

No. 862,366.

PATENTED AUG. 6, 1907.

J. S. WINNETT.  
AMUSEMENT DEVICE.  
APPLICATION FILED OCT. 9, 1906.

3 SHEETS—SHEET 1.

Fig. 1

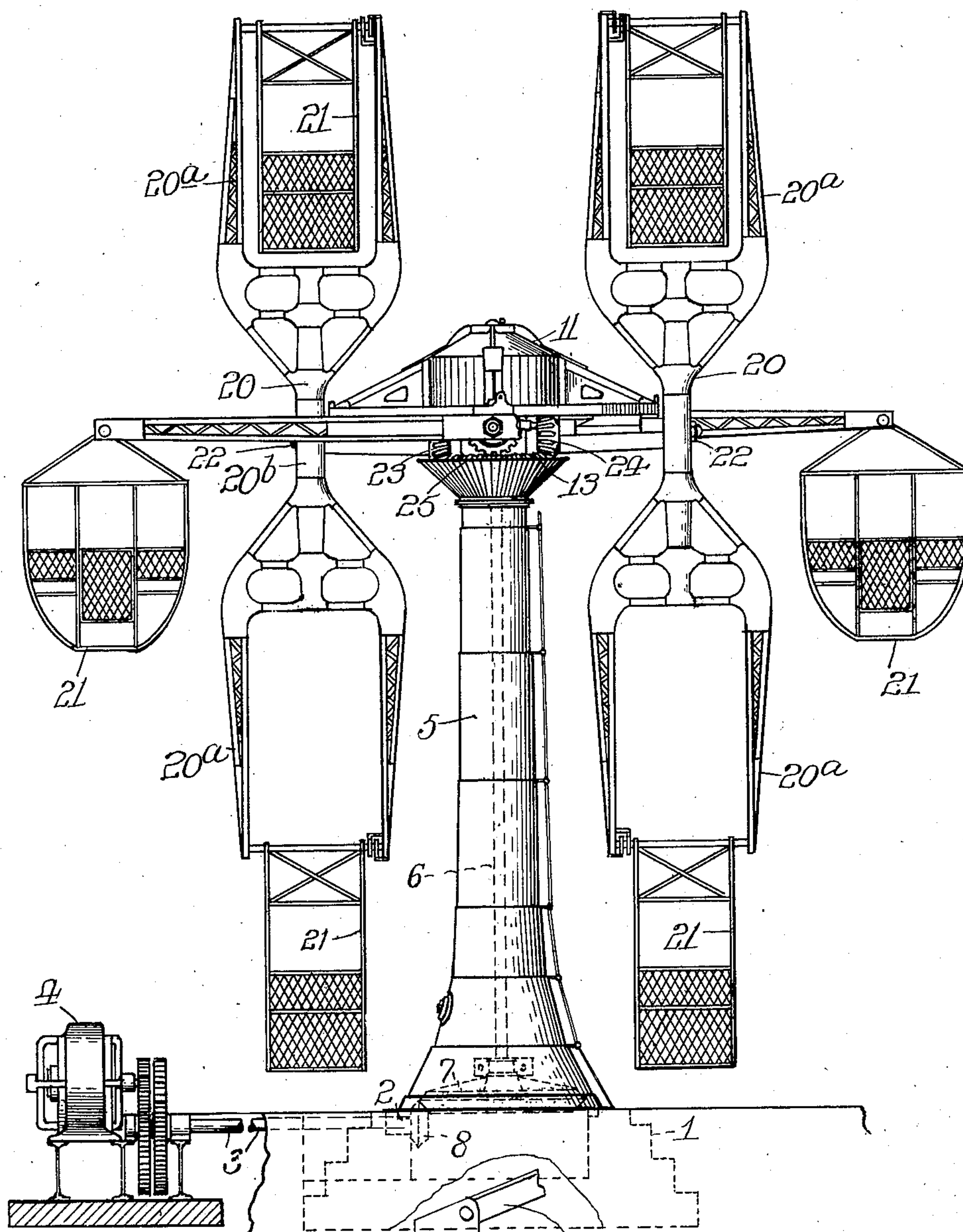
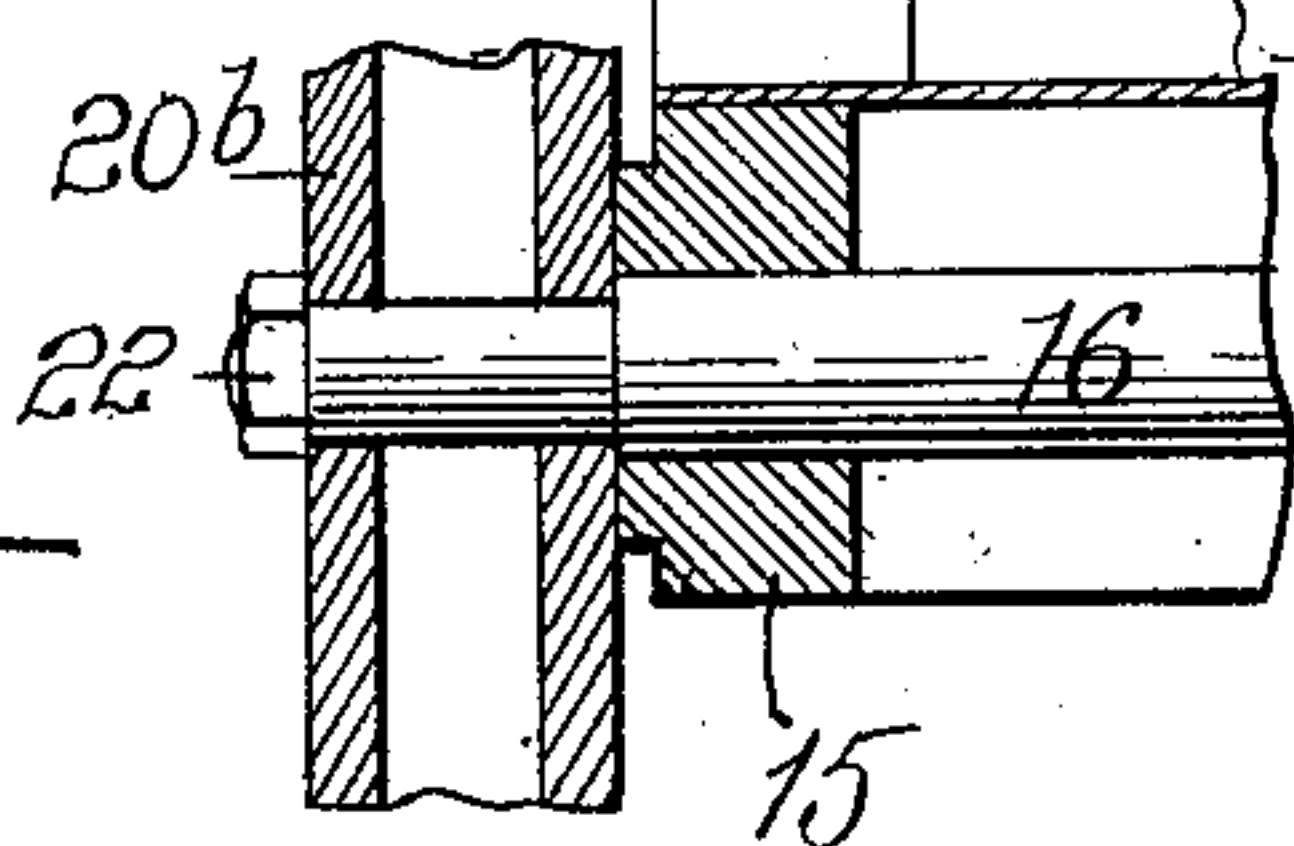


