the rear of the portions 28 are extended outwardly to form the rear planes 29, which planes are relatively narrow as shown and the forward edges of these planes are bent downwardly as at 30, while the rear edges thereof are extended slightly at the outer end and given a slight up-turn as at 31.

Extending beneath the backbone 26 near the front portion thereof are the front wings 32 of the plane. These wings 32 are integral and at the central portion of the material from which the wings are formed, there is formed the depending keel 33. The rear edge of this keel 33 has formed therein a notch 34 in which, when the keel is located between the supports 18 of the carriage, the pin 20 engages to carry the plane forward when the carriage is released by the trigger 4. Secured to the forward end of the backbone 26 is a metal nose 35 which acts to protect the plane when it falls and also acts to give to the plane a spinning motion when the same is descending.

The wings 32 of the plane have struck up therefrom tongues 36 which tongues are adapted to be extended through apertures in the flanges 28, which flanges, as clearly shown in Figures 3 and 4, rest upon the body of the wings 32, and the tongues are then bent over to engage the top surface of the flanges 28 to securely retain the wings 32 and the body 27 upon the backbone 26 of the plane.

It may be seen from the foregoing that when the carriage is drawn backwardly

against the tension of the rubber band 33 and engaged by the head 7 of the trigger 4 and the plane placed in position upon the carriage with the pin 20 engaging in the notch 34 of the keel of the plane, that upon the release of the trigger, the plane will be carried swiftly forward and projected from the carriage when the same contacts with the depending portions 14 at the front end of the tracks 12. Owing to the structure of the launching device the plane may be directed at any angle and the same will leave the traveling carriage easily and smoothly.

Having thus described my invention what I claim is:

1. A toy comprising, an aeroplane having a central longitudinally extending keel at the forward part thereof provided with a notch in its rear edge, means to provide a pair of parallel members constituting a trackway, a launching carriage comprising, a substantially elongated plate member having the front and rear portions of each side edge rolled over one of said members to retain the carriage in sliding engagement with said members, spaced vertical plane supporting members carried by said carriage, means extending between said supporting members for engaging in the notch in said keel to carry the supported plane forward, and power means for swiftly moving said carriage forward upon the trackway to launch said plane.

2. A toy comprising, an aeroplane having a central longitudinally extending keel at the forward part thereof provided with a notch in its rear edge, means to provide a pair of parallel members constituting a trackway, a launching carriage comprising, a substantially elongated plate member having the front and rear portions of each side edge rolled over one of said members to retain the carriage in sliding engagement with said members, spaced vertical plane supporting members carried by said carriage, means extending between said supporting members for engaging in the notch in said keel to carry the supported plane forward, a finger member depending from the under side of said carriage, and power means engaging said finger to swiftly draw the carriage forward to launch the plane carried thereby.

3. A toy comprising, an aeroplane having a central longitudinally extending keel at the forward part thereof provided with a notch in its rear edge, means to provide a pair of parallel members constituting a trackway, a launching carriage comprising, a substantially elongated plate member having the front and rear portions of each side edge rolled over one of said members to retain the carriage in sliding engagement with said members, spaced vertical plane supporting members carried by said car-

riage, means extending between said supporting members for engaging in the notch in said keel to carry the supported plane forward, power means for swiftly moving said carriage forward upon the trackway to launch said plane, and a trigger retaining and releasing mechanism for engagement with said carriage to control the same.

4. A toy comprising, an aeroplane having a central longitudinally extending keel at the forward part thereof provided with a notch in its rear edge, means to provide a pair of parallel members constituting a trackway, a launching carriage comprising, a substantially elongated plate member having the front and rear portions of each side edge rolled over one of said members to retain the carriage in sliding engagement with said members, spaced vertical plane supporting members carried by said carriage, means extending between said supporting members for engaging in the notch in said keel to carry the supported plane forward, a finger member depending from the under side of said carriage, and power means engaging said finger to swiftly draw the carriage forward to launch the plane carried thereby, and a trigger retaining and releasing mechanism for engagement with said carriage to control the same.

