

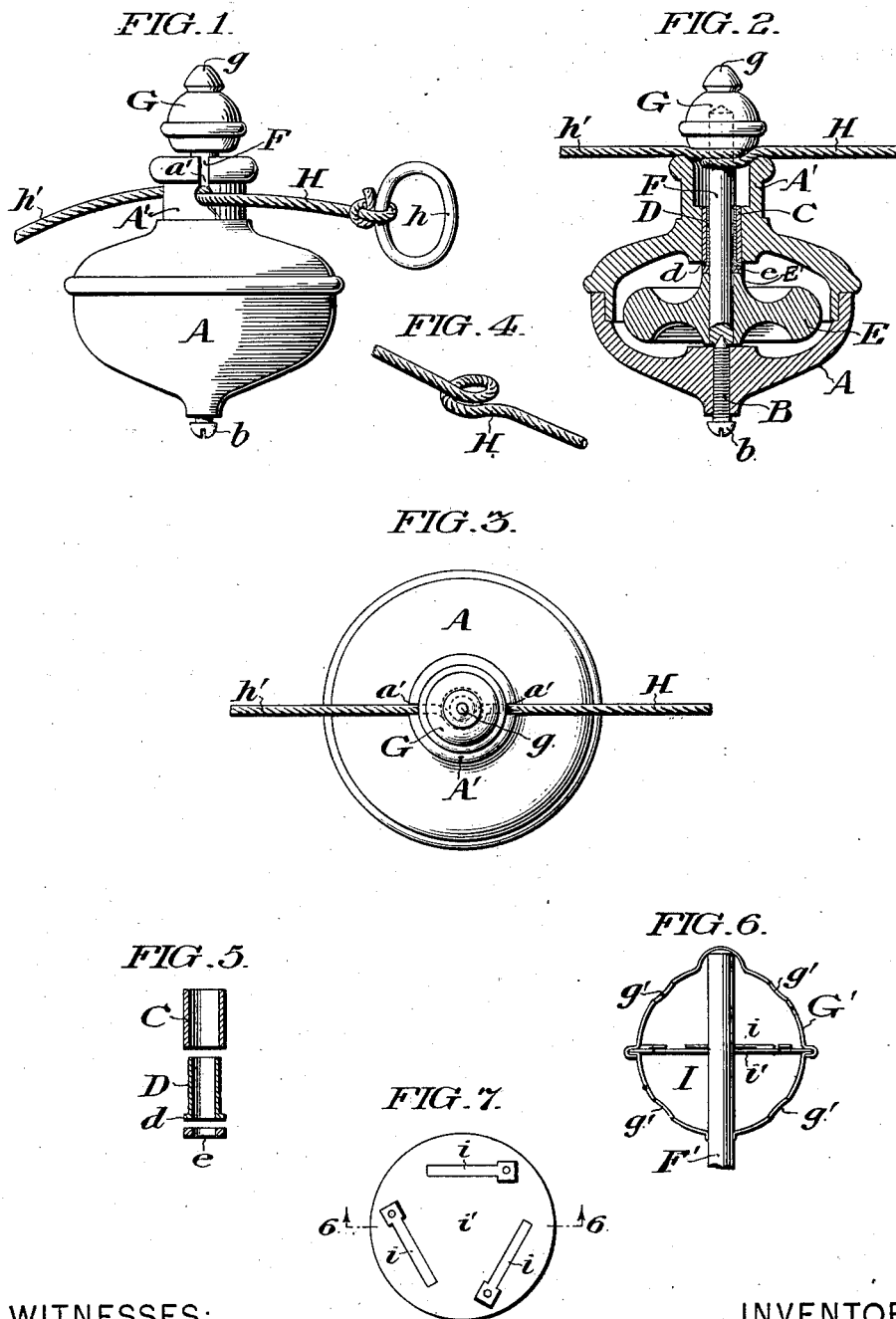
No. 676,191.

Patented June 11, 1901.

