

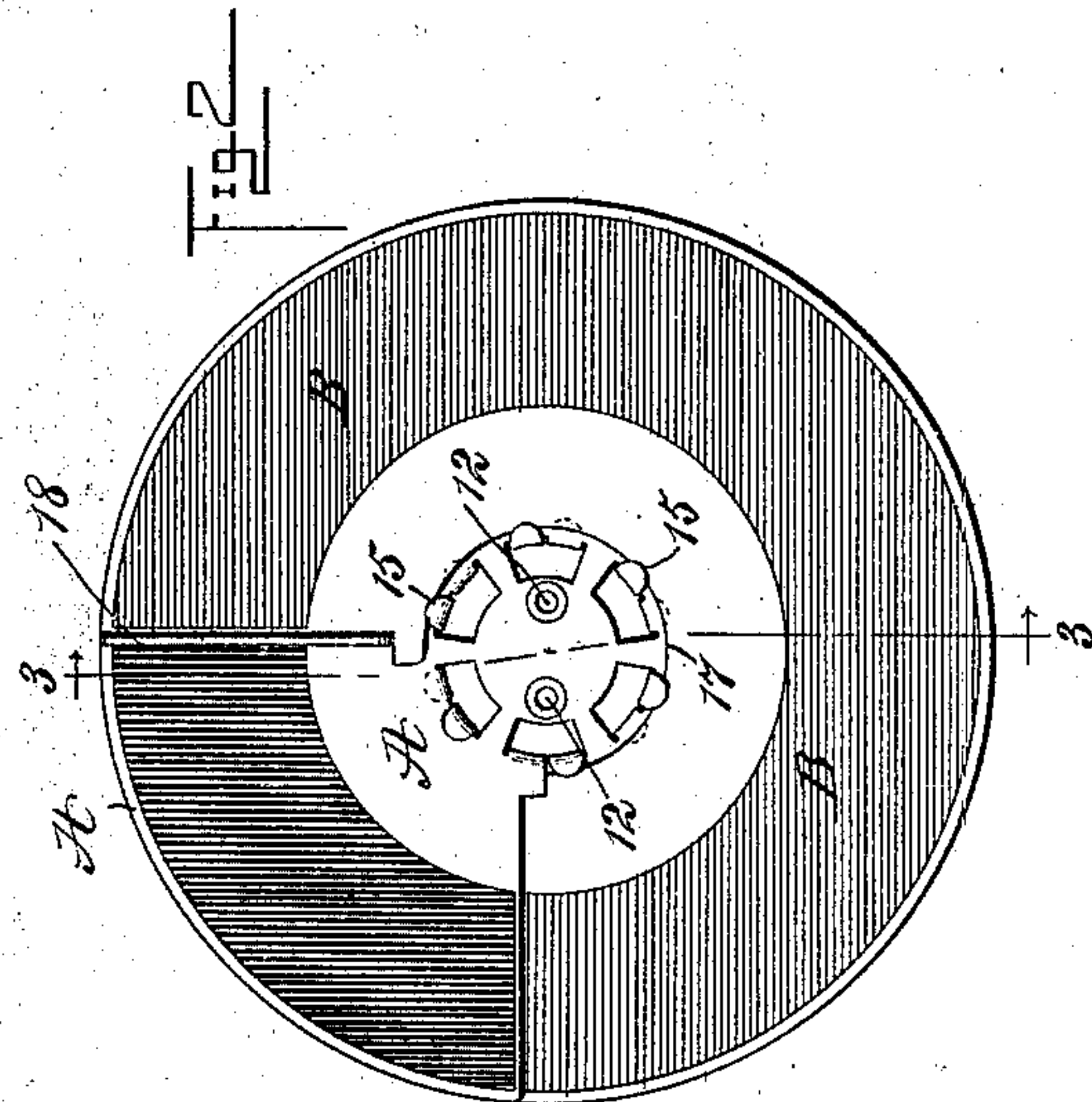
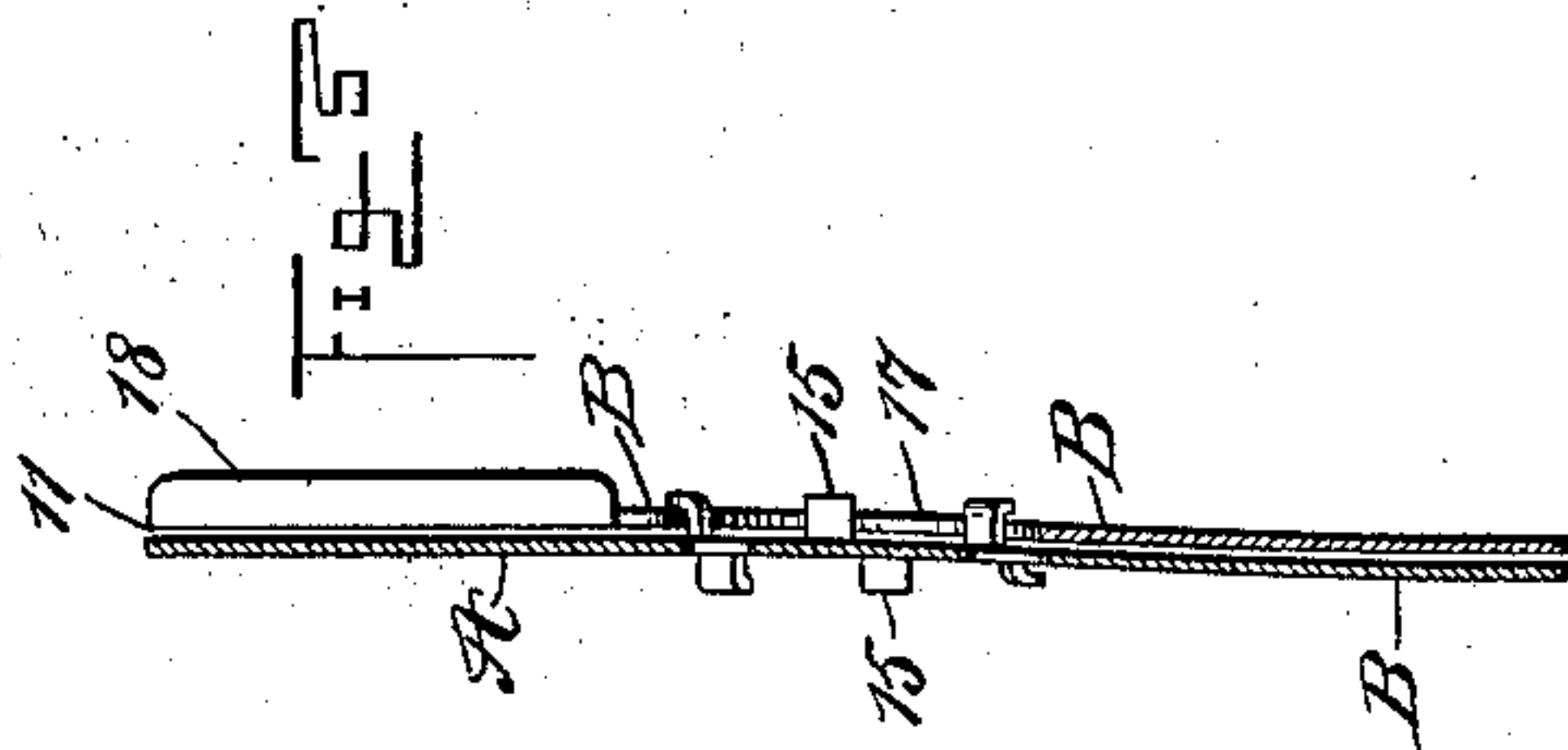
