W. A. SHANKS.

PADLOCK.

APPLICATION FILED JULY 2, 1909.

953,556. Patented Mar. 29, 1910.

Fig. 1.

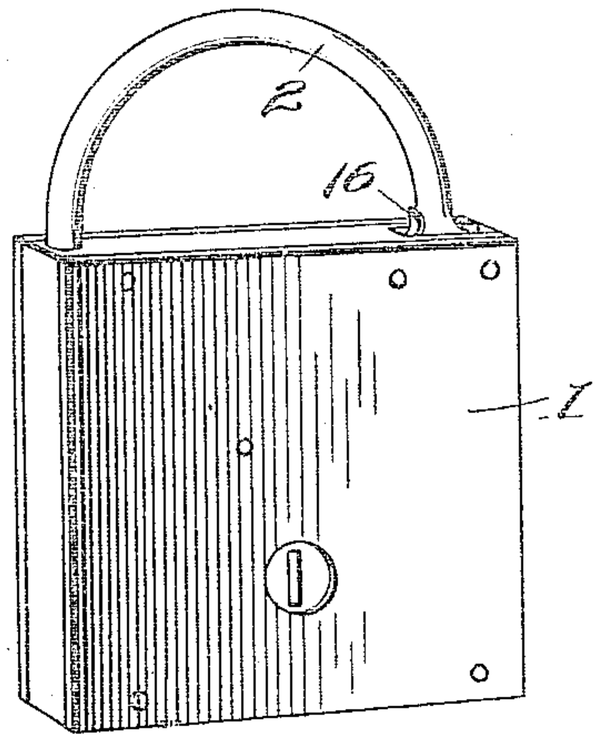


Fig. 2.

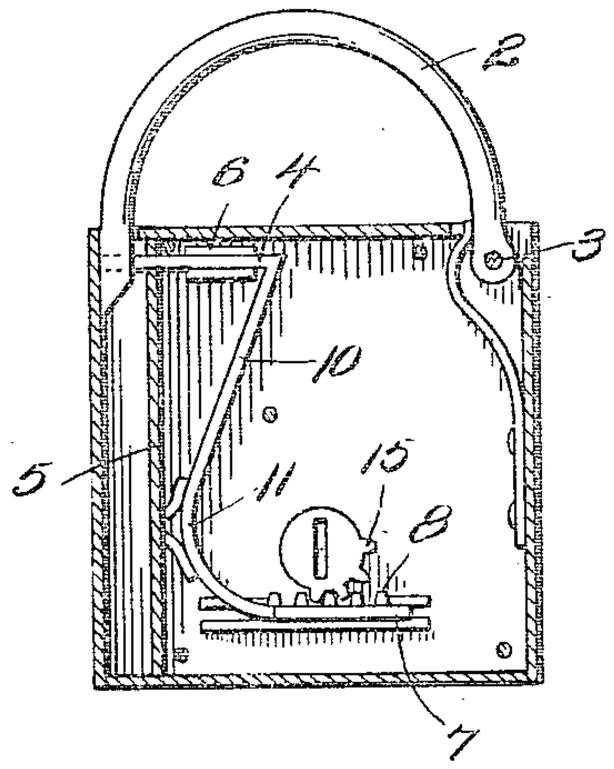


Fig. 3.