5. A toy comprising, an aeroplane having a central longitudinally extending keel at the forward part thereof provided with a notch in its rear edge, means to provide a pair of parallel members constituting a trackway, a launching carriage comprising, a substantially elongated plate member having the front and rear portions of each side edge rolled over one of said members to retain the carriage in sliding engagement with said members, spaced vertical plane supporting members carried by said carriage, means extending between said supporting members for engaging in the notch in said keel to carry the supported plane forward, and elastic power means for swiftly moving said carriage forward upon the trackway to launch said plane.

6. A toy comprising, an aeroplane having a central longitudinally extending keel at the forward part thereof provided with a notch in its rear edge, means to provide a pair of parallel members constituting a trackway, a launching carriage comprising, a substantially elongated plate member having the front and rear portions of each side edge rolled over one of said members to retain the carriage in sliding engagement with said members, spaced vertical plane supporting members carried by said carriage, means extending between said supporting members for engaging in the notch in said keel to carry the supported plane forward, elastic power means for swiftly moving said carriage forward upon the

trackway to launch said plane, and a trigger retaining and releasing mechanism for engagement with said carriage to control the same.

5 7. A toy comprising, an aeroplane having a central longitudinally extending keel at the forward part thereof provided with a notch in its rear edge, means to provide a pair of parallel members constituting a
10 trackway, a launching carriage comprising, a substantially elongated plate member having the front and rear portions of each side edge rolled over one of said members to retain the carriage in sliding engagement
15 with said members, spaced vertical plane supporting members carried by said carriage, means extending between said supporting members for engaging in the notch in said keel to carry the supported plane forward,
20 a finger member depending from the under side of said carriage, and elastic power means carried upon the forward ends of said parallel track members and engageable with said finger to swiftly draw the carriage forward, when placed under tension,
25 to launch said plane.

8. A toy comprising, an aeroplane having a central longitudinally extending keel at the forward part thereof provided with a
30 notch in its rear edge, means to provide a pair of parallel members constituting a trackway, a launching carriage comprising, a substantially elongated plate member having the front and rear portions of each side
35 edge rolled over one of said members to retain the carriage in sliding engagement with said members, spaced vertical plane supporting members carried by said carriage, means extending between said supporting members for engaging in the notch
40 in said keel to carry the supported plane forward, a finger member depending from the under side of said carriage, elastic power means carried upon the forward ends of said parallel track members and engageable
45 with said finger to swiftly draw the carriage forward, when placed under tension, to launch said plane, and a trigger retaining and releasing mechanism for engagement with said carriage to control the
50 same.

9. In a toy aeroplane launching device, a hand grip, a pair of forwardly projecting parallel members carried thereby and constituting a trackway, a launching carriage comprising a substantially elongated plate

member having the front and rear portions of each side edge rolled over one of said parallel members to retain the carriage in
sliding engagement therewith, vertical
60 spaced plane supporting members carried by said carriage, means carried by said supporting members for engaging with the plane to be launched, to carry the same forward with the carriage, and power means
65 for swiftly moving said carriage and supported plane forward upon said trackway, to launch the plane.

10. In a toy aeroplane launching device, a hand grip, a pair of forwardly projecting parallel members carried thereby and constituting a trackway, a launching carriage comprising a substantially elongated plate member having the front and rear portions of each side edge rolled over one of
70 said parallel members to retain the carriage in sliding engagement therewith, vertical spaced plane supporting members carried by said carriage, means carried by said supporting members for engaging with the plane to be launched, to carry the same forward with the carriage, power means for
75 swiftly moving said carriage and supported plane forward upon said trackway, to launch the plane, and trigger means carried in said hand grip and engageable with said carriage to retain or release the same.
80

11. In an aeroplane launching device, a hollow hand grip open at its top and having a vertical slot in the upper portion of the
90 front wall thereof, the top edge of the back and side wall being rolled, a pair of parallel members secured at their rear ends in said rolled top edges and constituting a forwardly projecting trackway, said members having their forward ends turned downwardly and connected together, a plane supporting and launching carriage reciprocally carried upon said trackway, a trigger member pivotally secured within said hand grip and projecting outwardly therefrom
95 through said slot to engage said carriage when in set position, and elastic power means secured to said down turned forward ends and engageable with said carriage to
100 project the same swiftly forward when placed under tension, to launch a plane therefrom.
105

In testimony whereof, I affix my signature hereto.

ALEX KIKTA.