Fig. 5



WITNESSES:  
*N. B. Bennett*  
*Louis B. Emory*

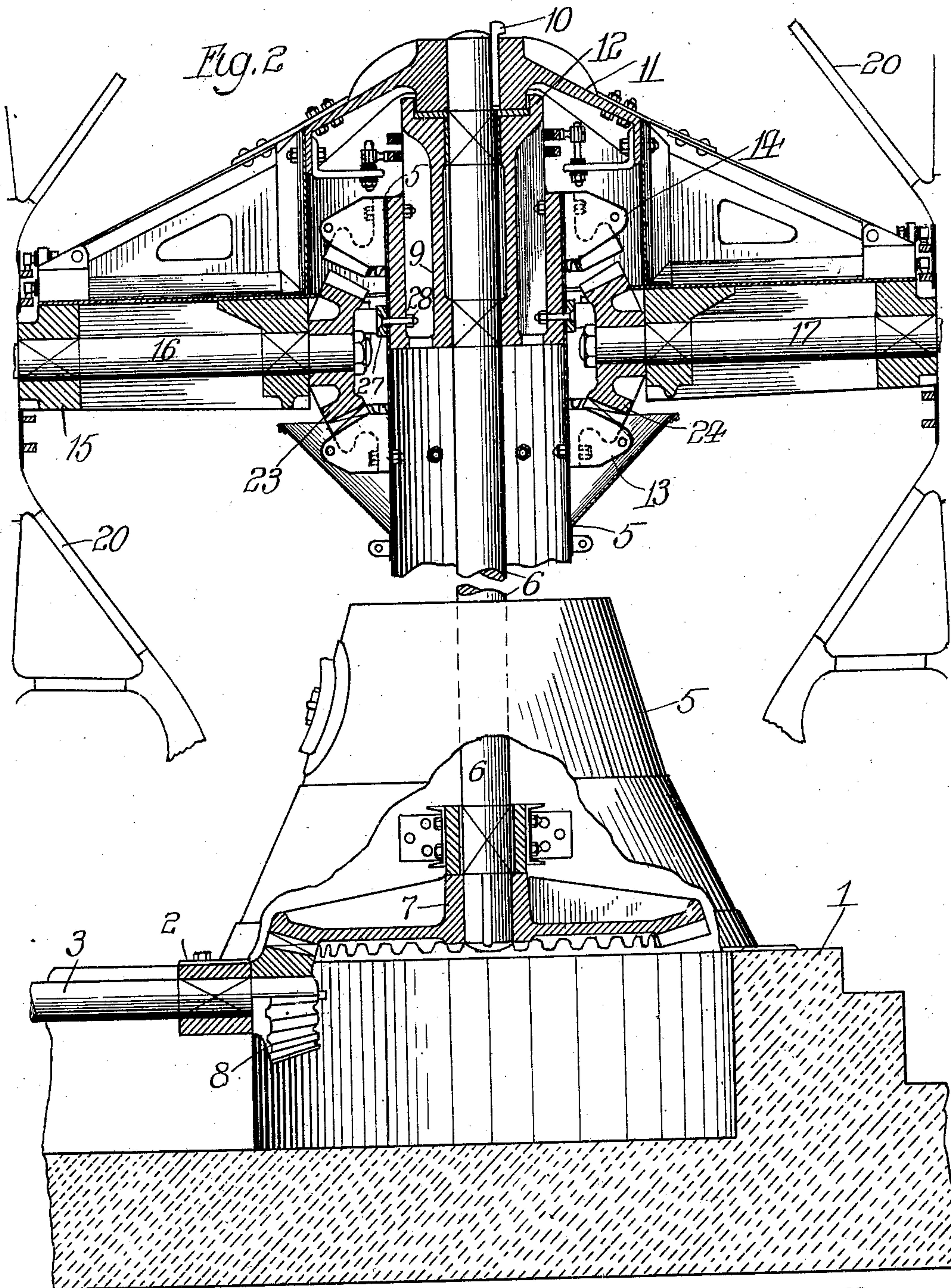
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WITNESSES:

