(No Model.)

O. STODDARD.

KEY.

No. 559,467. Patented May 5, 1896.

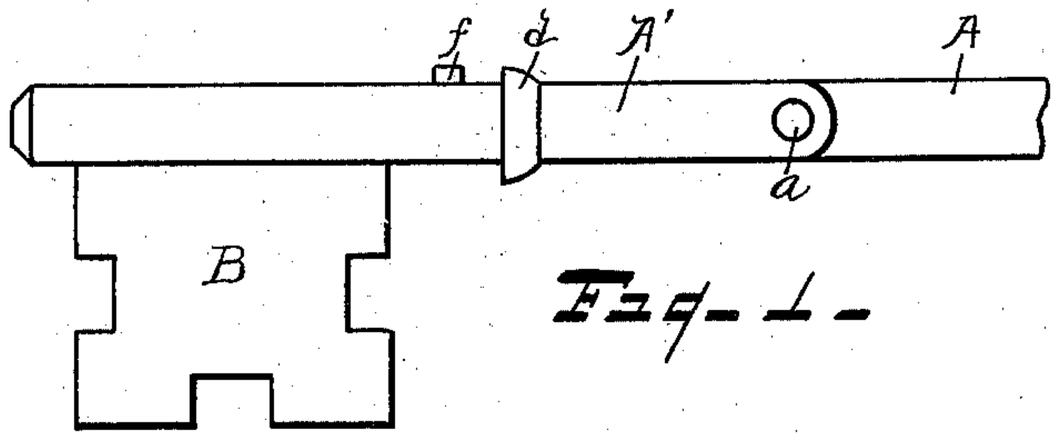

Fig. 1.

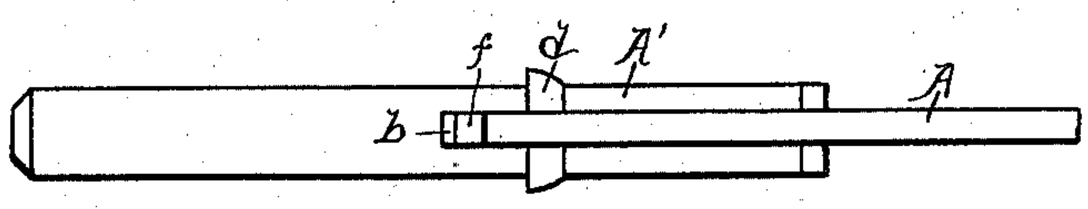

Fig. 2.

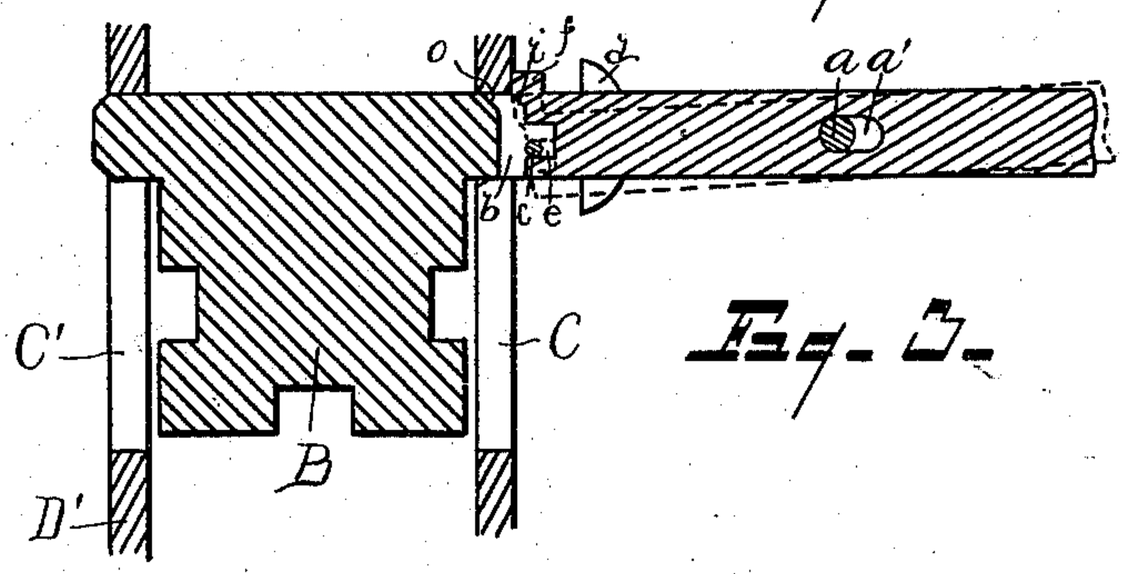

Fig. 3.

