Oct. 30, 1951 H. A. PURSELL 2,573,219

COMBINATION REEL AND CONTROL HANDLE FOR MODEL AIRPLANES

Filed May 1, 1946

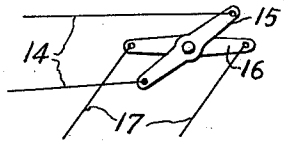


Fig. 4.

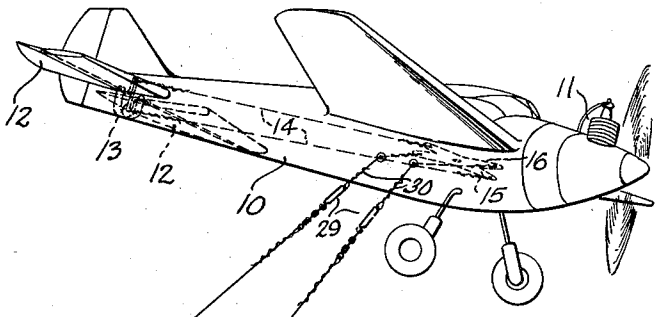


Fig. 1.

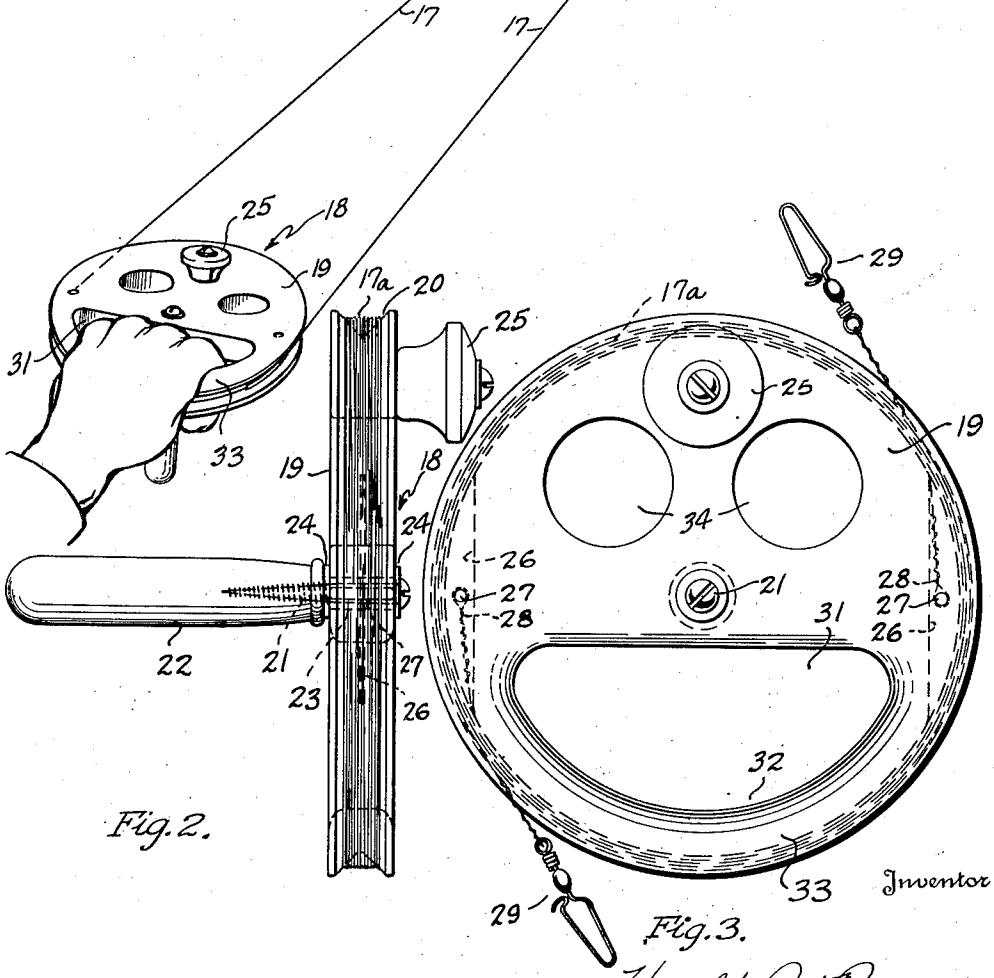


Fig. 2.