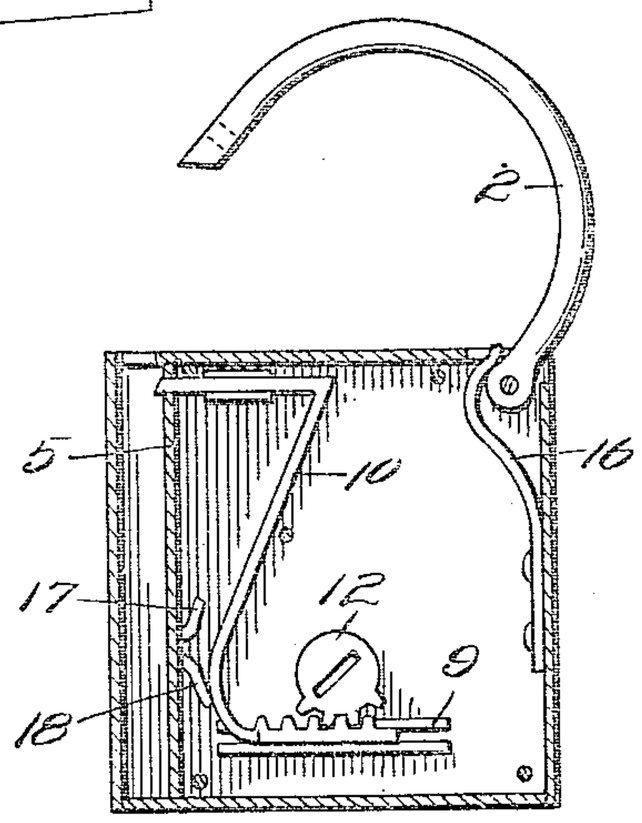


Fig. 4.

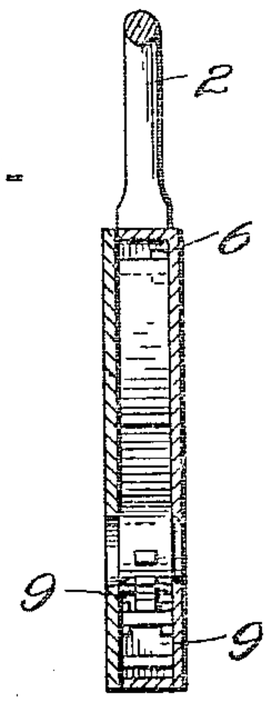
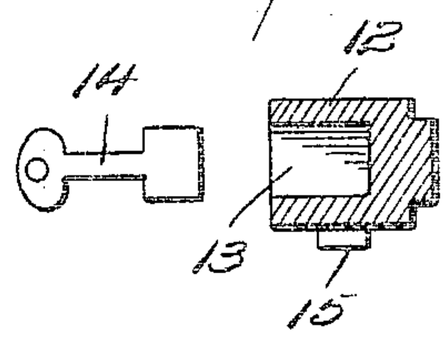


Fig. 5.



Witnesses:
E. L. Ruhsfeldt.
V. B. Hillyard.

Inventor
William A. Shanks.
By Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM A. SHANKS, OF WOLCOTT, NEW YORK.

PADLOCK.

953,556. Specification of Letters Patent. Patented Mar. 29, 1910.

Application filed July 2, 1909. Serial No. 505,623.

To all whom it may concern:

Be it known that I, WILLIAM A. SHANKS, a citizen of the United States, residing at Wolcott, in the county of Wayne and State of New York, have invented new and useful Improvements in Padlocks, of which the following is a specification.

This invention appertains to the class of locks provided with a hasp or bow for passing through the staple or like parts over which the lock member is passed and has for its object to provide a lock of this character involving a minimum number of working parts and a simple construction free from the usual number of joints and separate elements.

The invention has for its object to construct a lock bolt, the lock bolt spring and the lock bolt operator in one piece and to arrange the several elements so as to insure positive action and a responsive movement both when opening and securing the lock.

The invention consists of the novel features, details of construction and combinations of parts which hereinafter will be more particularly set forth, illustrated in the accompanying drawings and pointed out in the appended claims.

Referring to the drawings forming a part of this specification: Figure 1 is a perspective view of a hasp or pad lock embodying the invention. Fig. 2 is a sectional view of the casing showing the parts in the relation assumed when the hasp or bow is locked. Fig. 3 is a view similar to Fig. 2 showing the relative position of the parts when the bow is released and thrown open. Fig. 4 is a transverse section on the line *x*—*x* of Fig. 2, the tumbler and lock bolt operator being shown in full lines. Fig. 5 is a sectional view of the tumbler and key the latter being shown in full and separated from the tumbler.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The casing 1 for inclosing the operating parts may be of any construction and comprises front and back plates and an interposed rim, the latter closing the space formed between said plates. The bow 2 is pivoted to the case at 3 and its opposite end is beveled and provided with an opening or recess to receive the lock bolt 4. A partition 5 is located within the casing near the end wall against which the free end of the bow closes and forms a space in the upper end of which the free end of the bow enters. The lock bolt 4 is adapted to operate through an opening formed in the upper portion of the partition 5. Guides 6 formed with or secured to a wall or plate of the casing direct the lock bolt 4 in its reciprocating movements. The lock bolt operator 7 consists of a bar provided with a series of teeth 8 and is mounted between guides 9 projected inward from both walls or plates of the casing. A spring 10 connects the inner or rear end of the lock bolt 4 with the forward end of the lock bolt operator 7 and normally inclines to the end walls of the casing. The lock bolt 4, spring 10 and operator 7 are preferably formed from a single strip of spring metal bent into the shape substantially as shown which approximates the form of the letter "Z", the spring 10 having a diagonal arrangement. The lower end of the spring 10 is made rounding as indicated at 11 so as to allow for a yielding or spring action of the part 10 in the operation of the lock.

