A. G. P. WIINGAARD.

CLOCK AND COIN FREED WINDING APPARATUS.

APPLICATION FILED FEB. 14, 1908.

912,220. Patented Feb. 9, 1909.

Fig. 1.

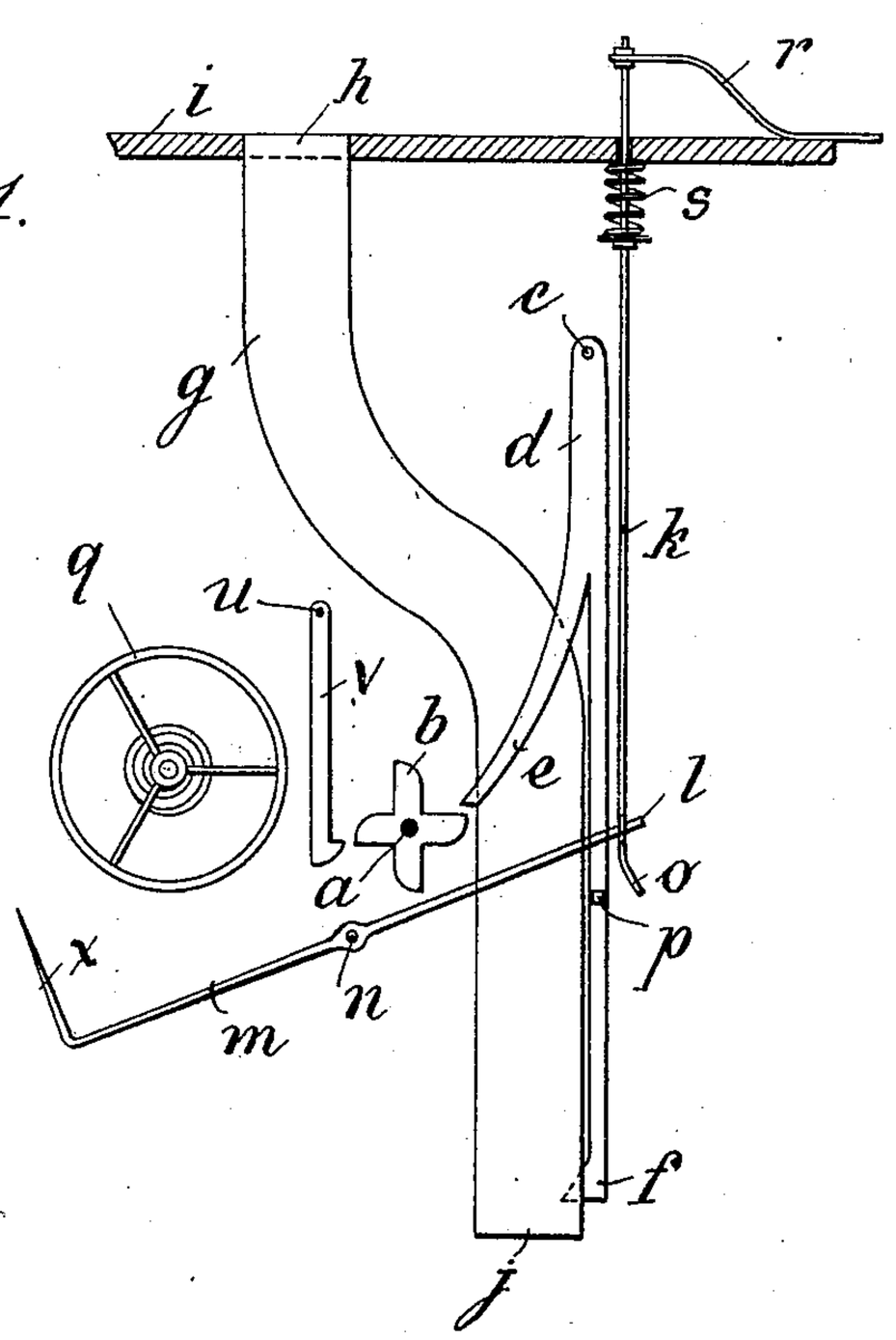
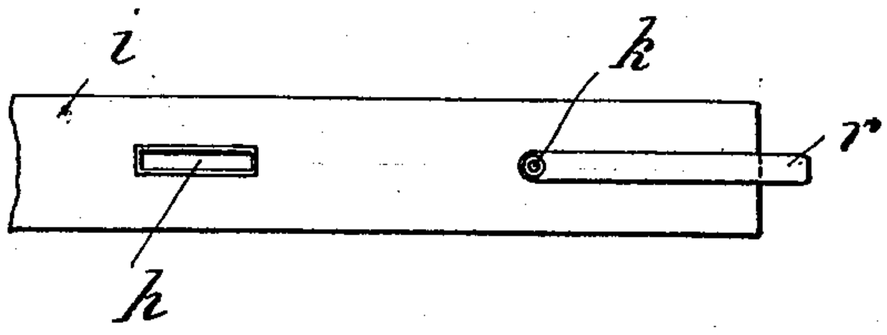


