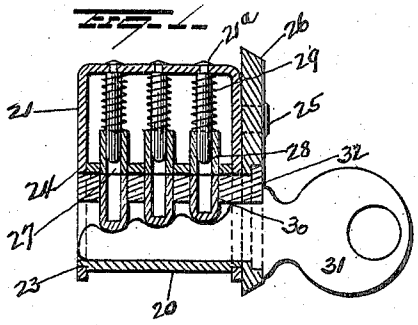
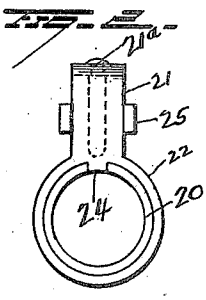
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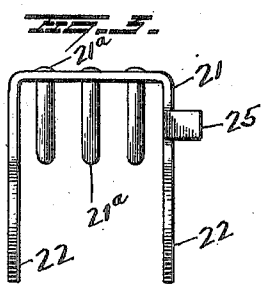
PIN TUMBLER LOCK.

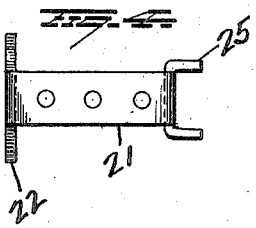
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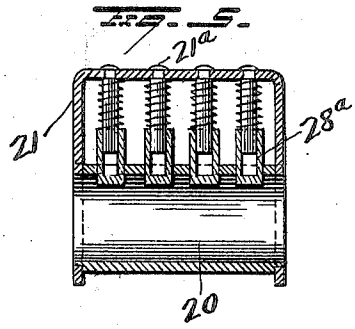
1,433,364. Patented Oct. 24, 1922.

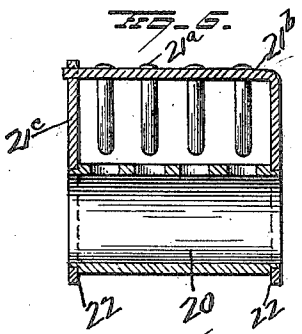


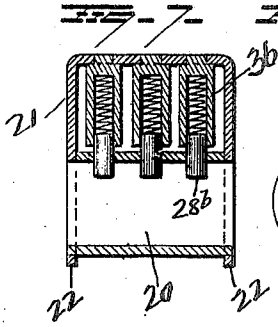


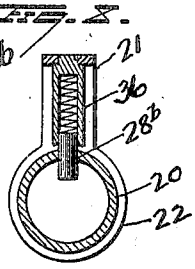


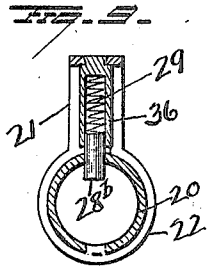


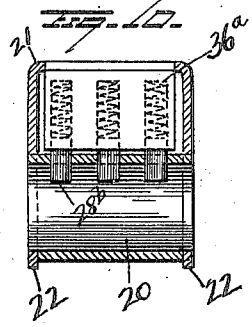


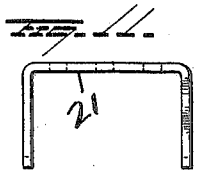


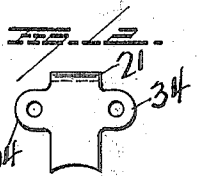


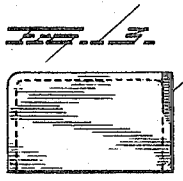


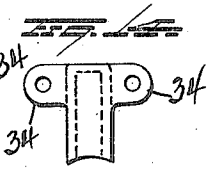


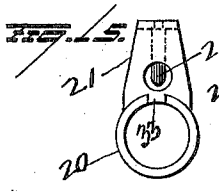


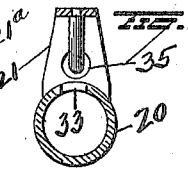












Inventor

J. B. Freysinger

By Seymour & Bright

Attorneys

Patented Oct. 24, 1922. 1,433,364

UNITED STATES PATENT OFFICE.

