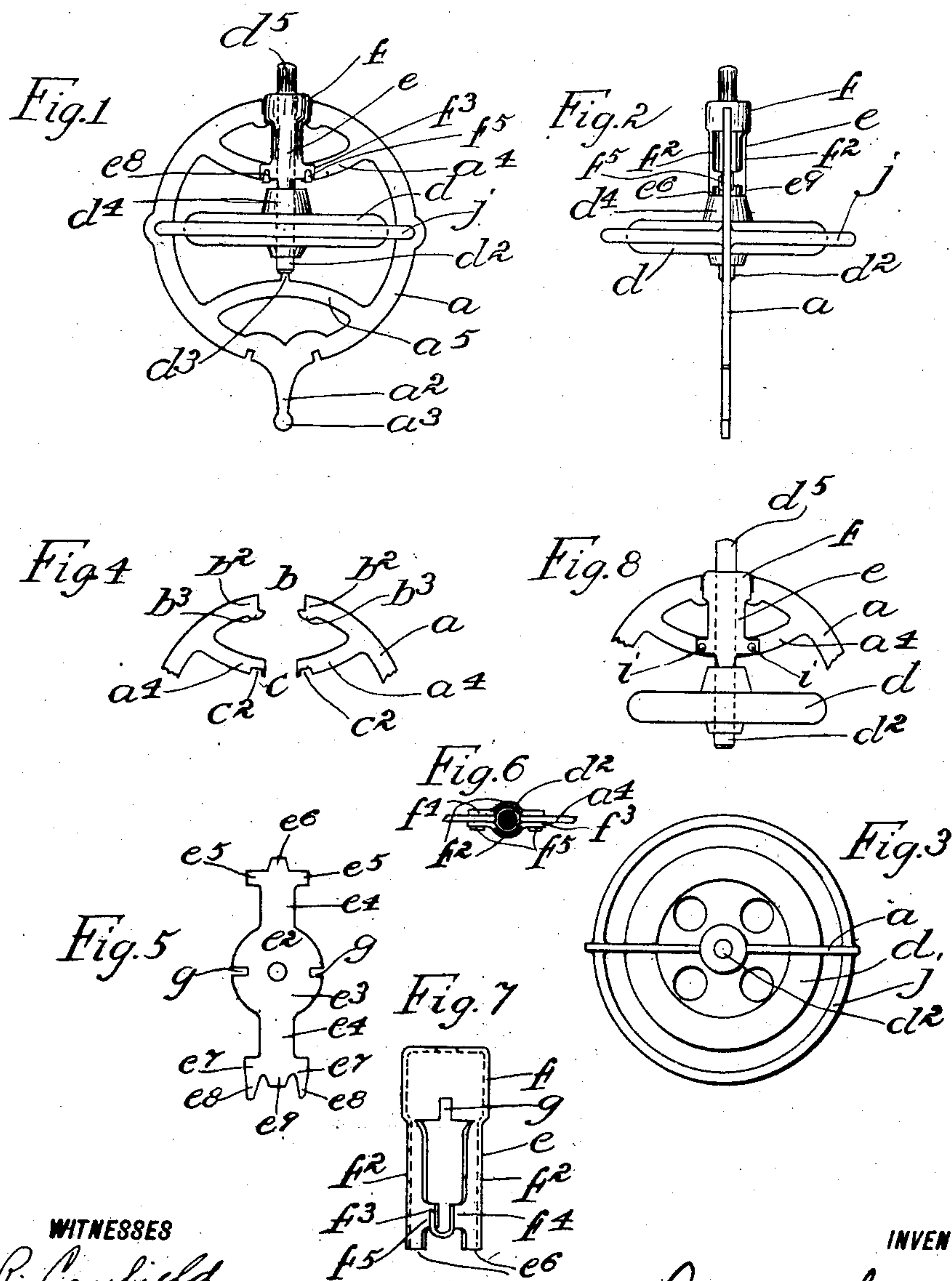


M. L. HAWKS.
GYROSCOPIC TOP.
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919,349.

Patented Apr. 27, 1909.



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GYROSCOPIC TOP.

No. 919,349.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MOSES L. HAWKS, a citizen of the United States, and residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Gyroscopic Tops, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to gyroscopic tops; and the object thereof is to simplify the construction of devices of this class so as to render the same strong and durable and less expensive in manufacture; and with this and other objects in view the invention consists in a device of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:—

Figure 1 is a side view of a gyroscopic top made according to my invention, Fig. 2 a view at right angles to that shown in Fig. 1, Fig. 3 a plan view of the top as shown in Fig. 1, Fig. 4 a view similar to Fig. 1 but showing only certain details of the construction, Fig. 5 a plan view of a blank employed in the construction of my improved top, Fig. 6 a section on the line 6—6 of Fig. 1, Fig. 7 a side view on an enlarged scale of a sleeve device which I employ, said device being formed from the blank shown in Fig. 5, and;—Fig. 8 a view similar to Fig. 1 but showing only part of the device and showing a modification.

In the practice of my invention, I provide a frame ring or band a stamped from sheet metal and provided, at one side, in the form of construction shown, with a radial spinning projection or finger a^2 having a small knob a^3 , and the ring or band a is provided at its opposite sides with internal transverse members a^4 and a^5 which are preferably arc-shaped in form, and in the form of construction shown, an axial line passing through the finger or projection a^2 will bisect the members a^4 and a^5 .