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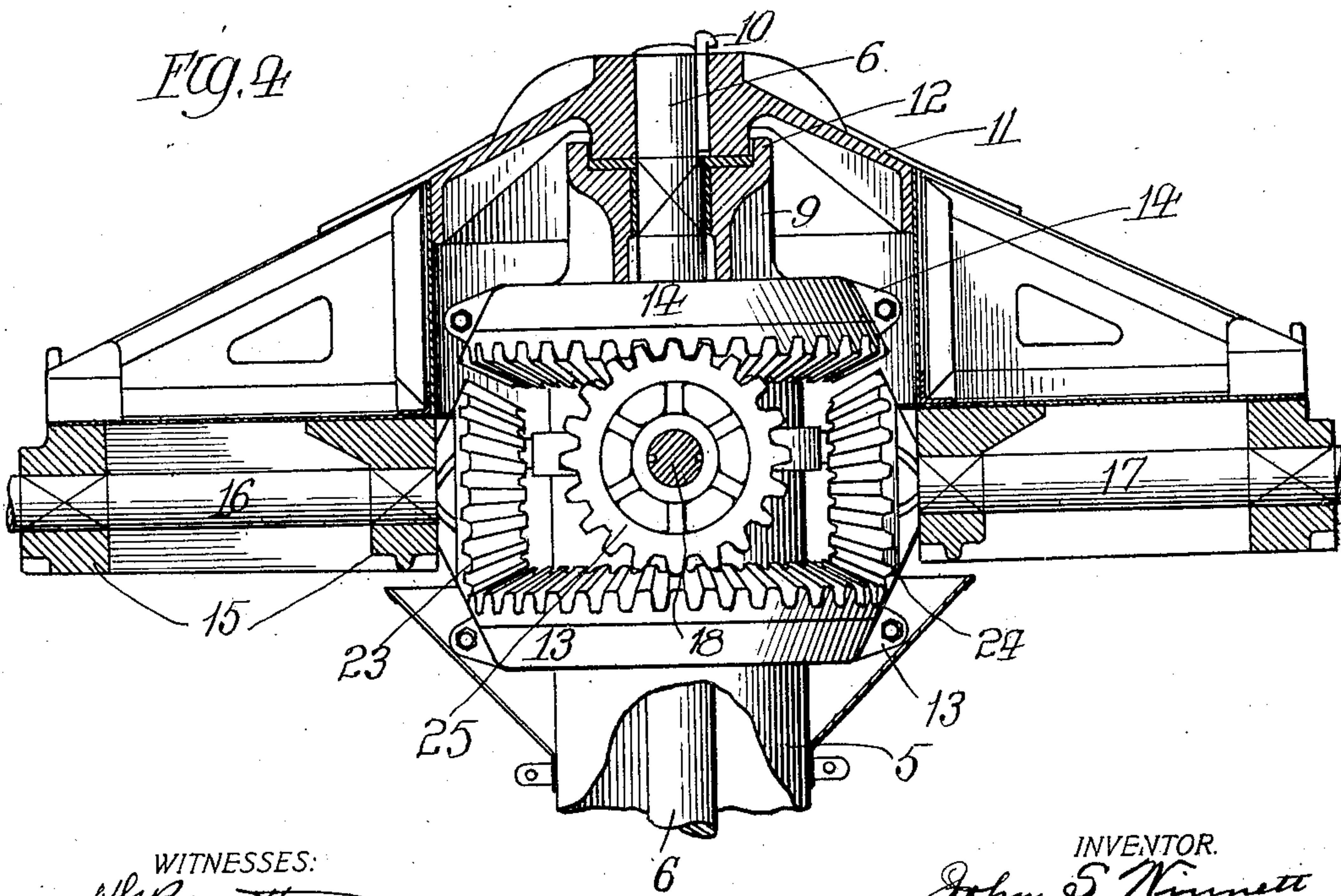
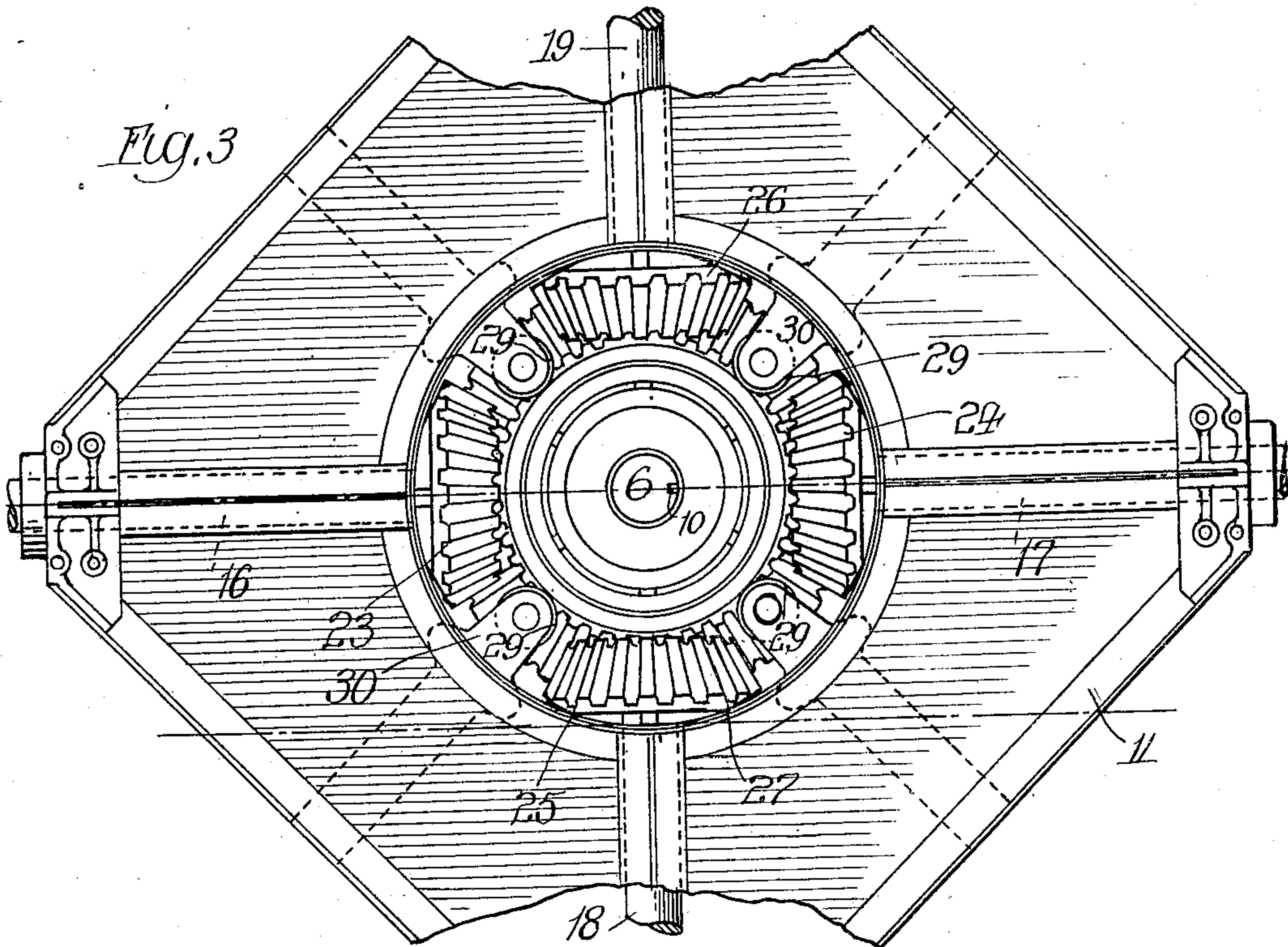


