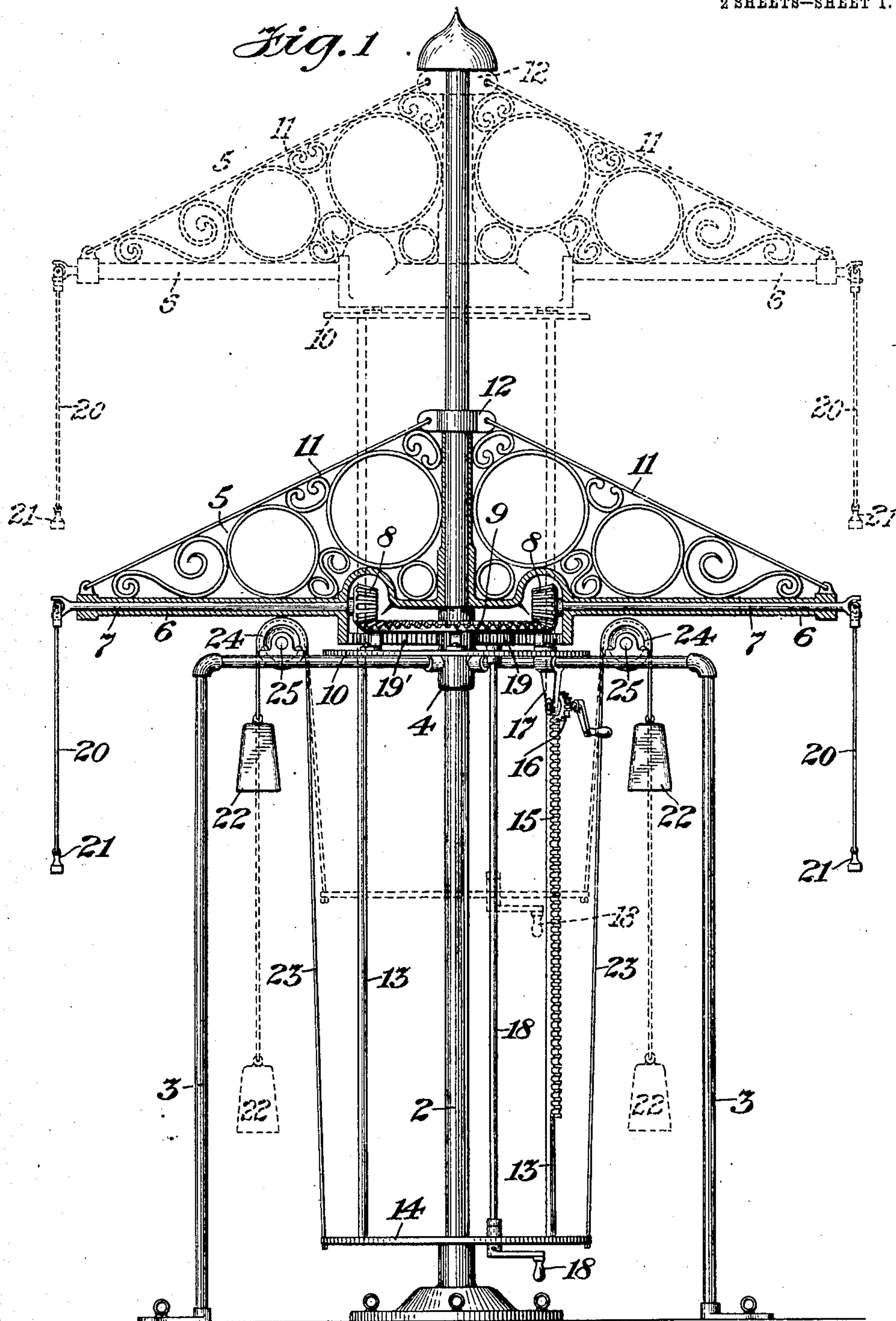


W. DELMORE.
 APPARATUS FOR GYMNASIIC WORK.
 APPLICATION FILED MAR. 28, 1908.

916,680.

Patented Mar. 30, 1909.

