M. RAKOWSKY (NOW BY CHANGE OF NAME M. ROCKFORD).

GEARING.

APPLICATION FILED JAN. 29, 1914.

1,209,884.

Patented Dec. 26, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

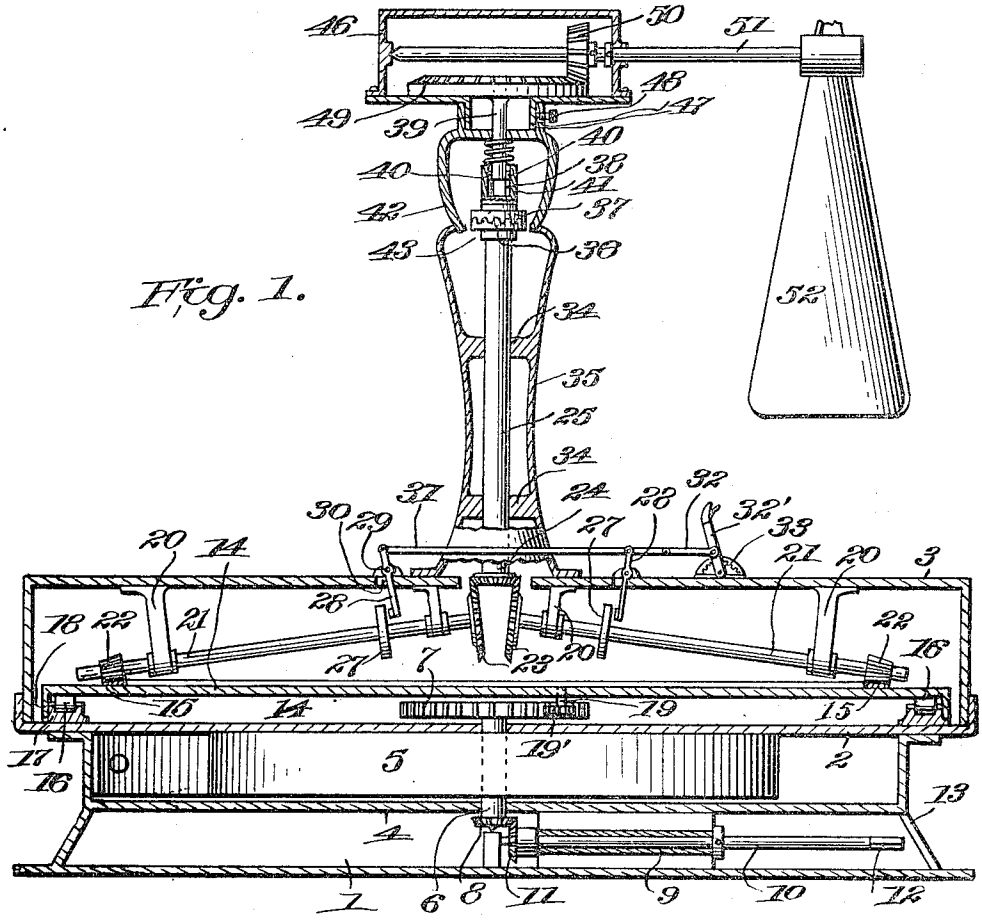


Fig. 3.

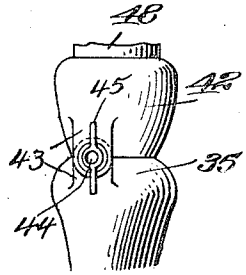
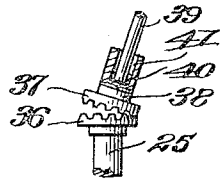


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 2.

