

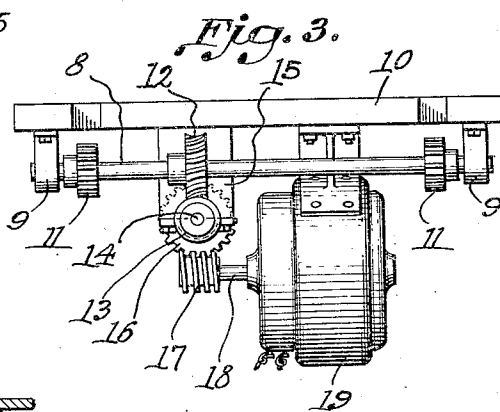
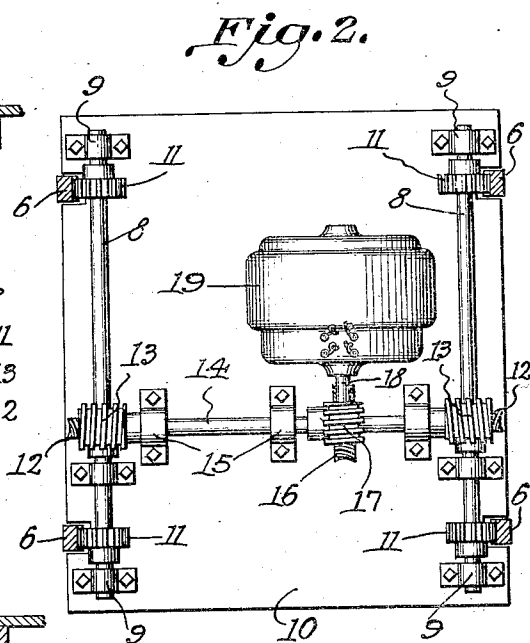
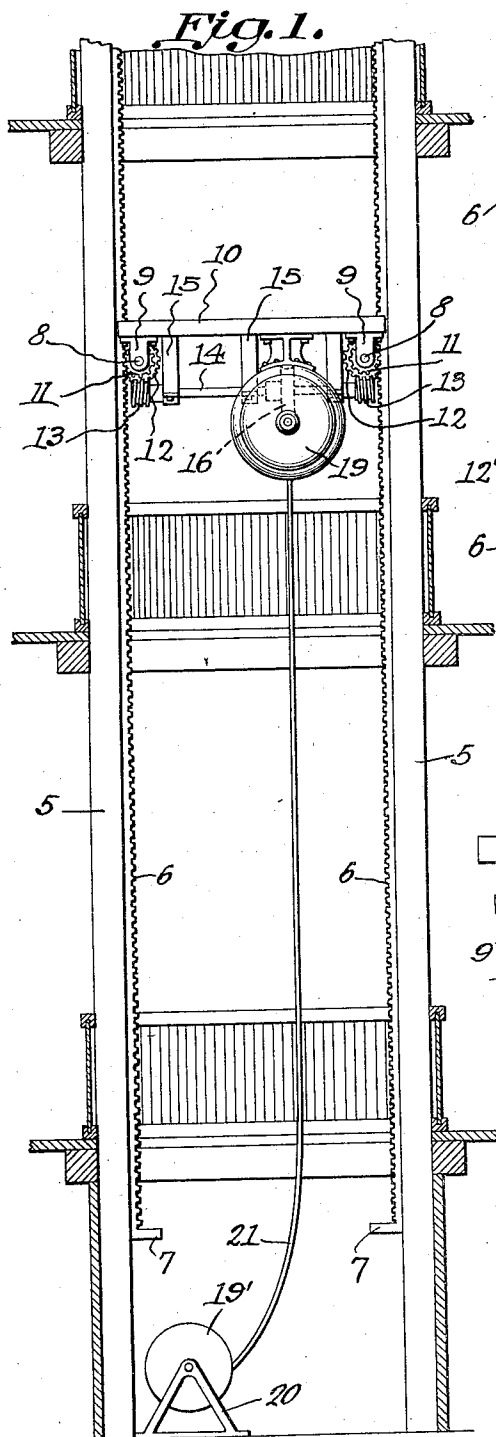
July 5, 1927.

1,634,854

T. F. SCOLLARD

ELECTRIC ELEVATOR

Filed July 2, 1924



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UNITED STATES PATENT OFFICE.

THOMAS F. SCOLLARD, OF WARSAW, INDIANA.

ELECTRIC ELEVATOR.

Application filed July 2, 1924. Serial No. 723,782.

This invention relates to an elevator construction, the primary object of the invention being to provide a novel form of gearing to be carried by the elevator to accomplish the operation thereof, eliminating the necessity of using cables, drums or similar hoisting devices.

Another important object of the invention is to provide an operating mechanism which will be exceptionally noiseless and one capable for use in private residences.

A still further object of the invention is the provision of an operating mechanism wherein the gearing and number of elements embodied in the mechanism are reduced to the minimum.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawing:

Figure 1 is an elevational view disclosing the elevator guides and elevator operating thereon.

Figure 2 is a bottom plan view of an elevator disclosing the gearing as mounted thereon.

Figure 3 is a front elevational view of the elevator.

Referring to the drawing in detail, the reference character 5 indicates the vertical standards which form the elevator guideways, the same being supported in the elevator shaft in the usual and well known manner.

Secured to the inner surface of each standard is a rack bar indicated at 6, each of which being provided with an inwardly extended end portion 7 acting as a rest to engage the elevator base and provide a support therefor, when the elevator is in its down position.

The gearing and operating mechanism forming the essence of the invention includes horizontally disposed shafts 8 which have their ends supported in the bearings 9 secured to the under surface of the platform 10 of the elevator.

The shafts 8 are disposed adjacent to the

front and rear edges of the platform 10 as clearly shown by Figure 2 of the drawing and support pinions 11 which are keyed or otherwise secured thereto, which pinions are designed to mesh with the teeth of the rack bars 6 to raise and lower the elevator supporting the operating mechanism.

Worms 12 are secured to the shafts 8 and mesh with the worms 13 mounted on the ends of the shaft 14 that moves in the bearings 15 that are also secured to the under surface of the platform 10. The worm 16 is secured to the shaft 14 and is in mesh with the worm 17 mounted on one end of the rotor shaft 18 of the motor 19 so that a rotary movement of the rotor 18 will be transmitted to the shafts 14 and 8 through the worms 16, 17, 13 and 12.

The reference character 19' indicates a drum which is mounted on supports 20 and disposed in the pit at the base of the elevator shaft, the pulley being of a construction to automatically wind the wires which are encased in the tubing 21 and which supply electric energy to the motor 19. Thus it will be seen that as the elevator moves to its uppermost position, the tubing will be unwound, and when the elevator moves to the limit of its downward movement, the tubing together with the wires supported therein will be automatically wound on the drum 19.

It is to be understood that the usual switch mechanism not shown, will be provided for controlling the current to the motor so that the device may be readily operated. It might be further stated that due to this construction, all cables and lifting drums are eliminated, reducing the cost of the elevator to the minimum.

I claim:—

In a device of the character described, an elevator shaft having rack bars arranged at its corners, a vertically movable platform, shafts mounted under the platform, pinions on the shafts adjacent to the ends thereof and meshing with the teeth of the rack bars, pinions on the shafts intermediate the ends thereof, a shaft having worms at its ends and meshing with the last mentioned pinions, and means on the platform for imparting rotary motion to the last mentioned shaft to raise and lower the platform.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

THOMAS F. SCOLLARD.