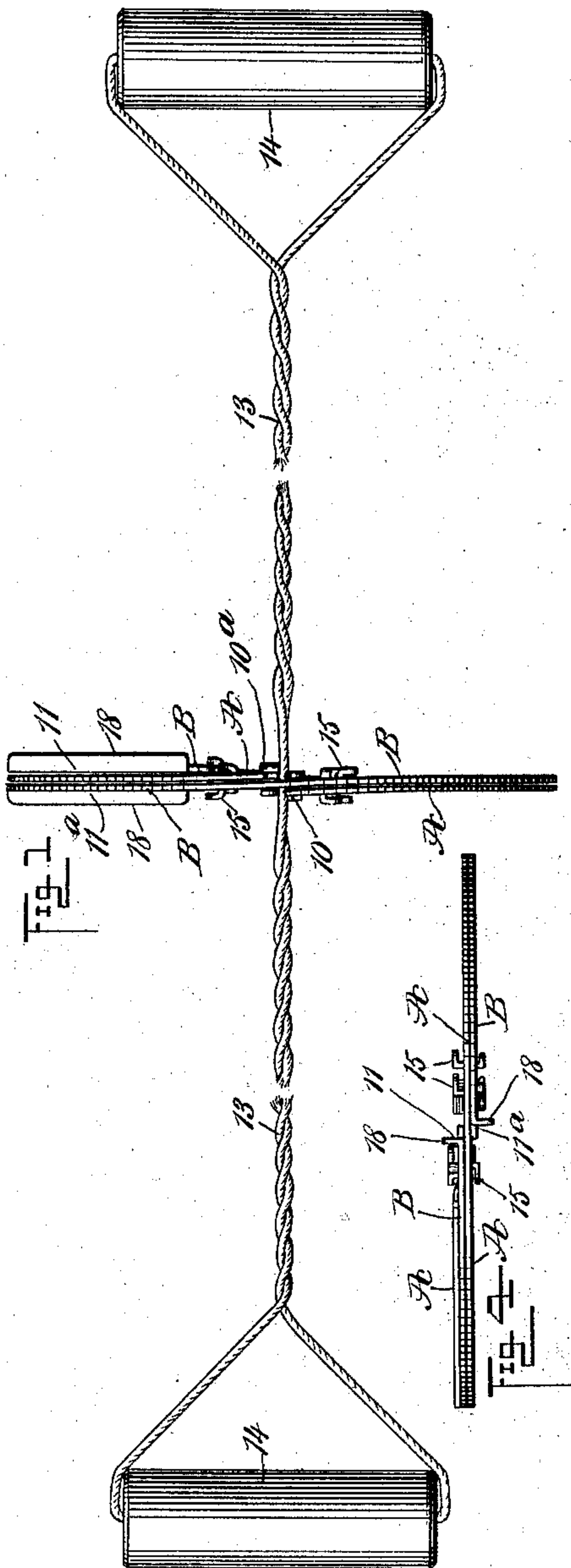
No. 717,230.

