(No Model.) 2 Sheets—Sheet 1.

F. SCHRAM.

MOTOR.

No. 503,878. Patented Aug. 22, 1893.

Fig. 4.

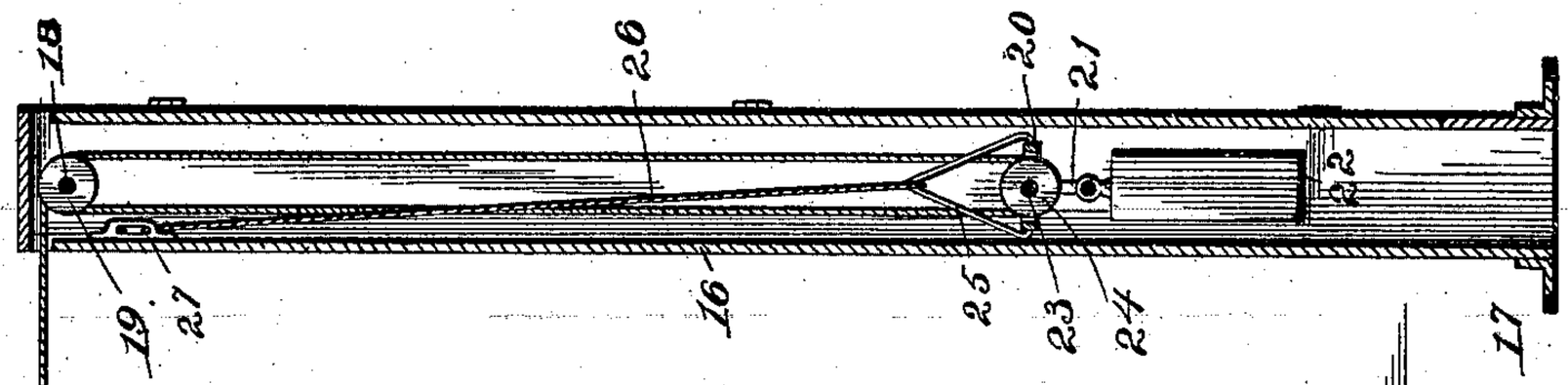
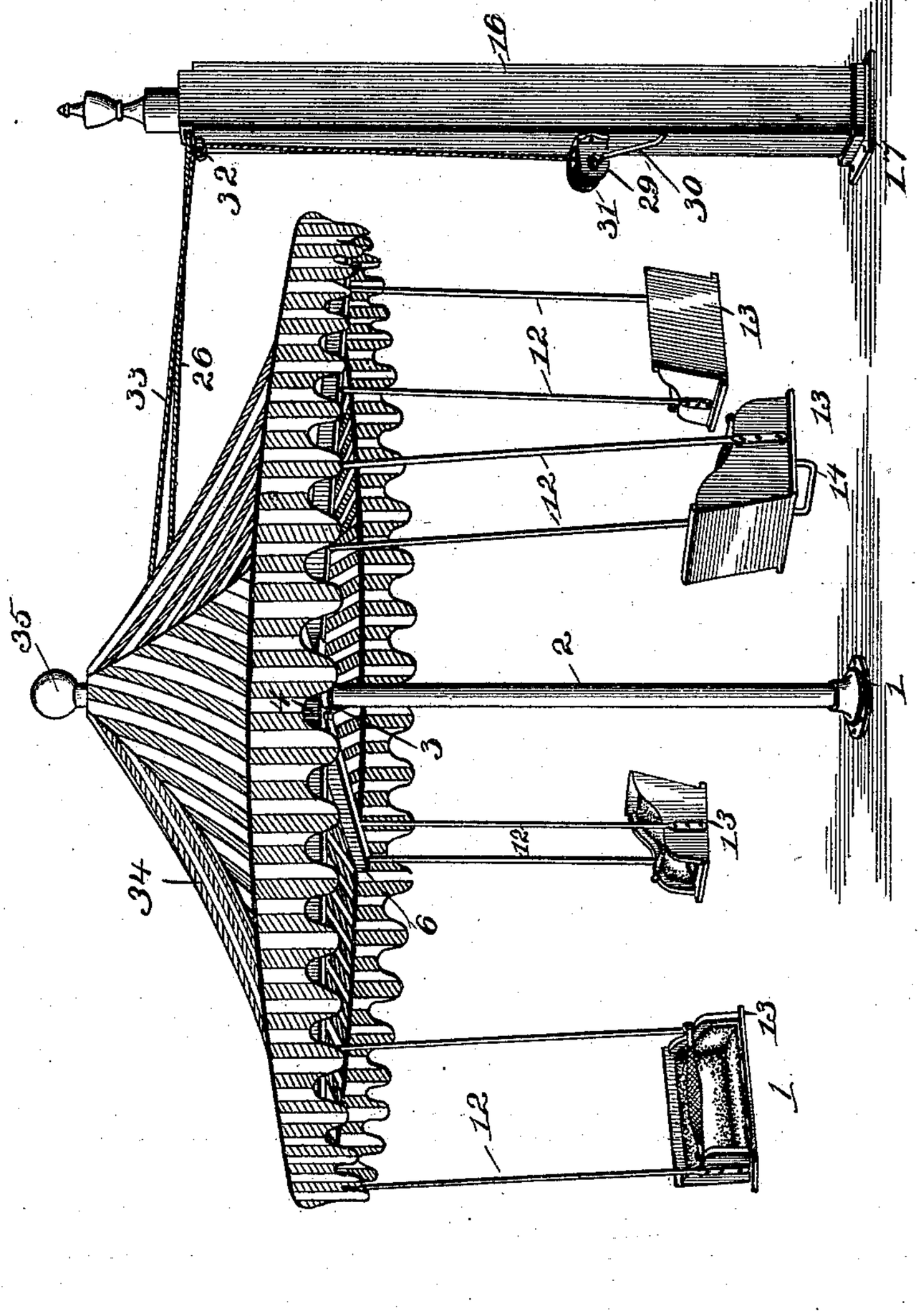


