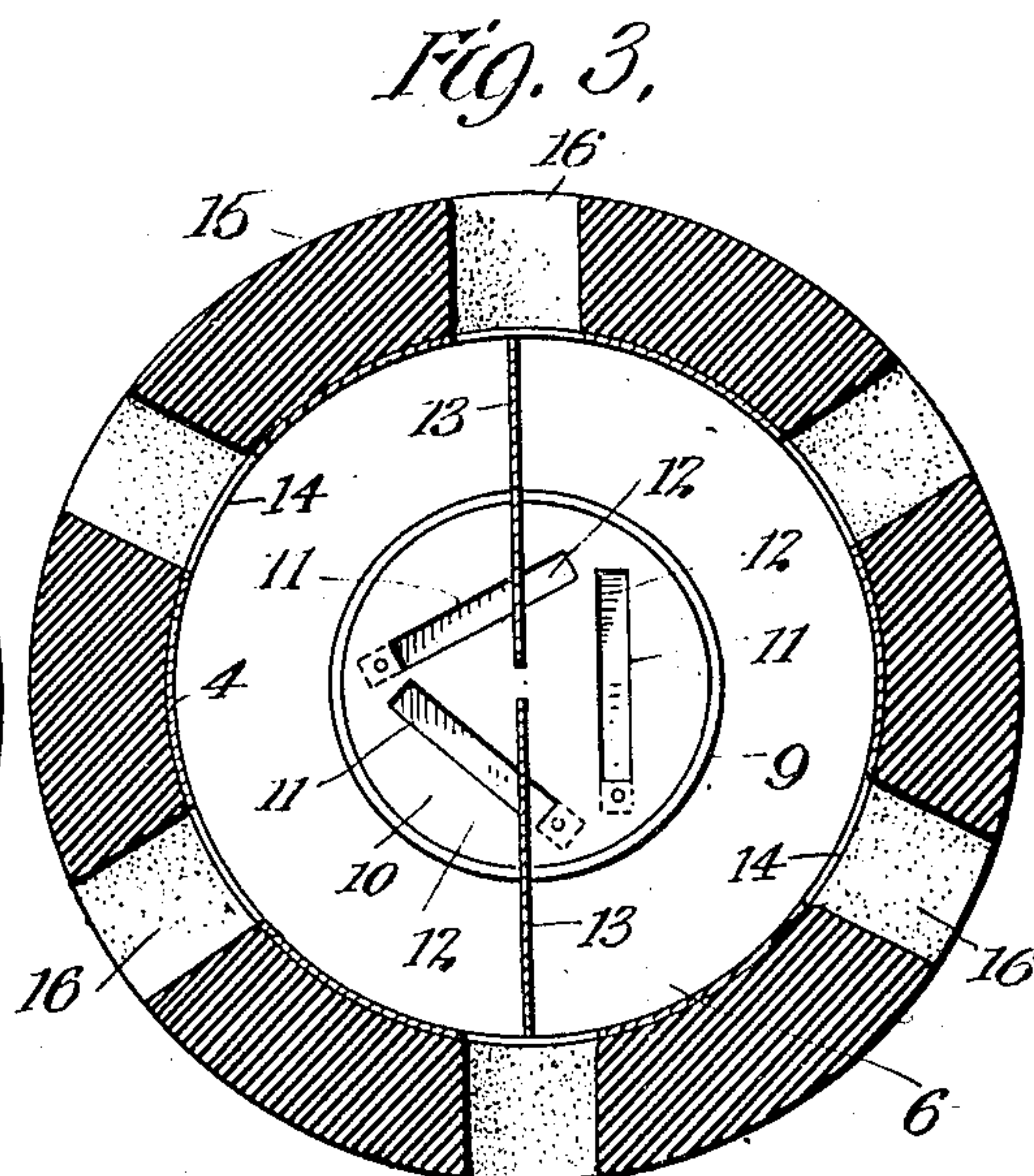
