May 5, 1931. N. E. GARDNER 1,803,469

TOY AIRPLANE

Filed Nov. 23, 1929 2 Sheets-Sheet 1

Fig. 1.

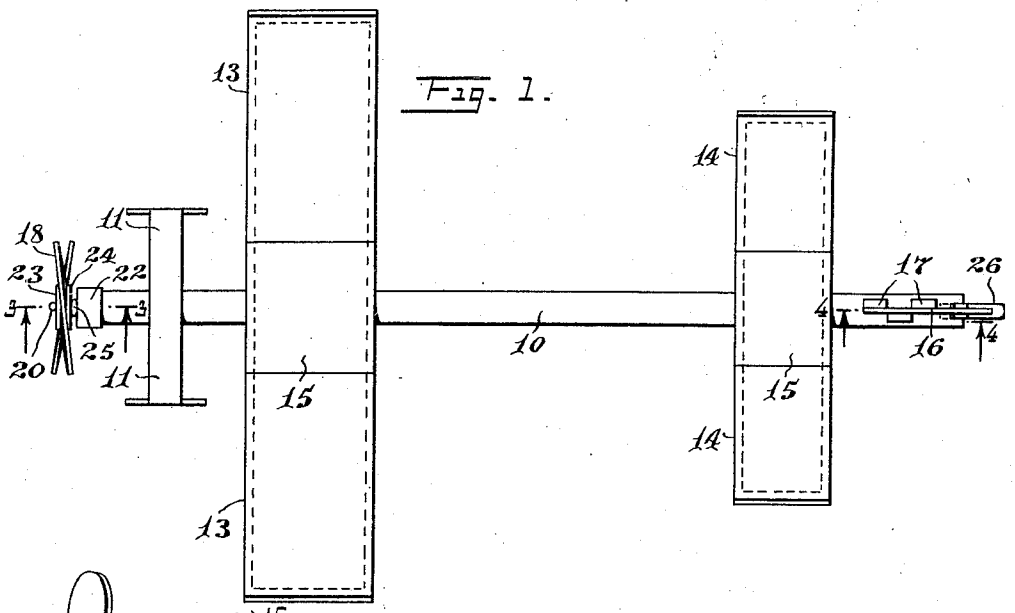


Fig. 2.

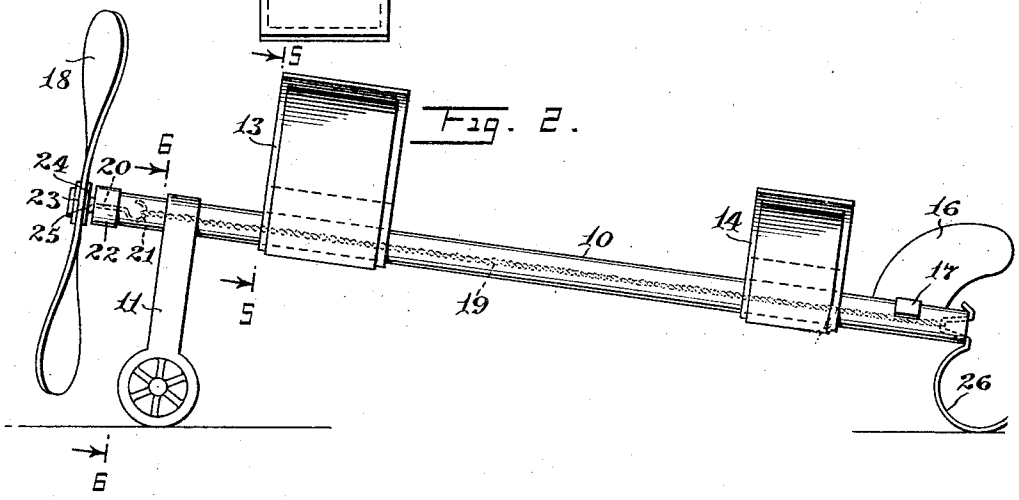


Fig. 3.

