C. L. WOLF.

PORTABLE ELEVATOR.

APPLICATION FILED JULY 27, 1917.

1,263,303.

Patented Apr. 16, 1918.

2 SHEETS—SHEET 1.

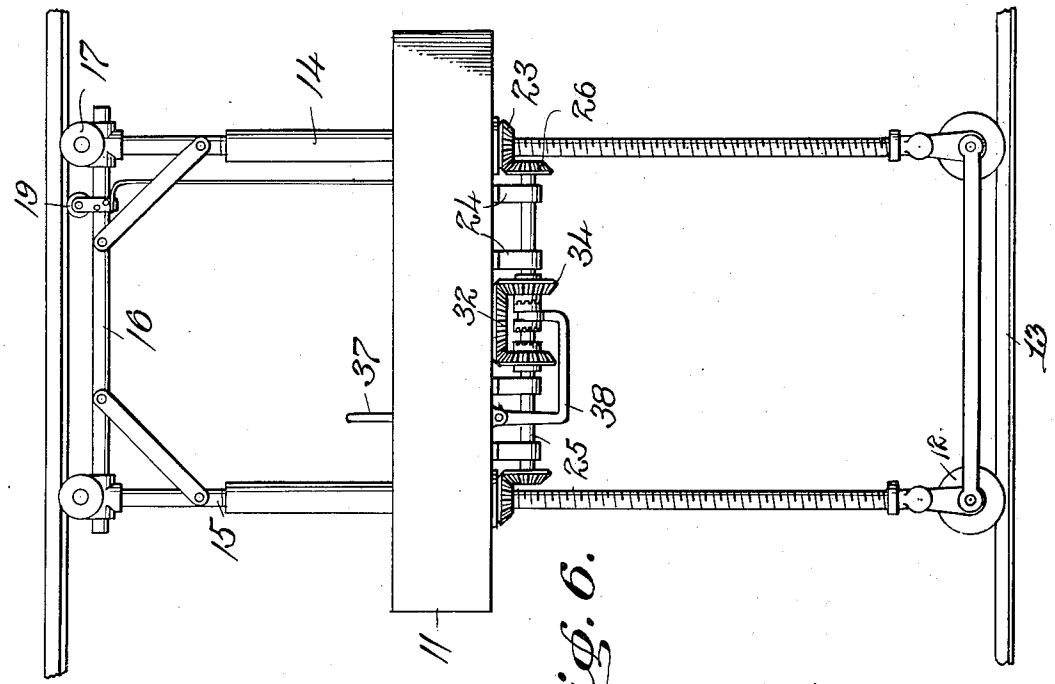


Fig. 6.