Fig. 3.

Inventor

Harold A. Pursell

By Webster & Davis

Attorneys

Patented Oct. 30, 1951

2,573,219

UNITED STATES PATENT OFFICE

2,573,219

COMBINATION REEL AND CONTROL HANDLE FOR MODEL AIRPLANES

Harold A. Pursell, Bridgeport, Conn.

Application May 1, 1946, Serial No. 666,323

5 Claims. (Cl. 46—77)

1

This invention relates to a hand control means for model airplanes, and has for an object to provide such a device which is a combination reel, on which may be wound flexible wires or control leads to a plane when not in use, and a control handle which may be gripped and held in the hand of the operator when the leads are connected to the controls in the plane, whereby these controls may be operated.

Another object is to provide a combined device of this character in which the leads may be either wound on the device for storage when not in use, or unwound and connected to controls on the plane, without disconnecting them from the device, and then the device used for manipulating these controls.

Another object is to provide a device of this character which may be easily manipulated for winding and storing the flexible leads for the controls when not in use, or for manipulating them when connected to the plane, without requiring the necessity of disconnecting the leads or transferring them from one element to another, such as from a storage means to a control means.

With the foregoing and other objects in view, I have devised the construction illustrated in the accompanying drawing forming a part of this specification. It is, however, to be understood the invention is not limited to the specific details of construction and arrangement shown, but may embody various changes and modifications within the scope of the invention.

In this drawing:

Fig. 1 is a perspective view showing how the device may be used as a hand control means for manipulating the controls of a model airplane;

Fig. 2 is a side view of the device showing the lead wires wound thereon and not connected with the plane;

Fig. 3 is a top plan view looking from the right of Fig. 2; and

Fig. 4 is a diagrammatic view showing an arrangement of control levers which may be used for the plane.

Referring to the figures of the drawing, a model airplane of any suitable type is indicated at 10 operated by a suitable type of miniature engine 11 and provided with hinged elevator controls 12 controlling the altitude of the plane in flight. These may be manipulated and controlled by any suitable means, such, for example, as a lever 13 connected by the leads 14 to a pivoted lever 15. This lever may be manipulated by means of another lever 16 connected by flexible leads, such as fine piano wire 17, to a control means 18 held by an operator on the ground, the control being arranged so that the elevators 12 may be swung up and down about pivotal mountings at their forward edges for controlling up and down movement of the plane, in a manner well known. Leads 17 also keep the plane in a circular path of flight.

2

The improved control device 18 comprises a body member 19, preferably of a substantially flat circular or disc-like shape, provided with a peripheral groove 20 in which the flexible leads 17 may be wound when not in use, as shown at 17*a*. The body member may be of any suitable material, such as wood, molded plastic, or other suitable material. It is mounted by any suitable means, such as the pivot screw 21, on a handle 22 at one side of the device, the body turning either directly on the screw or preferably with a simple bushing 23 forming a bearing, and also preferably with washers 24 on opposite sides thereof. On the other side of the body is a suitable crank handle or grip 25 by which the body may be rotated on its pivot 21 for winding up the flexible leads 17 and controlling the unwinding thereof.

It will be seen that there are two of these flexible wires or leads 17 arranged when in use to control the flight of the model plane to extend to the plane from opposite sides of the body member 19 and they may be connected to this body at any suitable point or points to secure this arrangement. It is preferred to connect them to the body at their inner ends at spaced points at substantially diametrically opposite sides of the pivot 21, and in the arrangement shown the body member is provided with a slot 26 at the bottom of the peripheral groove 20 on diametrically opposite sides of the body with a cross pin 27 to which the ends of these control leads or wires 17 are connected, as shown at 28. At their opposite or free ends each wire is connected to any suitable type of swivel loop or hook 29 by which it may be easily connected to or disconnected from one of the loops 30 of short leads from the airplane control.