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3 SHEETS—SHEET 3.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

JOHN S. WINNETT, OF DETROIT, MICHIGAN.

## AMUSEMENT DEVICE.

No. 862,366.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Application filed October 9, 1906. Serial No. 338,189.

*To all whom it may concern:*

Be it known that I, JOHN S. WINNETT, a citizen of the United States, residing at Detroit, Wayne county, Michigan, have invented certain new and useful Improvements in Amusement Devices, of which the following is a specification.

My invention relates to amusement devices and particularly to that class thereof in which cars or baskets are caused to revolve and rotate and the object thereof is to provide simple, efficient and reliable mechanism for imparting to the cars both a revolving motion and a rotary motion so that the cars will have a peculiar movement as the resultant of said two motions.

The various features of advantage and utility of my construction of amusement device will be apparent from the description hereinafter given.

In the drawings, Figure 1 is an elevation of my amusement device complete with the exception that a portion of one of the revolving arms is broken away; Fig. 2, a sectional elevation of parts of the upper and lower portions of the amusement device but on a larger scale than that of Fig. 1; Fig. 3 a plan view of the revolving head and the gears, the upper main beveled gear being removed; Fig. 4 a central transverse sectional elevation of the revolving head; and Fig. 5 a detail view illustrating the manner of attaching the rotating shafts to their arms.