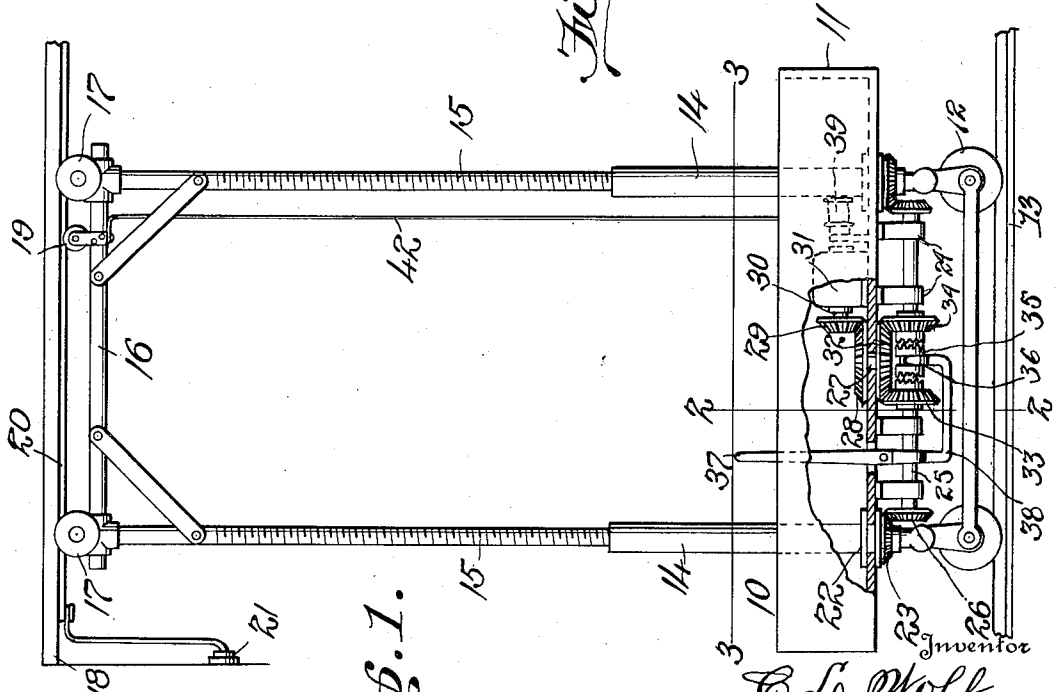


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 3

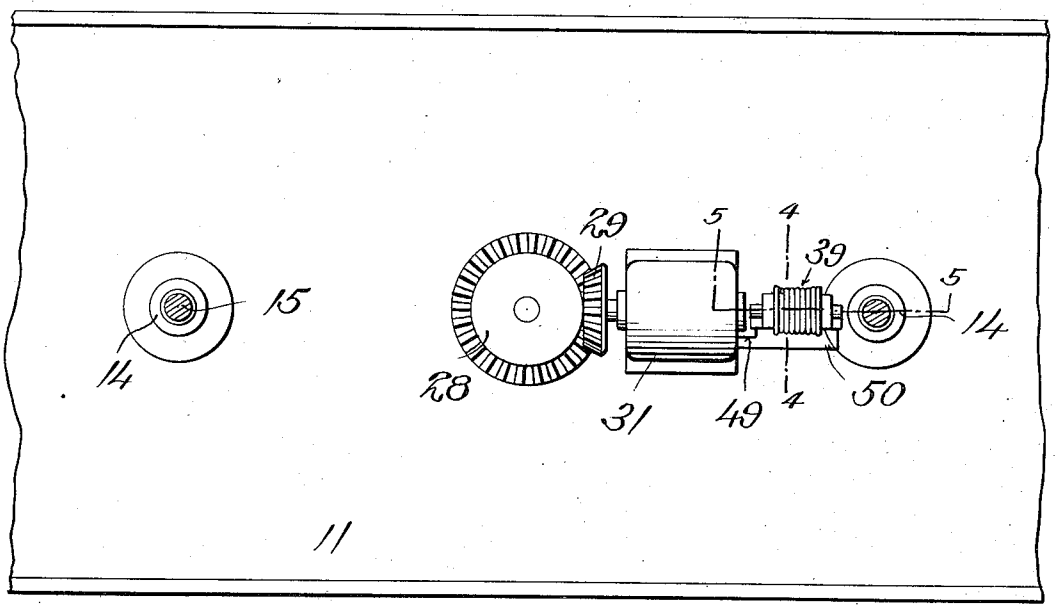
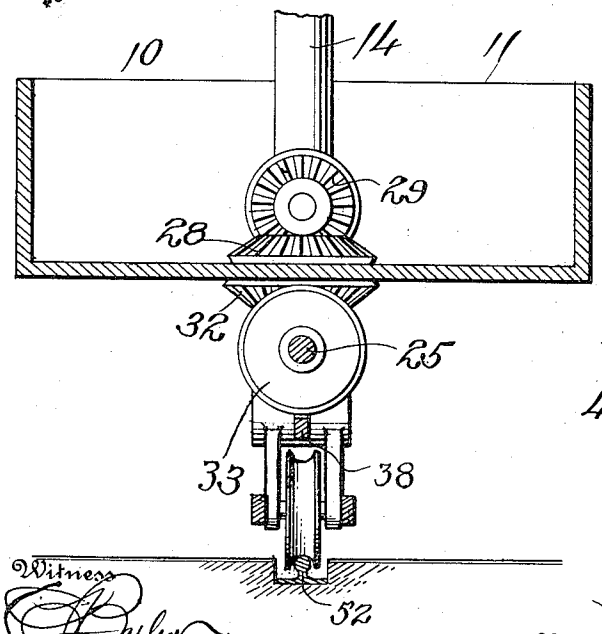


Fig. 2.



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Fig. 4.

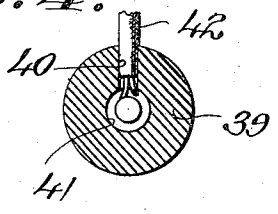
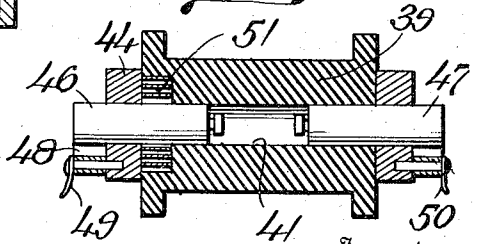


Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES L. WOLF, OF YUMA, COLORADO.

