

V. J. M. ERAS.
LOCK.

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977.085.

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Fig. 1

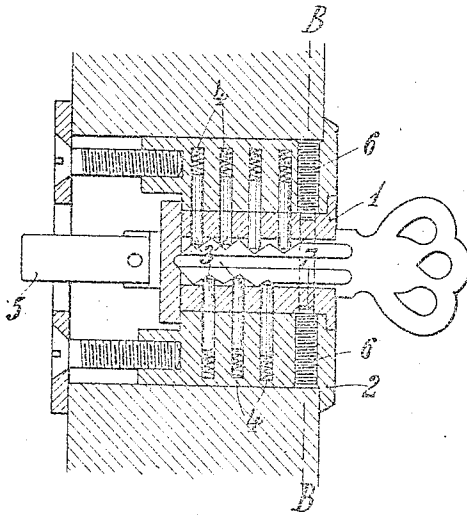


Fig. 3

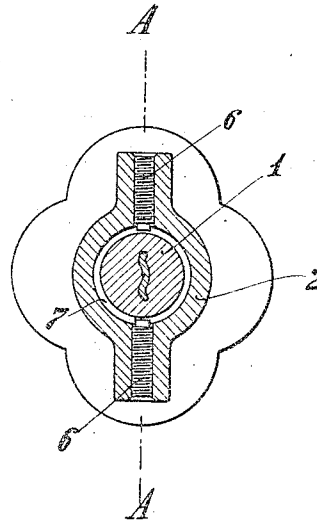
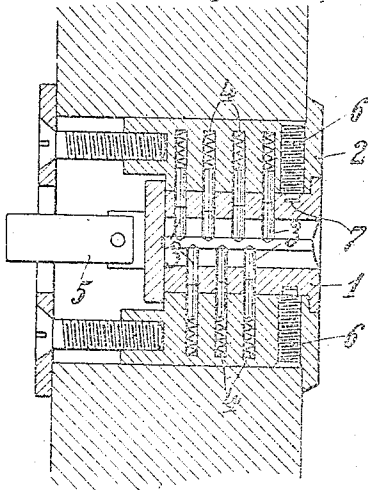


Fig. 2



Witnesses:

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UNITED STATES PATENT OFFICE.

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To all whom it may concern:

Be it known that I, VINCENT JOSEPHUS MARIE ERAS, a citizen of the Kingdom of the Netherlands, residing at Dordrecht, in the Kingdom of the Netherlands, have invented certain new and useful Improvements in Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In the case of the locks of the kind having a tumbler-catch cylinder, a revoluble cylinder is arranged in the lock casing which cylinder in its locked position is locked by resilient catches which penetrate laterally into the cylinder. On introducing a suitable key the catches are lifted to such an extent that their joints, or the places at which they are divided, coincide with the circumference of the revoluble cylinder, so that the latter can then be turned. These locks do not, however, offer sufficient security against the possibility of being opened by unauthorized persons, since it is comparatively easy for a person at the outer side of the lock to bore away the catches in their locking position particularly as the casing and also the catches consist of a material which does not rust and which is consequently soft. The lock can then be opened with any key, screw-driver, or the like.

Now the subject-matter of the application is a lock of the above-mentioned type in the case of which it is practically impossible to bore away the catches and so unlock the lock.

The essence of the invention consists in the feature that in the lock-casing and in front of the series of tumblers fixed screws or screw-pins are arranged, the points of which partially engage in an annular groove surrounding the revoluble cylinder and are so glass-hard that a boring tool cannot possibly enter at these places, but will be turned aside by the glass-hard screws and will be bent or will possibly break.

One embodiment of the present invention is illustrated, by way of example, in the accompanying drawing, in which:

Figure 1 is a section on the line A—A, Fig. 3 with an inserted key, Fig. 2 a section on the line A—A, Fig. 3 without a key but with a boring tool applied to the lock, and Fig. 3 a section on the line B—B, of Fig. 1.

The lock represented in the drawing possesses in general the ordinary shape and arrangement of the lock of the type in question.

1 is the cylinder, which is revoluble in the lock-casing 2, and in the wall of which the tumblers or catches 3 are guided. In the example illustrated the catches are arranged in two diametrically opposite rows, but of course the scope of the invention includes locks provided with only one row of tumblers. The tumblers are divided transversely into two parts which abut end to end and they are normally pressed by springs 4 to such a distance into the cylinder 1 that they prevent the latter from rotating. When a suitable key is introduced into the lock the tumblers are pressed outward to such an extent that the places at which they are divided coincide with the circumference of the cylinder, so that the latter can be turned and the lock be unlocked by the operating member 5 connected with said cylinder.

According to the invention a screw 6 is screwed through the wall of the casing 2 in front of each row of tumblers radially with regard to the cylinder 1, the more centrally situated end of which is glass-hard and engages in an annular groove 7 in the cylinder 1, so that the latter is prevented from shifting longitudinally. If the attempt is made to bore away the tumblers by means of a boring tool for the purpose of subsequently unlocking the lock without authority, the boring tool meets the glass-hard point of the screw and is turned aside by its convex surface, so that the tool is bent or broken. After the lock has been secured on the object to be locked, the screws 6 are inaccessible and consequently they cannot be removed.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A pin tumbler lock having a screw of hardened steel located within the cylinder in advance of and completely protecting the pins and also provided with a plug recessed to receive the end of said screw.

2. A pin tumbler lock having a screw of hardened steel located within the cylinder and projecting into an annular groove in the plug, said screw being in advance of, and completely protecting the pins.

3. A pin tumbler lock having screws of hardened steel located within the cylinder

and projecting into an annular groove in the plug at opposite points thereof, said screws being in advance of and completely protecting the pins.

5 4. A pin tumbler lock having a screw of hardened steel located within the cylinder in advance of and fully protecting the pins, said screw having a small integral end of
10 hardened steel fitting into an annular groove in the plug and adapted to turn any boring instrument.

5. A pin tumbler lock having screws of hardened steel located in the cylinder, said screws having slightly decreased inwardly
15 presented tips fitting into an annular groove in the plug, said pins being located in front of and completely protecting the pins.

6. A pin tumbler lock having a protecting part of hard metal located within the cylinder and projecting at its inner end into an
20 annular groove in the plug substantially as set forth.

7. A pin tumbler lock having protecting parts of hard metal located within the cylinder and extending at their inner ends into
25 an annular groove of the plug at opposite points thereof substantially as set forth.

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

VINCENT JOSEPHUS MARIE ERAS.

Witnesses:

ERNEST VOLLMER,
L. KOOT.