J. A. IRVING.  
TOY TOP.

(Application filed Dec. 8, 1900.)

(No Model.)



WITNESSES:

*Clifton C. Hallowell*  
*John C. Berger*

INVENTOR:

*JAMES A. IRVING,*  
*By Arthur E. Paige*  
*Att'y.*

# UNITED STATES PATENT OFFICE.

JAMES A. IRVING, OF PHILADELPHIA, PENNSYLVANIA.

## TOY TOP.

SPECIFICATION forming part of Letters Patent No. 676,191, dated June 11, 1901.

Application filed December 6, 1900. Serial No. 38,912. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES A. IRVING, of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Toy Tops, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to toy tops of the class adapted to be rotated by means of a driving-cord; and it is the object of my invention to provide a top which shall be more convenient to operate than an ordinary top and which when operated shall maintain its motion for a longer time than such devices of the prior art.

To this end my invention comprises an outer casing within which is mounted a heavy balance-wheel which is fixed upon a spindle and rotatable therewith independently of said outer casing, through which said spindle projects in convenient position to be engaged by the driving-cord.

My invention also comprehends certain details of construction whereby the friction of the moving parts is reduced to the minimum and means to primarily adjust said parts and to readjust the same when worn by use.

In the accompanying drawings, Figure 1 is a side elevation of a top conveniently embodying my invention. Fig. 2 is a vertical sectional view of a top similar to that shown in Fig. 1, but showing a modified arrangement of the driving-cord. Fig. 3 is a plan view of the device shown in Fig. 1. Fig. 4 is a perspective detail view showing the arrangement of the driving-cord. Fig. 5 is a sectional view showing in detached relation the bushing-sleeve and washer shown assembled in Fig. 2. Fig. 6 shows a modified form of my invention, including a sounding device. Fig. 7 is a top plan view of the sounding device shown in Fig. 6.

In said figures, A is the outer casing, conveniently formed in two parts, as indicated in Fig. 2.

B is an adjustable bearing-screw the head *b* of which serves as a support for the top during one of the operations of which the latter is capable. Opposed to the bearing-screw B is a bushing C, fixed in the upper portion of the top, and D is a bearing-sleeve mounted for rotation in said bushing and provided at

its lower extremity with the flange *d* to prevent its outward displacement. Between said sleeve D and the balance-wheel E is a friction-washer *e*, which encircles the spindle F of said wheel. Said spindle F is in fixed relation with said wheel E and is socketed at its lower extremity to receive the conical point of the bearing-screw B. The upper extremity of said spindle F extends through the sleeve D and the neck A' of the casing A and is provided exterior thereto with an ornamental knob G. Said wheel E being provided with the hub E' in opposition to the bearing in the top of the casing A the extent of projection of the spindle F is thereby limited.

In the form of my invention shown in Figs. 1 and 3 the neck A' of the casing A is provided with notches *a'* at the opposite sides of said spindle F, and said notches are so proportioned that the driving-cord H may be wrapped once or twice around the spindle F and be entered in said notches, as shown in said figures, sufficient space being afforded within said neck to permit the free operation of the driving-cord and spindle. Said cord H is conveniently provided at one extremity with a ring *h*, and, said cord being engaged with the spindle adjoining said ring, the cord may be grasped by the ring and pulled through the notches *a'*, thus freeing the cord from said spindle and spinning the balance-wheel at high velocity.

In view of the fact that the casing A is entirely independent of the rotatable wheel and spindle, the spinning operation may be conveniently effected by grasping said casing in the palm of one hand, grasping said ring *h* with the fingers of the other hand, placing a bight of the cord around said spindle, and drawing said cord to its end around said spindle, a slight tension being afforded for the free end *h'* of the cord H by permitting it to pass between the fingers of the hand containing the top. If a single application of the cord H does not suffice to give the spindle F the desired velocity, it may be applied repeatedly until the desired speed of rotation is reached, whereupon the top may be set upon the screw-head *b* or upon the point *g* of the knob G and be allowed to spin with its spindle in vertical position, or the casing may be hung by the screw-head *b* in the ring *h* with

said spindle in horizontal position, as by the operation aforesaid such a velocity of rotation of the wheel E may be readily secured as to counteract the force of gravity.

