

No. 835,398.

PATENTED NOV. 6, 1906.

W. F. CASH.
MERRY-GO-ROUND.

APPLICATION FILED APR. 15, 1905.

2 SHEETS—SHEET 1.

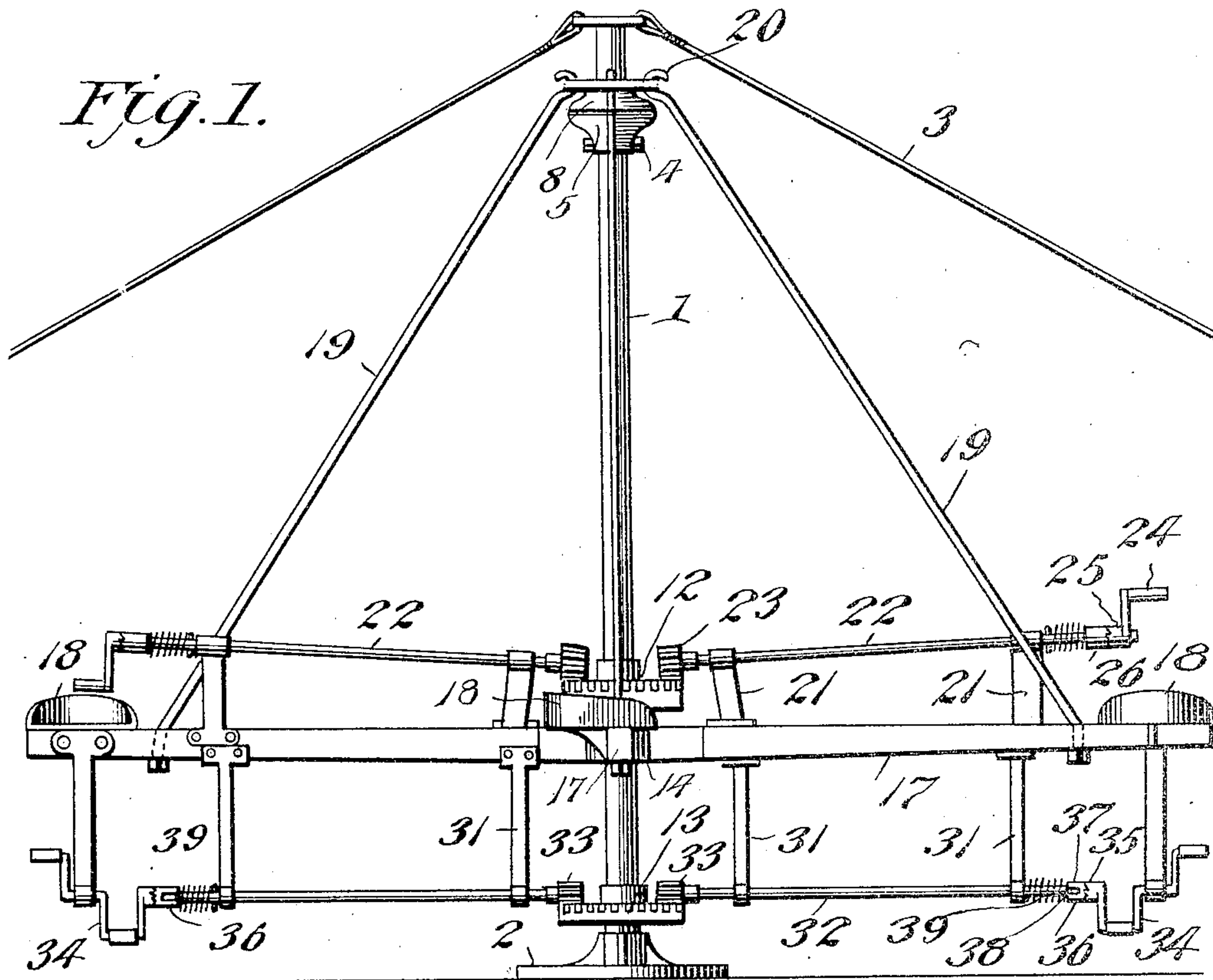


Fig. 3.