Fig. 2.



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CLOCK AND COIN-FREED WINDING APPARATUS.

No. 912,220. Specification of Letters Patent. Patented Feb. 9, 1909.

Application filed February 14, 1908. Serial No. 415,795.

To all whom it may concern:

Be it known that I, AAGE GEORG PETER WIINGAARD, citizen of the Kingdom of Denmark, and a resident of Copenhagen, Denmark, Römersgade 3, engineer, have invented new and useful Improvements in and Relating to Clocks and Coin-Freed Winding Apparatus, of which the following is a specification.

The invention relates to a clock provided with an automatic winding-up mechanism, that is to say a clock provided with an automatic locking device working upon that part of the clock which serves to wind it up, arranged in such a manner that the clock cannot be wound up until this locking device is released by the introduction of a coin of a particular size into a coin chute which is connected with the locking device and is adapted to deliver the coin into a till or coin receiver arranged under the clock.

The invention is designed to provide mechanism in combination with a clock adapted to collect definite sums of money at certain times, for instance, the premiums on an insurance policy payable in daily or weekly rates, savings bank deposits, and the like, thus doing away with the cost of collecting these payments, which is often out of all proportion with the amount collected.

The said invention comprises a clock arranged on an automatic winding-up system in such a manner that the times for winding up and amount of the coin which must be introduced into the coin chute in order to release the winding-up device, corresponds with the amount of the insurance premiums. This clock and coin freed apparatus is particularly useful in the homes of policy holders for collecting the premiums paid for popular insurance. The tills or coin receivers of the clock need only be emptied once during a month, quarter of a year, half a year, or a year, so that the greater part of the amount paid, for instance for a weekly collection of the premiums may be saved.

The automatic locking device placed in the clock may of course be arranged in various manners, but always in such a manner that any winding up of the clock results in the held coin dropping into the till of the apparatus.

Figure 1 is a diagrammatic side view of the improvement and, Fig. 2 is a top plan view.

a is the shaft upon which the key or the like necessary for winding up the clock is or may be arranged in such a manner that the clock is wound up upon turning the shaft. On the shaft *a* is fixed a wing wheel *b* cooperating with a swinging stop *d* suspended at *c*. When in the normal position, the arm *e* of the stop *d* overhangs the said wing wheel *b*, preventing the shaft *a* from being turned and accordingly the clock from being wound up until the stop has been moved to a position on one side which will allow the wing wheel to clear said stop.

The lower end of the stop is provided with a heel *f* projecting into the coin chute *g* which registers at its upper end with a slit *h* formed in the cover plate *i* of the clock case. From the lower end *j* of said chute the coins introduced through the coin slit pass into a locked till not shown arranged in the bottom of the clock case. Under normal circumstances a coin, when introduced into the coin chute *g*, passes down through the chute and presses the heel *f* aside and falls into the till. After the passage of the coin the stop *d* returns again to its normal position.