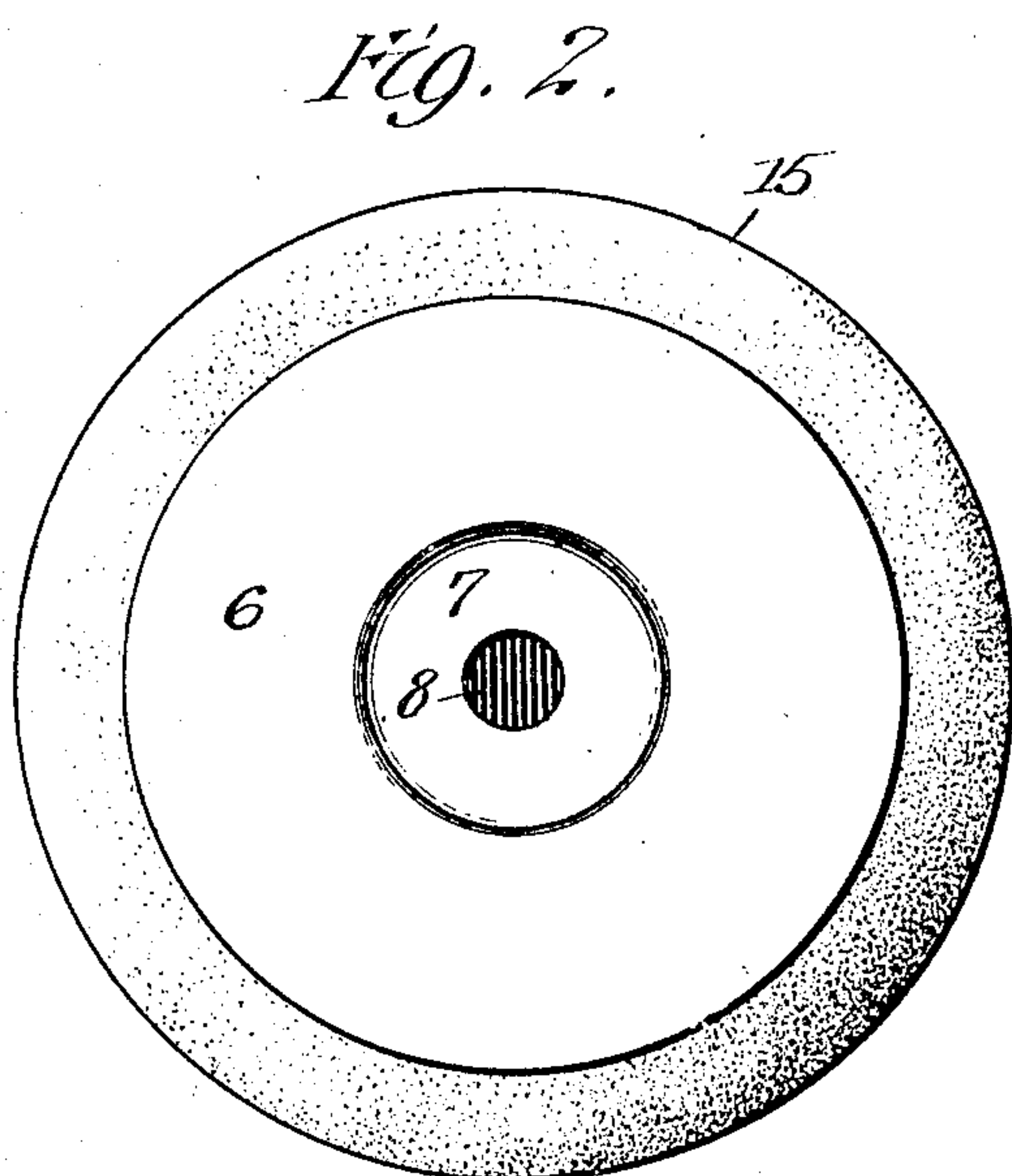
