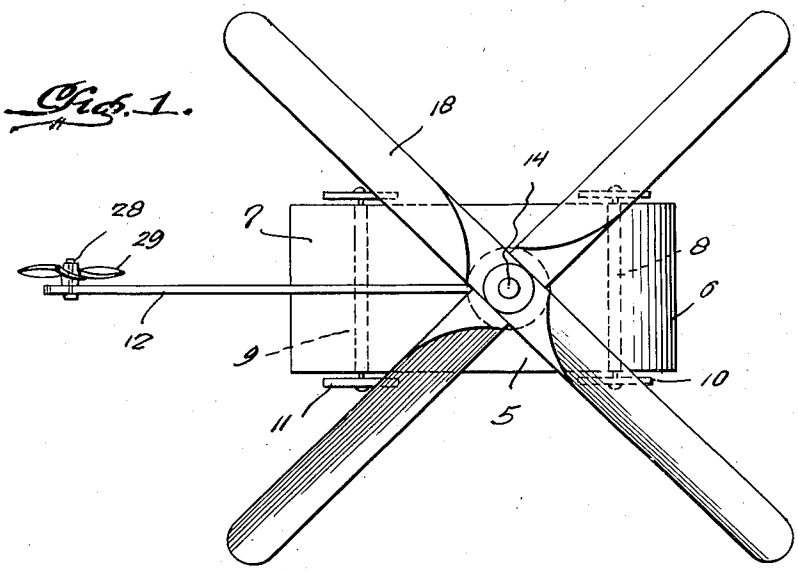
May 21, 1946. R. S. MOORE 2,400,704

TOY HELICOPTER

Filed March 20, 1944

Fig. 1.



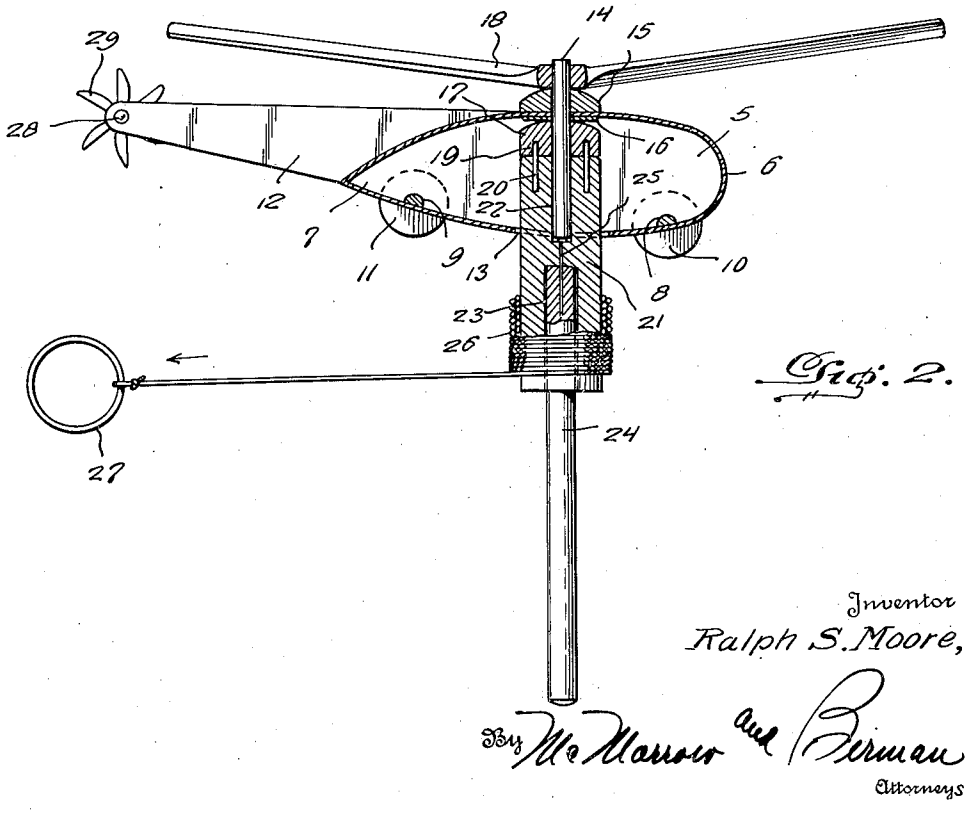




Fig. 2.

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2,400,704

## TOY HELICOPTER

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Application March 20, 1944, Serial No. 527,227

1 Claim. (Cl. 46—75)

The present invention relates to new and useful improvements in toys and more particularly to a toy autogyro or helicopter.

