A. T. PRESCOTT.

CHANDELIER HOIST.

APPLICATION FILED OCT. 2, 1912.

1,166,544.

Patented Jan. 4, 1916.

2 SHEETS—SHEET 1.

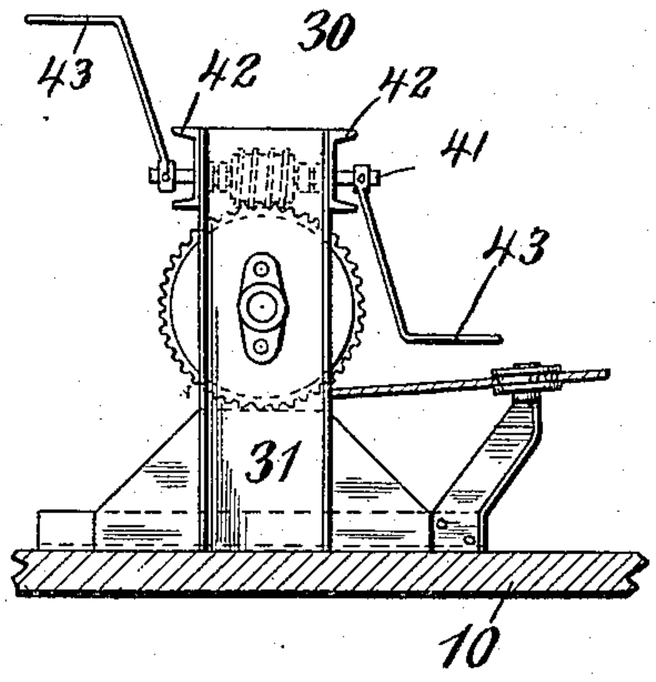


Fig. 1

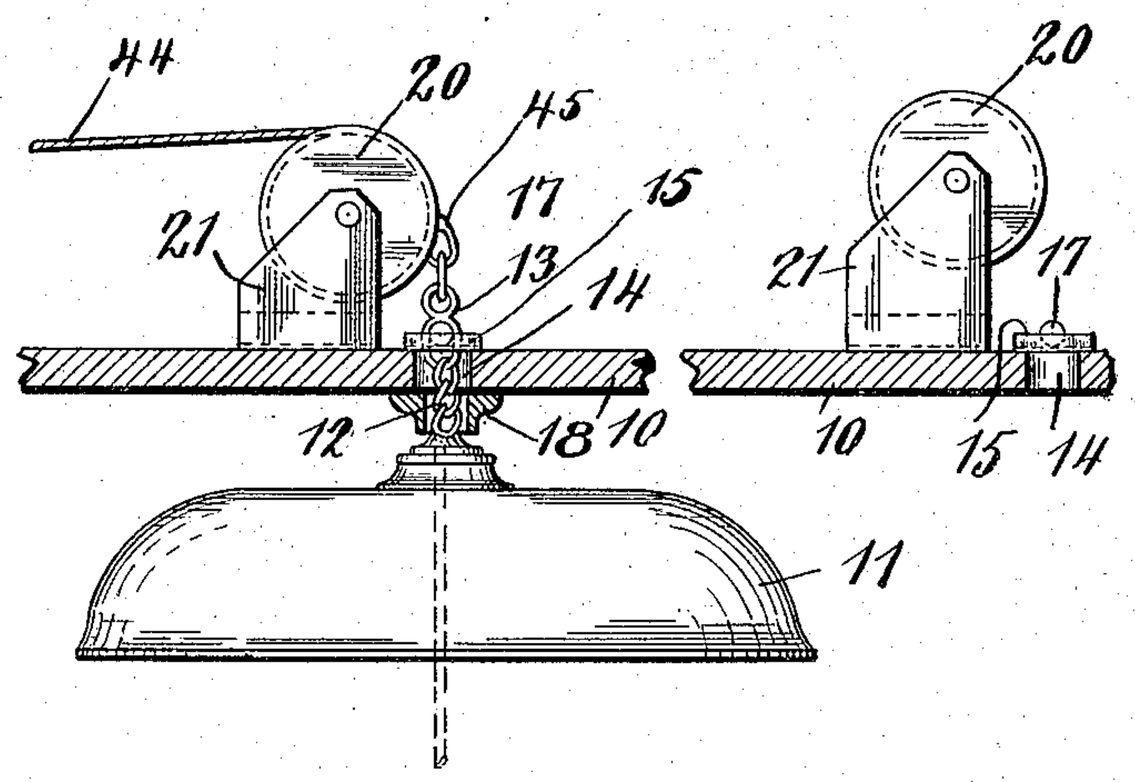
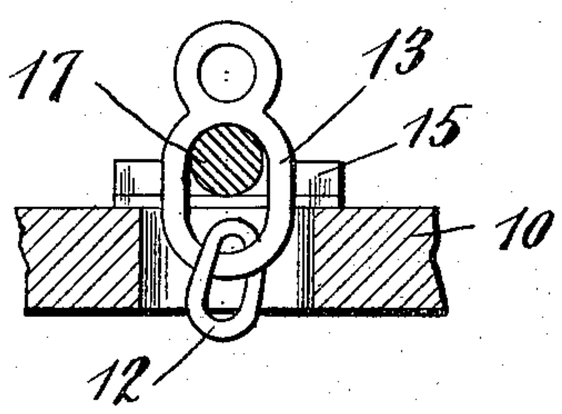