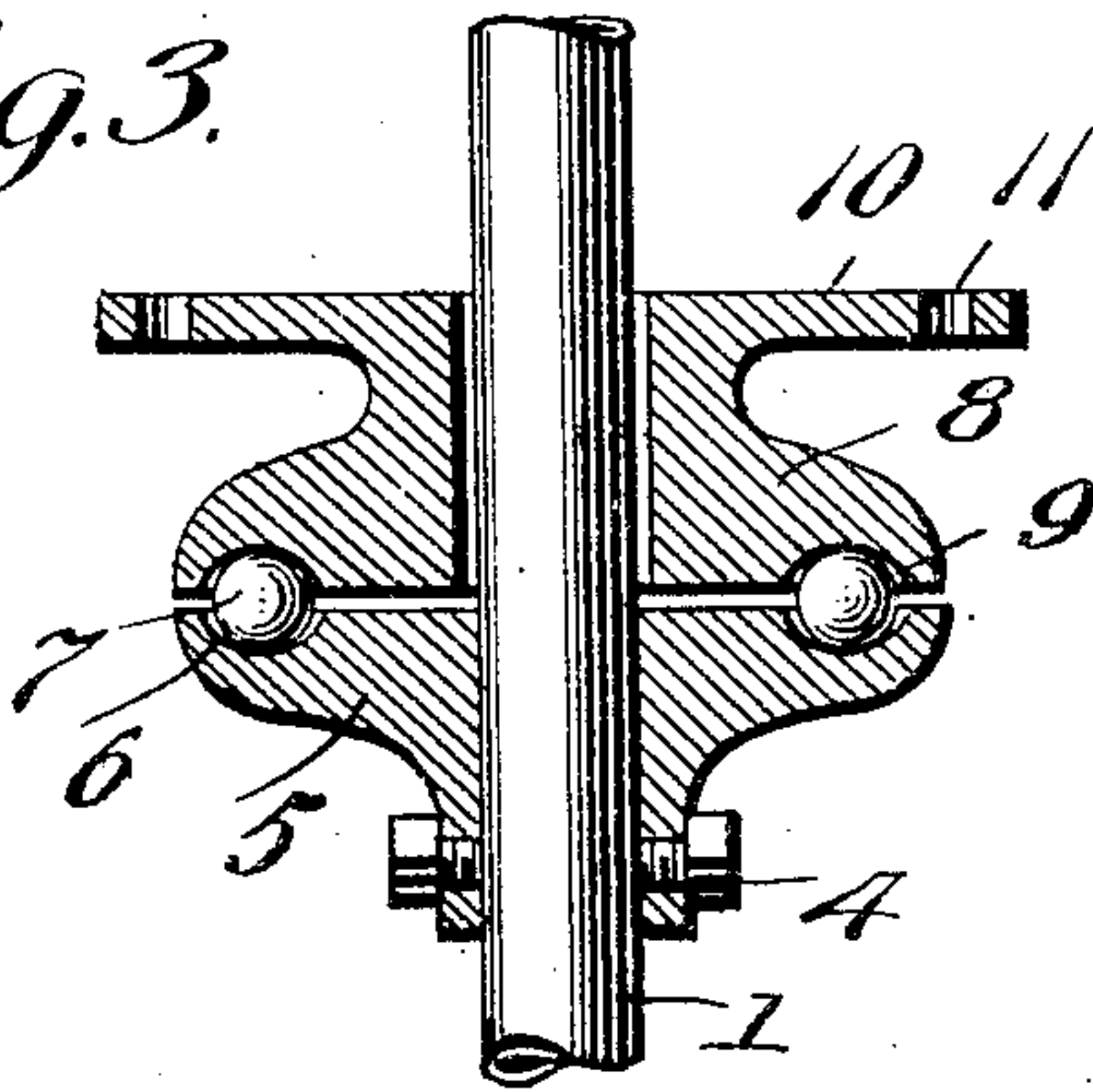
