July 14, 1931. G. R. TERRILL 1,814,646

LOCK

Filed Aug. 25, 1930 2 Sheets-Sheet 1

Fig. 1.

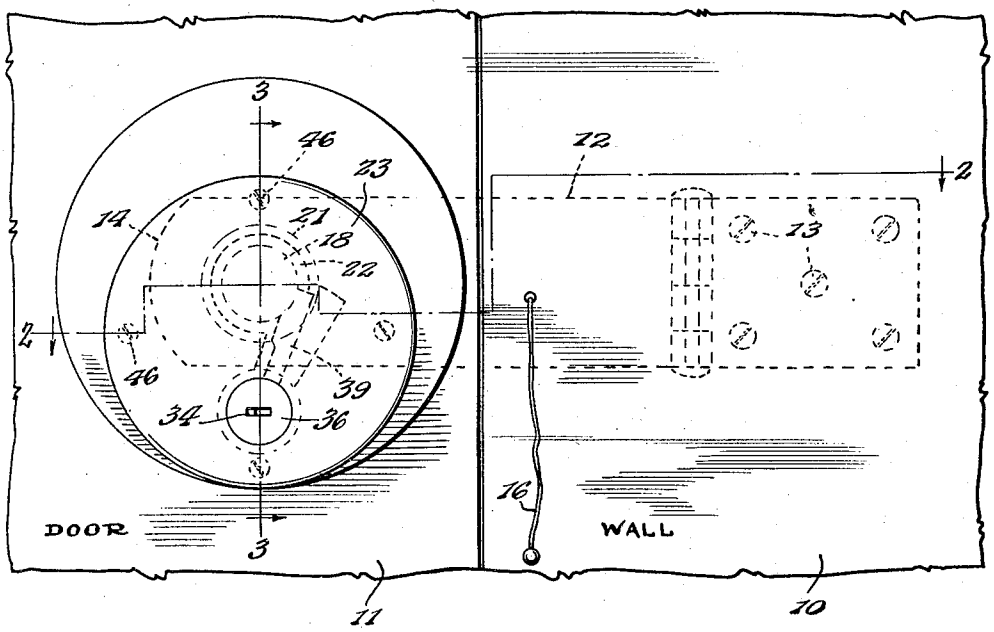
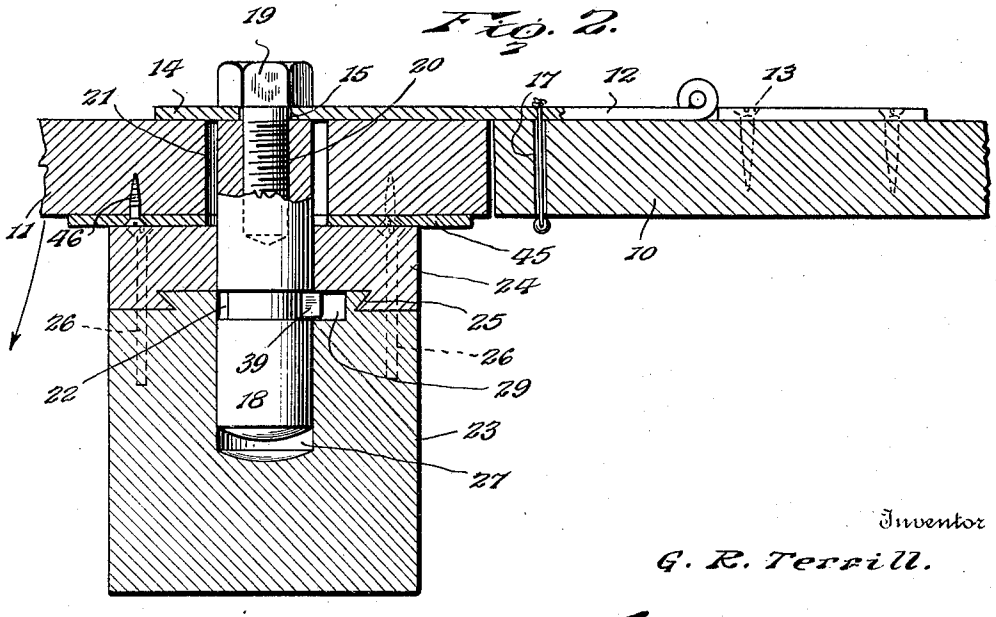


Fig. 2.