Fig. 2,



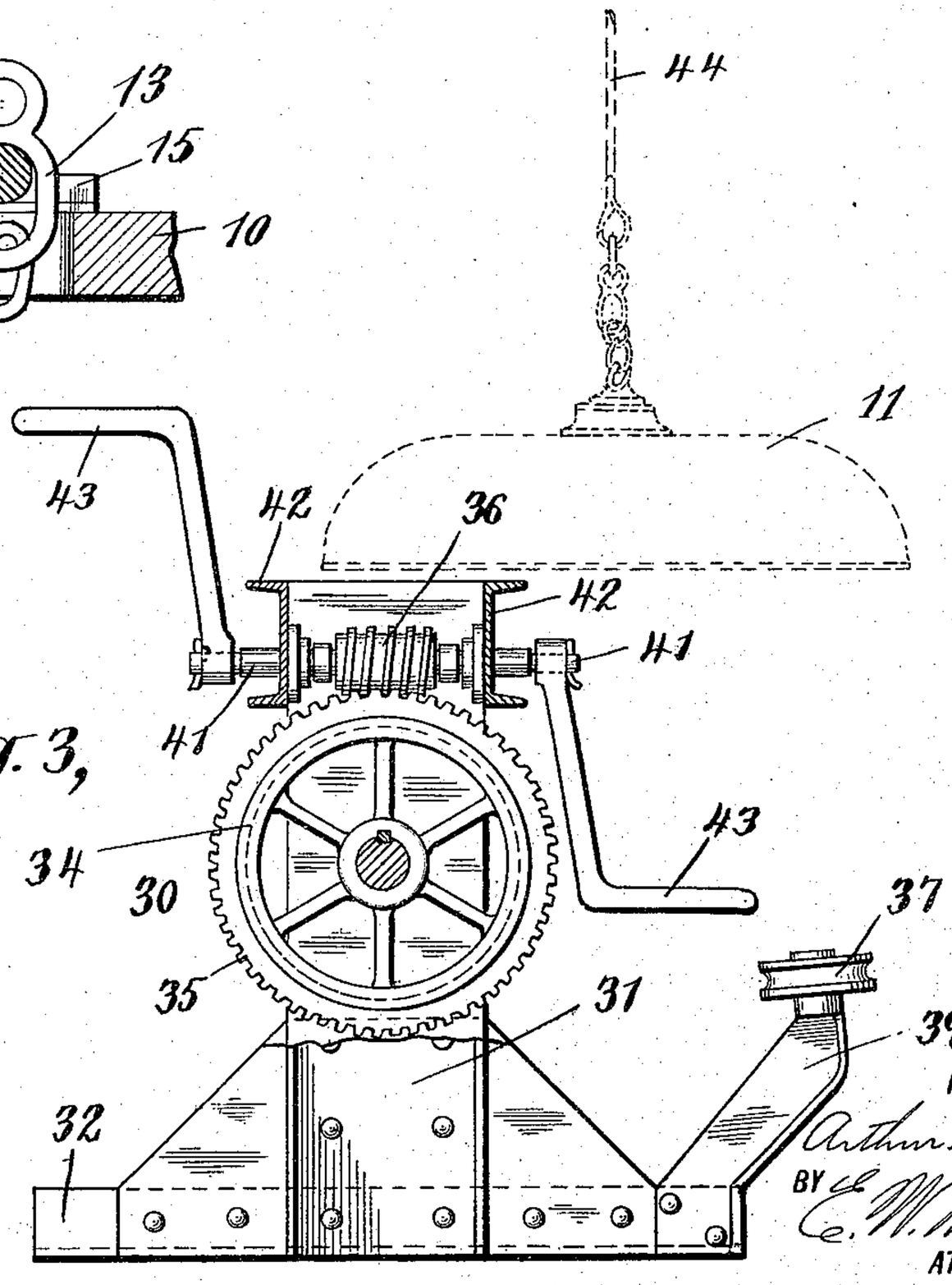


Fig. 3,

WITNESSES

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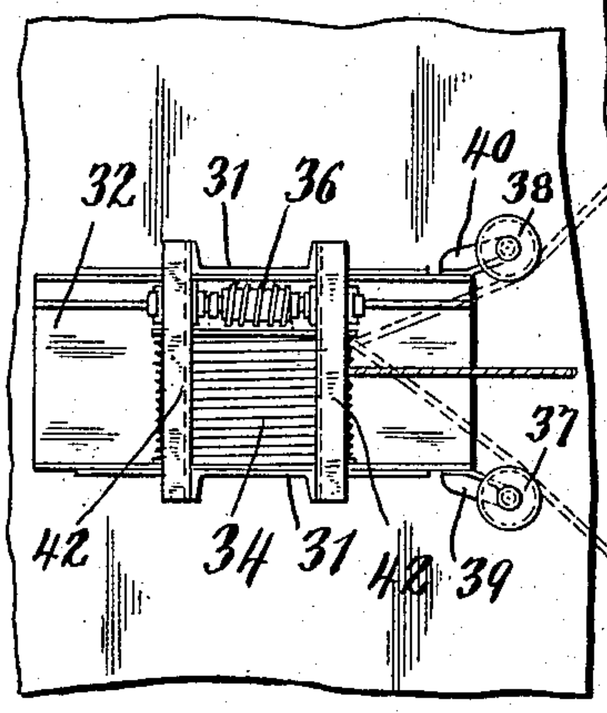