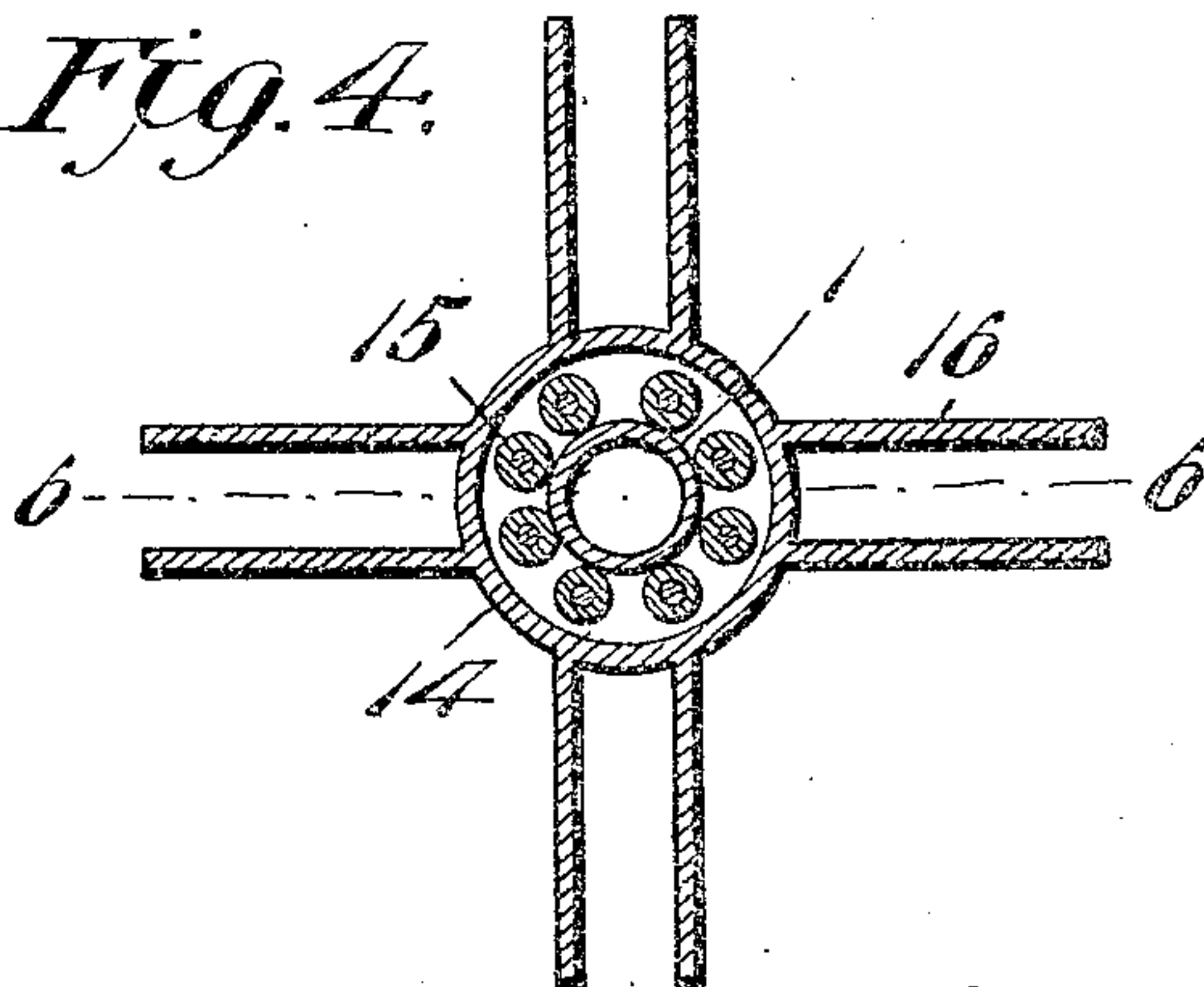


