E. SPRAGUE, Jr.

TOY AEROPLANE.

APPLICATION FILED JUNE 19, 1916.

1,267,135.

Patented May 21, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

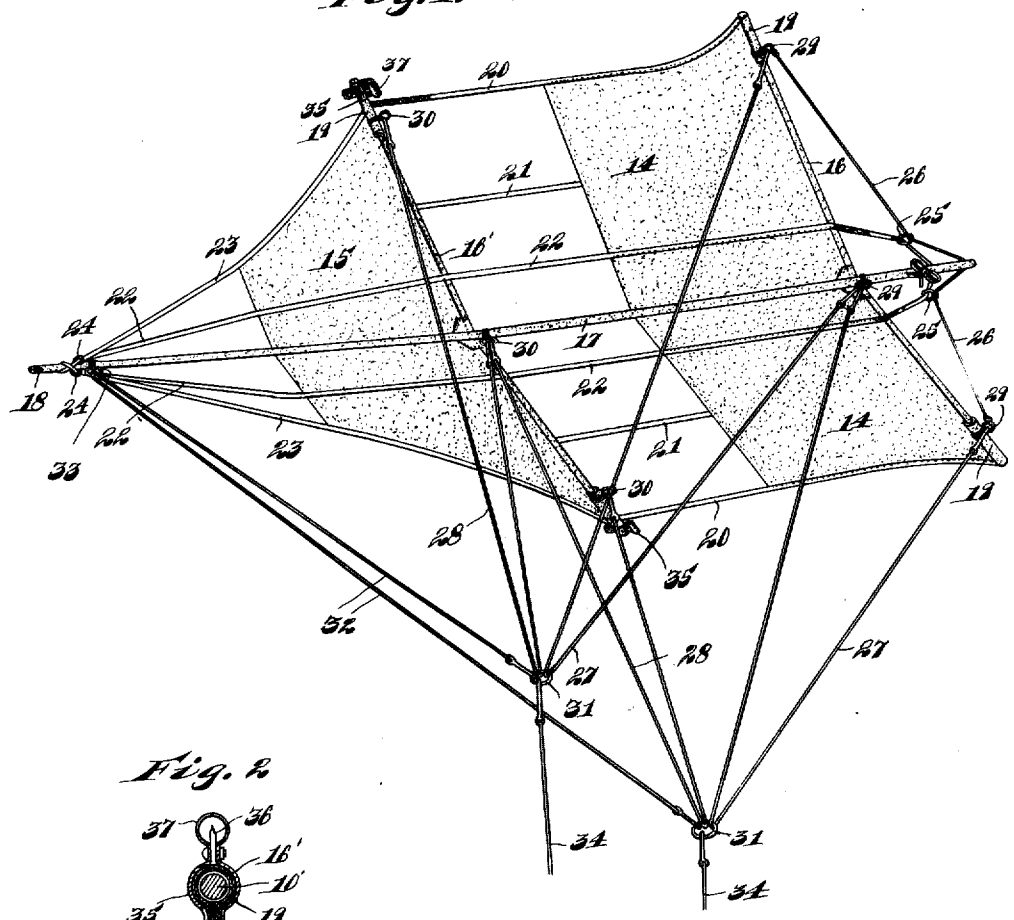


Fig. 2.

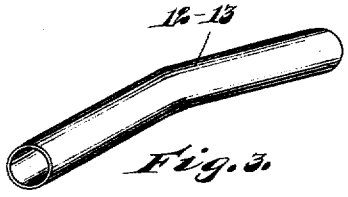


Fig. 3.

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2 SHEETS—SHEET 2.

Fig. 4.

