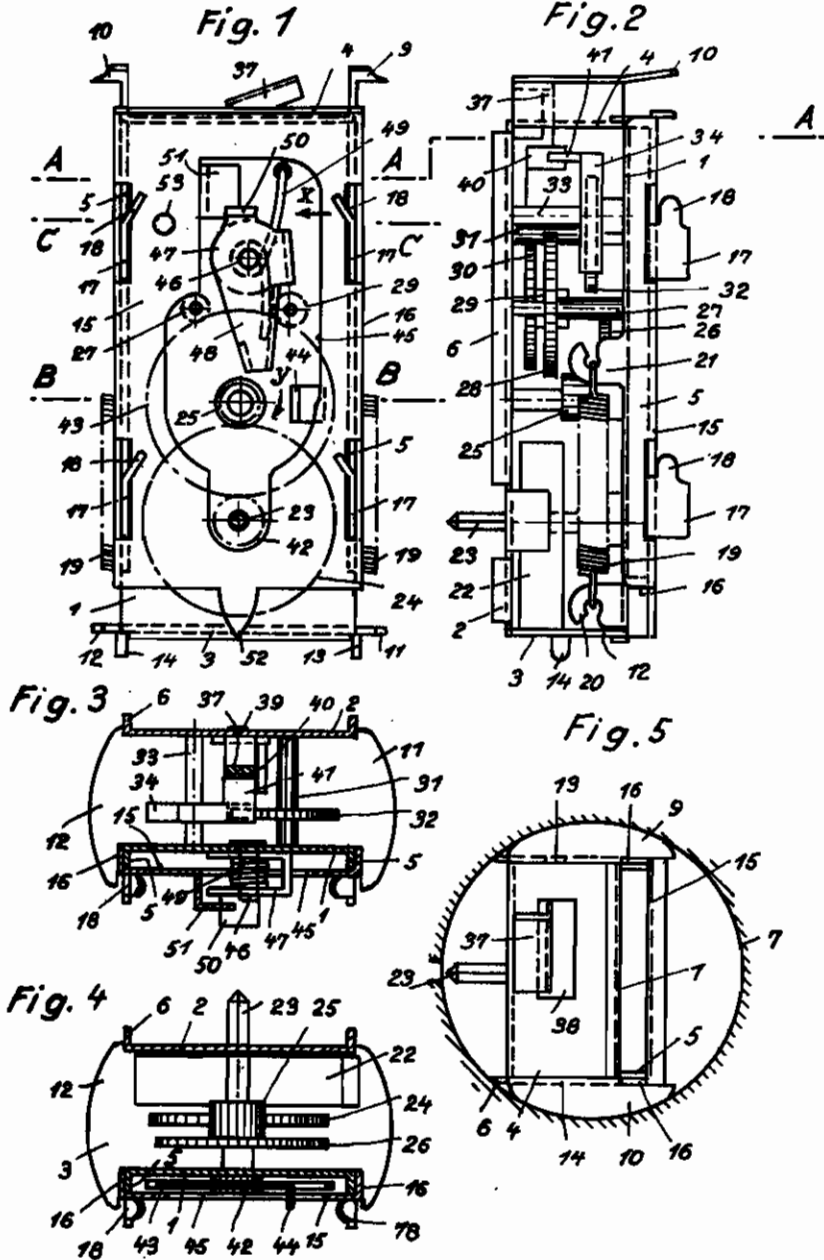


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2 Sheets—Sheet 1



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Hans Strickstroek

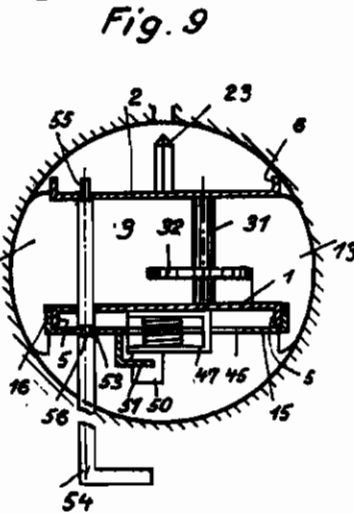
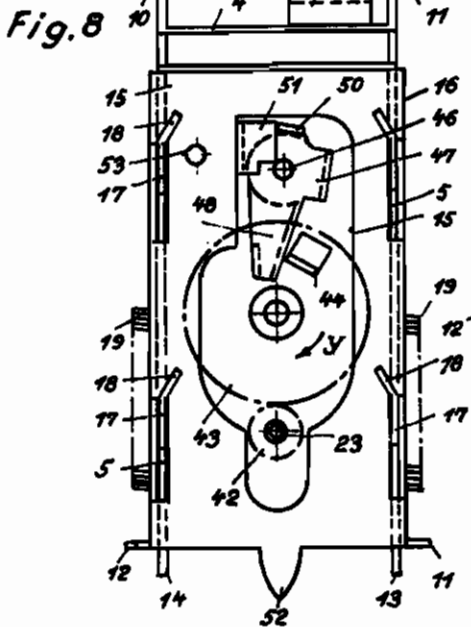
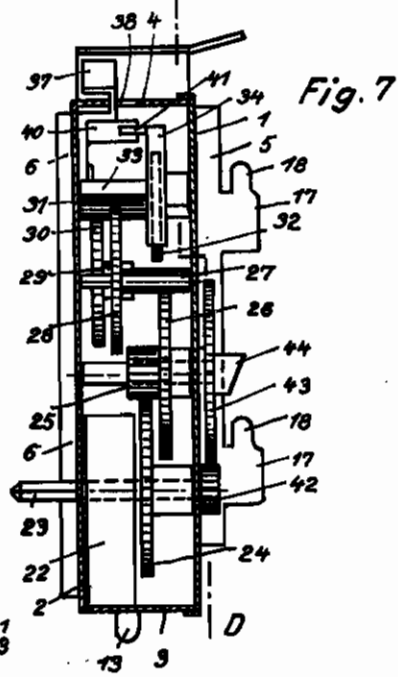
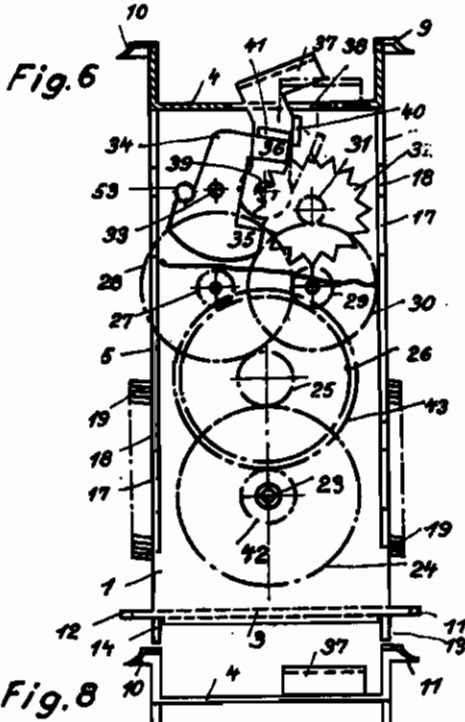
384 Young, Emery & Hoenes  
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# ALIEN PROPERTY CUSTODIAN

## SPRING MECHANISM FOR THE RELEASE OF A FIRING PIN OR SIMILAR MOVABLE PART

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Germany; vested in the Alien Property Custodian

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The invention relates to a spring mechanism which releases a firing pin or a similar movable part in such a manner, that the release takes place only after a certain time, previously adjusted.

In accordance with the invention, a movable device is provided which can be put under pressure and for whose release a timely governed locking device is provided.

The construction is preferably such, that a sliding plate is located opposite the housing. This plate contains the releasing lever which is held in a locked position by a movable, preferably pendular locking arm of the housing and which snaps back to its starting position under spring pressure when the locking arm is pressed out of the locking position by a movable part of the mechanism whose motion-time may be adjusted according to desire.

