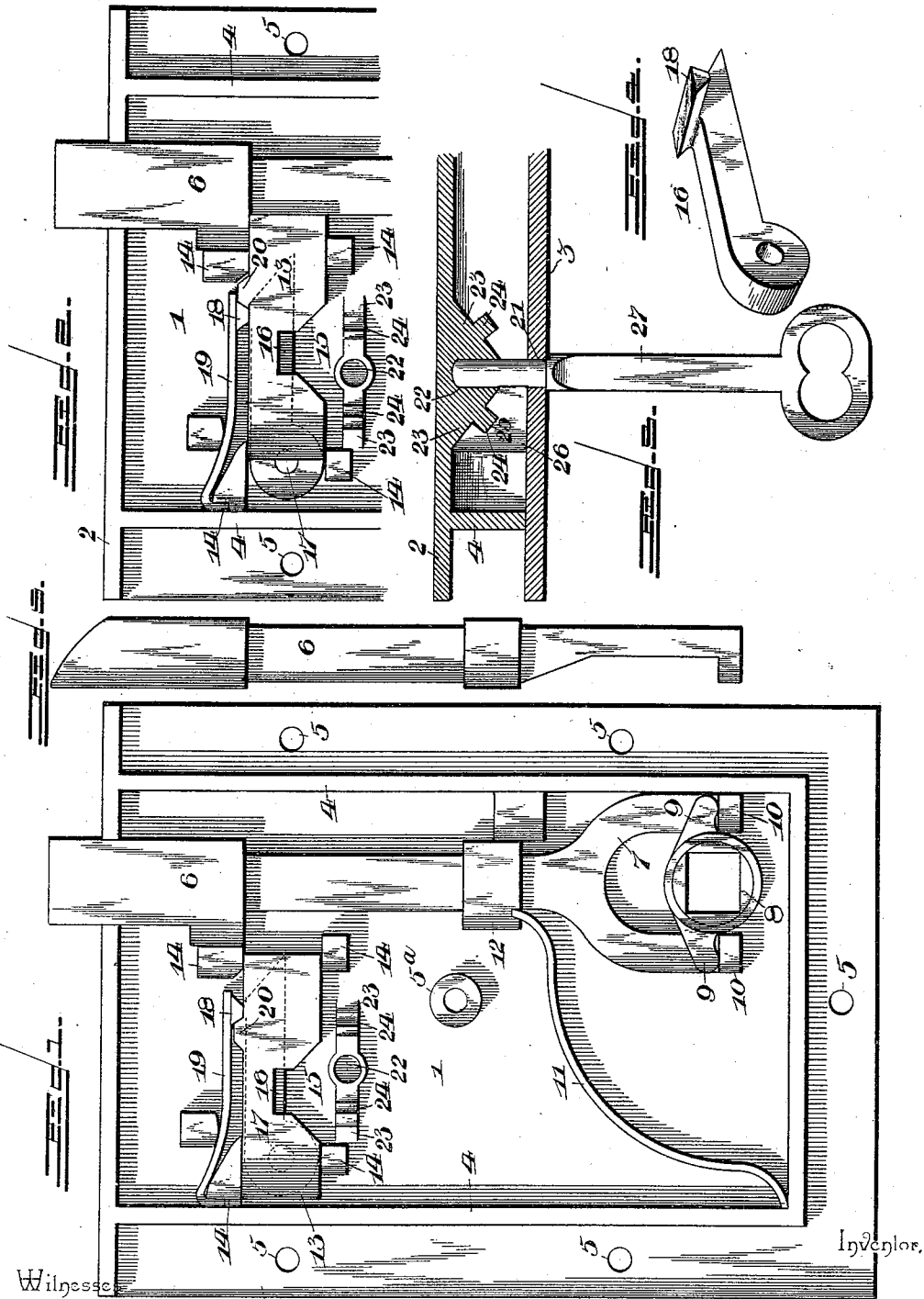


(No Model.)

A. L. SMITH.
COMBINED LATCH AND LOCK.

No. 566,941.

Patented Sept. 1, 1896.



Witness

Inventor

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UNITED STATES PATENT OFFICE.

ANDERSON LLOYD SMITH, OF ILA, GEORGIA.

COMBINED LATCH AND LOCK.

SPECIFICATION forming part of Letters Patent No. 566,941, dated September 1, 1896.

Application filed January 8, 1896. Serial No. 574,739. (No model.)

To all whom it may concern:

Be it known that I, ANDERSON LLOYD SMITH, a citizen of the United States, residing at Ila, in the county of Madison and State of Georgia, have invented a new and useful Combined Latch and Lock, of which the following is a specification.

This invention relates to an improvement in combined locks and latches, and has for its object to provide a simple and efficient article of the character referred to which is especially adapted for use in connection with sliding drawers, although the same may be used as a door-lock or in a variety of places which will readily suggest themselves.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally pointed out in the claim.