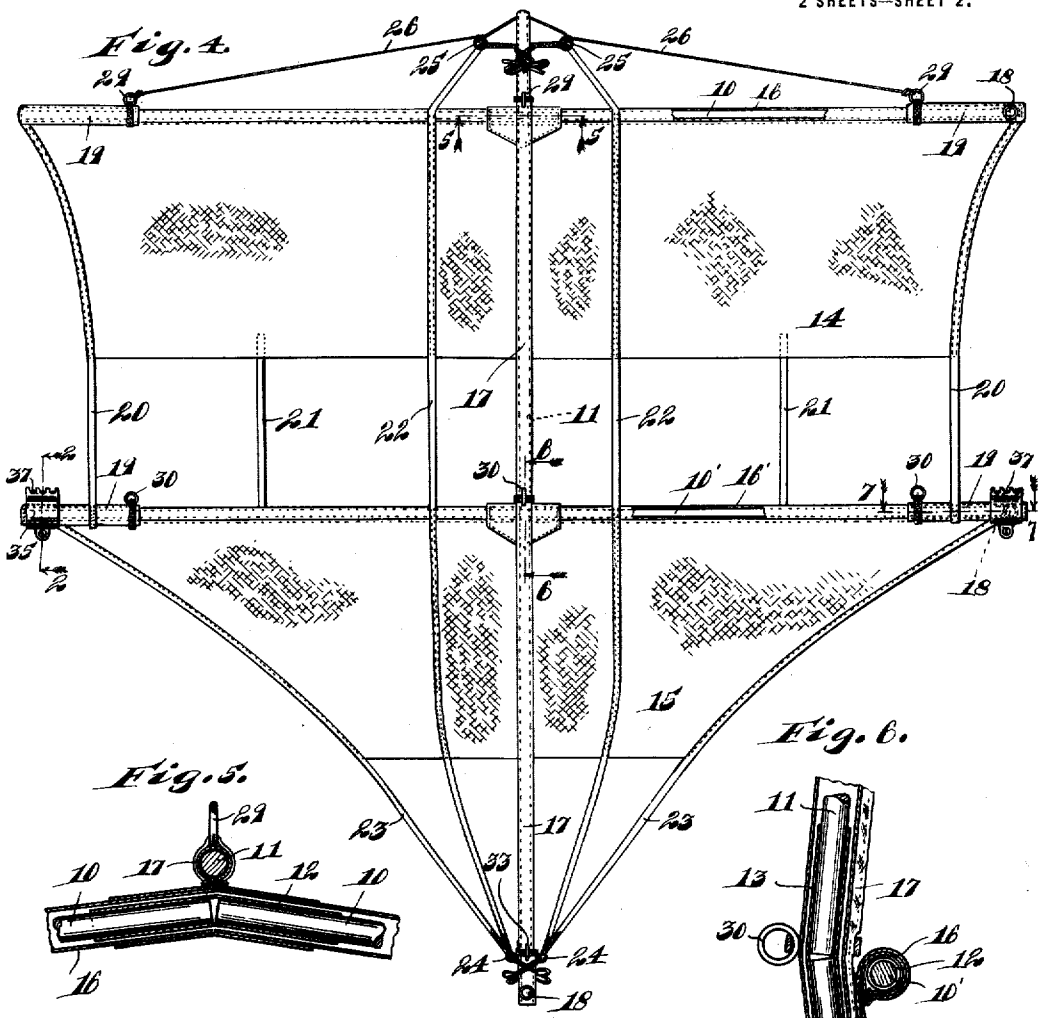
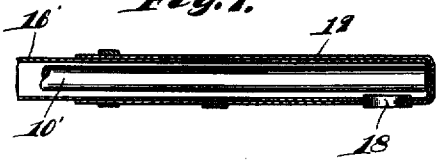


Fig. 5.

Fig. 6.

Fig. 7.



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UNITED STATES PATENT OFFICE.

EDWARD SPRAGUE, JR., OF OAK PARK, ILLINOIS, ASSIGNOR OF ONE-THIRD TO ALPHONSE W. LARAMIE AND ONE-THIRD TO CHARLES ROBERT WOOD, BOTH OF CHICAGO, ILLINOIS.

TOY AEROPLANE.

1,267,135. Specification of Letters Patent. Patented May 21, 1918.

Application filed June 19, 1916. Serial No. 104,597.

To all whom it may concern:

Be it known that I, EDWARD SPRAGUE, Jr., a citizen of the United States, and a resident of Oak Park, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Toy Aeroplanes, of which the following is a specification.

My invention relates to improvements in toy aeroplanes, and has for its object the production of a device of this character which may be readily and easily controlled in operation by an operator positioned on the ground.

A further object is the production of a device of this character which may be accurately and easily guided in its movements, by an operator positioned on the ground, and further, one which will be of durable and economical construction and of pleasing appearance.

