No. 757,588. PATENTED APR. 19, 1904.

S. WISNEWSKI.

LOCK.

APPLICATION FILED NOV. 13, 1903.

NO MODEL.

Fig. 1.

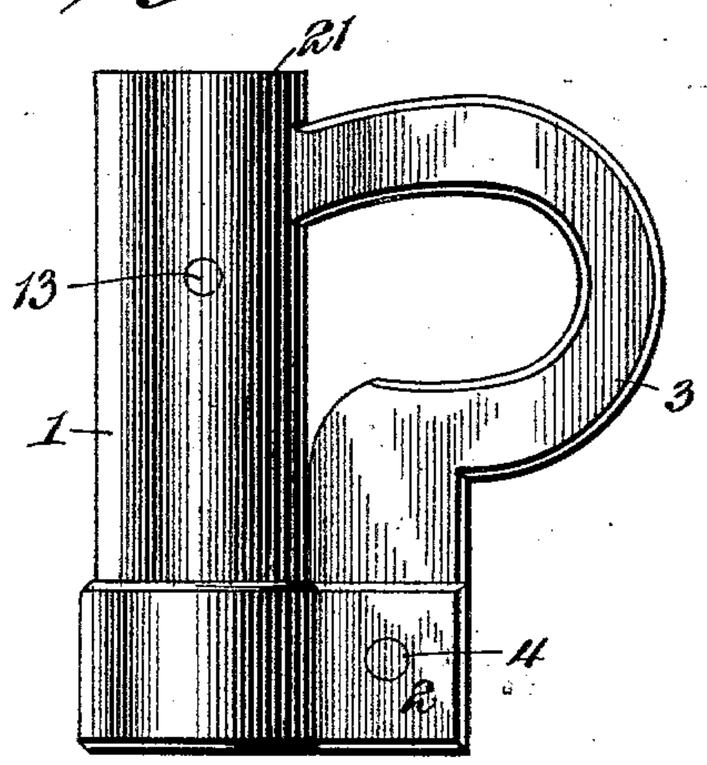
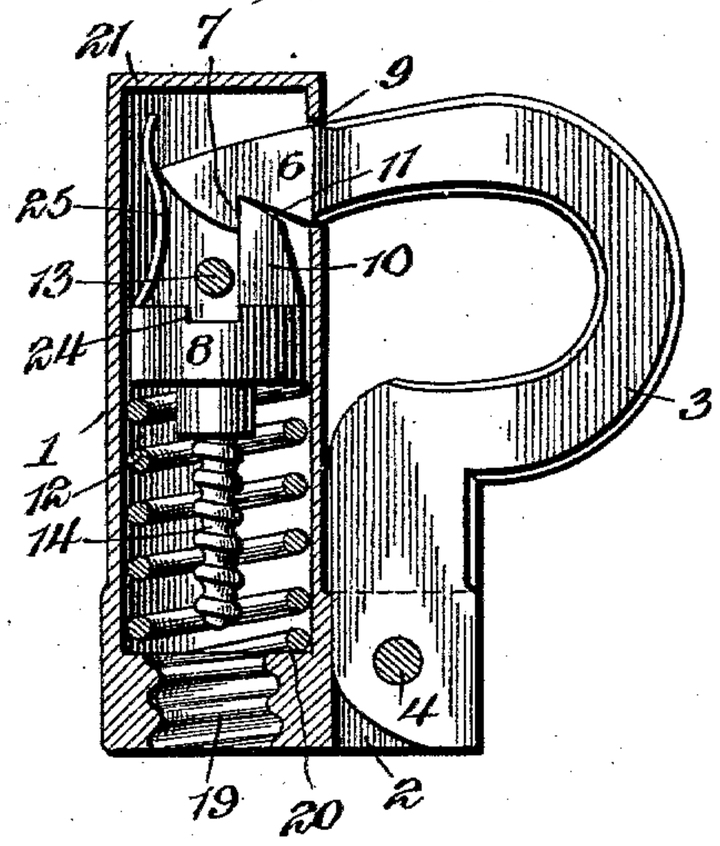


Fig. 2.