In order to allow of the clock being wound up it is necessary that the stop *d* during the operation is held in such a position that it does not prevent the movement of the wing wheel *b*. For this purpose the following device is arranged. A rod *k* capable of being moved perpendicularly up or down through the cover plate is pivotally connected at its arm *l* with a two-armed lever *m* which turns round the pin *n*. The lower end of the said rod *k* is in the form of an arm *o* bent outwards and arranged in front of a pin or stop *p* on the said stop *d*. When the rod *k* is placed in its normal position said arm *o* allows the stop to be moved aside sufficiently to allow a coin introduced into the chute *g* to have an uninterrupted passage into the till. The said rod *k* is kept in normal position, that is to say, the upper position shown in the drawing, by means of a handle *r* and a spring *s*, the latter being arranged between the cover plate *i* and a pin on the rod *k*. On turning the handle *r* out of engagement with the plate *i* the spring *s* presses the rod *k* downwards, and the distance between the pin *p* and the arm *o*, is thus so much diminished that the stop *d* cannot be moved aside sufficiently for its heel *f* to open the lower

end of the coin chute but enough to move its arm *e* to a position which will allow the wing wheel *b* to move freely. The coin introduced into the coin chute will accordingly by passing down said chute and bearing against the said heel *f* cause the stop to occupy the position last described, and cause it to remain in this position thus allowing the shaft *a* to be turned and the clock to be wound up. When the rod *k* is moved to its normal position by turning the handle *r*, the stop *d* is cleared and may turn to a position in which its heel *f* releases the coin which drops into the till, upon which the stop re-occupies its normal position in engagement with the wing wheel.

In order to prevent the wing wheel being released by tilting the clock and thus being wound up without introducing a coin, the following device is arranged. On that side of the wing wheel which is opposite to the stop *d*, a pawl *v* is arranged pivoted upon a pin *u*. If the clock is tilted and the wing wheel *b* is released by the stop *d*, the pawl *v* will engage under the wing wheel thus preventing its rotation. At the same time as the rod *k* is pressed down by the spring *s*, it turns the lever *n*, the free end of which is provided with an arm *x*. This arm is caused to touch the balance wheel of the clockwork or some other wheels of the clock, thus stopping the escapement of the clock while it is being wound up and preventing further movement until the arm *x* is removed by moving the rod *k* back to its normal position.

As above mentioned the drawing only illustrates the invention diagrammatically and the parts illustrated may of course be varied without abandoning the principle upon which the invention is based.

What I claim, and desire to secure by Letters Patent is:

1. The combination with the winding mechanism of a clock, of a wing wheel thereon, a coin chute, a stop mounted for swinging movement and normally engaged with the wing wheel, to prevent the winding of the clock, an arm provided with a heel normally projecting into the coin chute to prevent the passage of a coin, said arm and stop being rigidly connected, a rod provided with a handle for manipulating the same, a spring acting normally to move said arm downwardly, and a stop on the arm for engaging the rod, to limit the swinging movement of the arm when the rod is moved downwardly.

2. The combination with the winding mechanism of a clock, of a wing wheel thereon, a coin chute, a stop mounted for swinging movement and normally engaged with the wing wheel, to prevent the winding of the clock, an arm provided with a heel normally projecting into the coin chute to prevent the passage of a coin, said arm and stop being rigidly connected, a rod provided with a handle for manipulating the same, a spring acting normally to move said arm downwardly, a stop on the arm for engaging the rod, to limit the swinging movement of the arm when the rod is moved downwardly and a swinging pawl in position to engage the wing wheel when the clock is tilted to release the stop.

3. The combination with the winding mechanism of a clock, of a wing wheel thereon, a coin chute, a stop mounted for swinging movement and normally engaged with the wing wheel, to prevent the winding of the clock, an arm provided with a heel normally projecting into the coin chute to prevent the passage of a coin, said arm and stop being rigidly connected, a rod provided with a handle for manipulating the same, a spring acting normally to move said arm downwardly, and a pivotally mounted lever having one end in position for engagement by the rod, the other being adapted to engage the balance wheel for the purpose set forth.

Signed by me at Copenhagen, Denmark, this 28th day of January 1908.

AAGE GEORG PETER WIINGAARD.

Witnesses:
CHARLES HUDE,
TISTRAW WOLSING.