Referring to the present embodiment of my invention, as illustrated in the drawings, I mount the device upon some suitable support or foundation which in the present instance consists of a concrete foundation 1, on which is arranged a bearing 2 for a driving shaft 3. This shaft may be driven in any suitable manner and by any suitable power, as by means of the electric motor 4 illustrated in Fig. 1. From the base or foundation rises a tubular support or column 5 which, as shown, is built up of several courses of sheet metal to the proper height as determined by the desired dimensions of the structure in general.

Suitably journaled within the tubular support is a main vertical driving shaft 6, to whose lower end is keyed or otherwise secured a large beveled gear which is adapted to mesh with a gear or pinion 8 on the inner end of the driving shaft 3, with the result that the power of the electric motor or other prime mover is transmitted to the main shaft 6. The upper end of this main shaft has its bearings in a sleeve 9 which is secured in any suitable manner to the upper end of the tubular support 5. The main shaft projects beyond this bearing sleeve 6 and is there secured by means of the key 10 to a revolving head or frame 11 which is formed or built up from structural iron into the shape of a square as illustrated in Fig. 3. The central upper portion of this head is arranged to bear in a socket bearing 12 formed at the upper end of the bearing sleeve

9 for the purpose of receiving and forming a bearing therefor.

The tubular support 5, which is of course stationary, carries near its upper end two stationary main beveled gears 13 and 14 whose gear teeth are directed inwardly and are respectively arranged to mesh with pairs of pinions or beveled gears hereinafter referred to.

The revolving head or frame is provided with four pairs of bearings 15 which are arranged radially thereof and in which the four radial shafts 16, 17, 18 and 19 are mounted. Each shaft is secured in suitable manner to the central point or axis of a rotatable frame 20 which as shown consists of two oppositely directed yoke portions 20<sup>a</sup> and an intermediate connecting portion or neck 20<sup>b</sup>, the yokes being arranged to support and accommodate the cars 21, as clearly illustrated in Fig. 1. As stated, each shaft may be secured to its own rotating frame 20 in suitable manner, but in the present instance, as illustrated in Fig. 5, I extend the shaft so as to pass through the central portion 20<sup>b</sup> of the rotating frame and secure said parts by means of the nuts 22.

The shafts 16 and 17 are provided at their inner ends with beveled gears 23 and 24 respectively, which mesh with the lower beveled gear 13 hereinbefore referred to, while the other shafts 18 and 19 are provided with corresponding beveled gears 25 and 26 which mesh with the other stationary beveled gear 14 hereinbefore referred to. Thus two of the radial shafts cooperate with one of the stationary beveled gears while the other two radial shafts cooperate with the remaining stationary beveled gear.

As a result of the described construction of head, shafts and gears, the cars are given a motion which is the resultant of a revolution and a rotation, the rotation being imparted by the revolving head and the revolution by a series of radial shafts. From the foregoing description it will be understood that when the main shaft 6 is rotated by the motor the head 11 which is keyed to its upper end will likewise be caused to rotate, carrying of course the entire structures comprised in the frames 20 and their cars 21. Inasmuch as the beveled gears or circular racks 13 and 14 are stationary, the rotations of the head 11 will, through the medium of the series of pinions or beveled gears 23, 24, 25 and 26, cause rotations of the radial shafts, with the result that the frames 20 secured to their outer ends will be caused to revolve during the time the same are being rotated by the head 11. In the described construction and arrangement of gears the parts are perfectly balanced and the strain is distributed evenly among the gears and associated parts.

In order to brace and center the upper end of the tubular support 5 and consequently center the structure as a whole, I provide such support with a ring 27 which



is secured both to such support and to the bearing 9 in suitable manner as by means of the bolts 28. Upon the outer surface of this ring a series of rollers 29 are arranged to bear, said rollers being mounted at the inner ends of suitable bearing brackets 30 secured in any suitable manner to the rotating head or frame, Figs. 2, 3 and 4.

I claim:

1. An amusement device comprising a vertical driving shaft, a rotating head at its upper end, a series of shafts arranged in pairs in said head, revolving frames carrying cars and secured to the outer ends of such shafts, pinions on the inner ends of these shafts likewise arranged in pairs, and stationary gears or circular racks cooperating with different pairs of said pinions.

