J. B. FREYSINGER.

CYLINDER LOCK.

APPLICATION FILED MAR. 18, 1922.

1,434,110. Patented Oct. 31, 1922.

Fig. 1.

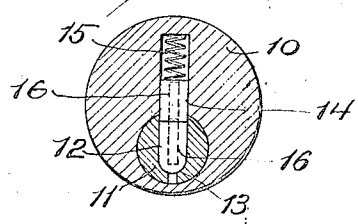


Fig. 2.

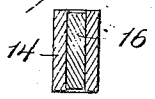


Fig. 3.

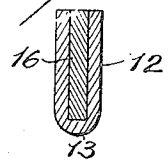


Fig. 4.

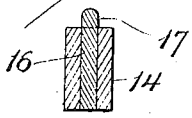


Fig. 5.

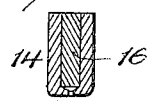


Fig. 6.

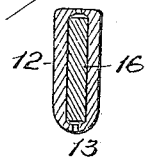


Fig. 7.

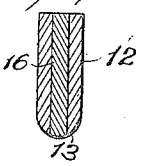


Fig. 8.

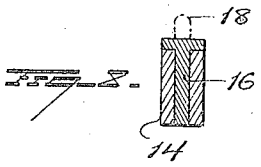
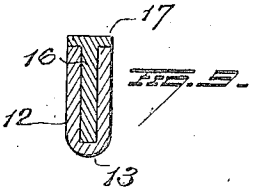


Fig. 9.



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UNITED STATES PATENT OFFICE.

JOHN B. FREYSINGER, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE YALE & TOWNE MANUFACTURING COMPANY, OF STAMFORD, CONNECTICUT.

CYLINDER LOCK.

Application filed March 18, 1922. Serial No. 544,852.

To all whom it may concern:

Be it known that I, JOHN B. FREYSINGER, a citizen of the United States, and a resident of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Cylinder 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.

This invention relates to an improvement in cylinder locks of the pin or sliding tumbler type, the object being to provide means for preventing the destruction of the tumblers or the drivers by a boring tool entered through the face of the plug or cylinder.

Heretofore these locks have been protected by facing the cylinder and plug, either or both, with hardened plates, and also by locating hardened steel pins or plates within the cylinder and plug in position to prevent a boring tool entered through the face of the lock from engaging the tumblers or drivers.

My invention consists broadly in providing the tumbler or tumblers and drivers with hardened steel cores which will prevent the destruction of the tumblers or drivers and thus avoid the use and the resultant expense of protecting armor inserted in the plug or cylinder or both.

It further consists in the details of construction as will be more fully described and pointed out in the claims.

In the drawings I have shown my invention applied to the ordinary tumblers or pins and drivers of a pin tumbler type of lock but it is clearly evident that it could be applied to the sliding tumbler type, hence reference to tumbler is intended to include sliding tumblers or pin tumblers.

In the accompanying drawings; Figure 1 is a view in transverse section of a pin tumbler lock, showing the pins and drivers provided with hard metal cores or inserts the latter being shown in dotted lines; Figure 2 is a vertical section of a driver; Figure 3 is a similar view of the pin or tumbler, and Figures 4, 5, 6, 7, 8, and 9 are modifications.

10 represents the cylinder of the lock and 11 the plug, each of which is provided with tumbler recesses or slots in the usual and well known manner. The plug 11 is also provided with the usual key slot with which the key must conform before it can be entered in the slot, and is also provided with the pins or tumbler seats in which the pins or tumblers 12 normally rest, with their upper ends normally out of the plane of the periphery of the bore of the cylinder so that the plug 11, which is provided with the usual actuating cam or devices (not shown) cannot be turned except by its proper key.

The pins or tumblers, shown in Figures 1 and 3, are preferably made of non-corrosive metal. Those shown in Figures 1 and 3 are preferably provided with curved lower ends 13 which are designed to be engaged by the key which lifts and holds same when fully inserted, in position to permit the plug to be turned by the key.

