

No. 685,289.

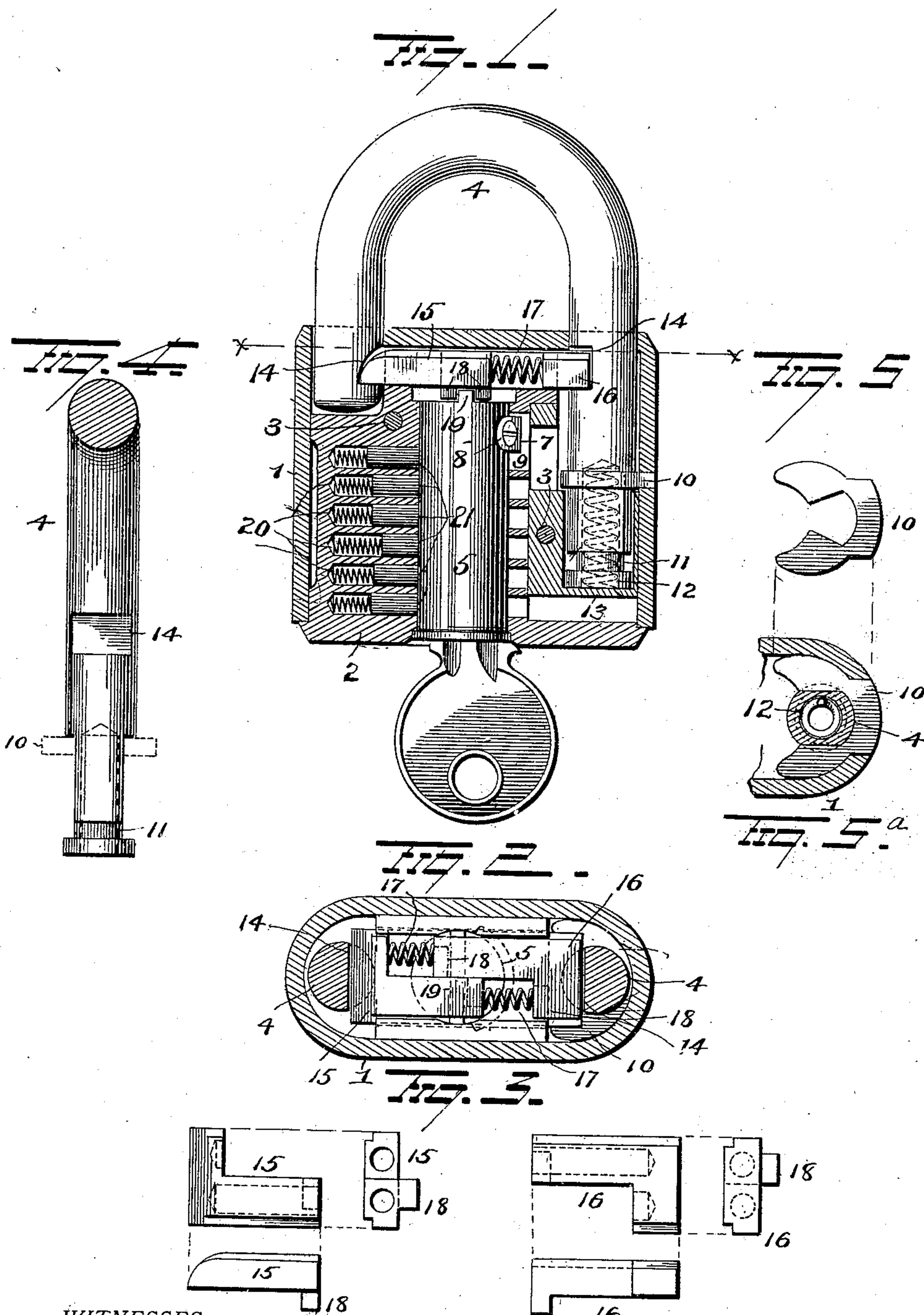
Patented Oct. 29, 1901.

F. W. MIX.

LOCK.

(Application filed Jan. 19, 1901.)

(No Model.)



WITNESSES
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LOCK.

SPECIFICATION forming part of Letters Patent No. 685,289, dated October 29, 1901.

