

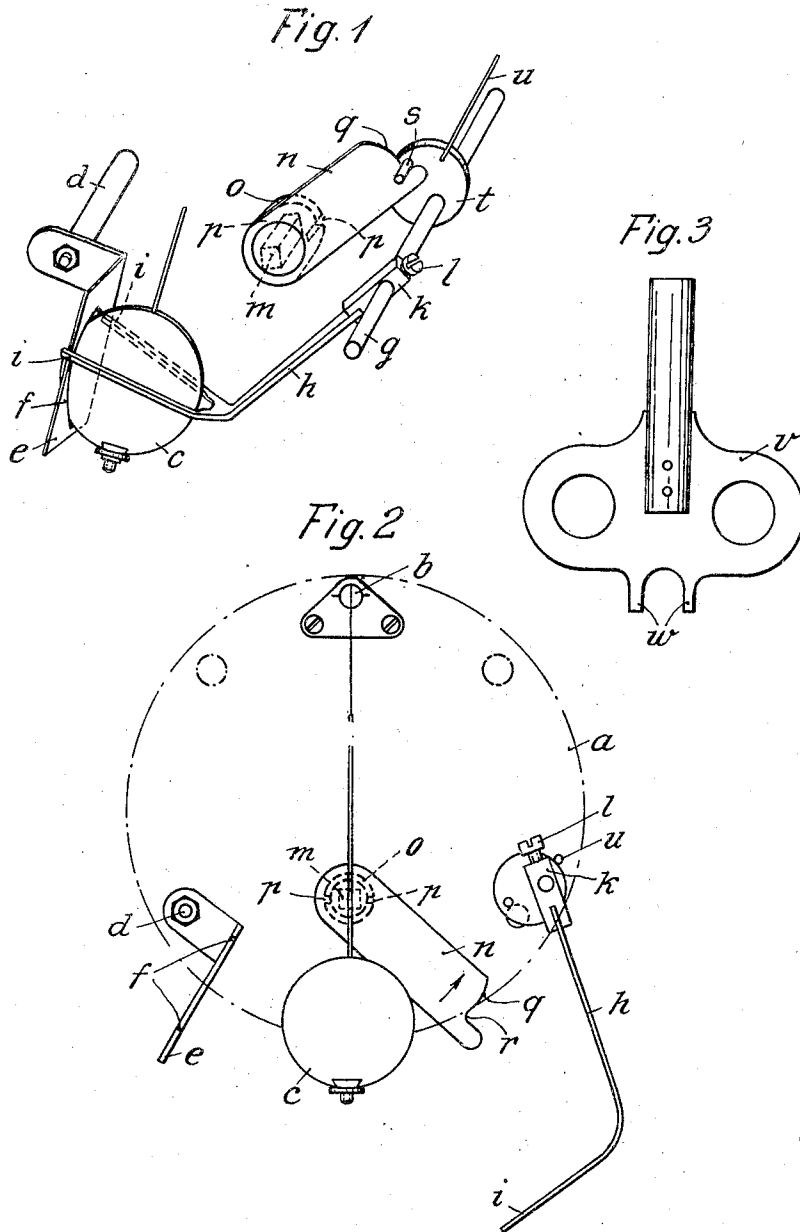
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PENDULUM LOCKING DEVICE FOR CLOCKS

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PENDULUM LOCKING DEVICE FOR CLOCKS

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This invention relates to pendulum locking device for clocks. The object of the invention is to provide a pendulum locking device which could be actuated without it being necessary to remove the clock from its place and to open the clock-case.

The invention deals with the problem of providing a pendulum locking device which is accessible from any desired point of the outside of the clock case and enables the pendulum to be caught, locked or unlocked and caused to start oscillating.

The solution of this problem consists according to the invention in that in the plane of oscillation of the pendulum is arranged a back stay and a rotatable gripper for bringing up the pendulum bob to, and locking it in, the back stay, and in that the gripper can be actuated and locked in its safety position from the front side of the clock.

According to additional features of the invention, the gripper may be built as a two-armed lever which cooperates with a rotatable catch. The rotatable catch is actuated from the front side of the clock and seizes then first the control arm by means of a running-on curve which originally rises and then comes down to a notch, turns the double lever until the gripper is in its safety position and is then itself turned a little further until the control arm engages, under the action of its own elasticity, with the notch. Further, the rotatable catch may be mounted on a winding arbor of the train and provided with a bush or sleeve fitting into the key hole, this sleeve being slotted at the edge and seized by means of lugs provided on the handle of the usual winding key.

A construction according to the invention is illustrated by way of example in the drawing in which

Figure 1 is a perspective view of the pendulum locking device in closed state.