A plug, which goes through the casing of the mechanism containing body, as well as through the sliding plate and the housing, thus stopping the running off of the mechanism after it has been placed into position, causes the handling to be simple and without errors. To start the mechanism, one only needs to pull out the plug. It is, also a safety device. For, should the mechanism be started prematurely through a defect of any part of the latter or some other cause, the sliding plate would then after the running off of the mechanism, snap downward and so affect the release. This is prevented by the plug, which makes a displacement of the plate, carrying the release organ impossible.

The plug finally makes it possible to judge, whether the mechanism functions properly. If this is not the case and the sliding plate tries to move by itself, it will slide into the notch of the plug. Consequently the plug cannot be pulled out of the mechanism and thus it is easily discernible, that the running off of the mechanism has started prematurely.

Further features of the invention are, among others, the simple and advantageous guiding, the attachment of the sliding plate on to the spring mechanism housing and the arrangement of special side members, which guarantee an exact seating to the spring mechanism.

The drawings present an illustrated example of the invention. They indicate:

Fig. 1 Front end view of the new locking device. (In locked position)

Fig. 2 Side view of same.

Fig. 3 A section from A—A of fig. 1 & 2

Fig. 4 A section from B—B of fig. 1

Fig. 5 A top view of the installed locking device.

Fig. 6 A front end view, the cover plate removed and the front plate of the housing partly broken off. (Section D—D of fig. 7)

Fig. 7 Longitudinal section of the locking device.

Fig. 8 Front end view of the locking device (in released position)

Fig. 9 A section from C—C of fig. 1 of the fitted locking device with safety plug.

The housing of the mechanism consists of a front plate 1, a back plate 2, a ground plate 3 and a top plate 4. These plates are joined in the usual and known manner by a beading, or they are mortised or otherwise. To increase the rigidity of the housing, the plates 1 & 2 are provided with turned over edges 5 resp. 6.

The top plate 4 has arched lobes 9 and 10 at its sides, the ground plate 3 has correspondingly arranged and formed lobes 11 and 12. These lobes serve to guarantee the exact seating of the mechanism. (See fig. 5). The form of the lobes 9, 10, 11, 12 corresponds therefore in every case to the form of the inner surface of the body into which the mechanism is to be fitted. For the exact fastening of the locking device in the body, the pegs 13 and 14 are well linked with corresponding grooves of the body into which the mechanism is to be fitted, are employed.

The lobes 9 and 10 have slightly upward curved ends (see Figs. 2 and 7) upon which rests the cover part of the body, into which the mechanism is to be fitted. Thereby, the mechanism is pressed down elastically; it is clamped fast, and any longitudinal difference of the mechanism that may exist, is thereby equalized.

Somewhat in advance of the front plate 1 a coverplate 15, movable in the longitudinal direction, is provided.

When this plate is longitudinally displaced, the side-parts 5 of the front plate serve as guide rails, against which the cover plate 15 with its turned over edges leans. The lobes 17 of the edges 5, grasping through a slit, fasten the coverplate 15. By turning up the ends 18 of the lobes 17 it is possible to fasten the plate 15 to the housing in a manner, which is just as simple as it is secure. At the same time a fastening is made, which can be easily loosened.

Springs 19, which are fastened on one side to hocks 20 of the housing, on the other side to hocks 21 of the cover plate 15, or which are respectively attached to their edges 16, endeavour to pull the cover plate out of the locked position, as shown

in Figs. 1 and 2 into the released position, as shown in Fig. 8.

Into the housing 1, 2, 3, 4 a spring mechanism 22 has been stored, the spring of which can be wound by the peg 23, which can be reached through a corresponding hole of the body, even if the apparatus is set up in the body, into which the mechanism is to be installed.

The gearwheel 24, which turns the anchor wheel 32 over the gearwheels 25, 26, 27, 28, 30 and 31, is mounted on the axle of the spring mechanism 22. The anchor wheel co-acts with an anchor 34, which is arranged to swing on the axis 33, and whose projections 35 and 36 catch alternately into the teeth of the anchor wheel.