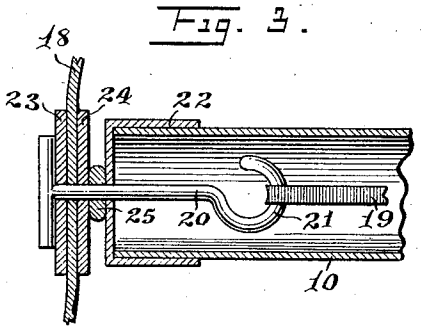
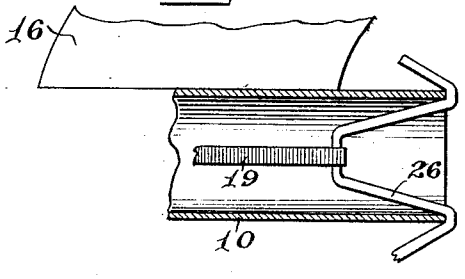


Fig. 4.



WITNESSES

Jos. L. Ramia

Chris Feinle

INVENTOR

Norman E. Gardner

BY

Munn & Lee.

ATTORNEYS

May 5, 1931. N. E. GARDNER 1,803,469

TOY AIRPLANE

Filed Nov. 23, 1929 2 Sheets-Sheet 2

Fig. 5.

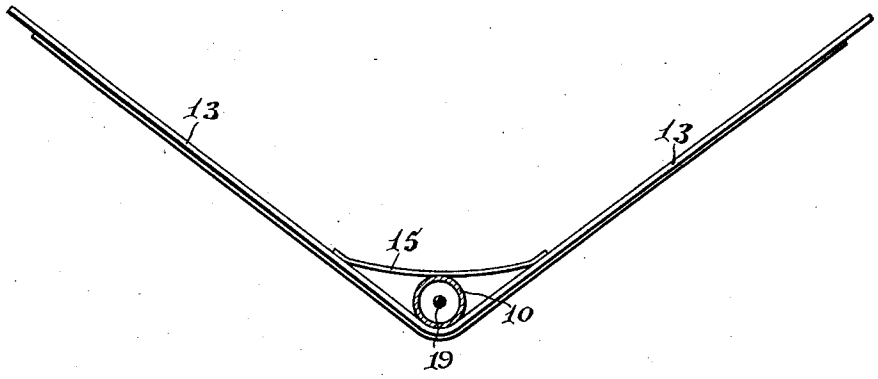
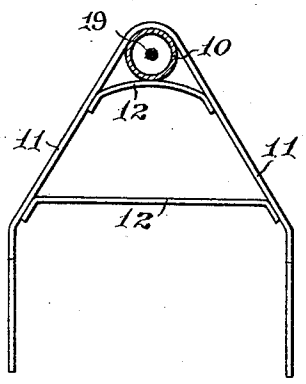


Fig. 6.



WITNESSES

Jos. R. Lamia

Chris Feinle.

INVENTOR

Norman E. Gardner

BY

ATTORNEYS

Patented May 5, 1931 1,803,469

UNITED STATES PATENT OFFICE

NORMAN E. GARDNER, OF ALLENTOWN, PENNSYLVANIA

TOY AIRPLANE

Application filed November 23, 1929. Serial No. 409,274.

This invention relates to a toy airplane, and more particularly relates to a toy airplane of the flying type.

The principal object of the invention is the production of a toy airplane which embodies improved features of construction to the end that it will be strong, yet light in weight, and durable in use, and well suited for the incorporation of propelling means such as a rubber band motor for the propeller thereof.

The nature of the invention and its distinguishing features and advantages will appear when the following specification is read in connection with the accompanying drawing, in which—

Figure 1 is a plan view of an airplane constructed in accordance with the invention.

Fig. 2 is a side view.

Fig. 3 is an enlarged section taken on the line 3—3 of Fig. 1.