In the accompanying drawings, Figure 1 is a view in elevation of the lock with the adjacent casing-plate removed to show the interior construction. Fig. 2 is a detail elevation showing the lock-bolt in engagement with the latch-bolt. Fig. 3 is a detail section showing the lock-key, key-wards, &c. Fig. 4 is a detail perspective view of the tumbler. Fig. 5 is an edge view of the latch-bolt.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the drawings, 1 designates a lock-case comprising parallel rectangular casing-plates 2 and 3, an intermediate rectangular casing-flange 4, and a series of perforations 5, and one or more tubular posts 5^a, which receive the screws or other fastening devices by which the lock-case is held together and secured in place.

6 indicates the reciprocating latch-bolt, which projects at one end through an opening in the end of the lock-case and has such projecting end beveled off, as shown. The latch-bolt 6 is provided at its inner end with a fork 7, which strides a hub or collar 8, having a square aperture through which passes the squared shank or stem of a knob of any suitable or preferred description, by which the latch-bolt may be operated. The hub or collar 8 is provided with diametrically-disposed shoulders 9, which in the rotation of

said hub or collar engage alternately the bent extremities 10 of the fork 7, so that the latch may be retracted in whichever direction the knob may be rotated. The latch-bolt is held normally projected by means of a bow-shaped leaf-spring 11, having its extremities reversely curved and one end thereof in engagement with a lug or shoulder 12 on the said latch-bolt and its other end engaged with the casing.

13 designates a lock-bolt which reciprocates in a plane transverse or at right angles to the plane in which the latch-bolt reciprocates. This lock-bolt is mounted to slide between stationary stops or guides 14, projecting from one of the casing-plates, and is formed in that edge which lies adjacent to the keyhole with a keyway 15, adapted to receive the bit or web of the key, whereby the said bolt may be shot. Between the bolt 13 and the casing-plate is located the tumbler 16, the same being pivotally mounted at one end upon a stud 17, and provided adjacent to its swinging end with a stump 18, which projects laterally from the said tumbler and lies across the edge of the lock-bolt 13, the said stump being pressed normally into engagement with the said bolt by means of a spring 19, one end of which is secured fixedly within the casing, the other end bearing against said stump. The lock-bolt 13 is also provided with a stop or shoulder 20, which is adapted to be engaged by the stump 18 of the tumbler both when the bolt is in engagement with the latch-bolt or withdrawn out of engagement therewith.

The stop 20 and the stump 18 are both formed at opposite sides with reversely inclined or beveled meeting surfaces which cooperate, with the assistance of the spring 19, to move the lock-bolt 13 to its full extent in either direction in the event of the key being a little too small or having worn away so that it will not project the bolt the necessary distance to cause the same to engage the latch-bolt or to entirely disengage itself therefrom.

That edge of the tumbler which is next adjacent to the keyhole (indicated at 21) projects slightly beyond the corresponding edge of the lock-bolt, so as to be engaged by the bit or web of the key prior to the engagement of such bit or web with the lock-bolt. Owing

to such prior engagement the tumbler is vibrated against the tension of the spring 19 until the stump of the tumbler is moved out of the path of the stop or shoulder 20, whereupon, and upon the further turning of the key, the bolt will be reciprocated and moved either toward or away from the latch-bolt, and thereafter the stump will be pressed into engagement with the reverse side of the stop or shoulder 20. It will thus be seen that the bolt 13 is held against accidental reciprocation in either of its adjusted positions.

22 represents a tubular projection on one of the casing-plates, into which the pin of the key is adapted to be received. Upon either side of this tubular projection are arranged inclined webs 23, provided at their edges with obliquely-disposed wards 24, adapted to register with a cleft or groove 25 in the bit or web 26 of the key 27. The bit or web 26 of the key is formed with an inclined outer edge which corresponds to the inclination of the webs 23, so that the key will be permitted to be turned without interference on the part of the webs 23. The last-named webs will, however, interfere with the turning of any ordinary key inserted in the lock.

The bit or web 26 of the key is of a length at its swinging edge approximately equal to the distance between the main plates 2 and 3 of the lock-case, whereby the engagement of the key with the lock bolt and tumbler is insured. By reason of the webs 23 and the wards 24 extending the greater part of the distance between the main plates of the lock-case it will be quite difficult for the lock to be picked with a skeleton key, as the entrance and turning of any ordinary key will be defeated.

When the lock hereinabove described is used in connection with sliding drawers, it is applied to the inner surface of the front wall of the drawer and is preferably set into a stub-mortise therein. It will be understood that the operating-knob will be arranged to project from the front of the drawer, where it may be readily manipulated, and a key-hole-slot is also provided, through which a key may be inserted into the lock. I do not wish to be limited, however, to the particular use referred to, as it will be apparent that the improved lock may be used upon doors and in a variety of places.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

In a lock, the combination with the lock-case of a tubular socket for the reception of the pin of the key, a triangular or wedge-shaped web extending radially from said socket and having an obliquely-projecting ward, and a key having a pin to enter said socket and having the edge of its bit inclined to correspond to the web of the lock-case, the swinging edge of said bit being of a length substantially commensurate with the depth of the lock-case, 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.

ANDERSON LLOYD SMITH.

Witnesses:

J. G. SMITH,

J. YOUNG WILLIAMS.