Inventor

G. R. Terrill.

By Lacey & Lacey,

Attorneys

July 14, 1931. G. R. TERRILL 1,814,646

LOCK

Filed Aug. 25, 1930 2 Sheets-Sheet 2

Fig. 3.

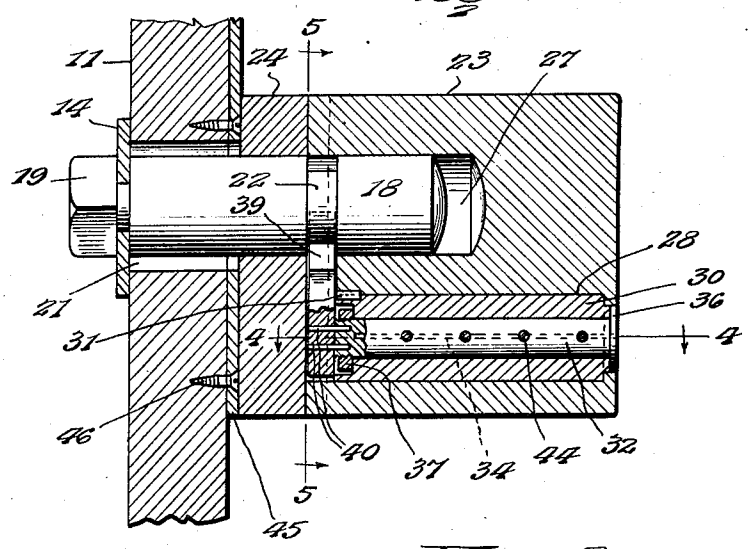


Fig. 4.

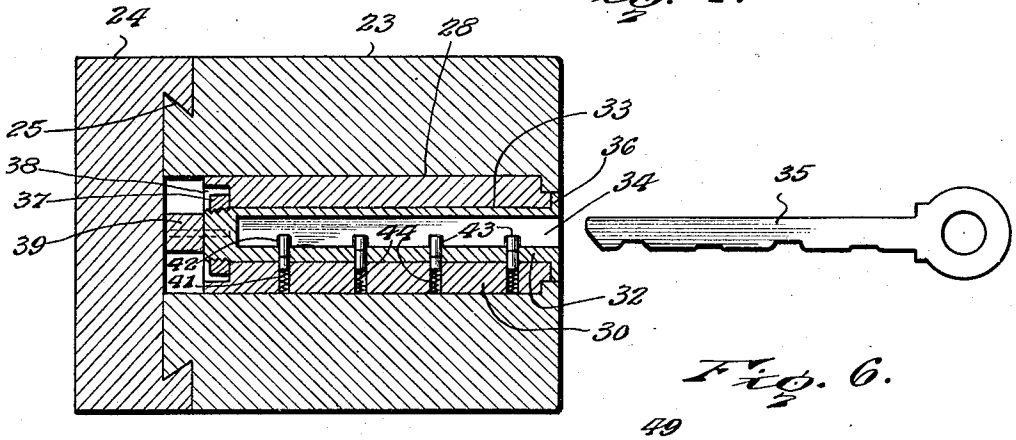


Fig. 6.