Fig. 4.



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Witnesses

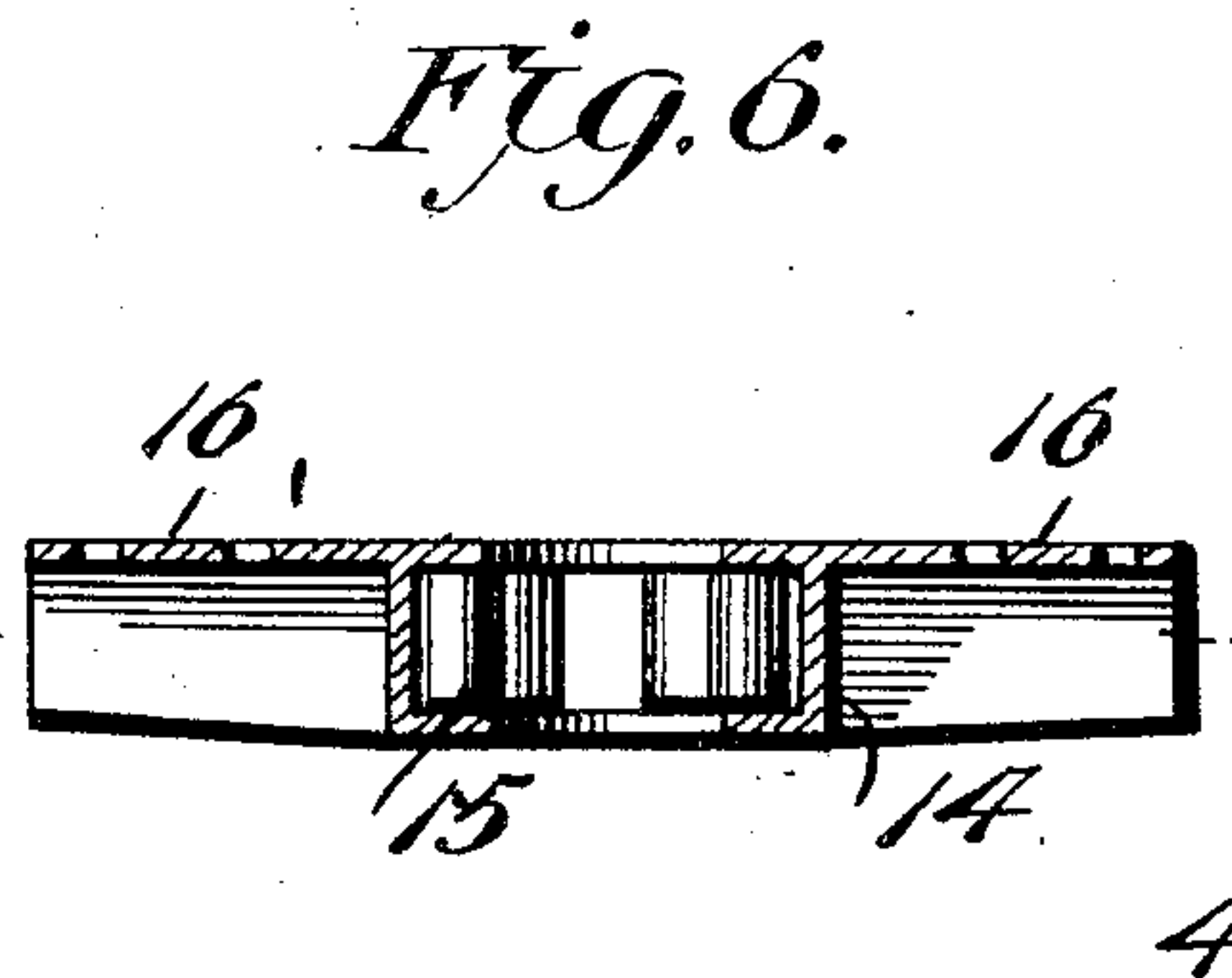