Application filed January 19, 1901. Serial No. 43,930. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. MIX, of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in 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 locks, and more particularly to padlocks, the object of the invention being to provide a padlock with improved means for locking both the heel and front or free end of the shackle and novel means for simultaneously releasing said locking means.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in section illustrating my improvements. Fig. 2 is a view in section taken on the line *x x* of Fig. 1. Fig. 3 is a view of the sliding bolts. Fig. 4 is a view of the shackle removed, and Figs. 5 and 5^a are views of the guide-plate 10.

1 represents a casing open in its lower end and in which a casting 2 is secured by rivets 3, as shown. The casting 2 is bored at one side in alinement with a hole in the top of casing 1 to receive the heel or long end of a shackle 4 and is bored centrally to receive a key-plug 5, to which latter a lug 7 is secured by a screw 8 to prevent the withdrawal of the plug 5 and limit its rotary movement to the length of the recess 9, in which the lug is disposed.

The lower end of the heel or long end of shackle 4 is flattened or contracted on opposite sides to fit into a guide-plate 10, riveted into the casing, as shown, and the shackle is grooved or recessed, as at 11, near its lower end to permit its turning in the guide-plate 10 when the shackle is raised to its highest position by a coiled spring 12, seated in a recess in the lower end of the shackle and bearing against a shoulder 13 on the casting, and the extreme lower end of the shackle is made

with a peripheral flange to strike against the guide-plate 10 and limit its upward movement. The guide-plate 10 is preferably struck from a sheet of metal into the shape shown in Fig. 5, and when the shackle is inserted between the arms of the guide-plate it will assume the position shown in Fig. 5^a and closely engage the flattened or contracted portion thereof.

To lock the shackle in its closed position, I provide both the heel and free or front end thereof with oppositely-disposed notches 14, into which sliding bolts 15 and 16, respectively, mounted in a pocket in the casing, are adapted to spring. These bolts 15 and 16, as shown in detail in Fig. 3, are made approximately L shape in plan view, the long arms or members overlapping, or, in other words, disposed side by side and parallel and provided in their free ends with seats in line with seats in the short members or arms of the other bolts for coiled springs 17, which latter are adapted to force the bolts apart and into the notches in the shackle. Each bolt is provided on its under face at the free end of the long arm or member with a lug 18, between which lugs a flange 19 on the upper or inner end of the key-plug 5 is located, so that when the key-plug is turned the flange 19 will engage the lugs 18 and simultaneously draw both bolts out of the notches in the shackle and permit the latter to be raised by the spring 12, above explained.

The casting 2 and key-plug 5 are made with a series of alined recesses 20 for pin-tumblers 21, the meeting edges of the several sections of the same normally held out of alinement with the meeting edge of the plug and casting by springs, so as to prevent the turning of the plug until the proper key is inserted therein to aline the tumblers, when the plug can be turned by the key and the bolts released from the shackle and permit the spring 12 to raise the latter, as above set forth.

The bolt 15 is preferably beveled on its free edge to be readily forced back by the front end of the shackle and automatically lock the same. The other bolt 16, however, is made with a flat edge to bear against the heel of the shackle and be held back thereby until the shackle is forced down far enough to per-

mit the bolt 16 to spring into the notch and automatically lock.

Various slight changes might be resorted to in the general form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I would have it understood that I do not wish to limit myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. In a lock, the combination with a shackle and a casing constructed to receive the shackle-legs, of two bolts constructed to slide side by side in opposite directions, means tending to normally hold both bolts in engagement with the shackle-legs, a rotatable key-plug mounted in the casing and engaging both bolts for sliding the latter in opposite directions in parallel planes when the key-plug is turned, and means for preventing longitudinal movement of the key-plug.

2. In a lock, the combination with a shackle and a casing constructed to receive the

shackle-legs, of two bolts constructed to slide side by side in opposite directions, each bolt provided with a lug, a rotatable key-plug, means on said key-plug disposed between the lugs on the respective bolts for moving the latter in opposite directions when the key-plug is turned and means for preventing longitudinal movement of said key-plug.

3. In a lock, the combination with a shackle and a casing having a socket to receive the long leg of the shackle, said long leg of the shackle having a socket in its lower end and the socketed end of said leg having an angular cross-section and an annular groove, of a plate secured in the socket in the casing and having an angular hole for the passage of the angular portion of the leg, and a spring mounted at one end in the bottom of the socket in the casing and at the other end in the socket in the shackle-leg.

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

FRANK W. MIX.

Witnesses:

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WILLIAM H. BERTINE.