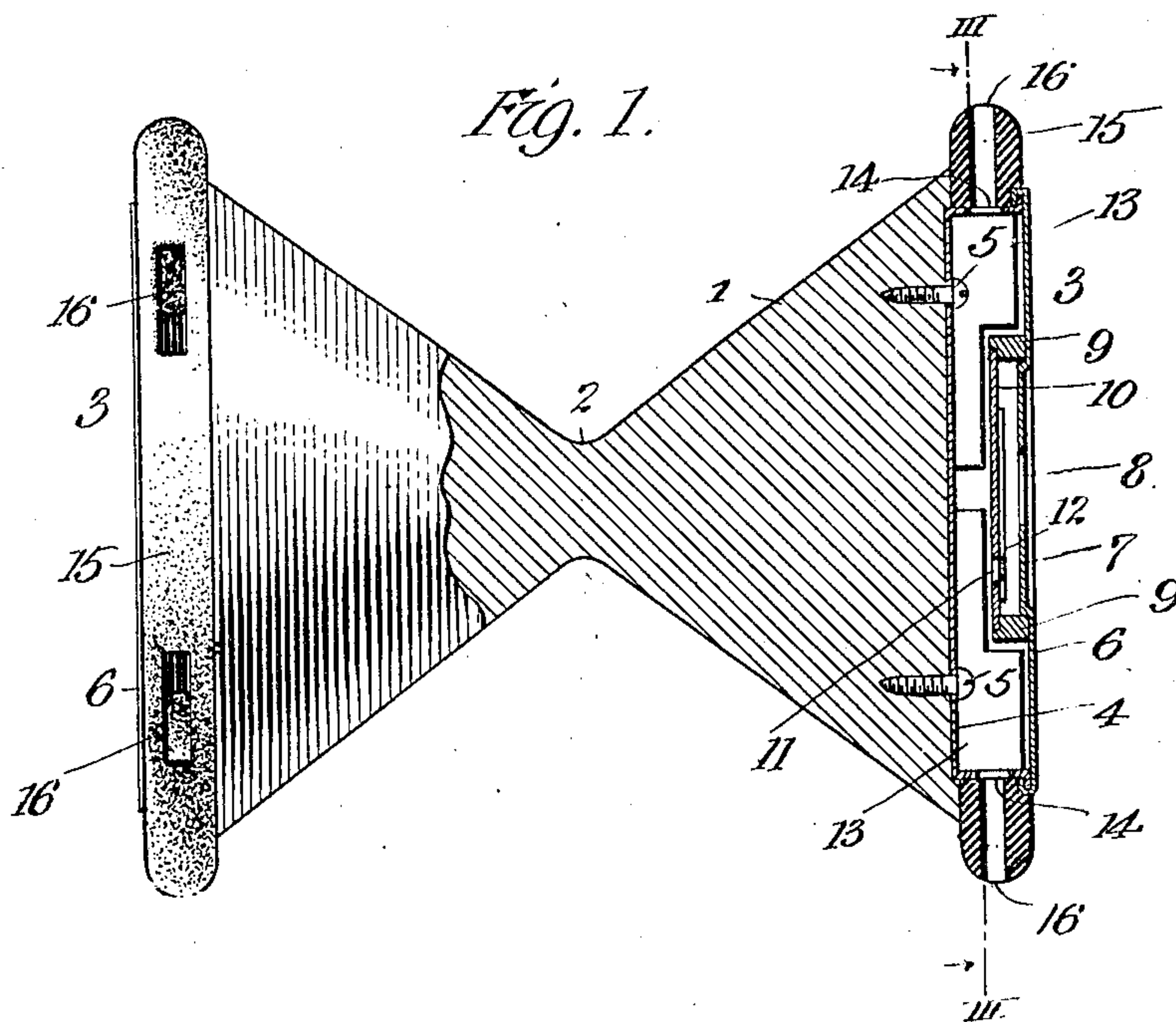