2 SHEETS—SHEET 1.



Witnesses:
Chas. Clagett
J. P. Le Blanc

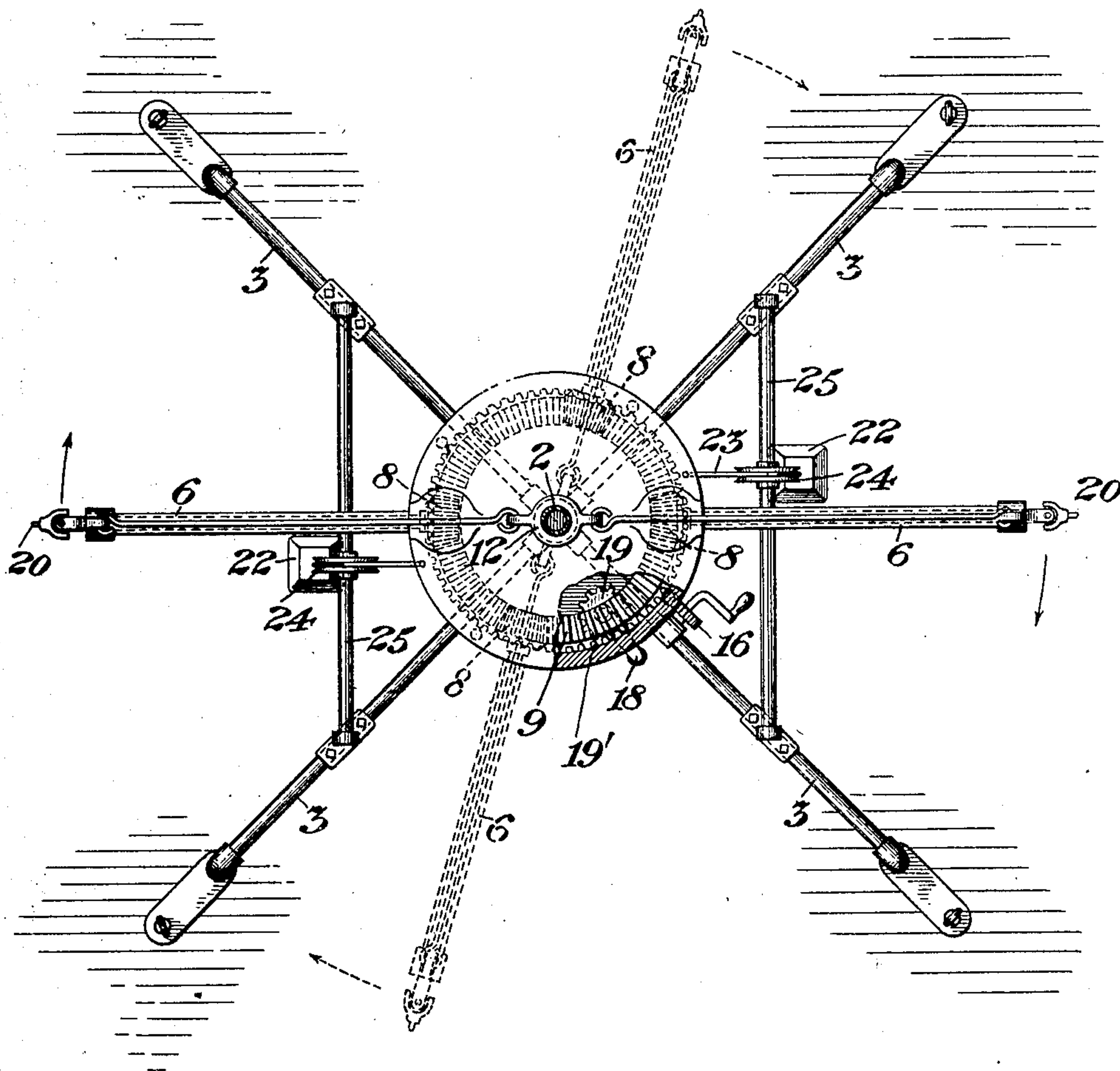
Inventor
William Delmore
 By his Attorney
Chas. F. Dana

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Fig. 2



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UNITED STATES PATENT OFFICE.

WILLIAM DELMORE, OF NEW YORK, N. Y.

APPARATUS FOR GYMNASTIC WORK.

No. 916,680.

Specification of Letters Patent.

Patented March 30, 1909.

Application filed March 28, 1908. Serial No. 423,870.

To all whom it may concern:

Be it known that I, WILLIAM DELMORE, citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Apparatus for Gymnastic Work, of which the following is a specification.

The present invention relates to apparatus intended for use in vaudeville acrobatic work, and is designed particularly to provide means whereby performers may accomplish novel and pleasing aerial evolutions.

Generally stated, the apparatus comprises freely movable suspending means, to which a rotary, a revolving, and a swinging movement, are imparted during the operation of the device, so as to give what I term "a triple twist" to the performer.

Stated more specifically the apparatus embodies a suitable supporting standard upon which is mounted a revolving frame, said frame in turn carrying rotating shafts, to which rotating shafts are connected suspending devices which are freely movable under the action of centrifugal force, so that the suspending devices and performers revolve about the central standard by the action of the revolving frame, rotate about their own axis under the influence of the rotating shafts carried by the revolving frame, and swing outwardly under the centrifugal force.

The details of the construction will be pointed out hereinafter, and in order that the invention may be better understood by those skilled in the art, I have illustrated in the accompanying drawings one embodiment of my invention, and in said drawings: Figure 1 is a side view, partly in section for clearness of illustration, of an apparatus embodying my invention. Fig. 2 is a plan view of the apparatus, the top of the standard or central post being removed for clearness of illustration.

Referring to the drawings by numerals, like numbers indicating like parts in the several views, 2 denotes a central standard provided with a suitable base by means of which it may be firmly secured to the floor or other foundation, said central standard 2 being preferably braced by means of off-standing supports 3, said supports 3 being also provided at their lower ends with means for securing them to the floor, and being secured at their upper ends, as shown, to a

collar 4 on the standard 2, these supports 3 being preferably L-shaped in order that they will provide sufficient clearance between the standard 2 and the vertical limbs of the supports 3 for operating other portions of the apparatus, which will presently be described.