2. An amusement device comprising a vertical driving shaft, a rotating head at its upper end, a series of radial shafts mounted to rotate in said head and arranged in pairs the numbers of which are diametrically opposite each other, revolving frames carrying cars and secured to the outer ends of such series of shafts, pinions on the inner ends of these shafts, and stationary gears or circular racks with which such pinions mesh, the pinions of those shafts on one diameter meshing with one stationary gear and the pinions of those shafts on another diameter meshing with the other stationary gear.

3. An amusement device comprising a stationary tubular support, a vertical driving shaft mounted to rotate within the support, a rotating head secured to the driving shaft at the upper end of the latter, a series of radial shafts mounted to rotate in said head, revolving frames carrying cars and connected with the outer ends of said radial shafts, stationary gears secured to said support at different heights thereon, and pinions on the inner ends of the radial shafts, some of which mesh with one stationary gear and others with the other stationary gear.

4. An amusement device comprising a stationary tubular support, a vertical driving shaft mounted to rotate within the support, a rotating head secured to the driving shaft at the upper end of the latter, a series of radial shafts mounted to rotate in said head, said series of shafts being arranged in pairs the members of which are diametrically opposite each other, revolving frames carrying cars and connected with the outer ends of said radial shafts, stationary gears arranged around said support and secured thereto, and pinions on the inner ends of the radial shafts, of which those on the same diameter mesh with the same stationary gear.

5. An amusement device comprising a stationary tubular support, a vertical driving shaft mounted to rotate within the support, a rotating head secured to the driving shaft at the upper end of the latter, a series of radial shafts mounted to rotate in said head, revolving frames carrying cars and connected with the outer ends of said radial shafts, gears or racks secured to said support, pinions on the inner ends of the radial shafts to cooperate with the racks, and a series of centering rollers in the head to cooperate with said tubular support.

6. An amusement device comprising a stationary tubular support, a vertical driving shaft mounted to rotate within the support, a rotating head secured to the driving shaft at the upper end of the latter, a series of radial shafts mounted to rotate in said head, revolving frames carrying cars and connected with the outer ends of said radial shafts, gears or racks secured to said support, pinions on the inner ends of the radial shafts to cooperate with the racks, a ring on said support, and a series of centering rollers mounted in the head and arranged to travel on said ring as a track whereby all the parts of the head, gearing and support are kept centered.

7. An amusement device comprising a stationary tubular support, a vertical driving shaft therein, a bearing sleeve 9 at the upper end of the support and adapted to provide a bearing for the shaft which projects thereabove, a rotating head secured to the upper end of the shaft, a series of radial shafts in said head, revolving frames carrying cars and connected with the outer ends of the radial shafts and a system of gearing at the inner ends thereof to cause rotation during the rotation of the head.

8. An amusement device comprising a stationary tubular support, a vertical driving shaft therein, a bearing sleeve 9 at the upper end of the support and adapted to provide a bearing for the shaft which projects thereabove, a rotating head secured to the upper end of the shaft, and also having its bearing in said sleeve, a series of radial shafts in said head, revolving frames carrying cars and connected with the outer ends of the radial shafts, pinions on the inner ends thereof, and stationary gears or circular racks secured to said support and cooperating separately with the pinions in pairs.

9. An amusement device comprising a vertical driving member, a rotating head fixed thereto at its upper end, a series of radial shafts in said head arranged in pairs, the members of each pair being diametrically opposite each other, revolving frames carrying cars secured to the outer ends of said shafts, pinions on the inner ends of the shafts, and two stationary gears, one gear cooperating with every alternate pinion in the series to revolve all such alternate pinions in one direction, and the other cooperating with the other pinions, to revolve them in the opposite direction.

10. An amusement device comprising a vertical driving member, a rotating head fixed thereto at its upper end, two pairs of radial shafts in said head, the members of each pair being arranged diametrically opposite each other on a line at right angles to the diametrical line on which the other pair is arranged, revolving frames carrying cars secured to the outer ends of said shafts, pinions on the inner ends of the shafts, and two stationary gears, one gear cooperating with the pinions on one pair of shafts to revolve them in one direction and the other gear cooperating with the pinions on the other pair of shafts to revolve them in the opposite direction, said revolving frames being so arranged that the frames on one pair of shafts will be vertical when the frames on the other pair are horizontal, and vice versa.

JOHN S. WINNETT.

Witnesses:

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