A still further object is the production of a device as mentioned, which will be of a collapsible nature permitting of the same being confined to small space for storage or shipment, and one which may be readily and easily assembled when desired.

Other objects will appear hereinafter.

With these objects in view, the invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a perspective view of a toy aeroplane embodying the invention,

Fig. 2 is an enlarged section taken on line 2—2 of Fig. 4,

Fig. 3 is a perspective view of one of the connecting tubes used in the frame of the construction,

Fig. 4 is a bottom plan view of the device, and

Figs. 5, 6 and 7 are enlarged detail sections taken on lines 5—5, 6—6 and 7—7 respectively, of Fig. 4.

The preferred form of construction, as illustrated in the drawings, comprises a frame consisting of transversely extending spaced parallel bars 10 and 10′, and a longitudinally extending medially positioned bar 11. Each of the bars 10 and 10′ is of sectional form, consisting of two half parts which are loosely connected together at their inner ends by engagement in the respective ends of an angularly formed sleeve 12, as clearly shown in Fig. 5. Similarly the frame member 11 is formed of two half parts, the inner ends of which are connected together by engagement of the same with the respective ends of an angular sleeve 13, as clearly shown in Fig. 6. The connecting sleeves 12 and 13 are of angular form, as mentioned, in order to form a construction which is downwardly convex, as clearly shown in Fig. 1.

The frame thus formed serves as a support for the fabric covering parts or planes proper 14 and 15, which are disposed transversely of the device and arranged in spaced parallel relation to each other. At the front edges of the plane parts 14 and 15 are formed tubular pockets 16 and 16′ respectively, for the reception of the frame members 10 and 10′. Similarly the frame member 11 engages in a longitudinally extending pocket or sleeve 17 which is arranged on the longitudinal median line of the plane parts 14 and 15, securely connected therewith. To permit of the insertion of the frame members 10, 10′ and 11, in the portions 16, 16′ and 17, each of the latter is formed at one end with a laterally opening passage 18 which is surrounded, for reinforcement, by a metallic eyelet, as clearly shown in Fig. 7. Openings 18 are spaced slightly from the ends of the pockets 16, 16′ and 17, so that when the frame members are inserted into said pockets, and the eyelet ends of said pockets drawn over the corresponding ends of said frame members, the latter will be locked in said pockets and prevented from accidentally slipping through said openings or passages 18. In the withdrawal of said frame members, it is only necessary to slightly stretch the portions 16, 16′ and 17 in order to effect registration of the ends of said frame members with the openings 18. For reinforcement, the respective ends of the box portions 16 and 16′ are covered with an additional thickness 19 of fabric.

The plane parts 14 and 15 are connected together by spaced longitudinally extending flexible bands 20, 21 and 22. The rearward ends of bands 22, together with the rearward ends of bands 23, provided at the outer edges of plane part 15, are passed through

loops 24 which are provided at the rearward end of the member 17 and tied thereto, as clearly shown in Figs. 1 and 4. The front ends of bands 22 are passed through loops 25 provided upon cords 26 which connect the ends of the plane part 14 with the forward end of the frame, said bands 22 being wrapped around and tied to the medial frame portion, as clearly shown in Figs. 1 and 4. With this arrangement, it will be seen, that a rigid body is formed resembling very much an ordinary monoplane, in appearance.

Arranged at the under side of the body of the device thus formed, for the control of the same in use, are two sets of cords 27 and 28, each of which is arranged at one side of the longitudinal median line of the device. The cords 27 are connected at their respective ends with metallic loops 29 which are provided at the front edge of plane part 14, the respective ends of the cords 28 being connected with metallic loops 30 which are provided at the front edge of the plane part 15, said ends of said cords being preferably equipped with snap hooks or fastenings to permit of ready engagement or disengagement of the same. The central or bight portions of the cords 27 and 28, at each side of the device, are loosely passed through a metallic loop 31, the loops 31 being connected with the respective ends of a cord 32, also preferably provided with snap fastenings to permit of ready engagement or disengagement. The central part or bight of cord 32 passes loosely through a metallic loop 33 which is provided at the rearward end of the body of the device, as clearly shown in Fig. 1. Also connected with the loops 31 are cords 34, which extend to the ground, the same being adapted to be held by the operator in the operation of the device.