An important object of the invention is to provide a toy of this character formed to simulate a helicopter or similar aircraft and having a horizontal propeller which is adapted to be rotated rapidly by manually operable means so as to cause the toy to rise vertically in the air a considerable height.

A further object of the invention is to provide a toy of this character of simple and practical construction, which is neat and attractive in appearance, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawing forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a top plan view, and

Figure 2 is a vertical sectional view.

Referring now to the drawing in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of my invention, the numeral 5 designates the body of the helicopter or other aircraft and preferably constructed with flat sides, as shown in Figure 1 of the drawing, and a rounded front end 6 and with the top and bottom walls tapering to a streamlined rear end 7. Front and rear axles 8 and 9 project from the opposite sides of the body and on which front and rear ground wheels 10 and 11 are mounted.

A flat strip of material 12 projects rearwardly from the upper surface of the body 5 at the longitudinal center line thereof, the strip being supported in an upright position to constitute a tail structure having flat vertical sides for a purpose to be more fully hereinafter explained.

An opening 13 is formed in the bottom of the body 5 and a shaft 14 is journaled in the top of the body. A collar 15 is secured to the top of the body having a rounded upper surface and a washer 16 is secured to the under side of the top of the body to provide a bearing for the shaft and to reinforce the body material. A collar 17 is secured to the shaft 14 within the body, the upper surface of the collar 17 being rounded and is in engagement with the washer 16, the rounded surface of the collar reducing friction with the washer.

A propeller 18 is secured to the upper end of the shaft 14 and bears against the rounded upper surface of the collar 15 which also reduces friction with the hub of the propeller.

The under side of the collar 17 is formed with a pair of openings 19 in which a pair of pins 20 are loosely received, the pins extending upwardly from a shaft 21 which also has a socket 22 in its upper end freely receiving the lower end of the shaft 14. The pins 20 thus provide an operating connection between the shafts 14 and 21.

The bottom of the shaft 21 is also formed with a socket 23 rotatably receiving the upper end of a handle 24, the shaft 21 being secured against separation from the handle by means of a pin 25.

A cord or other flexible member 26 is wound around the lower portion of the shaft 21, the free end of the cord having a finger grip 27 and by means of which the cord may be unwound, thus causing the rotation of the shaft 21 and shaft 14 to operate the propeller 18 in a manner as will be apparent.

The tail structure 12 is provided at its rear end with a horizontal pin 28 on which a fan or propeller blade 29 is journaled, the propeller 29 being arranged for rotation during the upward movement of the helicopter.

In the operation of the device, as the cord 26 is unwound from the shaft 21, the shaft 21, as well as the shaft 14 and propeller 18 will be caused to rotate, the angle of the blades 18 causing a lifting action on the helicopter which thereby raises the helicopter and disengages the same from the shaft 21, this action of the device simulating the upward flight of a helicopter or similar aircraft.

The flat surfaces of the sides of the body 5 as well as the tail 12 retard rotation of the body during the rotation of the shaft 21 and the upward flight of the helicopter.

It is believed the details of construction, operation and advantages of the device will be readily understood from the foregoing without further detailed explanation.

Having thus described the invention, what I claim is:

A toy helicopter comprising a hollow body having flat sides, an elongated vertically arranged flat strip extending rearwardly from said body, said strip being provided at one side of its rear end with a propeller journaled on a horizontal shaft projecting outwardly at one side of said flat strip, an upper vertical shaft journaled in an opening in the top wall of the body, a bearing for said shaft adjacent said opening in the top wall of the body, said bearing comprising a collar resting on the exterior side of the top of said upper body

wall and being provided with a rounded upper end, a washer contacting the interior surface of said upper body wall at the opening therein, a collar secured on said upper shaft adjacent said washer and having a rounded side contacting said washer, a lower shaft contacting said last-named collar, pins connecting said lower shaft and said last-named collar, said lower shaft having a socket in its lower end, a handle having one end located within said socket, a pin securing said handle to said lower shaft, said lower shaft having a socket in its upper end, said upper shaft being seated in said last-named socket, a relatively large propeller secured to the outer end of said upper shaft, a cord secured to and wound around the lower end of said lower shaft, and a finger grip secured to the outer end of said cord, whereby upon the cord being pulled, the lower shaft will be rotated and carry with it the large propeller whose rotation will cause the toy to rise in the air and, by means of the strip move off in a horizontal straight direction.

RALPH S. MOORE.