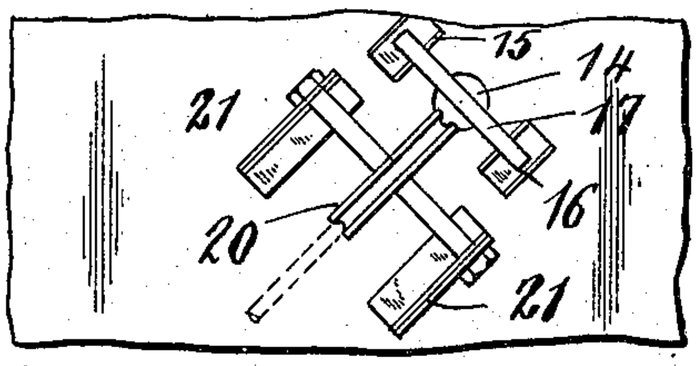
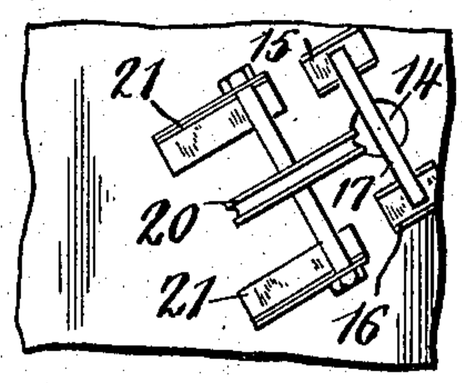
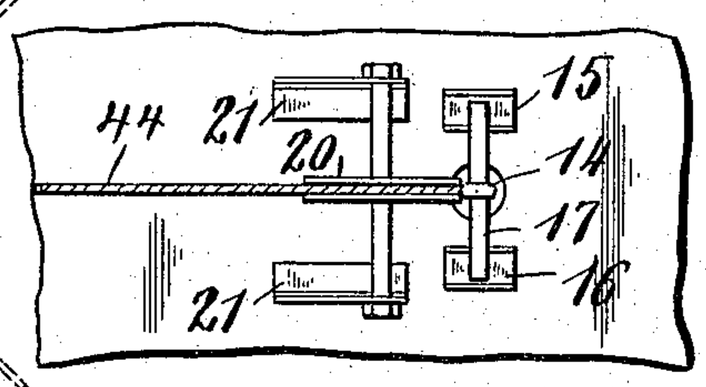
2 SHEETS—SHEET 2.