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

PIN-TUMBLER LOCK.

Application filed January 19, 1922. Serial No. 530,339.

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 Pin-Tumbler 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.

My invention relates to an improvement in pin tumbler locks and it consists broadly in a cylinder and carrier for the pin tumbler, made of sheet metal and secured together, the carriers for the tumblers having fixed depending guides on or in which the tumblers are mounted. My invention further consists in details of construction as will be more fully explained and pointed out in the claims.

In the accompanying drawings; Figure 1 is a view in vertical longitudinal section of a lock embodying my invention; Figure 2 is a rear end view of the same, the face plate of the lock being omitted; Figure 3 is a view of a side elevation of the tumbler yoke or bridge detached; Figure 4 is a view in plan of the latter; Figure 5 is a view similar to Figure 1, the face plate, plug, key and tumbler being omitted; Figure 6 is a view in section showing the yoke or carrier made in two parts, and Figures 7 to 16 inclusive are views of modifications.

20 represents a cylinder preferably made of sheet metal and 21 is the yoke or bridge substantially U-shape, and terminating at its free ends in ring shaped supports or bearings 22 for the ends of the cylinder 20. The ends of the cylinder are preferably recessed as at 23 to receive the ring shaped supports, and the latter are provided, preferably at the top as shown in Figures 1 and 2, with integral depending tongues 24 which rest in slots formed in the cylinder 20 and absolutely hold the yoke or bridge and the cylinder against independent movement. The yoke 21 is preferably provided at its front end with the integral forwardly bent projections 25 adapted to enter slots in the face plate 26 of the lock for locking the face plate to the assembled yoke or carrier and cylinder.

Rigidly secured to and depending from the top member of the yoke 21 are the pins 21^a which preferably terminate in a plane just above the outer surface of the cylinder as shown in Figures 1 and 2, and in line with the tumbler openings 27 in the top of the cylinder. Mounted on these pins 26 are the tumbler drivers 28, which as shown in Figure 1 may be open at both ends, or as shown in Figure 5, may be open at the upper ends only, the lower ends being closed. These drivers are mounted on the pins and project into and through the holes or openings 27 in the cylinder 20, and are yieldingly forced downwardly by the springs 29 which embrace the pins 26 and bear against the underside of the yoke 21 and against the upper edge of the tumbler drivers 28 and thus hold the latter within the openings 27 in the cylinder and against the upper ends of the companion tumblers 30. These tumblers 30 are open at their upper ends to permit them to be moved up onto the pin while inserting and withdrawing the key 31 which is entered in a key slot in the plug 32.

The tumblers are carried in holes in the plug in the usual and well known manner, and are adapted to be engaged by the key and move the drivers so that when the proper key is inserted in the plug the line of division between the drivers and tumblers will be on a line with the periphery of the plug 32, as shown in Figure 1, thus permitting the plug to be turned by the key to actuate the lock, switch or other device to which the plug may be connected.

Instead of providing the yoke with a ring 22 at each end to embrace and support the cylinder, the ring at the front end may be dispensed with as shown in Figure 4, and instead of using rings at either end, the ends of the yoke or carrier may be provided with tongues 33 to be forced or upset in slots in the ends of the cylinder 20, or the yoke or carrier 21 may be minus rings or tongues, as shown in Figures 11 to 16 inclusive and secured to the cylinder by brazing. In Figures 11 and 12 the yoke or carrier is in the form of a bridge with open sides whereas in Figures 13 and 14 it is in the form of a closed housing. In all of these latter forms to wit, Figures 11 to 14 inclusive, the tongues or projections 25 shown in Figures 1, 2 and 3 are dispensed with and the front end is provided with integral projecting side ears 34 having holes therein for the passage of rivets or screws for securing the face plate 26 to the assembled yoke and cylinder. In the

construction shown in Figures 15 and 16 the front end wall of the yoke is provided with a hole 35 through which a rivet is passed for securing the face plate 26 to the yoke.