H. V. LOUGH.  
TOY.

Patented Dec. 30, 1902.

(Application filed May 10, 1902.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HECTOR V. LOUGH, OF NORTH PLAINFIELD, NEW JERSEY.

## TOY.

SPECIFICATION forming part of Letters Patent No. 717,230, dated December 30, 1902.

Application filed May 10, 1902. Serial No. 106,729. (No model.)

*To all whom it may concern:*

Be it known that I, HECTOR V. LOUGH, a subject of the King of Great Britain, and a resident of North Plainfield, in the county of Somerset and State of New Jersey, have invented a new and Improved Toy, of which the following is a full, clear, and exact description.

My invention relates to that class of toys in which a disk is made to revolve alternately in opposite directions by alternately tightening and loosening a twisted cord; and the purpose of the invention is to provide means for carrying two disks on a cord, one mounted to turn loosely upon the other, and means for checking the loosely-mounted disk at each revolution and to so construct the disks that they will rotate spirally with relation to each other and so that each disk may have its side faces differently colored to produce a kaleidoscopic effect as the disks are rotated.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the toy. Fig. 2 is a side elevation of the disks or body portion of the toy. Fig. 3 is a section on the line 3 3 of Fig. 2, and Fig. 4 is an edge view of the top of the body as shown in Fig. 2.