At the lower side of the body and between the leads 17 as they extend from the body to the plane, the body is provided with an oblong opening 31 through it shaped to form a hand grip through which the fingers of the operator may be extended, as shown in Fig. 1, the outer side preferably being curved, as shown at 32, to form a comfortable and effective grip with the rim

portion 33. It will be seen that when the flexible wires or the leads 17 are unwound from the reel or body member and extend from opposite sides thereof and are connected to the control on the airplane, this hand grip is between these leads, and therefore by rocking the body member back and forth in the plane of this member the leads may be moved back and forth toward and from the plane to manipulate the plane controls 12 to vary its altitude and control its flight.

After the flight of the plane, the swivel connections 29 may be disconnected from the plane controls, and then by holding the handle 22 in one hand the reel or body member 19 may be rotated by means of the crank handle 25 to easily and quickly wind the wires on the body in the groove 20. When it is again desired to use the device in controlling the plane, they may be as easily unwound and connected to the airplane control. It is therefore not necessary to disconnect the wires from the reel and connect them to a separate hand or control grip, and this device itself operates both as a reel for the wires and as an operating hand grip for operating these wires to control the plane. The operator merely unwinds the wires and connects them to the plane and then manipulates the device itself to control the plane, and when through operating the plane merely winds up the wires again on this device. The wires are permanently attached to the reel so that the reel acts both as a storage medium and also the operating means. The wires do not become tangled in transferring them from one element to another, as in the common type of control.

If desired, the portion of the body 19 opposite the hand grip opening may be provided with openings 34 to lighten the weight of the body and also to improve the balance.

Having thus set forth the nature of my invention, I claim:

1. A combination reel and control handle for model airplanes comprising a circular body provided with a groove in its periphery for winding flexible leads thereon, a supporting handle on one side to which the body is pivoted, a crank handle on the other side for rotating the body to wind the leads thereon, means for fastening a pair of leads to the body on opposite sides of the pivot, and an opening through the body shaped to form a hand grip with a rim portion of the body whereby the body may be rocked to manipulate the control leads.

2. A combination reel and control handle for model airplanes comprising a circular disc provided with a groove in its periphery on which flexible wire leads may be wound, means for securing a pair of such leads on substantially diametrically opposite sides of said disc, a supporting handle, means for pivotally mounting the disc on said handle, a crank handle on the disc for rotating it to wind the leads thereon, and said disc being provided with an opening therethrough adjacent one peripheral edge shaped to form a hand grip between the opening and the edge for holding and rocking the disc to manipulate the leads when connected to an airplane control means.

3. A combination reel and control handle for model airplanes comprising a circular disc provided with means on its periphery on which flexible control leads for a model airplane may be wound, means for securing the leads to the disc so they may extend from opposite sides thereof to the plane, means for manipulating the disc to wind the leads thereon, and said disc being provided with an opening therethrough adjacent the peripheral edge and shaped to form with said edge a hand grip so arranged that after the leads are unwound and secured to the plane controls the disc may be gripped by the operator for holding it and rocked in the plane of the disc to manipulate said leads and the plane control.

4. A combination reel and control for model airplanes comprising a body member shaped to form a reel, a pair of flexible control leads connected to said body at spaced points on opposite sides thereof, said body being provided with means for rotating it for winding said leads thereon when not in use, and said body being provided with an opening therethrough adjacent its periphery at one side and intermediate the connections of said leads thereto so shaped as to form a hand grip between the opening and periphery to be used to hold the body in an operator's hand when the leads are connected to a plane control means and by which the body may be rocked when so held to manipulate said control through the leads.

5. A combination reel and control for model airplanes, comprising a substantially flat circular body member provided with a peripheral groove, a pair of flexible control leads connected to the body so as to extend from opposite sides thereof in the same direction for connection to an airplane control means, a supporting handle on one side of the body, means for pivotally mounting the body on the handle, a crank handle for rotating the body to wind the leads in said groove when disconnected from the plane, and an oblong opening through the body located adjacent its periphery between the leads when extended to the plane and shaped to form a hand grip between the opening and periphery whereby the body may be held by the operator and rocked in opposite directions to manipulate said control through the leads.

HAROLD A. PURSELL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
422,381	Cole	Mar. 4, 1890
823,931	Connell	June 19, 1906
2,314,504	Lifchultz	Mar. 23, 1943
2,406,874	Walker	Sept. 3, 1946