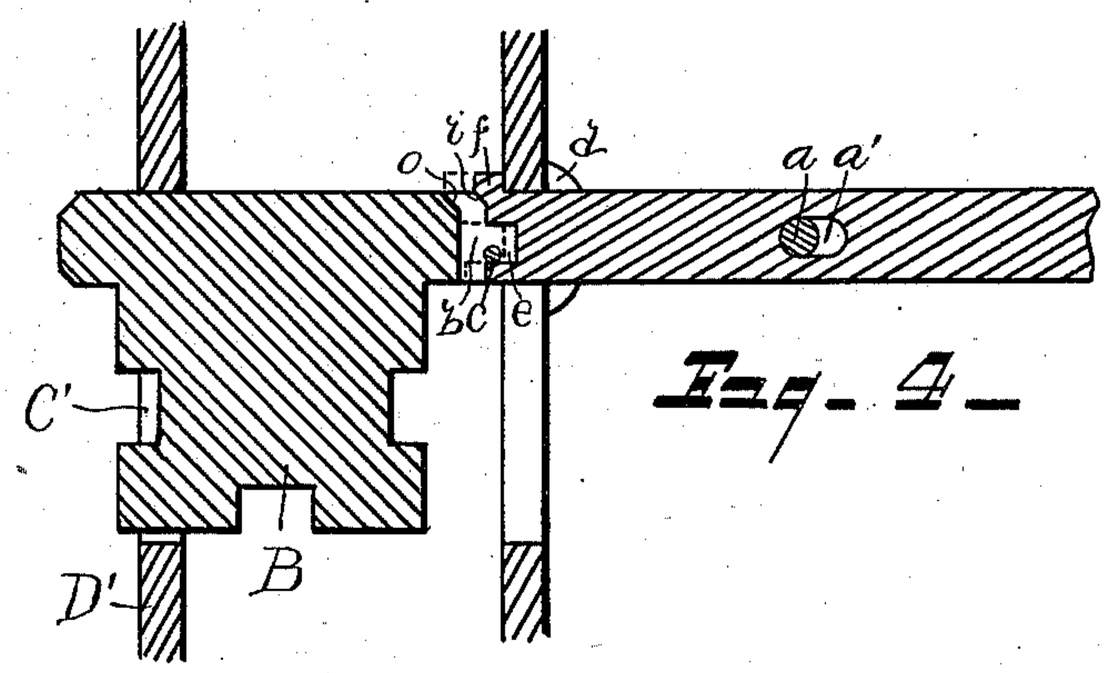

Fig. 4.

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UNITED STATES PATENT OFFICE.

OSCAR STODDARD, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO JOHN H. WALSH, OF SAME PLACE.

KEY.

SPECIFICATION forming part of Letters Patent No. 559,467, dated May 5, 1896.

Application filed July 22, 1895. Serial No. 556,725. (No model.)

To all whom it may concern:

Be it known that I, OSCAR STODDARD, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Safety-Keys for Door-Locks; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to safety-keys for door-locks; and it consists in the construction and arrangement of parts hereinafter more fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide a key of this character in which the construction is such that when the key is inserted in the lock it cannot be removed therefrom from the outside or opposite side of the door from which the key is inserted, nor turned therein, thereby preventing the insertion of another key in the lock until said key shall have been properly withdrawn from the side from which it was entered, obviating the possibility of the lock being picked or tampered with while the key remains therein, which object is attained by the peculiar construction of parts illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved key, a part of the stem being broken away. Fig. 2 is a plan view of Fig. 1. Fig. 3 is a section showing the position of the key when inserted in the lock in the act of shooting the bolt thereof; and Fig. 4 is a like view showing the position of parts when the key is secured within the lock, so as to prevent it from being surreptitiously removed or turned therein.

Referring to the letters of reference, A designates the stem of the key, and B the bit or wing thereof. The stem of the key is formed in two parts, which are pivoted together, the portion of the stem A′ adjacent to the bit of the key being provided with a longitudinal slot *b* therethrough, which is adapted to receive the part A, which is pivoted therein by the rivet *a* that passes through said parts, thereby forming a joint in the stem of the key, the aperture *a′* through the part A of the stem through which said rivet passes being oblong to allow of a slight longitudinal movement of said part A, for purposes hereinafter set forth.

Formed in the inner end of the pivoted part A of the stem is a recess *e*, and passing through the opposite sides of the part A′ of the stem and lying freely in said recess is a pin *c*, which permits of a tilting movement of said part A upon its pivot *a*, but limits the extent of said movement as the sides of said recess strike said pin and arrest the movement of said part A in either direction. In the normal position of the parts A and A′ of the stem the lower side of said recess lies against said pin *c* when said parts stand in perfect alinement. Formed upon the upper face of the inner end of the pivoted portion A of the stem is a lug *f*, which projects vertically from the slot *b* and normally extends above the plane of the stem, as shown in Fig. 1.