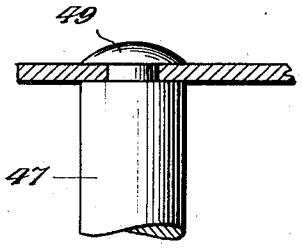
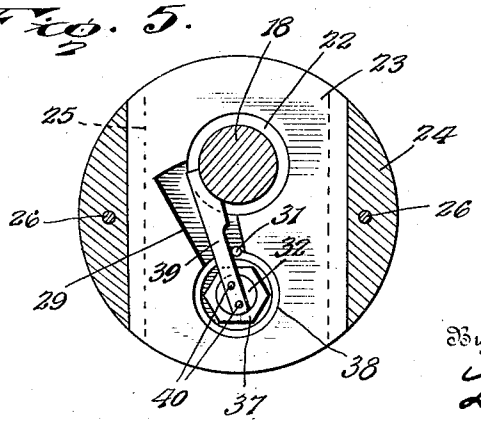


Fig. 5.



Inventor

G. R. Terrill.

By Lacey & Lacey, Attorneys

Patented July 14, 1931 1,814,646

UNITED STATES PATENT OFFICE

GEORGE R. TERRILL, OF McALESTER, OKLAHOMA

LOCK

Application filed August 25, 1930. Serial No. 477,717.

This invention relates to rotary locks of that general type described in my co-pending application, filed April 30, 1930, Serial No. 448,624.

An object of the present invention is to provide generally a lock which cannot be twisted from its locked position on the locking post for the reason that the lock is freely rotatable on the post as an axis.

A further object is to provide a lock which will employ no bolts, screws, rivets or similar fastening devices and which will be devoid of a main or locking spring, whereby the parts are reduced to a minimum and failure to function because of mechanical defects reduced to an unavoidable minimum.

A still further object is to provide a lock in which the pin tumbler core is rotated by a key and operates to rock a catch into and out of a circumferential groove in the locking post whereby to lock or unlock the lock, the catch being secured to the core by pins which are concealed within the body of the lock so as to prevent the same being tampered with.

A still further object is to provide a lock in which the pin tumbler core is rotatably mounted in a housing which is keyed stationary to the body of the lock by a key which is also concealed in the body of the lock so that the core cannot be twisted to destroy the pin tumblers.

A still further object is to provide a lock which may be used in connection with a hasp in lieu of a padlock and will be devoid of projecting parts which might afford a point of contact for a burglar's tools, such as a jimmy or a cutter.

A still further object is to provide a lock which will be composed of a few strong, simple and durable parts which will not easily get out of order, which may be easily assembled and dis-assembled for inspection and repairs, and which will be inexpensive to manufacture.

With the above and other objects in view the invention consists in certain novel details of construction and combinations of parts hereinafter fully described and claimed, it being understood that various modifications may be resorted to within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of this specification,

Figure 1 is a front elevation of a lock and hasp constructed in accordance with my invention,

Fig. 2 is a cross sectional view taken on the line 2—2 of Fig. 1,

Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 1,

Fig. 4 is a cross sectional view taken on the line 4—4 of Fig. 3,

Fig. 5 is a vertical sectional view taken on the line 5—5 of Fig. 3, and

Fig. 6 is a fragmentary sectional view showing the locking post headed up upon the hasp.

Referring now to the accompanying drawings in which like characters of reference designate similar parts in the various views, and referring more particularly to Figs. 1 and 2, 10 designates a wall and 11 designates a door. In carrying out the preferred embodiment of the invention, a hasp 12 is secured to the inside of the wall by screws 13 or otherwise and extends over the inner face of the door, which in this instance opens outwardly. The hasp terminates in a head 14 and there is formed in the head a central opening 15. The hasp is further provided with a draw string, cord or cable 16 which projects through an opening 17 formed in the wall and provides means for swinging the hasp to operative position.

A locking post 18 is rigidly secured to the head of the hasp by means of a lag screw 19 or similar device which is threaded into an axial opening 20 formed in the end of the post. An enlarged opening 21 is formed in the door to loosely receive the post and permit of the door being opened outwardly, as shown by the arrow head, to clear the post after the hereinafter described lock barrel is removed from the post. The post is provided intermediate the ends with a circumferential locking groove 22.