Fig. 1.



Witnesses

John F. Shaw.
J. H. Siggers.

Inventor

Frank Schram.

By his Attorneys,

C. A. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

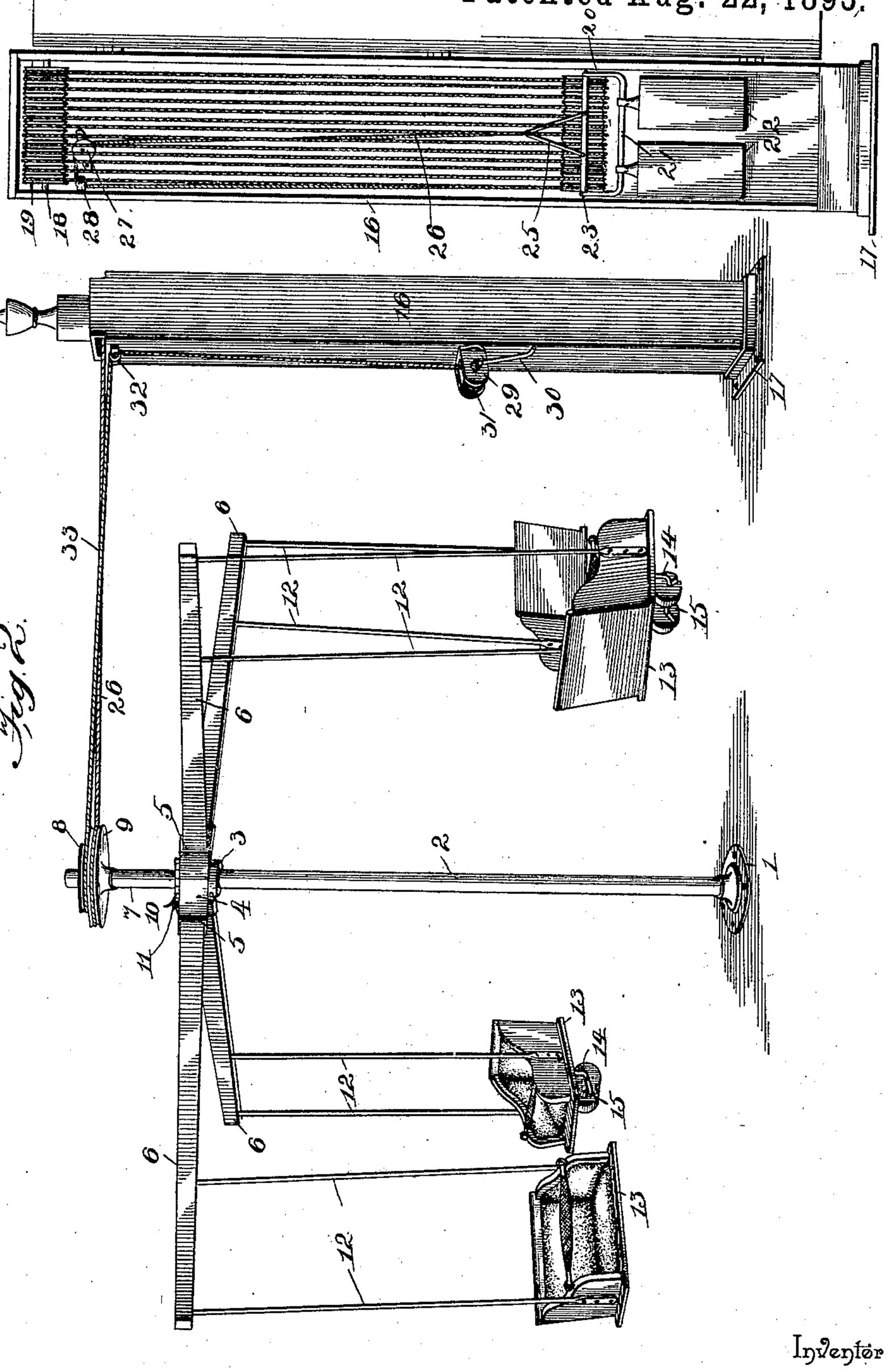

Fig. 2.

Witnesses

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J. K. Siggers,

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Frank Schram

By his Attorneys,

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UNITED STATES PATENT OFFICE.

FRANK SCHRAM, OF SOUTH BETHLEHEM, PENNSYLVANIA.

MOTOR.

SPECIFICATION forming part of Letters Patent No. 503,878, dated August 22, 1893.

Application filed January 12, 1893. Serial No. 458,141. (No model.)

To all whom it may concern:

Be it known that I, FRANK SCHRAM, a citizen of the United States, residing at South Bethlehem, in the county of Northampton and State of Pennsylvania, have invented a new and useful Improvement in Motors for Roundabouts, of which the following is a specification.

My invention relates to improvements in motors; and the objects in view are to produce a motor of cheap and simple construction, that is especially designed for use in connection with roundabouts or carrousels employed for the amusement of small children, and which is noiseless in its operation, may be readily wound, and is strong, durable and cheap.

Various other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings: Figure 1 is a perspective view of a roundabout constructed in accordance with my invention. Fig. 2 is a similar view with the canopy removed. Fig. 3 is an elevation of the motor, the door covering the same being open. Fig. 4 is a vertical transverse section of the motor.

Like numerals of reference indicate like parts in all the views.

1 designates a circular metal base, perforated for the reception of bolts or screws, whereby it may be secured to the floor or other support, and into the same there is screwed or otherwise secured, a hollow cylindrical standard 2, which is provided near its upper end with a bearing-collar 3. Mounted for rotation upon the standard 2, and adapted to bear upon the bearing-collar 3, is a casting 4, the same having a general X shape, each of its branches forming rectangular sockets 5, for the reception of the inner ends of the series of sweep-arms 6.