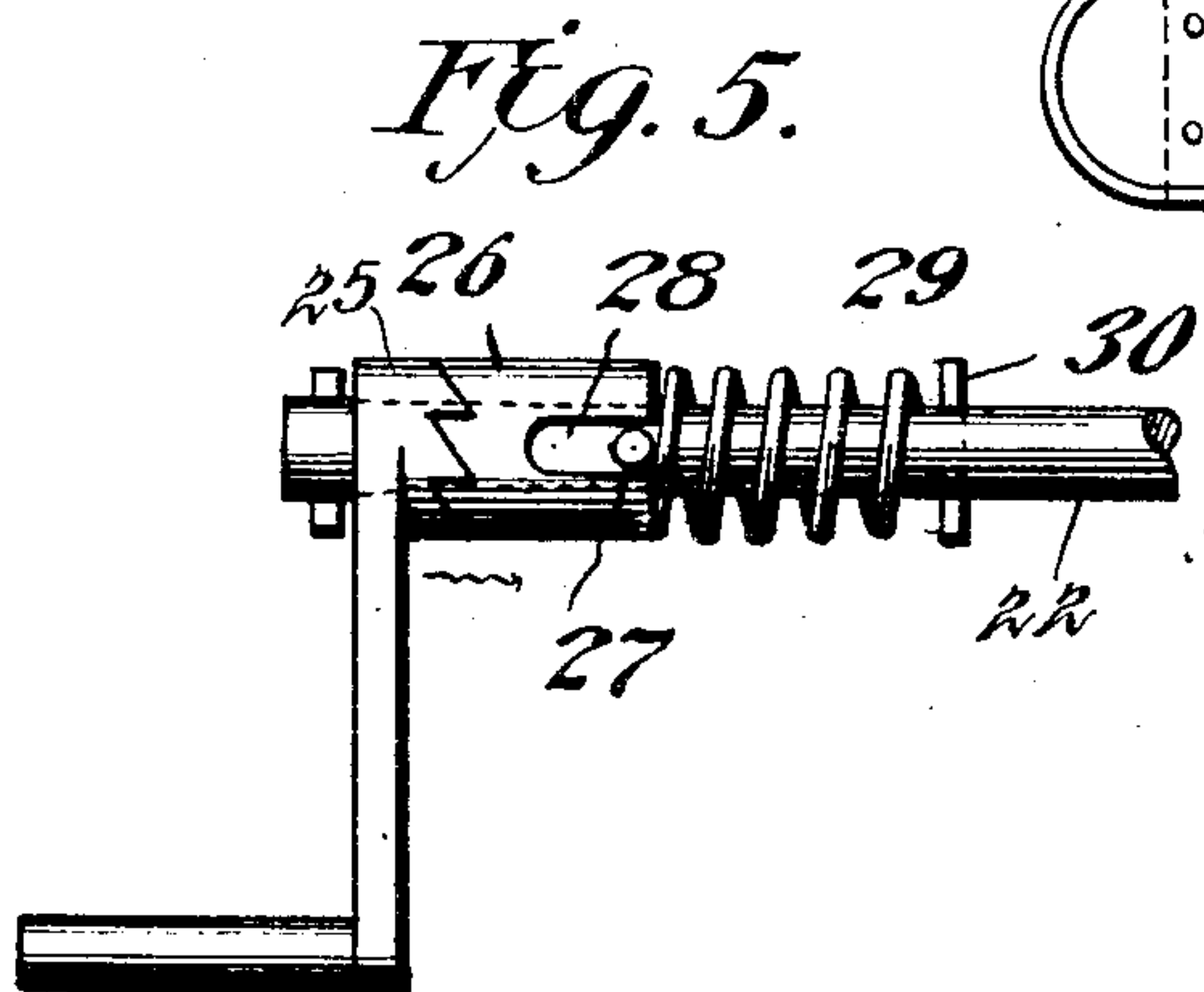
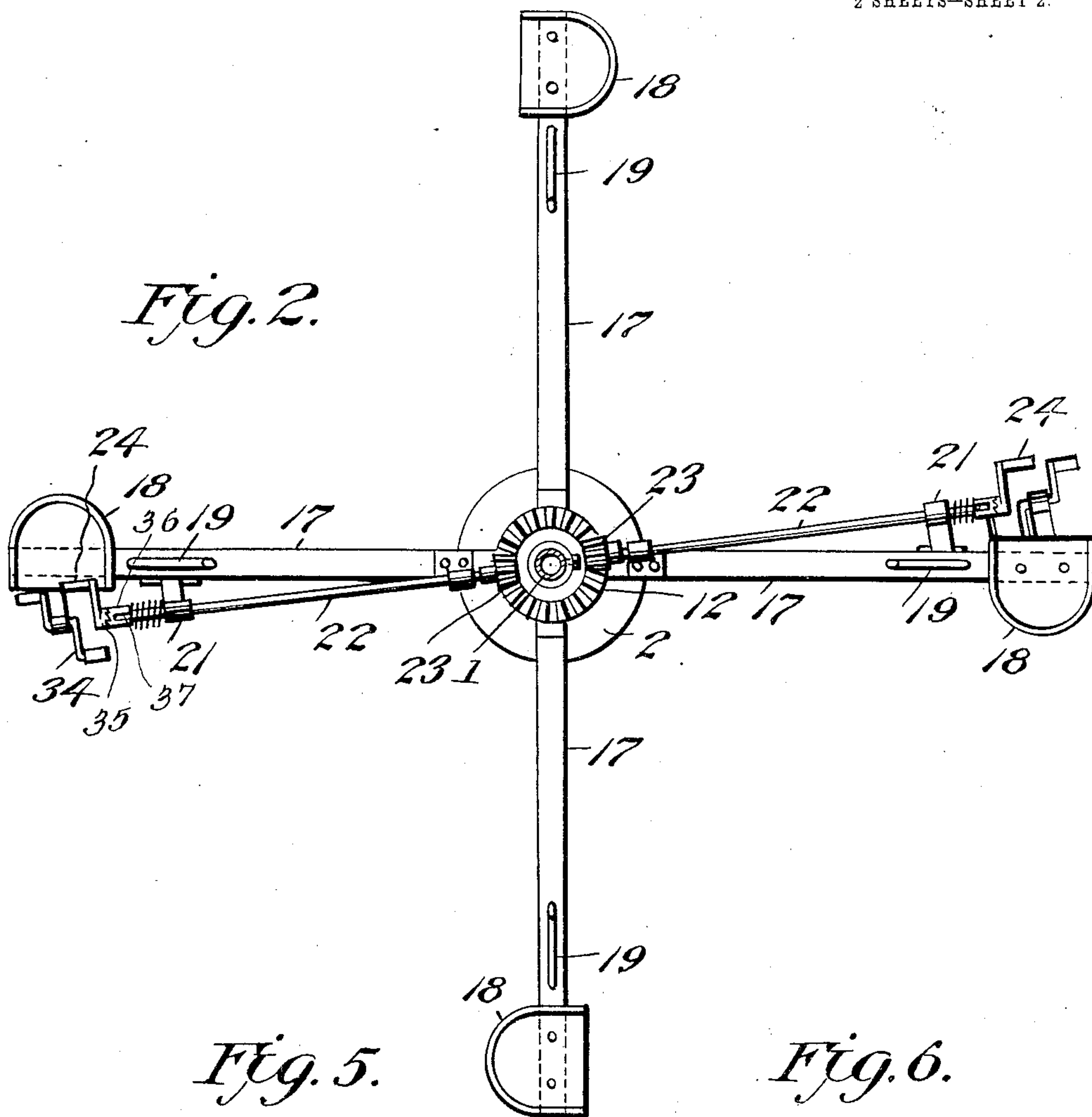
Georg H. K. M. J.
D. J. Elmore

