

J. A. IRVING.
TOY TOP.
APPLICATION FILED JULY 19, 1904.

925,479.

Patented June 22, 1909.

FIG. I.

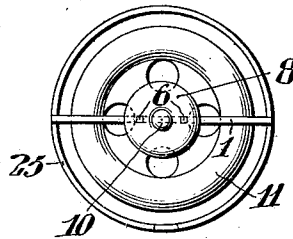


FIG. IV.

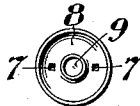


FIG. III.

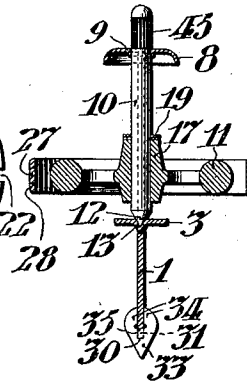


FIG. V.

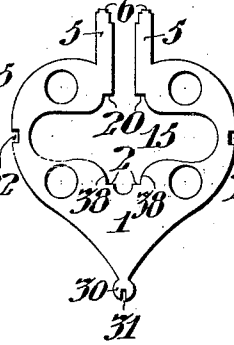


FIG. II.

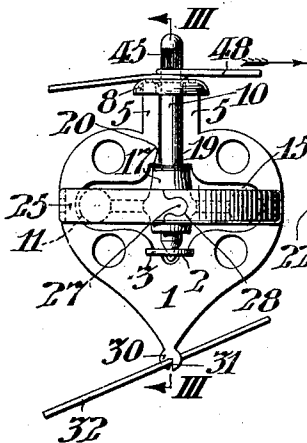


FIG. VIII.

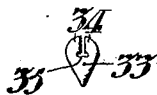


FIG. VI.

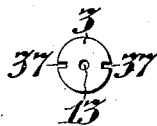
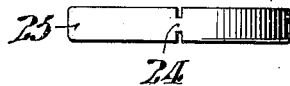


FIG. IX.



FIG. VII.



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UNITED STATES PATENT OFFICE.

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TOY TOP.

No. 925,479.

Specification of Letters Patent.

Patented June 22, 1909.

Application filed July 19, 1904. Serial No. 217,165.

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 comprising an outer frame in which is mounted a balance wheel provided with a spindle projecting exterior to said frame, and arranged to be rotated independently of the frame, by means of a driving cord looped upon the projecting end of said spindle.

My invention comprehends the various novel features of construction and arrangement hereinafter more definitely specified.

In the accompanying drawings, Figure I, is a plan view of a top embodying my invention. Fig. II, is a side elevation of said top. Fig. III, is a sectional view of said top, taken on the line III, III, in Fig. II. Fig. IV, is an inverted plan view of the frame cap. Fig. V, is a side view of the frame plate. Fig. VI, is a plan view of the spindle bearing disk. Fig. VII, is a side view of the circumferential band shown attached to the frame plate in Figs. II, and III. Fig. VIII, is a side view of the removable spinning point shown attached to the frame in Fig. III. Fig. IX, shows a modified form of spindle bearing disk, provided with an adjusting screw.

In said figures; 1, is the frame plate conveniently pressed from sheet metal and comprising the seat 2, for the bearing disk 3, and, the parallel arms 5, having projections 6, fitted to the openings 7, in the frame cap 8, and riveted to rigidly secure the latter. Said cap 8, serves to guide the driving cord hereinafter described, and comprises the central bearing 9, for the spindle 10, which carries the balance wheel 11, and has its pointed end 12, supported in the socket 13, in the bearing disk 3. Said balance wheel 11, is arranged to rotate in the recess 15, in said plate 1, and has its hub 17, conveniently provided with anti-friction washers 19, adjoining the shoulders 20, on said plate 1, which shoulders overhang said hub and retain said wheel 11, and spindle in proper position. Said frame plate 1, comprises the opposite recesses 22, arranged to receive the notched portions 24, of the circumferential

band 25, shown attached to the frame plate in Figs. II, and III. As indicated in Fig. II, said band 25, may be conveniently formed of a pressed strip of sheet metal, having its opposite ends provided with complementary projections and recesses 27, and 28, which, when connected, are pressed and thus locked together to prevent their disengagement. It is to be understood that said band 25, may be sprung to and from its position on the frame 1, by compressing its opposite sides, at right angles to the diametrical line intersecting its notched portions 24.

As shown in Figs. II, and III, the frame 1, is provided with the curved apex 30, comprising the notch 31, to receive the supporting wire or cord 32, on which the top is thus adapted to gyrate, without rotation of said frame. However, the detachable spinning point 33, shown separate in Fig. VIII, and attached in Fig. III, comprises the opposed jaws 34, adapted to resiliently engage the sides of the frame plate 1, with its shoulder 35, seated in the notch 31, of said frame, as indicated in Fig. III; the arrangement being such that the frame 1, may be spun upon said point 33.