The cylinder 10 is similarly provided with pockets corresponding to the pockets or recesses in the plug for the reception of the drivers 14, which are held down and in contact with the pins or tumblers by the springs 15. In Figures 1 and 2 the drivers which are preferably made of non-corrosive metal are shown cylindrical in shape and bear against the pins or tumblers which are also preferably of non-corrosive metal and both are made hollow to receive hardened steel or other hard metal cores or plugs 16 which are designed to resist cutting by any cutting tool that may be entered through the plug or or cylinder and thus provide a drill proof construction which will prevent destruction of any one of the tumblers or drivers.

In Figures 1 and 3 I have shown hollow pins or tumblers closed at their lower ends and open at their upper ends and in Figure 2 is shown a driver open at both ends, the hardened steel cores or armors 16 within said tumblers and drivers being shorter than these latter parts to prevent contact of the steel and possible sticking together due to rust or other causes, and the tumblers are preferably rounded at their lower ends to permit them to be readily moved by the key. In order however to more positively segregate or separate the steel cores or armor, the holes in the drivers and tumblers may be closed as in Figures 5 and 6, by turning over the metal at the lower ends of the drivers and at both ends of the pins or tumblers respectively, so as to positively prevent any contact between the steel inserts.

If desired however, the pins or tumblers may be cored throughout their length as

shown in Figure 7 so that the steel insert 16 projects at the bottom and forms the point which contacts with the key, and if desired the inserts or the cores 16 of the driver 14 may project at the top of the pins as at 17 in Figure 4, or cover the top of the driver as shown in Figure 9, and the latter may also be provided with a projecting lug 18, shown in dotted lines to form the support for the lower end of the spring.

Similarly the upper end of the pin or tumbler 12 may be protected from wear and reinforced by providing the core with a head 19 shown in Figure 9 which covers and protects the upper end of the same.

In all of the constructions shown the pins or tumblers and the drivers therefor are reinforced and rendered drill proof by a centrally located core 16 which prevent a drill from cutting through.

It is evident that many slight changes might be resorted to in the relative arrangement of parts shown and described without departing from the spirit and scope of my invention hence I would have it understood that I do not wish to confine myself to the exact construction shown and described, but

Having fully described my invention what I claim as new and desire to secure by Letters Patent, is:—

1. A lock comprising a cylinder, a plug having a key slot for a key, and a tumbler pin having a curved lower end normally resting in the plug and in line with the key slot therein, the said pin having a hard steel member permanently embedded therein and in line with the key slot in the plug.

2. A lock comprising a cylinder, a plug having a key slot and a tumbler normally resting wholly within a seat in the plug and in line with the key slot, the said tumbler being provided with a hardened metal insert.

3. A lock comprising a cylinder, a plug having a key slot and a tumbler normally resting wholly within a seat in the plug and in line with the key slot and a driver resting within a recess in the cylinder and projecting into the plug in line with the tumbler, the said tumbler and driver being each provided with a hard metal insert, the inserts in the tumbler and driver terminating approximately at the meeting ends of said parts.

4. A lock comprising a cylinder, a plug having a key slot, a tumbler normally resting in the plug in line with the key slot and a driver seated in a recess in the cylinder and projecting into the plug and engaging the tumbler, the said driver provided with a hard metal insert extending approximately to the lower end thereof.

5. A lock comprising a cylinder, a plug having a key slot therein, a tumbler in the plug and a driver in the cylinder and normally projecting into the plug in line with the tumbler, the said tumbler and driver being each provided with a hard metal insert, the inserts in the tumbler and driver approximately contacting.

6. A lock comprising a cylinder plug, a pin or tumbler and a driver, the pin or tumbler and driver being hollow and each provided with a hard metal insert or core.

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

JOHN B. FREYSINGER.

Witnesses:
JAMES L. INGALLS,
CHARLES A. BERRY.