Fig. 4 is an enlarged section taken on the line 4—4 of Fig. 1.

Fig. 5 is a section taken on the line 5—5 of Fig. 2.

Fig. 6 is a section taken on the line 6—6 of Fig. 2.

Referring now more particularly to the drawings, it will be apparent that the device includes a body 10 which consists of a cardboard tube. Attached in any suitable manner to the body 10 near the front end thereof are skids 11 made of a single piece of lightweight material such as cardboard bent upon itself, the same being pasted to the body 10, and suitable braces 12 also made of cardboard are arranged between the skids 11 and are pasted thereto. Front and rear wings 13 and 14 respectively are secured to the body 10 in any suitable manner. The wings 13 and 14 are made preferably of cardboard strips pasted over light paper. The wings 13 and 14 so constructed are pasted to the under side of the body 10, and diverge relatively in an upward direction. The wings 13 and also the wings 14 are connected together by a brace 15 of paper pasted to the wings and also to the body 10, to give stiffness to the wings, and to maintain them in the diverging relation. A rudder 16 of relatively stiff paper or cardboard is slotted to provide tabs 17 which are pasted to the body 10 to thus secure the rudder 16 in place. With this construction, it is possible to use cardboard or similar light material for the propeller 18. The propeller 18 is held in the position required, by the friction caused by the tension of a rubber band 19. A common form of pin 20 having a hook 21 at one end extends axially through a cap 22 on the front end of the body 10. The pin 20 serves as a shaft for the propeller 18. The propeller is arranged on the pin 20 and is held in place by a rubber disk 23, and stiffener disk 24, both arranged on the pin 20. The disk 23 is disposed between the propeller and the head of the pin 20, and the disk 24 is arranged between the propeller and a bead or collar 25 arranged on the pin in contact with the cap 22.

Use is made of a combination rubber band anchor and tail skid, which is constructed of light material such as wire, aluminum or celluloid, and is held in place on the rear end of the body 10 by friction caused by the tension of the rubber band 19, it being apparent that said rubber band is connected at one end with the hook 21 of the pin 20, while its opposite end is connected with said anchor and tail skid member, which is designated 26.

It will be apparent that the rubber band 19 may be twisted by turning the propeller 18, and when a certain tension is placed on the rubber band, the propeller will slip around on the pin 20 without further twisting the rubber band thereby avoiding the breaking of the latter. When the propeller is released, the rubber band will immediately act to rotate the propeller by reason of the friction set up between the disks 23 and 24, propeller 18, and the head of the pin 20.

From the foregoing it will be apparent that by using this friction method of driving the propeller 18, it is possible to create as much tension on the rubber band 19 as may be desired, slipping the propeller without further twisting the band when the correct amount of turns in the band 19 are made, thereby eliminating the tearing of the band 19.

I claim:

1. A toy airplane including a tubular body, a propeller, an arbor journaled on one end of said body, friction disks on said arbor, a cap on said body, an anti-friction collar on said arbor between one of said disks and the cap, said propeller being mounted on said arbor disposed between said disks, and torsional means positioned within said body and connected with said arbor to turn the latter and also to keep the disks in frictional contact with said propeller.

2. A toy airplane including a tubular body, a propeller, an arbor journaled on one end of said body, said propeller being mounted on said arbor, members on said arbor frictionally engaged with the opposite sides of said propeller to cause the propeller to turn with said arbor, and torsional means within said body and connected with said arbor to turn the arbor.

3. A toy airplane including a body, a propeller, an arbor having a head journaled on one end of said body, said propeller being mounted on said arbor, members loose on said arbor and frictionally engaged with the opposite sides of the propeller, one of said members being in contact with the head of the arbor, an anti-friction collar on said arbor in contact with the other of said members and said body, to cause the propeller to rotate with said arbor, and torsional means connected with said body and arbor to rotate the arbor.

NORMAN E. GARDNER.