No. 892,951.

PATENTED JULY 7, 1908.

D. D. FIELD.
DIABOLO BOBBIN.
APPLICATION FILED DEC. 2, 1907.



Witnesses:
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UNITED STATES PATENT OFFICE.

DAVID D. FIELD, OF NEW YORK, N. Y., ASSIGNOR TO EDGAR A. WILHELM, OF SUMMIT, NEW JERSEY.

DIABOLO-BOBBIN.

No. 892,951.

Specification of Letters Patent.

Patented July 7, 1908.

Application filed December 2, 1907. Serial No. 404,748.

To all whom it may concern:

Be it known that I, DAVID D. FIELD, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Diabolo-Bobbins, of which the following is a full, clear, and exact description.

My invention relates to a form of bobbin or spinning element for use with the game known as "diabolo", in which the bobbin or object is spun rapidly on its axis by a cord looped between two rods or handles and manipulated thereby. In the practice of this game it is necessary to attain a rapid spinning movement of the top or bobbin to preserve it in a fixed plane of rotation. Success in the game is therefore largely dependent on the skill of the operator in acquiring and maintaining this rapid rotation of the bobbin. So far as I am aware, this rotation has never been utilized for any other useful purpose than maintaining the bobbin in a given plane.

By the present invention I have organized certain humming devices or whistles into the construction of the bobbin, so that it buzzes or whistles loudly in use, and in proportion to its speed of rotation. This is found in practice to be very advantageous not only on account of the musical value of the sound produced, but also on account of the fact that it provides an additional ground of competition between the contestants, who may each strive to make the noisiest buzz or whistle with their instrument. For this purpose I have incorporated hummers or whistles of a certain construction in the diabolo bobbin so as to respond to a moderate speed of rotation therein, and further in such a way that the correct balance of the device will not be disturbed.

In the drawings: Figure 1 is a side view partly in section of a diabolo bobbin embodying the principles of my invention; Fig. 2 is an end view of the same; Fig. 3 is a section on the line III—III of Fig. 1.

Referring to the drawings in which like parts are designated by the same reference sign, 1 indicates the core or body of the bobbin, and which is of the usual form, having a double conical outline with a very narrow waist or middle portion 2.

3 designate broadly the horns, hummers

or whistles, of which two are provided, and which are identical in construction in all respects. In the preferred form I provide a shallow sheet metal cup or stamping 4, of slightly less outside diameter than the end of the diabolo bobbin 1. This cup or stamping is secured coaxially upon said end of the bobbin by any suitable screws or fastening devices 5. 6 designates a plate or disk also of sheet metal and adapted to be crimped or fastened across the open front face of the cup or stamping 4. At its middle the disk 6 has an inwardly embossed portion 7, perforated with one or more openings 8.

9 designates a ring snugly fitting against the disk 6 around the inwardly embossed portion 7 thereof. This ring carries what I term the reed plate 10, and which is formed with a plurality of elongated slots 11, having ordinary vibrating reeds 12, projecting longitudinally thereover. These reeds are fastened at one end to the reed plate and vibrate toward and from the slots in the ordinary way, which is well understood and need not be particularly described.

Within the cavity of the cup or stamping 4, there are a plurality of blades 13, conveniently formed of sheet metal, soldered or fastened in planes radiating from the axis of the device. The outer periphery of the cup or stamping 4 has a series of perforations 14, located thereabout, and it is evident that the blades 13 act as vanes of a centrifugal fan in use and impel a current of air continuously from the openings 8, through the reed mechanism, and radially outward through the perforations 14. If desired, a rubber ring 15 may be mounted at each end of the bobbin and surrounding the cup or stamping 4 so as to protect the same. In this case the ring has radial openings or passages 16, in alignment with the holes 14 of the cup or stamping 4. This construction is particularly advantageous since the holes in the rubber ring 15 act quite powerfully as impelling means for the air, thus assisting the action of the blades 13.

When the bobbin, constructed as above described, is skilfully operated by the cord of a diabolo apparatus, it spins with increasing rapidity, and quite soon a point is reached where it emits a humming or whistling sound by the action of its reeds. The more rapid the rotation becomes, the louder

becomes the hum or whistle, thus constituting an accurate and rather pleasing indication of the success which the operator has attained in the spinning operation. Not
5 only does the whistle have this function, but it has the further and very important purpose of indicating to the operator when the diabolo bobbin is spinning with sufficient rapidity to maintain its plane of rotation when
10 thrown in the air. It is evident that the hummers or whistles are both equally responsive to movements of the bobbin in either direction.

What I claim, is:—

15 1. A diabolo bobbin having enlarged rounded peripheral ends, said ends having radial openings 16 elongated in a circumferential direction, said bobbin further having central cavities at each end face with which
20 said radial openings communicate to produce a suction therefrom when the bobbin is rotated, vanes in said cavities, and end plates

covering said cavities and having reed hummers associated therewith to operate when air is sucked inwardly through said end
25 plates at more than a predetermined velocity, whereby said hummers operate when the bobbin attains a certain speed of rotation, due to the combined suction of said vanes and the said action of said openings. 30

2. In combination with a diabolo bobbin, a pair of hummers or whistles secured symmetrically to the ends of the bobbin, and having perforations and blades to impel air
35 therethrough by centrifugal action, and rubber rings surrounding said hummers or whistles and having radial holes in alignment with said perforations.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

DAVID D. FIELD.

Witnesses:

FRANK S. OBER,
WALDO M. CHAPIN.