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM F. CASH, OF HIAWATHA, KANSAS.

MERRY-GO-ROUND.

No. 835,393.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed April 15, 1906. Serial No. 255,767.

To all whom it may concern:

Be it known that I, WILLIAM F. CASH, a citizen of the United States, residing at Hiawatha, in the county of Brown and State of Kansas, have invented new and useful Improvements in Merry-Go-Rounds, of which the following is a specification.

This invention relates to merry-go-rounds of the type which are manually operated, and has for its objects to provide a simple and comparatively inexpensive device of this character which may be actuated by either hand or foot power, which will run smoothly and evenly, and one wherein reversed or retrograde rotation is wholly obviated.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of a device embodying the invention. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical sectional elevation, on an enlarged scale, of the upper bearing. Fig. 4 is a detail horizontal section of the lower bearing. Fig. 5 is an enlarged detail elevation of one of the clutch members. Fig. 6 is an enlarged sectional elevation taken on the line 6-6 of Fig. 4.

Referring to the drawings, 1 designates a vertical post or standard seated at its lower end in a suitable step provided in a base 2 and having its upper end braced by means of guys or braces 3, the standard being of circular form in cross-section and preferably tubular, as seen more clearly in Fig. 4. Fixed upon the standard at a point adjacent its upper end by means of set-screws 4 is a bearing member or head 5, having a raceway 6, in which is arranged antifriction-balls 7, there being arranged upon the standard and for free rotation or travel upon the balls 7 a bearing member 8, provided with a raceway 9, corresponding to the way 6 and having a horizontal projecting portion or flange 10, perforated at suitable intervals, as at 11, for a purpose which will hereinafter appear.