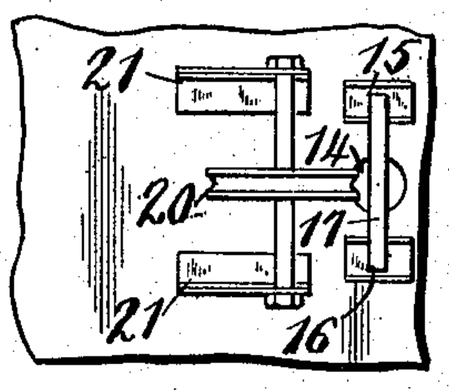
Fig. 4

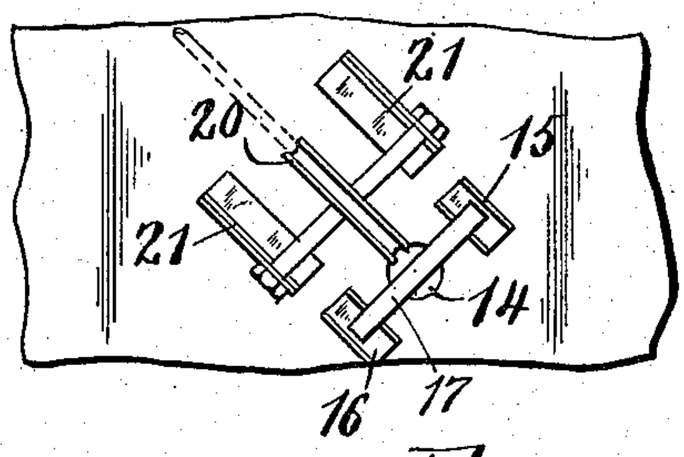












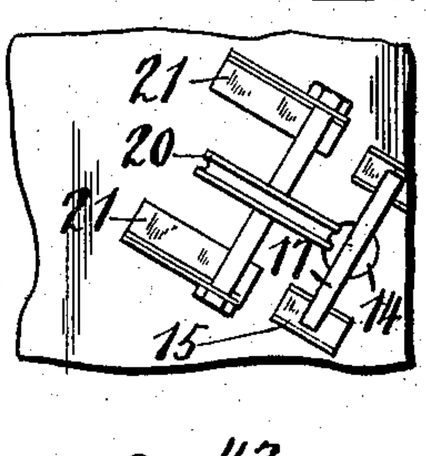


Fig. 6,