In the use of the device, the same is, of course, maintained in flight by impingement of the wind against the plane parts 14 and 15. By manipulation of the cords 34, which are held in the hands of the operator, the device may be tilted as desired, in order to effect movement of the same in any direction, right or left, or up or down, or to describe a complete loop. The arrangement of the cords 27, 28 and 32 and their connection with manipulating cords 34, is such that the control of the device is rendered very sensitive and accurate so that the same may be guided with great precision by a skilful operator. In use, the device assumes a position almost perpendicularly above the operator, and the control of the movements of the same is so simple and easy as to permit of the operation of the device by even a small boy.

In order to adapt the device for use in a contest or game between two or more toy aeroplanes, cutting devices may be employed, each of which consists of a body or housing 35 adapted to be clamped upon the ends of the frame member 10', as clearly shown in Figs. 1 and 2. Within each of the members 35 is provided a blade 36, the same being protected by a slotted tubular guard 37. With two or more toy aeroplanes equipped with cutters of this type, the object of each contestant will be to so direct his aeroplane as to effect cutting of the various cords or bands of an opponent's aeroplane, so as to thus disable the same and require descent. The guard 37, which covers each plate, prevents any injury to the contestants, it being apparent that in order to effect cutting it is necessary that the element cut must enter the slots provided in the guard.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A toy aeroplane comprising a plane; means for manually adjusting said plane from a position on the ground during operation of the device, said means comprising a plurality of flexible cords secured at their ends to said plane and having their central portions depending therefrom; and a plurality of flexible elements loosely engaging with said central portions of said cords and depending therefrom, substantially as described.

2. A toy aeroplane comprising a plane; means for manually adjusting said plane from a position on the ground during operation of the device, said means comprising a plurality of flexible cords arranged at opposite sides of the longitudinal median line of the plane, said cords having their ends secured to said plane and having their central portions depending therefrom; and a plurality of flexible elements loosely engaging with said central portions of said cords and depending therefrom, substantially as described.

3. A toy aeroplane comprising a plane; means for manually adjusting said plane from a position on the ground during operation of the device, said means comprising a plurality of flexible cords arranged at opposite sides of the longitudinal median line of the plane, said cords having their ends secured to said plane and having their central portions depending therefrom; and a pair

of flexible elements loosely engaging with said central portions of said cords and depending therefrom, substantially as described.

4. A toy areoplane comprising a plane; means for manually adjusting said plane from a position on the ground during operation of the device, said means comprising a plurality of longitudinally spaced transversely extending cords arranged at either side of the longitudinal median line of said plane, said cords having their ends secured to said plane and having their central portions depending therefrom; and a pair of flexible elements each of which is connected with the central portions of said cords at one side of the plane, substantially as described.

5. A toy aeroplane comprising a plane; means for manually adjusting said plane from a position on the ground during operation of the device, said means comprising a plurality of longitudinally spaced transversely extending cords arranged at either side of the longitudinal median line of said plane, said cords having their ends secured to said plane and having their central portions depending therefrom; a loop through which said cords at each side of the plane loosely pass; and a flexible element connected with and depending from each loop, substantially as described.

6. A toy aeroplane comprising a plane; means for manually adjusting said plane from a position on the ground during operation of the device, said means comprising a plurality of flexible cords arranged at opposite sides of the longitudinal median line of said plane, said cords having their ends secured to said plane and having their central portions depending therefrom and loosely connected together; a flexible element connecting the central portions of said cords at each side of the plane and the rearward end of the plane; and a plurality of flexible elements loosely engaging with said central portion of said cords and depending therefrom, substantially as described.

7. A toy aeroplane comprising a plane; means for manually adjusting said plane from a position on the ground during operation of the device, said means comprising a plurality of longitudinally spaced transversely extending cords arranged at either side of the longitudinal median line of said plane, said cords having their ends secured to said plane and having their central portions depending therefrom; a loop through which said cords at each side of the plane loosely pass; a rearwardly and upwardly inclined flexible element having its central portion connected loosely with the rearward end of the plane; and a flexible element connected with and depending from each loop, substantially as described.

8. A toy aeroplane comprising a plane; flexible means connected with said plane for manually adjusting the same from a position on the ground during operation of the device; and guarded cutting devices carried by said plane, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD SPRAGUE, JR.

Witnesses:

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HELEN F. LILLIS.