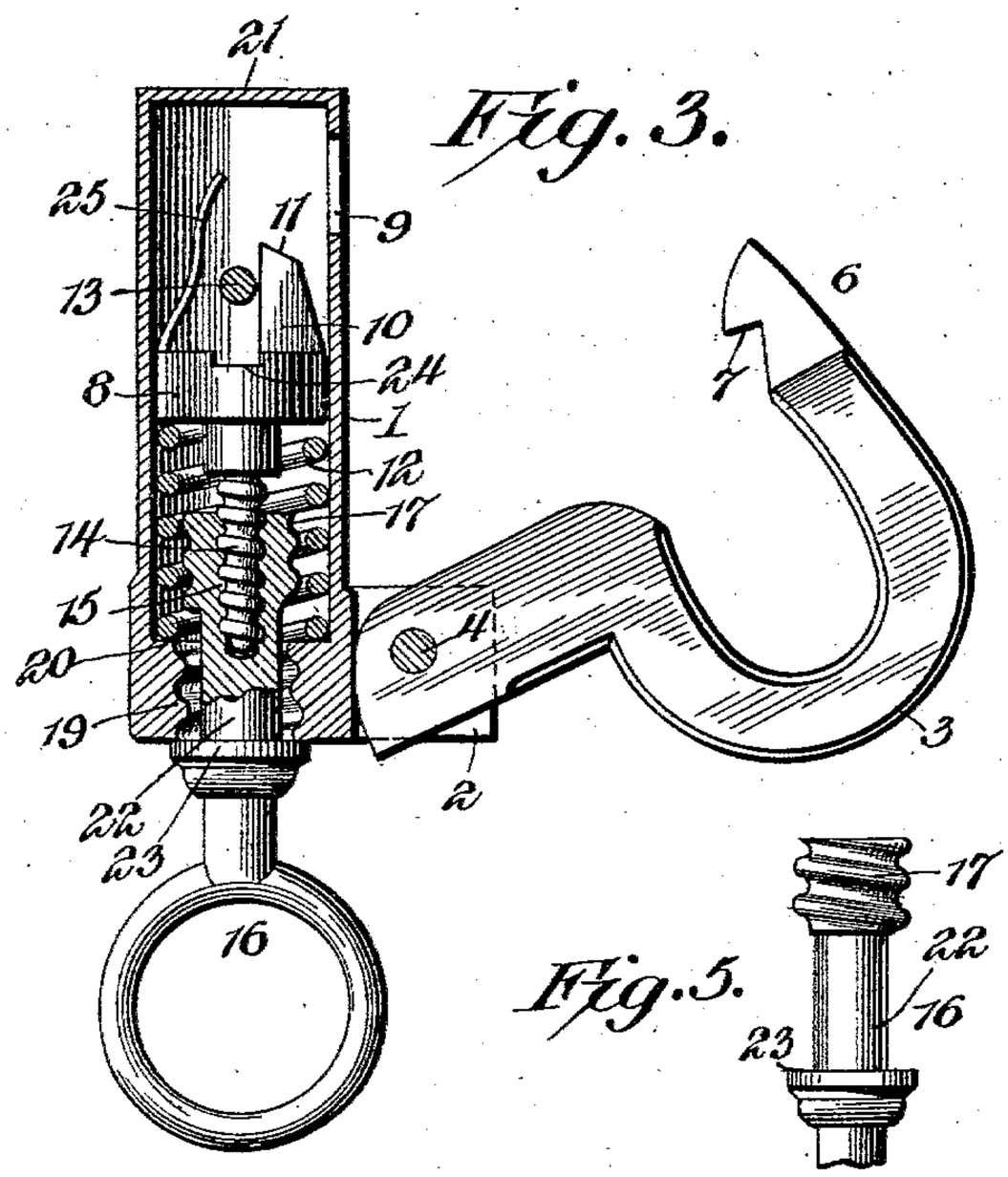


Fig. 3.

Fig. 4.

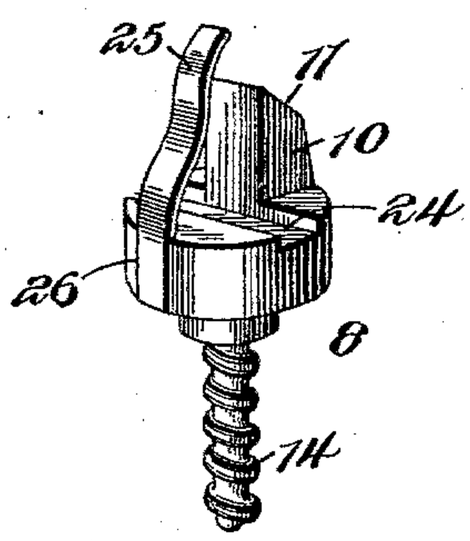


Fig. 5.