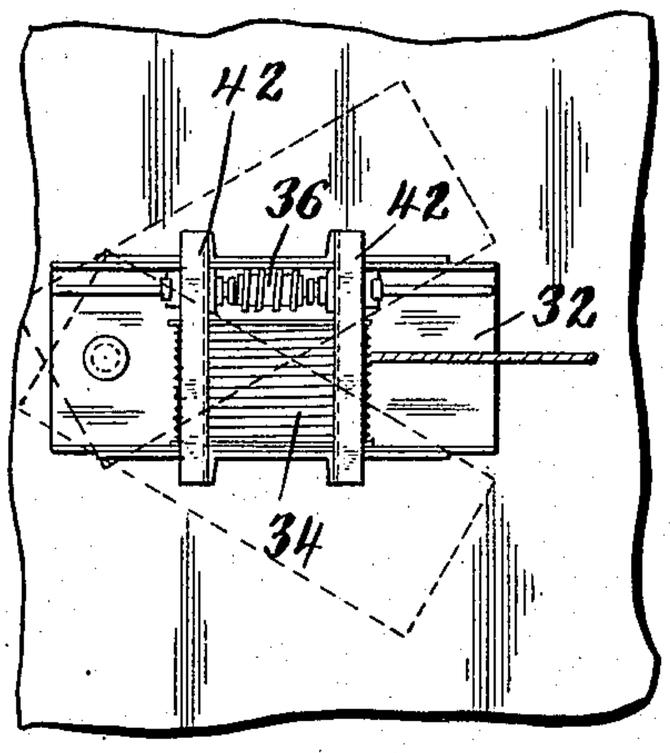
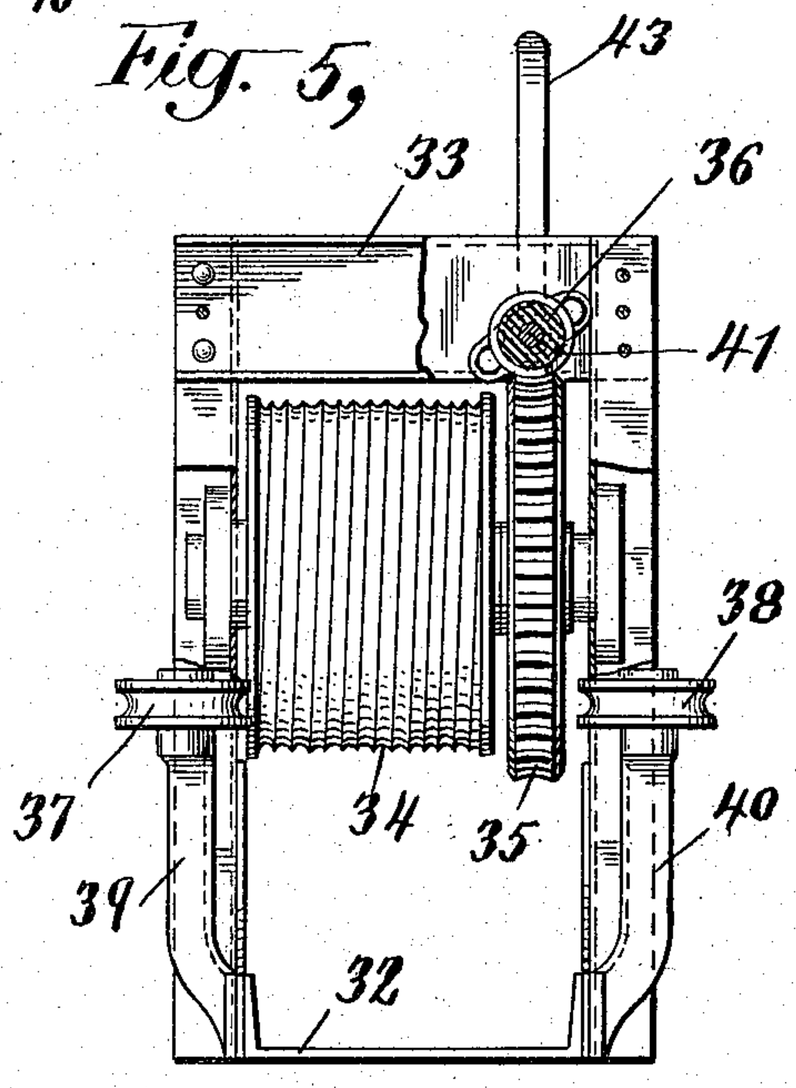


Fig. 5,



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UNITED STATES PATENT OFFICE.