Figure 2 shows the opened pendulum locking device, locking from the back of the clockwork.

Figure 3 the winding key which is provided with a special device for actuating the locking device.

On the back plate *a* of the train is suspended at *b* the pendulum *c*. In the plane of oscillation of the pendulum, beyond its (left hand) point of reversing, to the pin *d* is secured the back stay *e*. It is provided with a recess *f* in the form of a two-corner figure constituted by two arcs of a circle. Into the said recess fits the pendulum bob *c* which is of a slightly larger diameter. Between the train plates (of which only the back plate *a* is shown) is mounted the spindle *g*. It carries the gripper lever *h* which terminates in a fork *i*.

The gripper lever carries at its upper end a block *k* which can be set in any desired angular position on the spindle *g* by means of the screw *l*.

On the winding arbor of which only the key square *m* is shown, is mounted the rotatable catch *n*. It carries a bush or sleeve *o*, which fits into the key hole in the dial and is flush with the latter. The bush *o* is provided at the edge with two slots *p*. The usual winding key *v* of the clock (compare Figure 3) has on its handle lugs *w* by means of which the bush can be seized at the slots *p*. The outer end of the rotatable catch has a running-on curve *q* which first rises relatively to the centre of rotation of the latch and then passes into a notch *r* (compare Figure 2). With the rotatable catch *n* cooperates the pin *s* of the disc *t* eccentrically secured to the gripper lever spindle *g*. With the disc *t* engages further the spring *u* which tends to turn the gripper spindle into the free position.

The working of the device is as follows:—Let it be assumed that the device is built into a wall clock and the latter has to be removed from the wall. In order that the pendulum and the sensitive pendulum spring should not be damaged during the transport, the pendulum is locked before the clock is taken off. The individual parts of the locking device are still in the position indicated in Figure 2. The key *v* is then introduced (in the reverse way to that during the winding) with the lugs *w* into the slots of the sleeve *o*, and the key turned in the clockwise direction. After a certain amount of turning, the curve *q* arrives at the pin *s* and as it rises, turns the pin and therefore also the gripper lever *h*. The latter is turned in the direction towards the stay *e*, catches with its fork *i* the pendulum bob *c* and guides it towards the stay. The pendulum bob engages now partially with the opening *f* of the stay, the fork prongs being guided by the edges of the stay and somewhat spread apart owing to their springiness. The pendulum bob *c* and the gripper *h* have now arrived at their end position. The catch *n* will be nevertheless turned still further. The pin *s* yields slightly in a springy manner until the highest point of the running-on curve is reached, when it drops into the notch *r*. The pendulum is now locked.

In unlocking, the proceeding is the reverse one. After some turning of the catch, the pin *a* is released and the gripper *h* is brought back to the free position by the action of the spring *u*. The pendulum also becomes disengaged from its locked position and as in that position it was beyond the reversing point of its oscillation, gets

enough swing so that the anchor can drop and the clock start going.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. In a pendulum locking device for clocks, a back stay located in the plane of oscillation of the pendulum bob, a rotatable gripper adapted to be actuated from the front of the clock for moving the pendulum bob into engagement with the said back stay, and means for locking the said gripper in the engaged position of the bob.

2. In a pendulum locking device for clocks, a back stay located in the plane of oscillation of the pendulum bob, a rotatable gripper, a rotatable catch adapted upon its rotation to move the said gripper into engagement with the pendulum bob and thereupon the pendulum bob into engagement with the said back stay, and means for locking the said gripper in the engaged position of the bob.

3. In a pendulum locking device for clocks, a back stay located in the plane of oscillation of the pendulum bob, a rotatable gripper, a pin mounted eccentrically in fixed relation to the said gripper, and a rotatable catch having a running-

on curve terminating in a notch, the said running-on curve upon rotation of the said catch co-operating with the said pin to move the said gripper into engagement with the pendulum bob and the pendulum bob into engagement with the said back stay, and the said pin thereupon entering the said notch to lock the said gripper in the engaged position of the bob.

4. In a pendulum locking device for clocks, a back stay located in the plane of oscillation of the pendulum bob, a rotatable gripper, a rotatable catch adapted upon its rotation to co-operate with the said gripper to move it into engagement with the pendulum bob and the pendulum bob into engagement with the said back stay, a recessed sleeve supporting the said catch and mounted on the winding arbor of the clock, means for locking the said gripper in the engaged position of the bob, and means for engaging in the recesses of the said sleeve for the purpose of rotating the catch.

5. In a pendulum locking device for clocks as claimed in claim 4, a clock key having projections at its one end corresponding to the recesses in the sleeve for the purpose of engaging and turning the sleeve to rotate the said catch.

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