The tumbler 12 is of cylindrical form and is provided with an opening 13 to receive the end of the key 4, said opening being flat or of any desired formation according to the style of the key to be employed. The tumbler 12 is mounted within the lock casing so as to receive a rotary movement and is provided with teeth 15 adapted to mesh with the teeth 8 of the lock bolt operator so as to move the lock bolt to release the bow 2 when it is required to open the lock. A spring 16 secured at one end to an end wall of the casing is adapted to have its opposite end engage with the pivot end of the bow 2 so as to throw the latter open into the position about as indicated in Fig. 3 when the lock bolt 4 is withdrawn.

Stops 17 and 18 extend inward from the partition 5 and curve in opposite directions. When the lock bolt 4 is projected, the rounded portion of the spring 10 bears against both of the stops 17 and 18 as indicated in Fig. 2. When the lock bolt is withdrawn, the rounded portion 11 of the spring 10 bears against the stop 18 only as indicated in Fig. 3. When the lock bolt operator 7 is thrown forward by the action of the key upon the tumbler 12, the rounded portion 11 of the spring 10 is compressed with the result that the upper end of the spring 10 is thrown in-

ward thereby withdrawing the lock bolt 4 and releasing the bow 2 which latter is thrown open by the spring 16 in the manner stated. When the tumbler 12 is moved by the key 14, to bring the operator 7 into normal position, the rounded portion 11 of the spring 10 assumes a normal position which is that indicated in Fig. 2 thereby throwing the outer end of the lock bolt 4 across the space formed between the partition 5 and the adjacent end wall of the casing so that when pressing the free end of the bow 2 into the lock casing, the lock bolt 4 is pressed inward against the tension of the spring 10 and when the opening in the free end of the bow 2 reaches a position to aline with the lock bolt, the latter is shot forward by the action of the spring 10 thereby securing the bow and holding the lock in closed position.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what is claimed is—

1. In a padlock, the combination with the bow, of a lock bolt, a key-operated lock bolt operator, and a spring connecting the inner end of the lock bolt and the forward end of the lock bolt operator, the parts being arranged to operate to withdraw the lock bolt when the lock bolt operator is moved forward.

2. In a padlock, the combination of a bow, a lock bolt, a lock bolt operator provided with teeth, a lock bolt spring connecting the inner end of the lock bolt with the forward end of the lock bolt operator, and a rotary key operated tumbler having teeth in mesh with the teeth of the lock bolt operator, the parts being arranged to effect withdrawal of the lock bolt when the lock bolt operator is thrown forward.

3. In a padlock, the combination of the bow, a coöperating lock bolt, a lock bolt operator, a spring connecting the inner end of the lock bolt with the forward end of the lock bolt operator and having its lower portion made rounded, and a key operated tumbler for moving said lock bolt operator.

4. In a padlock, the combination with the lock casing, and bow pivoted thereto at one end, a combined lock bolt, lock bolt operator and spring formed of a single piece bent into an approximate Z-form, a key operated tumbler for actuating the lock bolt operator, and oppositely disposed stops arranged to snugly form a seat for the lower end of the spring, and the relatively lowermost stop serving as a fulcrum for compressing the spring when the lock bolt operator is thrown forward to effect withdrawal of the lock bolt.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. SHANKS.

Witnesses:

ADELBERT C. BRINK,

MINNIE A. BRINK.