ARTHUR T. PRESCOTT, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO GEORGE H. FROTHINGHAM COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

CHANDELIER-HOIST.

1,166,544. Specification of Letters Patent. **Patented Jan. 4, 1916.**

Application filed October 2, 1912. Serial No. 723,485.

To all whom it may concern:

Be it known that I, ARTHUR T. PRESCOTT, a citizen of the United States, and a resident of East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Chandelier-Hoists, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to apparatus for raising and lowering any one of a plurality of chandeliers or other similar fixtures.

The object of my invention is to provide a hoisting apparatus of the character and for the purpose above specified, that shall be simple and durable in construction and positive in operation.

In the drawings, Figure 1 is a partially sectional elevation illustrating a hoisting apparatus, constructed in accordance with my invention, and the way in which it is used. Fig. 2 is a detail view, on a larger scale, of the supporting member on which the weight of the chandelier or other fixture is supported when the hoisting apparatus of Fig. 1 is not in use. Fig. 3 is an end elevation of the hoist of Fig. 1 with one of the standards broken away to disclose the winding drum and its driving gear wheel. Fig. 4 is a plan view of the parts shown in Fig. 1. Fig. 5 is a front elevation at right angles to Fig. 3 of the hoist proper. Fig. 6 is a plan view of a modified form of hoist which also embodies my invention.

Like characters of reference designate corresponding parts in all the figures.

Referring to Figs. 1 to 5 inclusive, of the drawings, 10 is a substantially horizontal supporting surface such as a ceiling from which a plurality of chandeliers or other fixtures 11 (only one of which is shown) depend.

My invention is specially adapted for use with large and heavy chandeliers such as are found in theaters, churches and other public buildings, although its use is not restricted to any specific fixture or class of fixtures.

It is my special aim to avoid the use of cumbersome and dangerous counterweights, to affix the chandelier firmly in position and at the same time to provide for lowering the chandelier for repairs or cleaning, with a relatively small expenditure of time and expense.

The chandelier 11 is directly suspended by a chain 12 having a large link or shackle 13 at its upper end. The horizontal supporting surface or ceiling 10 is provided with a series of holes or openings 14 through one of which the link or shackle 13 extends. A pair of brackets 15 and 16 are located on the respective sides of each of the holes or openings 14 and support a bar or rod 17, which is thrust through the lower part of the link or shackle 13. The brackets 15 and 16 are so spaced and the rod or bar 17 is of such length that the chandelier is very securely held in position although it may be subjected to considerable vibration.

Although only a single chandelier is shown, it will of course be understood that a similar, or correspondingly suspended, fixture will be supported by each of the rods 17, one of the chains 12 extending downwardly through each of the holes 14. A sheave or pulley 20 is rotatively supported in brackets 21 adjacent to each of the holes or openings 14, the center line of the hole being substantially tangent to the groove of the sheave in each case.

A hoist or windlass 30 is mounted on the surface 10 and comprises vertical standards or brackets 31 which are secured to a channel iron or beam constituting a base 32, a horizontal cross tie 33, a winding drum 34, a gear wheel 35, a pinion 36 and guide sheaves 37 and 38. The sheaves 37 and 38 are respectively mounted on brackets 39, 40 which are riveted or otherwise attached to the base 32. The winding drum 34 is mounted between the uprights 31 and is provided with a spiral surface groove in the usual manner to guide the cable as it is wound onto and off of the drum. The gear wheel 35 is secured to the drum 34 and meshes with the pinion 36. These are of such low pitch that the weight of the chandelier cannot overhaul the hoist. The cross tie 33 is composed of a pair of spaced channel irons 42 in which the respective ends of a pinion shaft 41 are journaled. Cranks or levers 43 are secured to the respective ends of the shaft 41. A cable 44 is partially wound on the drum 34, extends over one of the sheaves 20 when in use and is provided with a hook 45 which is adapted to engage the upper loop of the link or shackle 13.