The body or barrel of the lock is preferably

formed of two parts 23 and 24 which are preferably cylindrical in contour and are removably secured together by a mortise dovetail joint 25. A pair of pins 26, or even a single pin if desired, is passed through the inner end face of the part 24 of the barrel and into the part 23 thereof to secure the parts against accidental displacement. The barrel is provided with a longitudinal opening 27 to snugly receive the post 18 and is furthermore provided with a longitudinal opening 28 which opens through the outer end face of the barrel and extends substantially parallel with the post receiving opening 17. The inner end of the opening 28 opens into a radially disposed recess 29 which communicates with the post receiving opening and is so located as to register with the above mentioned circumferential groove 22 of the post when the barrel is applied to the post, as best shown in Figs. 2 and 5.

A cylindrical housing 30 is snugly fitted in the opening 28 and is rigidly secured to the barrel preferably by means of a key 31, as shown in Fig. 3, the key being concealed within the barrel so as to be housed against being tampered with and also positively preventing the housing being twisted in the opening 28 to destroy the hereinafter described pin tumblers which are carried by the housing.

A cylindrical core 32 is rotatably mounted in the bore 33 of the housing and is provided with an axial key slot 34 to receive a key 35, these parts being best shown in Figs. 1, 3 and 4. The core is provided at the outer end with a collar 36 which engages against the outer end face of the housing 30. A washer nut 37 is screwed onto the inner end of the core, as best shown in Fig. 4, and coacts with the collar in securely confining the core against dislodgment from the barrel of the lock, the nut preferably being counter-sunk in a recess 38 formed in the inner end face of the housing so as not to interfere with the operation of the locking catch about to be described.

By referring now to Figs. 3 and 5, it will be seen that a locking catch 39 is removably secured to the inner end of the core, preferably by means of spaced pins 40. The pins are prevented from dislodgment by virtue of the ends thereof abutting the confronting face of the base part 24 of the barrel, removal of said part permitting access to the pins for repairs when necessary. The locking catch swings in the recess 29 with the core 32 as a unit, and is of sufficient length to extend into the circumferential groove 22 of the locking post 18 and positively prevent withdrawal of the barrel from the post when the parts are in engaged position. When the key is inserted to disengage the hereinafter described pin tumblers and is then rotated to rotate the core, the locking catch will be rocked out of the circumferential groove and free the barrel for removal manually and bodily from the locking post.

The housing 30 and the core are provided with a plurality of aligned openings 41 and 42 respectively. These openings house split pin tumblers, designated in general by the numeral 43, the splits of the pin tumblers being disposed in staggered relationship whereby they may be brought into alignment by pressure of the wards of the key 35 to coincide with the contacting faces of the core and housing and permit rotation of the core to engage or disengage the locking catch. The pin tumblers are pressed outwardly by helical springs 44 which are seated in the recesses 41 of the housing whereby the splits in the pin tumblers are disposed within the openings 42 of the core and normally prevent rotation of the core unless the proper key is applied.

By referring now more particularly to Figs. 2 and 3, it will be seen that a face plate 45 is secured to the door 11 by means of screws 46 or similar devices, the heads of the screws being counter-sunk flush with the outer face of the face plate. The face plate performs the function of a rigid metal surface against which the barrel of the lock abuts snugly when the barrel is applied to the locking post. Furthermore, the face plate is of sufficient size to coincide at its edge with the outer wall of the cylindrical barrel so that insertion of a jimmy or any other tool for the purpose of destroying the lock will be positively prevented. The face plate may be of any desired shape and size, it being only important that no crevices or projections exist when the barrel is applied to the face plate to permit entry of a burglar's tool for prying off the parts of the lock.

In Fig. 6 there is shown a locking post 47 which is secured to the hasp 48 by means of a rivet head 49 formed on the post to rigidly secure the post and hasp as a unitary integral assembly.