5 It is to be noted that the independent relation of the casing A and the spindle and wheel contained therein permits the top to be picked up and set down while it is spinning. The actual rotation of the casing only begins  
10 when the top is freed from the hand of the operator, so that the top as a whole appears to be stationary when first released and to increase in speed of rotation after it has left the hand of the operator, the rotation of the  
15 casing being of course occasioned by the friction of the rotating parts within it.

In the form of my invention shown in Fig. 2 the cord H instead of being entered in notches in the neck is permitted to trail over  
20 the edge of the latter, the relation of the parts being such as to insure a frictional contact of the upper surface of the cord with the bottom of the knob G, as shown.

Although I prefer to provide the top with  
25 a bearing-sleeve D, and thereby reduce the friction upon the spindle F, it is obvious that an operative device may be made in which the bushing C is fitted closely upon the spindle F without the intervention of a bearing-  
30 sleeve.

In the form of my invention shown in Fig. 6 the spindle F' is provided with a hollow knob G', having apertures g' to permit the passage of air to the sounding device I, mounted  
35 within said knob. As shown in Fig. 7, said sounding device may comprise a series of reeds i, mounted for vibration in a plate i'.

It is to be noted that, the bearing-screw B being in threaded engagement with the casing A, the parts may not only be accurately  
40 adjusted for free rotation when first assembled, but may also be subsequently reset and adjusted to compensate for wear.

I do not desire to limit myself to the precise details of construction and arrangement of the parts which I have shown and described, as it is obvious that various modifications may be made therein without departing from the essential features of my invention.  
45 I claim—

50 1. In a toy top, the combination with the outer casing A; of the balance-wheel E, arranged to rotate within said casing independently thereof; the spindle F, fixed in said  
55 wheel and extending exterior to said casing; the adjustable bearing-screw B, extending

through said casing and provided within the latter with a step-bearing for said spindle; the bushing C, mounted in said casing A, to receive said spindle F; and the rotatable  
60 bearing-sleeve D, entered between said bushing and said spindle, substantially as set forth.

2. In a toy top, the combination with the outer casing A; of the balance-wheel E, arranged to rotate within said casing independently thereof; the spindle F, fixed in said  
65 wheel, extending exterior to said casing and arranged to be spun by a cord looped directly upon it as described; the adjustable bearing-screw B, extending through said casing and provided within the latter with a step-bearing for said spindle; and the bushing C, mounted  
70 in said casing A, to receive said spindle F, substantially as set forth.

3. In a toy top, the combination with the outer casing A; of the balance-wheel E, arranged to rotate within said casing independently thereof; the hub E', upon said wheel; the spindle F, fixed in said wheel and provided with a cylindrical extremity projecting  
80 exterior to said casing and arranged to be spun by a cord looped directly upon it as described; a bearing in said casing surrounding said spindle and terminating in a shoulder in  
85 opposition to the hub of said wheel, arranged to limit the exterior projection of said spindle; and a step-bearing for the inner extremity of said spindle, substantially as set forth.

4. In a toy top, the combination with the outer casing A; of the balance-wheel E, arranged to rotate within said casing independently thereof; the hub E', upon said wheel E; the spindle F, fixed in said wheel, projecting  
90 exterior to said casing and arranged to be spun by a cord looped directly upon it as described; a bearing in said casing surrounding said spindle and terminating in a shoulder in opposition to the hub E', of said  
95 wheel, arranged to limit the exterior projection of said spindle; and a step-bearing screw supporting the lower extremity of said spindle and adjustable through said casing to vary the relation between said wheel-hub and  
100 the bearing-shoulder opposed thereto, substantially as set forth.

JAMES A. IRVING.

Witnesses:

ARTHUR E. PAIGE,  
E. L. FULLERTON.