PORTABLE ELEVATOR.

1,263,303. Specification of Letters Patent. Patented Apr. 16, 1918.

Application filed July 27, 1917. Serial No. 183,159.

To all whom it may concern:

Be it known that I, CHARLES L. WOLF, a citizen of the United States, residing at Yuma, in the county of Yuma, State of Colorado, have invented certain new and useful Improvements in Portable Elevators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in store devices and particularly to devices for facilitating the reaching of boxes and packages on the higher shelves.

One object of the present invention is to provide a novel and efficient device whereby the clerk can elevate himself to the proper level to reach the desired box or package.

Another object is to provide a device of this character which is electrically operated to raise or lower the platform on which the clerk stands.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawing.

In the drawings:

Figure 1 is a side elevation of a portable elevator made in accordance with my invention.

Fig. 2 is a vertical sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a horizontal sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is an enlarged vertical sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 3, enlarged.

Fig. 6 is a side elevation of the device showing the platform in elevated position.

Referring particularly to the accompanying drawing 10 represents a truck which includes the frame 11 and the wheels 12, which are arranged to run on the rails 13 secured to the floor of the store and extending the length of the series of shelves. Carried by this truck are the vertical tubular standards 14, the same being interiorly threaded for the reception of the externally threaded bars or rods 15. Carried by the upper ends of the bars or rods 15 is a frame 16, and on this frame are supported the wheels 17 which are arranged to engage with the track 18 secured to the ceiling of the store and directly above the floor rails. Also carried by the frame 16 is a trolley wheel 19 which engages with a third rail 20, also carried by the ceiling, and receiving current from any suitable source, as from the lamp socket 21.

The hollow standards 14 are supported in bearings 22, and at their lower ends they carry the bevel pinions 23. Depending from the bearing brackets 24 of the bottom of the platform, and extending longitudinally of the platform, is a drive shaft 25, the ends of which are provided with bevel pinions 26 meshing with the pinions 23. Extending vertically through the bottom of the platform is a shaft 27, the upper end of which is provided with a bevel pinion 28 which meshes with a similar pinion 29 carried by the adjacent end of the shaft 30 of the electric motor 31, which motor is mounted on the platform. The lower portion of the shaft 30 is provided with a bevel pinion 32 which simultaneously meshes with the two bevel pinions 33 and 34 which are loosely mounted on the shaft 25. Keyed on the shaft 25, between the pinions 33 and 34, is a sliding clutch member 35, the same being provided with a yoke 36 which is connected to an operating lever 37 on the platform, by means of a link 38. Thus when the lever is shifted in one direction the pinions 32 and 33 will be in operative engagement to turn the shaft 25 and rotate the standards 14, with the result that the platform will be elevated, while when the lever is shifted in the opposite direction the pinions 34 and 32 will be in operative engagement to turn the standards in the opposite direction and lower the platform.

Mounted on the platform is a drum 39, through which is formed a vertical opening 40. This opening communicates with a longitudinal opening in the shaft of the drum, as at 41, and through these openings are disposed the electric wires 42, the same being wound a number of times around the drum when the platform is in its lowermost position. The wires extend vertically and are properly connected to the trolley wheel to transmit current collected from the third rail to the motor.

Referring particularly to Fig. 5, it will be seen that the drum includes an insulated body portion through which are disposed the metal trunnions 46 and 47. The wires 42 extend through the body of the drum and are connected respectively to the said trun-

nions. A brush 48 is mounted adjacent the trunnion 46 and engages therewith, a wire 49 being connected to this brush and to the motor. A wire 50 connects the other trunnion with the motor. The drum is supported in the brackets 44, which receive the said trunnions therethrough, as seen in the drawing. Connected to the drum and to one of the brackets is a spring 51 which normally tends to turn the drum to wind up the conductors 42, as the platform is elevated by the motor and the standards. The standards are of such height that they may be grasped to move the truck along the tracks 13 without contacting with the rods.

What is claimed is:

A portable elevator including a truck, a platform mounted on the truck, a motor mounted on the platform, vertical internally threaded standards carried by and movable with the platform, a frame disposed above the platform, externally threaded rods carried by the frame and operatively engaging in the standards, driving connections between the motor and the standards, a third rail electrical conductor carried by the ceiling of the room above the frame, a current collector carried by the frame and engaging the conductor, a winding drum, an electrical conductor connected to the collector and the drum, a conductor connected to the drum and the motor, and means for automatically winding the drum to wind the conductor thereon as the platform rises.

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

CHARLES L. WOLF.

Witnesses:

RAY L. ELGIN,

I. L. RISING.