Journaled in the upper end of the standard 2 is a vertical shaft 7, which carries a small grooved pulley 8, and a larger grooved pulley 9 both of which are fixed and adapted to rotate with said shaft. A ratchet-wheel 10, is fixedly mounted upon the shaft 7, immediately above the casting 4, and a pawl 11 is pivoted upon the casting and spring pressed into engagement with the said ratchet wheel. From each of the sweep-arms 6 there depends a pair of hanger-rods 12, and the same support, at their lower ends, seats or cars 13, of any desired design, one or more of which may have secured to their under sides a horizontal rod 14, for the reception of one or more weights 15, to be employed upon those cars that are unoccupied.

16 designates a vertically-disposed oblong casing, which is mounted at its lower end within a rectangular metal-frame 17, constituting a base, the said base having openings for the reception of screws or bolts, whereby the structure may be secured rigidly to the floor. The casing is situated a convenient distance from the roundabout, and is designed to support and contain the motor through the medium of which said roundabout is operated, and which I will now proceed to describe in detail.

Within the casing, at the upper end thereof, a transverse shaft 18 is located, and the same accommodates and loosely supports a series of grooved pulleys 19. A metal frame 20, is located below the series of pulleys 19, and is provided with a depending U-shaped hanger-frame 21, by which are suspended one or more weights 22. A horizontal shaft 23, is located in the frame 20, and accommodates a series of loose grooved pulleys 24, corresponding with the pulleys 19, located thereabove. A suspension bail 25, supports the frame 20, through the medium of an unwinding rope 26, which has one end secured thereto and rises therefrom, passes over a pulley 27, secured to one of the walls of the casing, and thence laterally over a second pulley 28, which is secured to the wall of the casing. It is then continued down to the series of pulleys 24, under the same, up over a corresponding pulley 19, over the same, and again down under one of the pulleys 24, and so on throughout the series of pulleys, and after reaching the end of the series has its free or advanced end through the casing and secured to the large pulley 9, located on the vertical shaft 7, and which I shall term the "unwinding pulley." From the exterior of the casing projects a couple of bearing-brackets 29, in which is journaled a crank-shaft 30, a small winding-drum 31 being located on the shaft between the bearing brackets. A small guide-pulley

32, projects from the casing above the bearing-brackets.