As shown in Fig. VI, the bearing disk 3, comprises the notches 37, which engage the shoulders 38, in the frame 1, so as to prevent accidental displacement of said disk, when the latter has the point 12, of the spindle 10, in its socket 13. Said disk 3, is in invariable relation to the spindle 10, but I find it convenient to provide a bearing disk 41, as shown in Fig. IX, which is screw threaded to receive an adjustable screw 42, whose upper end comprises the socket 43, arranged to receive the end 12, of the spindle. It is to be understood that said disk 41, may be notched like the disk 3, to engage the frame 1, but the latter must be cut away below its shoulders 38, to receive said screw 42.

As indicated in Figs. II, and III, the spindle 10, is provided with corrugations 45, extending above the frame cap 8, so as to engage the driving cord 48, which is looped around the spindle as indicated in Fig. II. It is to be understood that when said cord 48, is drawn in the direction of the arrow marked on Fig. II, while the frame 1, is held stationary in the hand of the operator, the spindle 10, and balance wheel 11, may be rotated at such speed that the frame 1, will be maintained at any desired angle, above

the horizontal, upon the wire 32, by the rotation of said wheel 11, or, when said frame 1, is provided with the point 33, and the spindle and wheel spun as above described, the

- 5 frame 1, will when freed, rotate upon any suitable surface, at a speed gradually increased by the frictional engagement of the spindle 10, with its bearing 9, in the cap 8, and with the socket 13, in the disk 3.
- 10 It is to be understood that the circumferential band above described may be omitted from the top without interfering with its operation as above described. However, said band is conveniently employed to shield
- 15 the balance wheel.

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

I claim:—

1. In a toy top, the combination with a flat frame plate; of a bearing disk, notched
- 25 to engage shoulders in said frame plate and provided with a socket; a balance wheel mounted to rotate in said frame plate, having a spindle seated in said socket; a cap provided with a bearing for said spindle; and, lugs on said frame plate engaging said cap, substantially as set forth.

2. In a toy top, the combination with a balance wheel provided with a spindle; of a frame for said wheel and spindle, embodying a circular band encircling said wheel and having engaged ends provided with complementary projections and recesses, substantially as set forth.

3. In a toy top, the combination with a flat frame plate having recesses in its opposite edges; of a bearing disk notched to engage shoulders in said frame plate and provided with a socket; a balance wheel mounted to rotate in said frame plate, having a spindle seated in said socket; a cap provided with a bearing for said spindle; lugs on said frame plate engaging said cap; and, a circular band engaged with the recesses in said frame plate and encircling
- 50 said wheel, substantially as set forth.

4. In a toy top, the combination with a balance wheel provided with a spindle; of a frame arranged to support said wheel and spindle; a bearing disk provided with a socket for the end of said spindle; and, means detachably engaging said frame and disk in non-rotatable relation, substantially as set forth.

5. In a toy top, the combination with a balance wheel provided with a spindle; of a frame arranged to support said wheel and spindle; and, a bearing for one end of said

spindle, comprising a disk provided with notches engaging said frame, substantially as set forth.

6. In a toy top, the combination with a balance wheel provided with a spindle; of a frame arranged to support said wheel and spindle; a bearing for one end of said spindle, comprising a disk provided with notches engaging said frame; and, an adjustable set screw in said disk, comprising a socket fitted to the end of said spindle, substantially as set forth.

7. In a toy top, the combination with a frame; of a removable spinning point, comprising opposed jaws arranged to embrace said frame, and means in said frame preventing rotation of said point substantially as set forth.

8. In a toy top, the combination with a balance wheel provided with a spindle; of a frame supporting said spindle; a detachable spinning point for said frame, and means in said frame preventing rotation of said point substantially as set forth.

9. In a toy top, the combination with a balance wheel provided with a spindle; of a frame comprising a plate extending parallel with the axis of said spindle; a detachable spinning point consisting of a flat plate having opposed jaws arranged to embrace said frame, and means in said frame preventing rotation of said point substantially as set forth.

10. In a toy top, the combination with a balance wheel provided with a spindle; of a frame comprising a plate extending parallel with the axis of said spindle, and provided with a notch in its apex; and, a detachable spinning point consisting of a flat plate arranged to be seated in said notch in the frame plate and having opposed jaws arranged to embrace said plate, substantially as set forth.

11. In a toy top, the combination with a balance wheel provided with a spindle; of a frame for said wheel and spindle, comprising a flat sheet metal plate of uniform thickness extending parallel with the axis of said spindle; bearings for the opposite ends of said spindle comprising sheet metal members distinct from said frame, of uniform thickness; and, means rigidly connecting said frame and bearing members, substantially as set forth.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this 18th day of July 1904.

JAMES A. IRVING.

Witnesses:

ARTHUR E. PAIGE,
A. F. GETZFREAD.