The operation of the device is as follows: Assuming that the chandelier is supported

by the rod or bar 17 and that it is desired to lower the chandelier, the cable 44 is placed in the groove of the adjacent sheave 20 and the hook 45 is hooked into the upper loop of the shackle 13. If the sheave is in the plane of rotation of the winding drum, the cable will be stretched from the drum to the sheave, between the guide sheaves 37 and 38 of the hoist but if the chandelier, which it is desired to lower, is located to one side or the other of the plane of the winding drum, the cable will be held in the groove of one of the guide sheaves as shown in broken lines in Fig. 4. The hoist will next be operated by turning the cranks or handles 43 so as to raise the chandelier slightly and take its weight from the rod or bar 17, which may then be removed. When the bar is removed, the chandelier may be lowered by turning the cranks or handles in the opposite direction.

It is obvious that the low pitch worm and wheel will hold the chandelier in whatever position it is left by the operator of the hoist so that no other support for it is necessary during the usual operations of cleaning and renewing parts. If other types of gearing were employed this advantage would not be present but the chandelier would tend to overhaul the hoist and there would be danger of injuring it unless handled by a particularly careful operator.

After the chandelier has been cleaned or repaired, it may be returned to its original position by operating the hoist until the shackle 13 extends through the hole 14 sufficiently to permit the rod or bar 17 to be replaced.

Attention is specially directed to the fact that a single hoist is adapted to be utilized in raising and lowering any one of a large number of considerably distributed fixtures.

The holes or openings 14 are preferably concealed by inverted bells 18 which are applied to the ceiling in a well known manner.

The guide sheaves 37 and 38 may be rendered unnecessary by pivotally securing the hoist to the surface on which it is mounted as shown in Fig. 6. By this means the hoist may always be swung into such position that the plane of the drum is substantially parallel to the plane of the sheave that is associated with the chandelier to be operated upon.

I intend that variations which do not depart from the spirit of my invention shall be included in its scope.

What I claim is:

1. In combination with a horizontal supporting surface having a plurality of holes, a plurality of sheaves distributed thereon and respectively adjacent to the holes, chains extending through the holes and cross pins adapted to coöperate with the chains for adjustably supporting the chain upon the surface, a single hoist adapted to raise any one of the chains to permit the resetting of its cross pins and comprising a stationary standard, a winding drum rotatively supported thereon, a crank and interposed gearing for rotating the drum, a cable adapted to be wound on the drum and to be connected to one of the chains, said standard having relatively stationary pulleys spaced apart for guiding the cable onto and off of the drum from any angle determined by the position of the chain which it is desired to adjust, and each of said chains being adapted to support a chandelier.

2. In combination with a horizontal supporting surface having a plurality of holes, a plurality of sheaves distributed thereon and respectively adjacent to the holes, a pair of brackets located on opposite sides of each hole, a chain extending through each hole and a cross pin extending through a link of each chain and seated in a pair of said brackets, whereby the chains are supported from the surface; a single hoist adapted to raise any one of the chains and its attachments and comprising a standard, a winding drum rotatively supported thereon, a worm gear wheel affixed to the drum, a worm gear meshing with the wheel, a crank or lever for turning the worm gear and a cable adapted to be wound on the drum and to be connected to any one of said chains, said standard having relatively stationary means for guiding the cable onto or off of the drum from any angle, and said chains being adapted to support chandeliers.

In witness whereof, I have hereunto set my hand this 27th day of September in the year 1912.

ARTHUR T. PRESCOTT.

Witnesses:

D. E. DEUTSCH,

CLARENCE V. HEMSTREET.