In the operation of this key it is inserted into the lock through the keyhole C in the ordinary manner, when the lug *f* will strike the outer face of the lock-plate D, arresting the inward thrust of the key at the point where the key reaches its proper position in the lock, as shown in Fig. 3, when by turning the key the bolt of the lock may be actuated. After locking the door, should it be desired to prevent the key from being turned in the lock or forced therefrom and the door unlocked through the outer keyhole, the outer end of the pivoted part A of the stem is raised, which, acting upon the fulcrum *a*, depresses the inner end of said pivoted portion and carries the lug *f* downward flush with the surface of the stem, as shown by stipple lines in Fig. 3, in which position the key may be thrust still farther into the lock, so as to carry the bit or wing B thereof into the keyhole C′ in the opposite lock-plate D′, as shown in Fig. 4, the key being arrested when it shall have attained this position by the annular collar *d*, formed on the part A′ of the stem which engages the outer face of the plate D of the lock. The outer end of the pivoted portion

of the stem is then thrown downward, thereby bringing said portion of the stem of the key into alinement with the portion A′ thereof and raising the lug *f*, so as to cause it to engage the inner face of the plate D of the lock, as clearly shown in Fig. 4, in which position of parts the key cannot be discharged from the lock from the opposite side of the lock from which the key was entered, as said lug *f*, engaging the plate D of the lock, prevents the key from being forced therefrom, nor can said key be turned in the lock, as the bit thereof is firmly held in the keyhole of the plate D′. Said construction also prevents the key from being accidentally jarred from the lock and insures its retention therein until withdrawn from the side from which it was inserted. The portion A′ of the stem of the key being round fills the corresponding aperture in the keyhole-opening and prevents the stem of the key from dropping down.

To prevent the possibility of the lug *f* being depressed and disengaged from the inner face of the plate D, when in the position shown in Fig. 4, by pressure against the outer end of the key, the slotted aperture *a′* in the pivoted portion of the stem through which the rivet *a* passes is employed, which permits of a slight longitudinal movement of said portion of the stem, enabling it to be shoved inward, so as to carry the beveled shoulder *i* on the under side of said lug onto a corresponding shoulder *o* at the base of the slot *b*, as shown by stipple lines in Fig. 4, when a pressure against the outer end of the key will only force the beveled faces of the lug and shoulder more tightly together and prevent the depression of said lug, thereby securely locking the key in the lock, as will be readily understood.

To withdraw the key when in the locked position in the lock, as above described, the outer end of the pivoted section of the stem is raised, causing the beveled faces of the lug and shoulder to slide past each other and carrying the lug *f* downward below the plane of the stem of the key, disengaging said lug from the plate D of the lock, when the key may be freely withdrawn.

While I have shown the pin *c* extending into the path of the sides of the recess *e* in the pivoted portion of the stem to limit the movement thereof, it is evident that instead of said pin I may employ other means, such as a shoulder on the portion A′ of the stem lying within the recess *e* of the portion A thereof, for accomplishing this same purpose without departing from the spirit of my invention.

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

1. A safety door-key comprising a jointed stem consisting of two parts pivoted together, one of the members of which having a lug which normally extends above the plane of the stem and engages the plate of the lock when inserted therein to prevent removal of the key.

2. In a safety-key, the combination of the divided stem comprising two parts pivoted together, means for limiting the movement of said parts, a lug upon one of said pivoted parts which is projected and retracted by the movement thereof, and means for locking the lug-carrying member from movement upon its pivot.

3. In a safety-key, the combination of the divided-stem portion formed integral with the bit, the outer portion of the stem pivoted between the sides of the divided portion, said pivoted portion having a recess in the edge thereof and a lug projecting from its inner end and the pin crossing the divided-bit portion of the stem and lying within said recess.

4. In a safety-key, the combination of the slotted stem portion formed integral with the bit, having an annular collar thereon, the complementary portion of the stem pivoted in said slot and having a limited movement therein upon its pivot, said pivoted portion of the stem carrying a lug which engages the inner face of the lock-plate when the key is inserted in the lock, substantially as set forth.

5. In a safety-key, the combination of the divided stem comprising two parts pivoted together, one of said parts having a slot through which the pivot passes permitting of a longitudinal movement of said part as well as a pivoted movement, and the lug on said movable part which normally stands above the plane of the stem of the key.

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

OSCAR STODDARD.

Witnesses:
E. S. WHEELER,
HORACE R. WHEELER.