

C. T. BERNHARDT.
CLOCK WINDING DEVICE.
APPLICATION FILED JUNE 6, 1912.

1,057,918.

Patented Apr. 1, 1913.

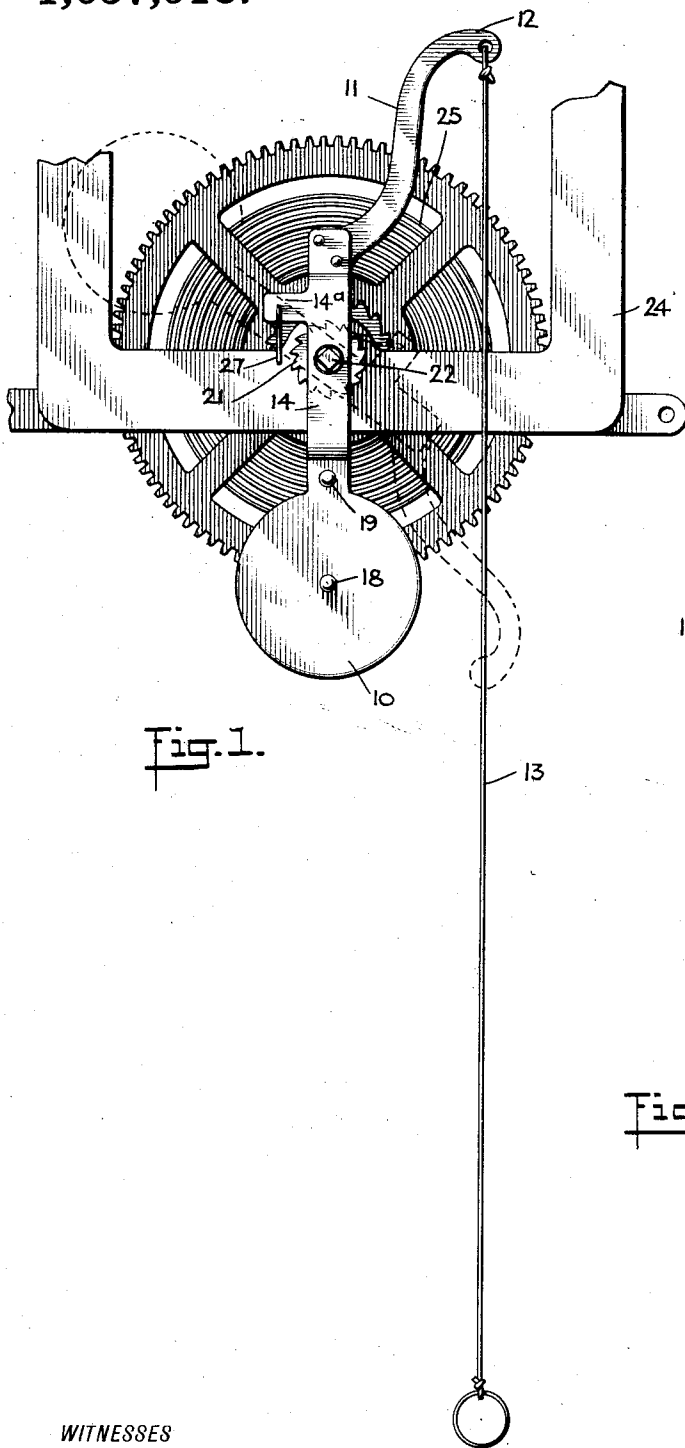


Fig. 1.

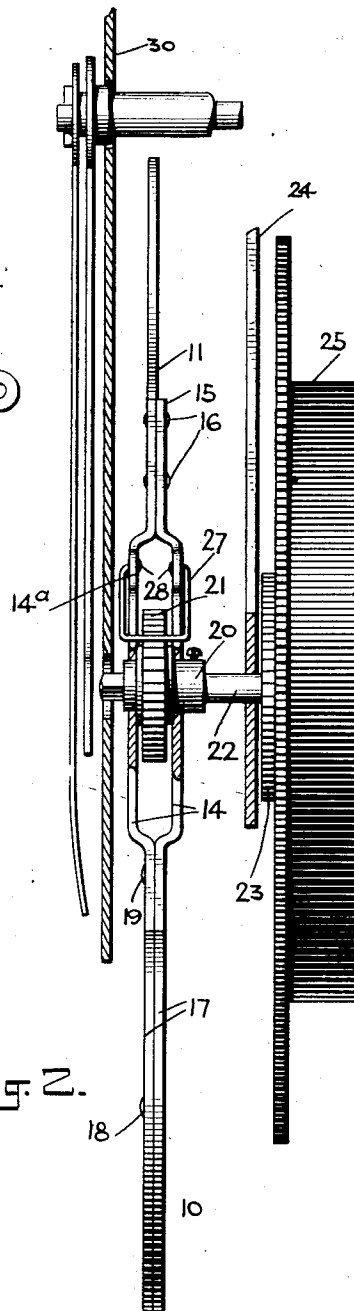


Fig. 2.

WITNESSES

John H. ...
J. L. M. ...

INVENTOR

Clarence T. Bernhard

BY *M. M. ...*

ATTORNEYS

UNITED STATES PATENT OFFICE

CLARENCE THEOPHILUS BERNHARDT, OF SALISBURY, NORTH CAROLINA.

CLOCK WINDING DEVICE.

1,057,918.

Specification of Letters Patent.

Patented Apr. 1, 1913.

Application filed June 6, 1912. Serial No. 702,095.

To all whom it may concern:

Be it known that I, CLARENCE T. BERNHARDT, a citizen of the United States, and a resident of Salisbury, in the county of Rowan and State of North Carolina, have invented a new and Improved Clock Winding Device, of which the following is a full, clear, and exact description.