The ring or band a is open opposite the projection or finger a^2 as shown at b in Fig. 4, and the end portions b^2 of said ring or band at said opening are provided at their inner

corners with inwardly directed teeth or projections b^3 . The transverse member a^4 is also open in radial line with the opening b as shown at c , and in the inner edges of the separate parts of the member a^4 thus formed and adjacent to the ends of said parts are notches or recesses c^2 .

The rotary ring d of my improved top is mounted on a shaft d^2 one end of which is pivoted on an inwardly directed pivot point d^3 formed centrally on the transverse member a^5 , and the other end of which passes through a shaft bearing sleeve device e which is shown in Figs. 1 and 2 as a part of the complete top, and which is also shown detached and on an enlarged scale in Fig. 7, and the said sleeve device is formed from a blank e^2 shown in Fig. 5.

The blank e^2 consists of a central circular part e^3 provided at its opposite sides with radial arms or members e^4 , and one of said arms or members is provided at its end with laterally directed projections e^5 and a longitudinal projection e^6 , and the other arm or member e^4 is provided with laterally directed extensions e^7 having longitudinal prongs e^8 between which is a central longitudinal projection e^9 .

In practice, the blank e^2 shown in Fig. 5 is stamped or folded to form the sleeve device e shown in Fig. 7 comprising a thimble-shaped head f and parallel side members f^2 , and the parts e^5 and e^7 form projecting jaws f^3 and f^4 at the opposite sides of the sleeve device, and in the form of construction shown in Figs. 1, 2 and 6 the separate side members f^2 of the sleeve device are bound together by folding the prongs e^8 of the jaw members f^4 around the jaw members f^3 as clearly shown at f^5 in said figures.

The central circular part e^3 of the blank e^2 is also provided at its opposite sides and at right angles to the arms or members e^4 with radial notches or recesses g which form corresponding notches or recesses in the bottom edge of the thimble f of the sleeve e , and in assembling the parts of my improved top the shaft d^2 of the rotary wheel d is passed through the sleeve e and the inner ends of the separate parts of the transverse frame member a^4 fit between the jaws f^3 and f^4 and the inwardly directed teeth or projections b^3 at the opposite sides of the opening b in the frame ring a enter the notches or recesses g in the bottom edge of the thimble f of the sleeve

e, and these parts are securely clamped together the prongs *e*⁸ being folded as above described and as shown at *f*⁵ in Fig. 7.

The outer end of the shaft *d*² projects as shown at *d*⁵ in Fig. 1 to form a head which is milled or grooved longitudinally or otherwise roughened so as to prevent a cord from slipping thereon in the operation of spinning the top, and in practice the cord is wound on the said head portion *d*⁵ of the shaft *d*² and while the device is held in one hand the said cord is pulled off by the other and the top is spun in the usual manner.

The construction shown in Fig. 8 is the same as that hereinbefore described, and as shown in the other figures of the drawing except that the prongs *e*⁸ of the blank *e*² are omitted and the jaws *f*³ and *f*⁴ at the inner end of the sleeve device *e* and the corresponding inner ends of the transverse part or member *a*⁴ are secured together by rivets *i* which are passed therethrough.

The wheel *d* is provided at one side with a hub *d*⁴ in the form of construction shown, and the longitudinal projections *e*⁶ and *e*⁹ at the ends of the arm members *e*⁴ of the blank *e*² form bearings which rest on the hub *d*⁴ when the parts of the device are assembled as hereinbefore described. In the form of construction shown, I also employ a frame ring *j* which is connected with the frame ring or band *a* at right angles thereto in the usual manner and which incloses the rotary wheel *d*, but this feature of construction forms no part of my invention which is clearly set out in the following claims; and changes in and modifications of the construction herein described may be made, within the scope of the appended claims, without departing from the spirit of my invention or sacrificing its advantages.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is;—

45 1. In a gyroscopic top, a circular shaped

frame the opposite portions of which are provided with internal transverse members one of which is provided centrally with an inwardly directed pivot point, the other transverse member and the corresponding side of 50 the frame being provided with openings in radial line with said pivot point, a shaft supporting sleeve device having a thimble shaped head with a central opening and parallel side members with laterally extending 55 projections and adapted to be secured in the radial openings formed in said frame, all in combination with a rotary wheel and shaft adapted to be mounted in said frame.

2. A gyroscopic top, comprising a circular 60 shaped frame the opposite side portions of which are provided with internal transverse members, one of which is provided centrally with an inwardly directed pivot point, the other transverse member and the correspond- 65 ing side of the frame being provided with openings in radial line with said pivot point, a shaft supporting sleeve device having a thimble shaped head with a central opening and parallel side members with laterally ex- 70 tending projections having longitudinal projections and adapted to be secured in the radial openings formed in the transverse member and the corresponding part of said frame, a rotary wheel and shaft mounted in said 75 frame, one end of which is pivoted on said pivot point and the other end of which passes through said shaft bearing sleeve device and projects therefrom, said frame being also provided opposite the projecting end of said 80 shaft with an exterior projection in radial line with said shaft.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 26th 85 day of December 1908.

MOSES L. HAWKS.

Witnesses:

A. R. APPLEMAN,
C. E. MULREANY.