Mounted upon the standard 2, the upper portion of which extends above the supports 3 just described, is a revolving frame 5, comprising horizontal arms 6 bearing rotary shafts 7, which shafts at their inner ends are provided with cog-wheels 8 which mesh with a stationary gear 9 fixed upon a non-rotatable supporting plate 10 carried by the standard 2. The said horizontal arms 6 are preferably supported by means of strut rods 11, which run from the outer ends of the arms 6 to a suitable collar 12 on the standard 2.

The frame 5 may be embellished and decorated by scrolls and ornamental work, as shown, to give it a pleasing appearance, and in addition to being freely revoluble about the standard 2, the said frame 5 has a free vertical movement on the said standard 2.

In order to elevate the revoluble frame 5 and its associated parts on its supporting standard, I provide a non-rotating depending frame 13, made up of vertical members which are secured to the supporting plate 10 and are connected at their lower ends by means of a suitable plate or ring 14 as clearly shown in Fig. 1.

One of the vertical members of the depending frame 13 is provided with a rack 15 in which meshes a pinion 16 journaled in a hanger 17 on one of the horizontal arms of an L-shaped support 3, the said pinion 16 being provided with a crank so that when the pinion is rotated, the depending frame 13 and the rotating frame 5 will be elevated to the position shown in dotted lines in Fig. 1. In this position the frame 5 may be then revolved by means of a crank shaft 18 carried by the depending frame 13 which is provided with a pinion 19 meshing with an internal gear 19' on the frame 5, as shown in Fig. 1. Revolution of the frame 5 in the manner stated will cause the shafts 7 to be rotated through the action of the beveled gears 8 meshing with the fixed gear 9, and at the outer ends of these rotary shafts 7 are the suspending devices 20, said suspending devices being connected by universal joints with the rotary shafts 7 at their upper

ends and being provided at their lower ends with suitable suspending means, the example shown in the present instance being teeth-grips 21.

5 Preferably the frames 5 and 13 and their appurtenances will be counterbalanced so as to render its manipulation and elevation easy, by means of weights 22, connected by flexible connections 23 with the bottom of
10 the depending frame 13, said weight connections running over suitable sheaves 24, mounted on cross bars 25, which are supported by the horizontal arms of the L-shaped supports 3, as best shown in Fig. 2.

15 In using the apparatus the performers will grip the suspending devices when the frame 5 is in its lower position, and the frame will then be elevated, through the rack and pinion mechanism described, to
20 the dotted line position. In this position the frame 5 will be revolved, through the medium of the fixed internal gear and pinion mechanism described, and cause the performers to swing in a large circle; at the
25 same time rotating them, through the rotating shafts; and simultaneously they will swing outwardly under the action of centrifugal force, giving a spectacular acrobatic effect to the performers.

30 Obviously the number of supporting arms may be varied to suit the needs of the performers without departing from my invention, and various other mechanical changes may be made within the scope of the ap-
35 pended claims.

I claim:

1. In an apparatus of the class described, the combination with a supporting standard, of a revoluble frame mounted thereon, means
40 for elevating said frame on said standard, rotary shafts carried by said frame, and suspending means carried by said shafts.

2. In an apparatus of the class described, the combination with a supporting standard,
45 of a revoluble frame mounted thereon, means for elevating said frame on said standard, rotary shafts carried by said frame, and suspending devices having universal joint

connections with the outer ends of said shafts. 50

3. In an apparatus of the class described, the combination with a supporting standard, of a revoluble frame mounted thereon, means for elevating said frame, means for revolving said frame, rotary shafts mounted in
55 said frame, a fixed driving gear carried by said frame to rotate said shafts, and suspending devices connected with the outer ends of said rotary shafts.

4. In an apparatus of the class described, the combination with a supporting standard, of a revoluble frame mounted thereon, means for elevating said frame on said standard, a counterbalance for said frame, rotary shafts
60 carried by said frame and extending horizontally from said standard, means for revolving said frame, means for rotating said shafts, and freely swinging suspending devices secured to the outer ends of said shafts. 65

5. In an apparatus of the class described, the combination with a supporting standard, of a revoluble frame mounted thereon, a non-revoluble frame depending from said revoluble frame, means for lifting said frames,
70 means for revolving said revoluble frame, rotary shafts carried by said revoluble frame, means on said non-revoluble frame for rotating said shafts, and suspending devices carried by said rotary shafts. 75

6. In an apparatus of the class described, the combination with a supporting standard, of a revoluble and a non-revoluble frame mounted thereon, means for elevating said
80 frames on said standard, means for revolving said revoluble frame, rotary shafts carried by said revoluble frame, means on said non-revoluble frame for rotating said shafts, and suspension devices at the outer ends of said rotary shafts. 85

Signed at New York, in the county of New York, and State of New York, this
90 26th day of March, A. D. 1908.

WILLIAM DELMORE.

Witnesses:

CHAS. F. DANE,
J. B. LE BLANC.