An object of my invention is to provide a clock-winding device in the form of a self-contained unit attachable to the spindle of the winding barrel of the clock, and bodily removable therefrom when desired.

It is desirable in attachments of the character referred to, that the winding device be applicable to the spindle within a space which is usually available directly back of the dial. In order that the unit may be readily accommodated in the limited space available, and the parts be assembled within small compass, I employ a counter-balanced frame which is disposed vertically when in use, the counter-balancing weight being at the lower end, and the upper end of the frame having a laterally deflected arm, the free end of which is offset from the body of the frame a distance to permit a pull string for operating the winding attachment to drop straight downward at one side of the frame. Between the lower end and the upper arm for the pull string, the frame is made open, its sides being spread apart, providing cheek pieces which receive between them a ratchet wheel. Co-acting with the ratchet wheel there is a pawl of a novel form and arrangement, which normally gravitates away from the ratchet wheel, being carried for the purpose on a lateral arm of the frame adjacent to the ratchet and at the side of the frame opposite that to which the pull string is attached. Because of the special arrangement of the pawl, the attachment is adapted for employment either with a clock mechanism in which the spindle turns backward as the clock unwinds, or for mechanisms in which the spindle remains stationary while the clock unwinds.

The invention will be more particularly described in the specific description hereinafter to be given.

Reference is to be had to the accompanying drawing forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a front elevation of a winding

device embodying my invention, illustrating the same in connection with portions of a clock including the spindle of the winding barrel; and Fig. 2 is a side view, on an enlarged scale, with parts broken away.

In constructing the self-contained winding unit in accordance with my invention, a frame is constructed having an enlarged lower end 10, to give increased weight at said end, and constitute a counter-balance for the frame. The upper end of the frame is in the form of an arm 11, which is offset laterally, preferably on curved lines, the outer free end 12 of said frame being projected a sufficient distance from the body of the frame so that the pull string 13 may be attached to the end 12 to drop straight down at one side of the broadened and weighted end 10, as clearly shown in Fig. 1.

Between the weighted lower end 10 and the arm 11 the frame is made open, as shown best in Fig. 2, and consists of spaced cheeks 14. Desirably the frame, including the weight 10, the upper arm 11 and cheeks 14, is composed of two members, one terminating as at 15, just above the cheeks 14, and being riveted as at 16 to the companion plate. Below the cheeks 14, both members of the frame lie close together, as at 17 (Fig. 2), and are given the same shape, which is preferably round, as illustrated in Fig. 1. Additional rivets 18 and 19 may be employed below the cheeks 14 to unite the members together. In the cheeks 14 a hub 20 is journaled, carrying a ratchet pinion 21, the said hub having an axial bore to fit over the winding spindle 22 of the winding barrel 23 of the clock, the frame-work of which clock is partially indicated at 24, the clock spring being indicated at 25. The hub of the ratchet pinion may be secured to the spindle 22 in any suitable manner, as by a set screw, one arrangement of which is indicated at 26.

Co-acting with the ratchet pinion 21 is a pawl 27, which is in the form of a U-shaped yoke, the ends 28 of the arms of which yoke are passed through the arms 14^a formed on the cheeks 14 at a point above the pinion 21, and are upset at their ends to hold the yoke in place, while permitting it to swing. The projection of the arms 14^a beyond the cheeks 14 is such that the pawl 27 will hang vertically when the winding frame is in the normal position, on one side of and free from the ratchet pinion 21, so that the pawl

is normally entirely out of engagement with the ratchet, and tends to gravitate away from said ratchet.

With the described construction, will be seen that with the fitting of the ratchet pinion between the spaced cheeks 14 of the winding frame, carrying said pinion and its pawl 27 on said frame, the unit occupies a small space, and can be bodily placed in position at the back of the dial 30, and removed therefrom, with convenience. Moreover, the form and arrangement of the pawl permits of the winding spindle 22 and the ratchet pinion 21 thereon, turning backward as the clock unwinds without any interference from the pawl; at the same time, a pull on the rope 13 on the laterally deflected arm 11, 12, serves to rock the depending weighted end 10 upward, and to throw the gravity pawl 27 into engagement with the ratchet wheel pinion, to turn the said pinion and the clock spindle 22.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A winding means for clocks, consisting of a self-contained unit bodily attachable to the spindle of a clock-winding barrel behind the clock dial, said unit comprising a vertically-extending frame having a depending weight at its lower end, and a laterally offset arm at its upper end, the free end of the arm having means for the attachment of a pull string at a point to permit the pull string to drop clear at one side of the lower

end of the frame, said frame between the weighted lower end and the laterally deflected arm at the upper end, being open and presenting spaced cheek pieces having lateral arms at the side opposite the deflected upper arm, a gravity pawl of U-shape, the arms of which are freely hung in the last-mentioned arms of the winding frame, and a ratchet pinion journaled in the cheek pieces at a point below the arms carrying the pawl, the said pinion having a hub formed with an axial bore to fit the winding spindle of the clock.

2. A winding means for clocks, consisting of a self-contained unit comprising an upright frame weighted at its lower end to counter-balance it, a laterally deflected arm of the frame at the upper end thereof, having means for receiving a pull string, additional arms below the first-mentioned arm, and at the side of the frame opposite to said first-mentioned arm, a gravity pawl suspended in the said last-mentioned arms, and a pinion journaled in the frame below the point of suspension of the gravity pawl, said pinion having a hub provided with an axial bore to receive the winding spindle of the clock.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

CLARENCE THEOPHILUS BERNHARDT.

Witnesses:

J. B. ALDREDGE,

COSIE M. BURGESS.