33 designates the winding-rope, one end of which is secured to the small pulley 8, and the opposite end of which is wound upon the drum 31, said rope having been passed through and being guided by the before-mentioned guide pulley 32. The winding rope 33 is reversely wound upon the small pulley 8 to the direction in which the unwinding rope is wound upon its pulley 9.

34 designates a canopy or cover, that is supported upon the upper end of the shaft 7, by a capped pin 35, seated in the upper end of said shaft. This cover may or may not be used, as preferred; and, in fact, I may mention at this point, that I do not limit my invention to all the precise details of construction herein set forth and shown by the drawings, but hold that I may vary the same within the skill of those conversant with this class of machines.

The operation of my invention may be briefly stated as follows: By rotating manually the crank-shaft 30, it will be seen that the rope 33 will be wound upon the drum of said shaft, and unwound from the small pulley 8. As the rope is unwound from the small pulley 8, the vertical shaft 7, together with its pulley 9, is rotated, and inasmuch as the unwinding-rope 26 is reversely wound upon the pulley 9, to that of the rope 33 upon the pulley 8, said rope 26 will therefore, be wound upon the pulley 9, and in so doing will elevate the weights 22, to the top of the casing, the rope 26 readily running over the series of pulleys 19 and 24, and being made continually shorter will accomplish this function. During the winding the pawl rides loosely over and does not engage with the ratchet wheel 10, and thus the apparatus is not operated. When the crank-shaft is released, or not further operated, the weights will begin to act, and as they descend serve to draw off or lengthen the rope 26, unwinding it from the large pulley 9, thus rotating said small pulley, together with the ratchet-wheel, and shaft 7; and the ratchet-wheel engaging with the pawl will carry the roundabout with it, so that the latter is operated. As the weights descend, it will be seen that the winding rope will be unwound from the drum and rewound upon the small pulley 8, whereby, when the weights have descended their full distance, they may be readily re-elevated by a subsequent winding up of the crank-shaft. It will of course be understood that during the operation of the motor the winding-drum 31 is free to rotate.

Having described the invention, what I claim is—

1. The combination with the vertical shaft of a roundabout and the pulleys fast upon the same, of a casing located at one side of said roundabout, a transverse shaft located in the upper end of the casing, grooved pulleys mounted thereon, a frame located below the shaft, a shaft located in the frame, grooved pulleys mounted thereon and corresponding with those of the upper shaft, weights carried by the frame, an unwinding-rope secured to said weighted frame and passed alternately over the pulleys of the upper and lower series, and finally connected to one of the pulleys of the roundabout, a drum, and crank-shaft, a rope connected to the same, and having its opposite end connected to and reversely wound upon the second pulley of the roundabout, substantially as specified.

2. The combination with the shaft and pulleys of a roundabout, said pulleys differing in size, of a casing located at one side of the roundabout, a shaft transversely disposed in the upper end of the casing, a series of loose grooved pulleys located on the shaft, a transversely-disposed frame located below said upper shaft and provided with a horizontal shaft, and a depending weight-supporting frame, a series of grooved pulleys mounted on the shaft of the frame, a suspension bail connected to the frame, a rope secured to the suspension bail and alternately passed about the upper and lower series of pulleys, and finally secured to the large pulley of the vertical shaft of the roundabout, a pair of bearing-brackets extending from the wall of the casing, a crank-shaft journaled in the brackets and carrying a drum, and a winding-rope secured to and wound upon the drum, and at its opposite end secured to the small pulley of the roundabout and reversely wound thereupon to that rope connected to the large pulley, substantially as specified.

3. The combination with the rotatable shaft, and the roundabout carried thereby and large and small pulleys carried by and secured rigidly to the shaft, of a weight motor, a rope operated thereby and leading therefrom to the said large pulleys, a windlass, and a winding rope leading therefrom to the said small pulley and reversely wound thereon with relation to the weight-operated rope upon its pulley, substantially as specified.

4. The combination with a roundabout, comprising a vertical rotating operating-shaft, and a pair of pulleys located and secured upon the shaft, of a weight-operated motor, an unwinding rope operated by the motor and secured to one of the pulleys, a windlass, and a winding rope secured at one end to the windlass and at its opposite end to the remaining pulley of the roundabout and wound thereon reversely to that which leads from the weight motor is wound upon the pulley, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANK SCHRAM.

Witnesses:
WILLIAM SINWELL,
EMIL SCHREMFEL.