In Figure 6 I have shown the yoke made of two sections 21^b and 21^c the former of which is provided with a ring embracing the front end of the cylinder and is then bent rearwardly over the cylinder and is riveted to the free end of the section or member 21^c which is provided with a ring embracing the rear end of the cylinder.

In Figure 5 I have shown drivers 28^a closed at their lower ends instead of being open, as in Figure 1, and in Figures 7, 8 and 9 I have substituted hollow sleeves 36 for the pins 21^a, and mounted the drivers 28^b in the lower ends of the sleeves, the springs 29 being housed within the sleeve and bearing on the upper ends of the drivers.

In the construction shown in Figure 10 a block 36^a is secured at its upper end within an opening in the yoke, and is provided with a plurality of pockets to receive the springs 29 and drivers 28^b.

In all the forms the yoke, bridge or carrier is made separate from and independent of the cylinder and carries fixed guides for the tumblers and tumbler drivers, and all of the parts of the various constructions shown can be struck up or stamped from sheet metal thus materially reducing the cost of manufacture.

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 and arrangement of parts shown and described, but—

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

1. In a pin tumbler lock, the combination of a cylinder, a yoke or carrier separated from and secured to the cylinder, fixed guides depending from said yoke or carrier, and tumbler drivers supported by said guides.

2. In a pin tumbler lock, the combination of a cylinder, a yoke or carrier secured to the ends of said cylinder and separated therefrom, fixed guides depending from said yoke or carrier, and tumbler drivers and springs supported by said guides.

3. In a pin tumbler lock, the combination of a cylinder, a yoke or carrier separated from the cylinder, a face plate secured to said yoke or carrier at one end of the latter, fixed guides depending from the yoke and projecting toward the cylinder, and tumbler drivers and springs supported by said guides.

4. In a pin tumbler lock, the combination of a cylinder, a yoke or carrier secured at its ends to the cylinder and removed from the latter, fixed pins secured to said yoke intermediate the latter and the cylinder, hollow drivers mounted on the free ends of said pins, and springs for forcing the drivers downwardly.

5. In a pin tumbler lock, the combination of a cylinder, a separate yoke or carrier secured to said cylinder, pins rigidly fixed to said yoke, hollow drivers mounted on said pins, a plug, hollow plungers in the plug and cooperating with the drivers, and springs supported by the fixed pins and bearing on the drivers.

6. In a pin tumbler lock, the combination of a cylinder and a yoke or carrier both made of sheet metal, the yoke being secured at its ends to the cylinder, a key plug mounted in the cylinder, tumblers in the plug and adapted to be actuated by a key, fixed guides carried by the yoke or carrier, drivers guided by said guides and cooperating with the tumblers, and a spring supported by each guide and bearing against its respective driver.

7. In a pin tumbler lock, the combination of a cylinder and a yoke or carrier both made of sheet metal, the cylinder being secured at its ends to said yoke or carrier, a key plug mounted to rotate in the cylinder, tumblers carried by said plug and adapted to be actuated by a key, fixed guides carried by the yoke, hollow drivers mounted on and guided by said guides, the said drivers cooperating with the tumblers, and springs embracing the fixed guides and bearing on the upper ends of the tumblers.

8. In a pin tumbler lock, the combination of a cylinder, a yoke or carrier secured at its ends to the cylinder, a key plug mounted to rotate in the cylinder, hollow tumblers within said plug and adapted to be actuated by a key, guides fixed to said yoke or carrier, sleeve shaped drivers mounted on said guides and cooperating with the hollow tumblers, and springs embracing the guides and bearing against the upper ends of the drivers.

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

JOHN B. FREYSINGER.

Witnesses:
CHAS. A. BERRY,
CHAS. LEDIN.