Witnesses
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No. 757,588. Patented April 19, 1904.

UNITED STATES PATENT OFFICE.

STANISLAUS WISNEWSKI, OF WARSAW, NORTH DAKOTA.

LOCK.

SPECIFICATION forming part of Letters Patent No. 757,588, dated April 19, 1904.

Application filed November 13, 1903. Serial No. 181,065. (No model.)

To all whom it may concern:

Be it known that I, STANISLAUS WISNEWSKI, a citizen of the United States, residing at Warsaw, in the county of Walsh and State of North Dakota, have invented a new and useful Lock, of which the following is a specification.

The invention relates to improvements in locks.

The object of the present invention is to improve the construction of padlocks and to provide a simple, inexpensive, and efficient one of great strength and durability adapted to reduce to a minimum the liability of its being surreptitiously opened and capable of being unlocked only by its particular key.

A further object of the invention is to provide a lock of this character in which the key will be susceptible of numerous variations, whereby a number of similar locks may be manufactured with sufficient differences or variations to prevent the key of one lock from opening another.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a side elevation of a padlock constructed in accordance with this invention, the hasp being locked. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a similar view showing the position of the parts when the hasp is unlocked. Fig. 4 is a detail perspective view of the spring-actuated bolt. Fig. 5 is a detail view of the key.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a tubular casing or barrel provided at one end with a pair of perforated ears 2, receiving one end of a pivoted locking member or shackle 3, which is secured between the perforated ears by means of a rivet 4 or other suitable fastening device. The locking member or shackle 3 is provided with an approximately U-shaped portion forming a loop and adapted to engage a hasp and staple or other parts to be locked. The pivoted end of the shackle or locking member is rounded adjacent to the barrel or casing, as shown, and its other end 6, which is beveled, is provided with a shoulder 7 for engagement with a spring-actuated bolt 8. The end 6 of the shackle or locking member is reduced to form opposite shoulders for engaging the outer face of the barrel or casing, which is provided with a slot 9, through which the reduced end 6 projects when the locking member or shackle is closed, as illustrated in Figs. 1 and 2 of the drawings.

The spring-actuated bolt 8, which is movable longitudinally of the barrel or casing, is provided with a circular body portion, and it has a projecting lug 10, adapted to engage the shoulder 7 of the shackle or locking member and beveled at the outer side at 11, whereby the shackle or locking member in closing is adapted to depress or force the bolt 8 inward against the action of the spring 12. By this construction the shackle or locking member is adapted to automatically engage the bolt, which is held firmly in engagement with the shackle or locking member by the coiled spring 12. The body portion of the locking-bolt is limited in its outward movement by a transverse pin 13, which also fits against the inner face of the lug 10, whereby the bolt is held against rotation and is guided in its inward and outward movement. The locking-bolt 8 is provided with a threaded stem 14, provided with exterior screw-threads and adapted to be engaged by interior screw-threads 15 of a key 16. The key 16 has a cylindrical shank and is provided near its outer end with exterior screw-threads 17, which are adapted to engage interior screw-threads 19 of the barrel or casing. The barrel or casing, which is open at one end, is provided with thickened walls thereat, and these enlarged or thickened walls are provided with the interior screw-threads 19 and also form an inner seat 20 for one end of the coiled