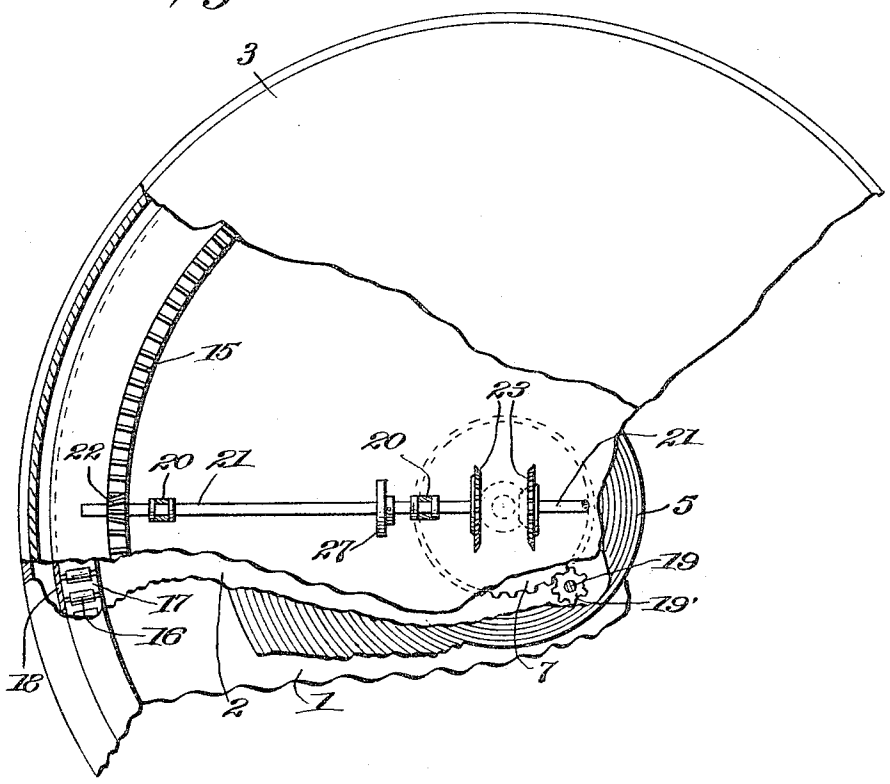
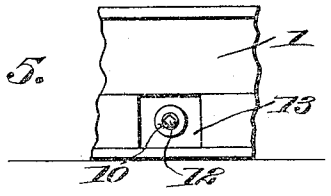


Fig. 5.



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UNITED STATES PATENT OFFICE.

MORRIS RAKOWSKY, (NOW BY CHANGE OF NAME MORRIS ROCKFORD,) OF UTICA, NEW YORK.

GEARING.

1,209,884. Specification of Letters Patent. Patented Dec. 26, 1916.

Application filed January 29, 1914. Serial No. 815,114.

To all whom it may concern:

Be it known that I, MORRIS RAKOWSKY, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Gearing, of which the following is a specification.

My invention relates to improved gearing means particularly spring-motor actuated, designed especially for operating a fan.

The invention aims to provide apparatus highly effective for its purposes employing novel gearings, novel means for regulating the speed of rotation of the parts, and novel means for maintaining and driving the fan in an inclined plane.

In the accompanying drawings, one form of the device is illustrated which comprises parts that are substantial, will prove durable in use, forming a device that may be manufactured at minimum cost.

With respect to said drawings: Figure 1 is a vertical sectional view; Fig. 2 is a fragmentary view partly in plan and partly in section. Fig. 3 is a partial side elevation illustrating the pivotal connection of the sections of the standard; Fig. 4 is a detail view illustrating the vertical shaft sections at angular adjustment, and Fig. 5 is a fragmentary elevation specifically illustrating the winding shaft in end elevation.

Referring specifically to the drawing, a casing or housing is employed comprising a base section 1, on which is rigidly fastened a plate or intermediate section 2 made separate therefrom and an upper section 3 made separate from the other sections and rigidly fastened to the section 2. Section 1 has a horizontal wall 4 which divides it into two compartments the upper of which contains an actuating motor, in the form of a clock spring 5 fastened to operate a vertical short shaft 6 rotatably mounted in the section 2 and wall 4 and having keyed thereto at its upper end beyond section 2 a spur gear wheel 7 and keyed thereto at its lower end beyond wall 4 a bevel gear wheel 8. The lower of the compartments of section 1 has a bearing 9 in which is rotatably mounted a winding shaft 10 having keyed thereto a bevel gear wheel 11 in mesh with the gear wheel 8. Said shaft 10 has a winding key engaging shank 12, preferably polygonal in cross section arranged adjacent a key insert opening 13 of the section 1.