The body of the toy consists of two disks, a main disk A and an auxiliary disk B, and both disks are provided with transverse or radial slots extending from the periphery to a point near the center, producing edges 10 and 10<sup>a</sup> on the disk A, as is best shown in Fig. 1, and corresponding edges 11 and 11<sup>a</sup> on the disk B, as is best shown in Fig. 4. The main disk A is provided with two apertures 12, one at each side of the center, as is shown in Fig. 2, through which apertures the strands of a looped string or cord 13 are passed, as is shown in Fig. 1, and said looped string is usually provided with handles 14 at its ends. The main disk A is further provided with brackets 15, arranged around its apertured portion and extending from both sides of the disk with more or less of an inclination in direction of

the periphery. These brackets are usually struck out from the material of the disk, as is shown in Fig. 3. The auxiliary disk B has a circular opening 17 at its central portion communicating with the transverse or radial slots in the disk, and the edge of the opening 17 rests loosely upon the brackets 15, as is shown in Figs. 2 and 3. The edges 11 and 11<sup>a</sup> of the auxiliary disk B and the edges 10 and 10<sup>a</sup> of the main disk A are bent in opposite directions, giving to each disk a spiral form in side elevation.

In placing the disks A and B together one end of the disk A is passed through the space between the edges 11 and 11<sup>a</sup> of the auxiliary disk B, so that the two disks rotate spirally with relation to each other, and at each end or transverse edge of the auxiliary disk B an outwardly-extending stop-flange 18 is provided at right angles to the outer surfaces of said disk B, so that when the disk B makes a full rotation in either direction a flange 18 of the disk B will strike against a transverse or radial edge of the disk A, and the two disks will then turn together.

The action of the disks is as follows: After twisting the cords preparatory to operating the toy if a tension be put upon the handles the main disk A will be caused to revolve and one of its radial edges—for example, the edge 10—will strike against the stop-flange 18 at the edge 11<sup>a</sup> of the disk B, causing it to revolve with it. When the cords have unwound, the momentum of the disk A will rewind them in the reverse direction until the tension on the cords prevents the main disk from turning further. The disk B, being loosely mounted on the disk A, will be carried by its own inertia or momentum one revolution more spirally in relation to the disk A, thus changing the visible faces of the toy. The disk A will now be caused to rotate in the reverse direction by the tension on the cords. The edge 10<sup>a</sup> of the disk A will strike the stop-flange 18 and the edge 11 of the disk B, causing it to rotate also. As the reversing movement of the disks takes more or less time, according to the tension put upon the cords, the blending of the colors on the disks A and B as the change takes place produces a kaleidoscopic effect, which greatly adds to the attraction of the toy.



Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A toy consisting of a main apertured disk  
5 and an auxiliary disk loosely supported on the main disk and arranged to turn with interlocking and spiral relation thereto, each disk having a radial slot, whereby the edge of one disk is enabled to pass through the  
10 space between the edges of the other disk, as described.

2. A toy consisting of a main apertured disk and an auxiliary disk loosely supported on the main disk and arranged to turn with in-  
15 terlocking and spiral relation thereto, each disk having a radial slot whereby the edge of one disk is enabled to pass through the space between the edges of the other disk, and one disk having stops at its slotted portion, adapt-  
20 ed to engage in one period of the rotation of the disks with one of the radial edges of the other disk, as set forth.

3. A toy consisting of radially-slotted disks,  
25 said slots extending from points near the centers of the disks to their peripheries, one disk being provided with central apertures to receive a string or cord, and supports around

said apertures, the other disk turning loosely upon said supports, the ends of both disks being bent in opposite directions and an end  
30 of one disk passed into the space between the edges of the opposing disk, as described.

4. A toy consisting of radially-slotted disks, said slots extending from a point near the cen-  
35 ters of the disks to their peripheries, one disk being provided with central apertures to receive a cord or string, and supports around said apertures, the other disk turning loosely upon said supports, the ends of both disks being bent in opposite directions and an end  
40 of one disk passed into the space between the edges of the opposing disk, and stop-flanges at the ends of one disk, adapted when the disks are rotated to engage with one or the other of the ends of the spirally-opposing disk,  
45 as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HECTOR V. LOUGH.

Witnesses:

JNO. M. RITTER,  
J. FRED. ACKER.