A brake lever 37, affixed to swing in 39 on the back plate 2 of the housing and rises above the top plate 4 through an opening 38, serves to brake the anchor, whereby the anchor wheel is stopped and consequently the whole mechanism put to a standstill. The braking occurs, when the lever 37 of Fig. 6 is drawn out of the position indicated by the dotted line and into the position indicated by the drawn out line, since thereby the crossbar 40 of the lever 37 rests against the stop 41 of the anchor 34 which prevents the latter from swinging.

Between the frontplate 1 and the coverplate 15, on the axle of the spring mechanism 22 lies the pinion 42 which drives the gear wheel 43. This is built with a projection 44 or otherwise, which consists preferably of a lobe, which is bent out of the wheel disk, according to the example shown in the drawing. The projection 44 co-acts with a locking device, which will be described below. A slit 45 of the coverplate 15 makes possible the unhindered movement of the wheel 43 or the lobe 44.

To the axle 46, which is seated in the frontplate 1 of the housing, a locking device 47 capable of swinging, is attached. That part of the locking device adjoining the front plate 1 serves as guide, whereas that part close to the free end of the axle 46 ends in an arm 48 which reaches into the sector of motion of the projection 44.

A spring 49 endeavors to hold the locking device in a locking position, as seen in Fig. 1. The locking position is reached by a cross piece 50 of the locking device 47, which lies under the projection 51 of the coverplate 15 whereby this is stopped in its downward movement.

The arrangement of the locking device or its centre of motion respectively and the projection 51 of the plate 15 is such, that the downward pulling forces of the spring 49, with which the projection 51 presses against the cross piece 50 results in a torque in the direction of the arrow  $x$  and thus acts as a safety device of the locking mechanism. For this reason, the point of application of the projection 51 is displaced sideways against the perpendicular through the centre of motion of the locking device 47.

In order to prevent a premature release of the locking device through faulty handling or otherwise, an additional safety measure is provided. This consists of the plug 54 which according to fig. 9 is injected into the mechanism, when the locking device is placed into the body, into which the mechanism is built. Its shaft is thereby injected into the hole 53 of the plates 1 and 15 until its collar 55 rest against the backwall into whose hole the plug 54 reaches by means of a thin end peg. The notch 56 of the plug 54 now lies only upon the hole 53 of the coverplate 15 until its collar 55 rests against the backwall whatsoever unexpectedly start to move downward, it will be stopped as soon as its wall rests in the notch 56. At the same time, it also becomes impossible to pull out the plug 54. Since the plug cannot thus be removed, it becomes clear to everybody, that the mechanism is out of order.

The mechanism operates as follows:

The spring 22 is wound by a key tightly enough, that the projection 44 moves so far in the direction of the arrow  $y$ , that the cross piece 56, under pressure of the spring 49 can move in the direction  $x$  to the stop of the projection 51, when the coverplate 15 is moved out of the position according to fig. 8 into the position according to fig. 1. The mechanism, which is stopped in its running off by the brake lever 37, will now be placed into the body, for which the apparatus is intended. Then the plug 54 will be inserted, according to fig. 9 and the coverpart of the body, into which the mechanism is placed, will be closed, to hereby the brake 37 will be swung into the position as indicated by the dotted line, so that the running off of the mechanism is only checked by the plug 54, which prevents the anchor from swinging.

Then the person who is acquainted with the use of the body into which the mechanism is placed, winds the spring 22 so far, until the dial, which is arranged above the wheel 43, shows the exact number of minutes after which the running mechanism is to start the release.

At the place of usage, the plug 54 only needs to be pulled out, in order to set the mechanism free. In a defective mechanism, it is impossible to pull out the plug, as has already been mentioned, and therefore, accidents due to a premature release of the mechanism are prevented.

After the movement of the mechanism is set free, the wheel 43 turns in a counter clock manner, until after the set minutes have elapsed the projection 44 presses against the arm 48 of the locking device 47 and then swings it until the crosspiece 50 releases the projection 51 so that the plate 15 snaps downward whereby the firing pin 52 causes the release.

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