On the section 2 is rotatably mounted a gear plate 14 having an annular rack 15 provided with beveled teeth. This plate 14 preferably travels directly on rollers 16 mounted in an annular bearing 17 on section 2. The plate has a depending stud 19 rigid therewith and the stud 19 is rigid with a disk 19′ having teeth engaging those of a gear wheel 7. The elements 19 and 19′ do not move relatively to the plate 14.

Depending from the top wall of the upper casing section are bearing brackets 20 in which are journaled preferably at an angle, one or more shafts 21 which have keyed thereto gear wheels 22 in mesh with the teeth of the rack 15. Bevel gear wheels 23 are keyed to shafts 21 and mesh with a bevel gear 24 carried by a vertical shaft 25. The disks are adapted to be engaged by brake shoes or levers 28 in order to arrest completely or partially motion of the shafts and also of the spring 5, and entire apparatus. Said levers are pivoted at 29 to the top wall of section 3 and extend through enlarged openings 30 therein. A connecting rod 31 is pivoted to said levers and to a link 32 pivoted to an operating lever 32′ and adapted to lock to a toothed segment 33 on said top wall of section 3. Shaft 25 is journaled in bearing plates 34 of a section 35 of a standard or post rigidly fastened on section 3. A gear clutch member or wheel 36 is keyed on shaft 25 and coöperating therewith is a similar gear and clutch wheel 37 mounted on a shank or hollow shaft 38 mounted to slide on and rotate with a shaft 39 to this end having ribs 40 extending in longitudinal grooves 41 of the shaft. A second post or standard section 42 is pivotally mounted on the section 35 by plates 43 adjustably fastened together by a bolt 44 having a clamping set screw 45 thereon. A cap casing 46 is removably clamped on section 42 by walls 47 and a set screw 48. Shaft 39 has fastened thereto a bevel gear wheel 49 meshing with a bevel gear wheel 50 keyed on a shaft 51 mounted in the cap casing and adapted to carry thereon a fan such as shown at 52.

In operation, shaft 10 is turned by a key applied at 12 and the spring 5 wound, and may be maintained wound and inactive by proper friction tight engagement of the levers 28 with disks 27 through shifting of lever 32′. When the fan 52 revolves the le-

vers 28 are disengaged from tight relationship with the disks 27 whereupon the spring turns shaft 6, and gear 7, the latter engaging gear 19′ but turns shaft 19 and plate 15, the latter traveling on the rollers 16. In turn rack 15 drives gears 22, shafts 21, gears 23 and 24, shaft 25 and gears 36 and 37 and shank 41. If the fan is desired to turn at an angle, nut 45 is loosened and the post section 42 turned to the proper angle and simultaneously shaft or shank 41 will be shifted as seen in Fig. 4 and will slide a proper extent on shaft 39. Then the nut 45 is tightened. Shaft 39 drives gears 49 and 50, the latter driving the shaft 51 and fan 52 thereon.

Changes may be made in the details of construction without departing from the spirit and scope of the invention.

I claim:

1. Apparatus of the class described having a driven gear wheel, a gear plate, a driving member on said plate in mesh with said gear wheel and a shaft driven from said plate, and means to mount said plate for rotation, comprising a bearing and said plate having means overlapping and engaging said bearing to prevent displacement.

2. Apparatus of the class described having a driven gear wheel, a gear plate, a driving member on said plate in mesh with said gear wheel and a shaft driven from said plate and means to mount said plate for rotation, comprising an annular bearing, rollers on said bearing on which said plate rests and a wall depending from said plate overlapping and surrounding said bearing to prevent displacement.

3. Apparatus of the class described having a driven gear member, a plurality of shafts driven therefrom, a shaft driven by said shafts, brake members on each of said plurality of shafts brake members engageable with said brake members a connecting member for the last mentioned brake members, a link on said connecting member and an operating member connected to said link.

4. Apparatus of the class described, having a first shaft a second shaft, intermeshing gear wheels driven from said shafts, one of said gear wheels slidable relatively to the other, and means to fasten said shafts at angular adjustment.

5. Apparatus of the class described having a shaft, a shaft member, a gear wheel on said shaft a slidable gear member driven from said shaft member in mesh with said gear wheel, one of said members having a groove and the other having a projection and means to fasten said shaft and shaft member at angular adjustment.

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

MORRIS RAKOWSKY.

Witnesses:
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DANIEL DENANRO.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."