

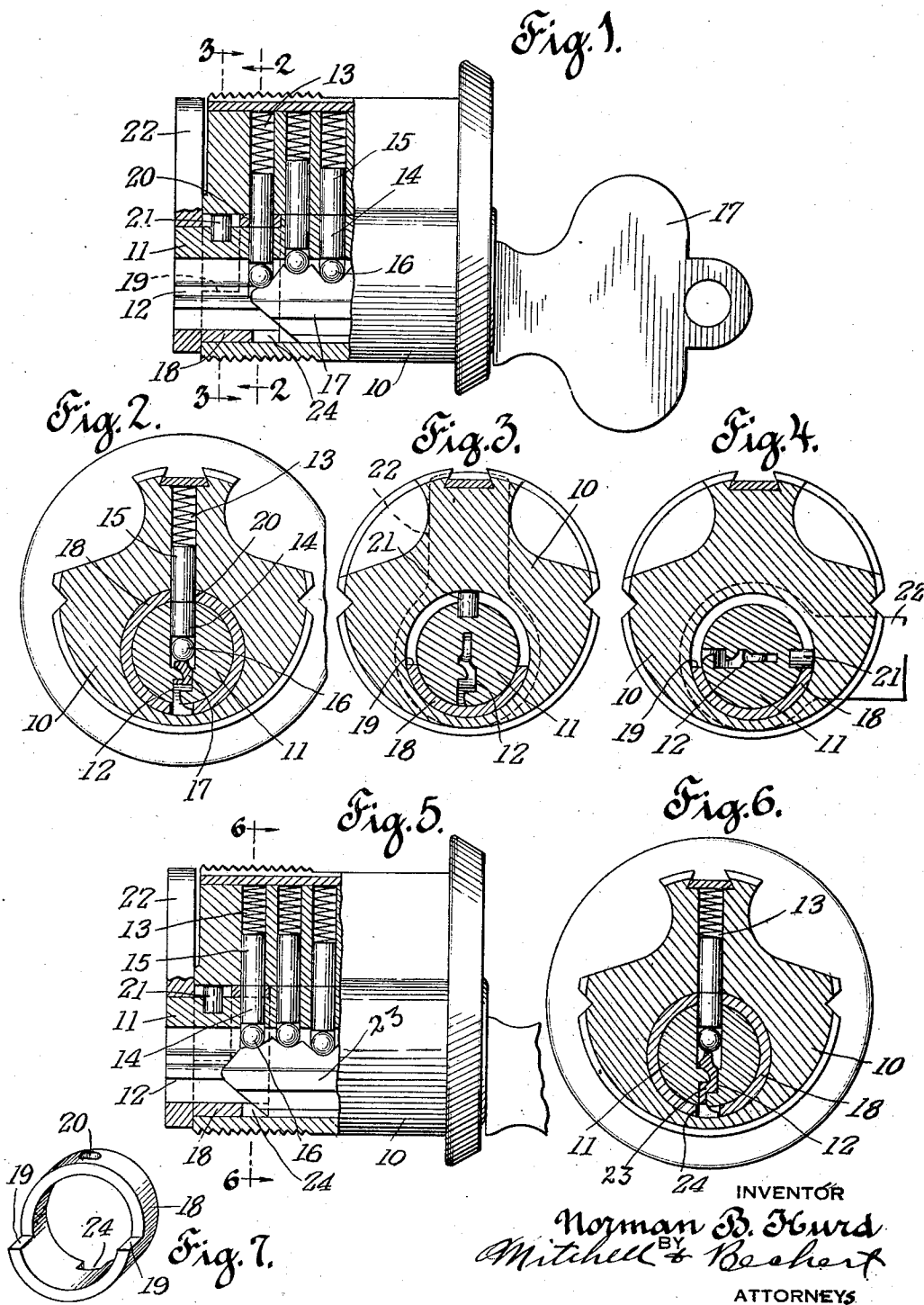
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LOCK

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LOCK

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This invention relates to locks and particularly to a form of lock operated in one manner with one key, and in another manner with a different key.

5 An object of the invention is to provide a lock adapted to be normally used by the insertion of an ordinary key, but which, by the use of a special or master key, may be operated in a different manner.

10 A further object of the invention is to provide a lock of the tumbler type, the plug of which is adapted to be oscillated between fixed limits by the use of an ordinary key and adapted to be freely rotated by the insertion
15 of the special or master key.

Another object of the invention is to provide a member having abutments thereon disposed between the cylinder and plug of a tumbler type of lock so that when this member is held from rotation, a projection on the
20 plug will limit rotation thereof, and, when said member is released the plug may be freely rotated about a complete revolution.

A still further object of the invention is to
25 provide controlling means for an intermediate member between the cylinder and plug of a lock operated by movement of one of the tumblers, the tumbler in one position permitting rotation of the member with the
30 plug and in another position preventing rotation therewith, different keys being used to control the positioning of the tumbler.

With these and other objects in view my invention consists in the features of construction and operation set forth in the following
35 specification and illustrated in the accompanying drawing.