Fixed upon the standard 1 at a point above and suitably remote from the base 2 is a horizontal gear 12, while at a point beneath the gear 12 there is fixed upon the standard a second horizontal gear 13, there being arranged between the gears and preferably adjacent to the upper one a rotary bearing member or sleeve 14, having journaled therein on vertical axes a series of antifriction-rollers 15 con-

tacting with the standard 1. The bearing 14 carries a plurality, preferably four, horizontal radiating arms or sockets 16, which receive the inner ends of the horizontal members or beams 17, in turn equipped at their outer ends with seats 18 and connected by brace-rods 19 with the bearing member 8, with which latter the rods are engaged through the medium of hooks 20, entered through the openings 11. It will be observed from this construction that the entire weight of the rotary frame comprising the bearing 14 and arms 17 is sustained by the upper bearing 5 and that free rotation of the frame is insured by the provision of the antifriction-balls 8 and rollers 15.

Journaled in suitable hanger-bearings 21 on a pair of the beams 17 are operating-shafts 22, provided at their inner ends with pinions 23 in mesh with the gear 12, there being provided at the outer ends of the shafts 22 operating-cranks 24, mounted loosely and each carrying a clutch member or sleeve 25, having teeth designed to mesh with a cooperating clutch member or sleeve 26 upon the shank and fixed for rotation therewith through the medium of an engaging member or pin 27, seated at the outer end of a slot 28, extended longitudinally of the sleeve. Mounted upon the shaft 22 is a normally expanded spring 29, which bears at one end against a stop or button 30 and at its other end upon the inner end of the sleeve 26 and serving to force the sleeve 26 normally into engagement with the sleeve 25, thus operatively locking the crank 24 to its shaft, as will be readily understood.

Carried by and depending from the beams 17 are bearing members or hangers 31, in which are journaled for rotation operating members or shafts 32, each having at its inner end a pinion 33 and at its outer end a crank member 34 in the form of a foot-pedal, there being formed upon each crank a clutch member or sleeve 35 in toothed engagement with a cooperating member or sleeve 36, slidably disposed upon its shaft and having a slot 37 for the reception of a fastening member or pin 38, while upon the shaft is a normally expanded spring 39, which tends to maintain the sleeve 37 in clutched engagement with the member 35 in a manner similar to the corresponding parts above described.

In practice when the operating-shafts are driven through the medium of the hand cranks or pedals or both motion will be im-

parted to the frame through the medium of the pinions 23 33 and their respective gears 12 and 13, as general in devices of this character. In the event of the cranks being accidentally or intentionally turned backward the sleeves 26 and 37 will move inward upon their shafts in the direction indicated by the arrow in Fig. 5, thereby compressing the pressure-springs and throwing the cranks out of engagement with the shafts, thus preventing accidental retrograde rotation of the machine or injury to the latter, which might result through the intentional opposition of the strength of one of the occupants of the machine against that of another.

It is to be observed that the device herein disclosed is extremely strong and durable and that owing to the rotary frame being suspended from the bearing 8, which travels antifrictionally on the bearing 5, the movement of the device will be free and easy.

From the foregoing it is apparent that I produce a simple inexpensive device which will admirably perform its functions to the attainment of the ends in view, it being understood that minor changes in the details

herein set forth may be resorted to without departing from the spirit of the invention.

Having thus described the invention, what I claim is—

A merry-go-round comprising a shaft, a ball-bearing receptacle adjustably secured thereon, said receptacle being also provided with a surrounding rim-flange having perforations therein, gearings on the shaft arranged one above the other, a sleeve with sockets also arranged on the shaft, beams secured to the sockets having reversely-arranged hangers provided with bearings therein, brace-rods secured respectively at their opposite ends to the perforations of the flange and to the beams, and shafts rotatably mounted in the bearing of the hangers and having gears and operating means on their opposite ends, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM F. CASH.

Witnesses:

W. F. MEANS,
T. D. SMITH.