spring 12. The coiled spring 12 is interposed between the adjacent face of the body portion of the bolt and the said seat, whereby the bolt is forced in the direction of the slot 9 toward the closed end 21 of the barrel or casing. The inner portion 22 of the shank or stem of the key is reduced and is smooth, and this smooth portion is of greater length than the interiorly-threaded thickened portion of the casing or barrel and is adapted to rotate freely in the same when the exteriorly-threaded portion of the key is carried beyond the interiorly-threaded portion of the barrel or casing. The key is rotated or turned to the left to introduce it into the open end of the barrel or casing, and it is thereby carried into engagement with the exteriorly-threaded stem of the bolt. A continuous rotation of the key to the left draws the bolt outward away from the slot 9, thereby releasing the locking member or shackle. The shank or stem of the key is provided near the head of the same with an annular shoulder 23, formed by a collar or flange and of greater diameter than the aperture of the open end of the barrel or casing and adapted to bear against the exterior of the same for enabling the key to draw the bolt backward against the action of the coiled spring to the position illustrated in Fig. 3 of the drawings. When the key is rotated in the opposite direction or to the right, it first releases the bolt, which is moved inward toward the slot until the coiled spring is entirely free from pressure or the lug 10 engages the shackle or locking member, and the threaded portion of the key then engages the interiorly-threaded portion of the barrel or casing and is finally withdrawn from the same. The body portion of the bolt is provided with a groove 24 to partially receive the pin and permit the necessary expansion of the spring 12; but the parts may be proportioned to avoid grooving the head or body portion of the bolt. When the bolt is withdrawn, the shackle or locking member is automatically thrown outward by a laterally-movable spring 25, secured at one end in a groove 26 of the body portion of the bolt and arranged at an angle to the longitudinal axis of the barrel or casing when the shackle is not in engagement with it, as shown in Fig. 3. When the shackle or locking member is swung inward to the position shown in Fig. 2, the longitudinally-disposed spring is flexed and placed under tension, whereby it is adapted to automatically open the padlock as soon as the locking member or shackle is free to move. The closed end 21 is preferably formed by a disk or plate, which may be brazed or otherwise secured to the barrel or casing; but the latter may be constructed in any other desired manner, as will be readily understood, to facilitate assembling the parts.

It will be seen that the lock is simple and comparatively inexpensive in construction, that it cannot be opened by an ordinary key or pick, and that by simply varying the pitch and number of the threads a large number of locks may be constructed sufficiently different from one another to prevent them from being opened by a key other than the proper one.

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

1. A lock of the class described comprising a casing, a bolt movable within the casing and provided with a reduced stem having threads adapted to be engaged by a key, and a coiled spring surrounding the reduced stem and spaced from the same and forming an intervening key-receiving space, substantially as described.

2. A lock of the class described comprising a casing provided with threads adapted to be engaged by a key, a bolt having a threaded portion for engagement with a key, and a spring surrounding the threaded portion of the bolt and spaced from the same to permit a key to engage the bolt, substantially as described.

3. A lock of the class described comprising a casing having threads, a bolt also provided with threads, said threads being adapted to be engaged by a key, and a coil-spring surrounding the threaded portion of the bolt and spaced therefrom to provide an intervening key-receiving space, substantially as described.

4. A lock of the class described comprising a casing having threads for engagement with the key, and a spring-actuated bolt also provided with threads for engagement with a key, said bolt being mounted for reciprocation and held against rotary movement, substantially as described.

5. A lock of the class described comprising a threaded casing, a spring-actuated bolt also provided with threads, said bolt being mounted for reciprocation and held against rotary movement, and a locking member or shackle for engagement with the bolt, substantially as described.

6. A lock of the class described comprising a casing having interior threads for engagement with the key, a bolt having exterior threads for engagement by a key, said bolt being mounted for reciprocation, and a spring engaging the bolt, substantially as described.

7. A lock of the class described comprising a casing having an open interiorly-threaded end, a bolt provided with an exteriorly-threaded stem and having a projecting lug for engagement with a shackle or locking member, and a spring engaging the bolt, substantially as described.

8. A lock of the class described comprising a casing provided with an interiorly-threaded end, a bolt having an exteriorly-threaded stem and provided with a projecting lug, a fastening device limiting the movement of the bolt and fitting against the lug to form a guide,

and a spring for engaging the bolt, substantially as described.

9. A lock of the class described comprising a casing having interior screw-threads, a bolt having exterior screw-threads, and a key provided with interior and exterior screw-threads for engagement with the bolt and the casing, substantially as described.

10. In a lock of the class described, the combination with a casing, and a threaded reciprocating spring-actuated bolt, of a key provided with threads for engaging the bolt and having means for engaging the casing, whereby it is adapted to move the bolt against the action of the spring, substantially as described.

11. In a lock of the class described, the combination with an interiorly-threaded casing, and an exteriorly-threaded bolt, of a key provided with interior and exterior threads for engaging the bolt and the casing, said key being also provided with a reduced portion and having a shoulder to bear against the casing, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

his
STANISLAUS × WISNEWSKI.
mark

Witnesses:
JESSE D. PHELPS,
MAX LIZAKOURKI.