In the accompanying drawing annexed hereto and forming a part of this specification, I have shown my invention embodied
40 in a multiple tumbler lock, but it will be understood that the invention can be otherwise embodied and that the drawing is not to be construed as defining or limiting the
45 scope of invention, the claim appended to this specification being relied upon for that purpose.

In the drawing—

Fig. 1 is a side elevation of a lock with the
50 ordinary key inserted, parts being broken

away to more clearly show their construction;

Fig. 2 is a cross sectional view taken upon the plane of line 2—2 of Fig. 1;

Fig. 3 is a similar view taken upon the
55 plane of line 3—3 of Fig. 1; and

Fig. 4 is a view similar to Fig. 3 with parts shown in another position;

Fig. 5 is a view similar to Fig. 1 with the special or master key inserted;

Fig. 6 is a cross sectional view taken upon
60 the plane of line 6—6 of Fig. 5; and

Fig. 7 is an isometric view of one of the parts forming the present invention.

In the above drawing, I have shown but
65 one embodiment of the invention which is now deemed preferable, but it is to be understood that changes and modifications may be made within the scope of the appended claim without departing from the spirit of the in-
70 vention.

Referring more in detail to the figures of the drawing, I provide a lock cylinder 10 with a rotatable key plug 11 mounted therein. Within the plug 11 is the key inserting slot
75 12 of the usual type. Adapted to operate in suitable registering holes 13 in the plug 11 and cylinder 10 are tumblers, six being shown, each tumbler comprising a driver 14 and follower 15 and being spring pressed in the
80 usual manner. Balls 16 within the bottom of the holes 13 in the plug 11 facilitate insertion of a key such as shown at 17. As the cylinder 10, the plug 11 and the tumblers are or may be of any standard or conventional
85 form it is not thought that further description of these parts is necessary.

The rear portion of the plug 11 is of reduced diameter providing an annular space between the plug 11 and the cylinder 10.
90 Within this annular recess is a small sleeve 18 freely rotatable upon the plug 11 and relative to the cylinder 10. This sleeve 18 is cut away for about one half its length as is indicated clearly in Fig. 7, the forward half
95 forming a complete circle, and the rear half a substantially half circle thus forming substantially diametrically opposite abutments or shoulders 19. Within the complete annular part of the sleeve 18 is a suitable hole 20
100

through which the driver 14 and follower 15 of one of the tumblers may pass. On the plug 11 is an outstanding projection 21 in the form of a pin, which, when the plug 11 is rotated by the ordinary key, will oscillate within the space formed by the cut away portion of the sleeve 18 between the abutments 19. Referring to Fig. 1 of the drawing it will be seen that one of the followers 15 extends through the hole in the sleeve 18 and thus holds the sleeve from rotation relative to the cylinder 10. With the sleeve 18 thus held in fixed position by the follower 15 of the tumbler, rotation of the plug 11 by the ordinary key 17 is limited by the stop 21 on the plug 11 abutting against the ends 19 of the cut away parts of the sleeve 18. The roll-back 22 attached in the usual manner to the rear end of the plug 11 can, therefore, be actuated between certain fixed positions which are sufficient to operate the latch or other part operated by the roll-back 22.

In order to permit the plug 11 and roll-back 22 to be freely rotatable through a complete revolution upon insertion of a special or master key 23 the follower 15 is moved outward so that it is free from the sleeve 18 and the driver 14 is within the hole in the sleeve. For this purpose the master key 23 having a higher tumbler recess than the ordinary key 17 is inserted, which elevates the driver 14 to a position so that its outer end is in alignment with the outer periphery of the sleeve 18. The driver 14, therefore, for this tumbler enters the hole 20 in the sleeve 18 so that the sleeve 18 is free to rotate with the plug 11. With the sleeve 18 rotating with the plug 11 the stop 21 does not contact with the ends or abutments 19 of the cut away portion in the sleeve 18, thus permitting complete rotation of the plug 11. In order to permit the master key 23, which may be slightly longer than the ordinary key 17, to fully enter the key slot 12 in the plug 11 the front face of the sleeve 18 may be notched or recessed as shown clearly at 24 in Fig. 7. The ordinary key operating to oscillate the plug 11 between interengaging abutments to limit its movement may be used to operate the latch with which the lock is provided. The special or master-key operating to release the abutments and permit complete rotative movement of the plug 11 may be used to operate a locking bolt with which the lock may be provided.

I claim:

In a cylinder lock, a cylinder, a key plug rotatable therein, a sleeve on the inner portion of said plug and within said cylinder, a portion of said sleeve being cut away, a stop carried by and projecting radially from said plug and standing in said cut-away portion of said sleeve and within said cylinder, and a pin tumbler comprising a plurality of sections operable by one key to lock said

sleeve to said plug and release said plug and sleeve from said cylinder to permit full rotation of said parts, and operable by a different key to lock said sleeve to said cylinder and release it from said plug to permit the plug to be rotated in said cylinder and sleeve to an extent limited to the scope of the cut-away portion.

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