It will be observed that the barrel of the lock may be swiveled on the locking post indefinitely without disturbing or dislodging the locking catch 39 or core 32. It will be further observed that the core and housing cannot be twisted to destroy these parts since the housing is rigidly secured to the barrel by means of the key 31 while the core is non-rotatable normally in the bore of the housing and is held against dislodgment outwardly or inwardly by means of the collar 36 and nut 37.

Having thus described the invention, I claim:

1. A lock comprising a post having a circumferential groove therein, a hasp operatively connected to the post, a barrel having a recess receiving the post, said barrel being formed of a pair of longitudinal parts con-

nected by a mortise dove-tail joint, there being a radial recess formed in one of the parts, a longitudinal recess formed in said barrel communicating with said radial recess, a housing keyed to said barrel, a pin tumbler core rotatably mounted in said longitudinal recess, a radially disposed locking catch secured to said core and rockable therewith as a unit, said catch being adapted to be rocked into and out of said circumferential groove, and key operated means carried by said core for locking said core stationary in said housing.

2. A lock comprising a post, a hasp operatively connected with said post, a barrel swiveled on said post and comprising interfitting longitudinal sections, a face plate forming a metal support for said barrel and snugly fitting the barrel whereby no crevices or projections exist to permit entry of a tool for prying apart the barrel and face plate, said post having a circumferential groove, a housing secured in said barrel and non-rotatably assembled therewith, a core rotatably mounted in said housing and extending substantially parallel with said post, a locking catch pinned to said core and movable as a unit therewith, said catch being rockable into and out of said circumferential groove, and key operated pin tumblers carried by said core and said housing for normally locking said core against rotation.

3. A lock comprising a post provided with a circumferential groove, a hasp operatively connected with said post, a face plate having an opening through which said post projects, a barrel rotatably mounted on said post, a housing non-rotatably mounted in said barrel, a rotatable core in said housing, a locking catch extending radially from the end of said core, removable pins carried by said catch and engaged in said core to assemble the catch and core as a unit, said barrel being formed of separate longitudinal pieces, said pins abutting one of said pieces whereby the pins are concealed within the barrel and removal of the last named piece permits access to said pins, and pin tumblers carried by said housing and engaged in said core for normally preventing rotation of said core.

4. A lock comprising a post having a circumferential groove, a hasp operatively connected to said post, a face plate surrounding said post, a barrel rotatably mounted on said post and bearing snugly against said face plate, said barrel being formed of a pair of longitudinal parts having a mortise dove-tail connection with each other, pins passed through said connection to removably secure the parts together, said pins bearing against said face plate and being concealed within the barrel, a housing carried by said barrel and extending longitudinally therein, a key removably securing said housing to said barrel, said key being concealed between said longitudinal parts of said barrel, disengagement of said parts at said dove-tail connection exposing said key for removal, a rotatable core carried axially in said housing, means normally locking said core to said housing, and a radially disposed locking catch carried terminally by said core and disposed between said longitudinal parts of said barrel, said catch being adapted to be rocked by rotation of the core into and out of said longitudinal groove.

5. A lock comprising a post having a circumferential groove, a hasp operatively assembled with said post, a barrel rotatably mounted on said post, a face plate between the barrel and said hasp forming a rigid support and abutment for said barrel, a housing carried by said barrel, a rotatable core disposed axially in the housing, a radially disposed catch carried terminally by the core and rockable by rotation of the core into and out of said circumferential groove, said housing having a plurality of aligned openings registering with corresponding aligned openings in said core, and spring pressed tumbler pins disposed in said aligned openings, said tumbler pins being split transversely, the splits being disposed in staggered relationship, there being a key slot formed longitudinally in said core communicating with the tumbler pin receiving openings in said core, said barrel being formed of detachably connected longitudinal parts, disengagement of said parts exposing said housing and said core, said housing and said core normally being concealed within said barrel when said longitudinal parts are engaged whereby tampering therewith is positively prevented.

In testimony whereof I affix my signature.

GEORGE R. TERRILL. [L. S.]