(No Model.) 2 Sheets—Sheet 1.

C. A. SINGER.

KEY FASTENER.

No. 344,416. Patented June 29, 1886.

Fig. 1.

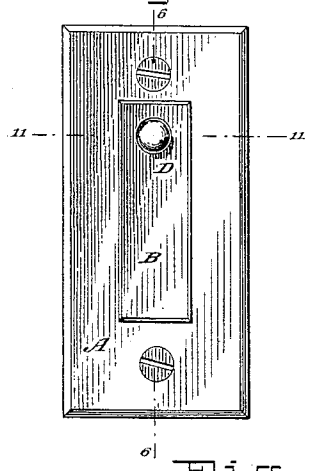


Fig. 2.

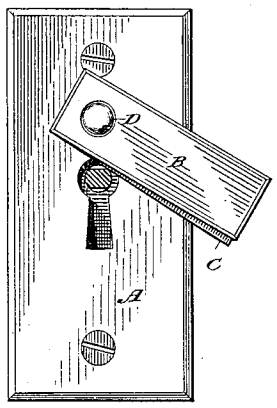


Fig. 3.

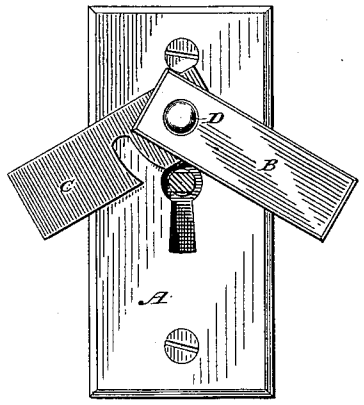


Fig. 4.

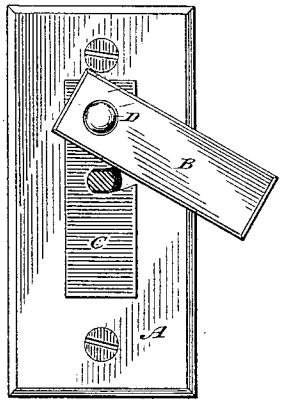


Fig. 5.

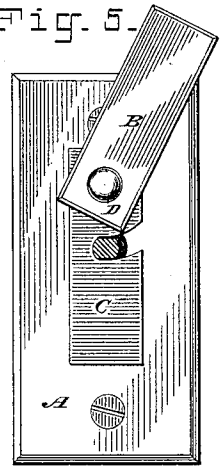


Fig. 6.

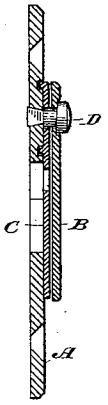


Fig. 7.

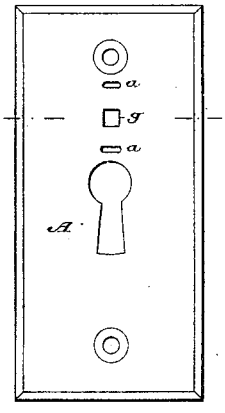


Fig. 10.

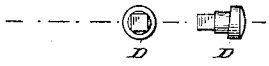


Fig. 8.

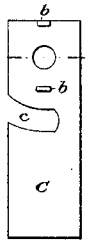
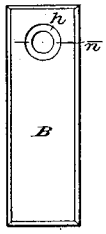


Fig. 9.



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(No Model.) 2 Sheets—Sheet 2.

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KEY FASTENER.

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Fig. 11.

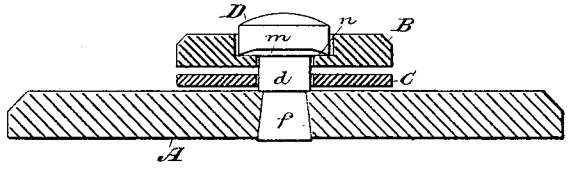


Fig. 12.

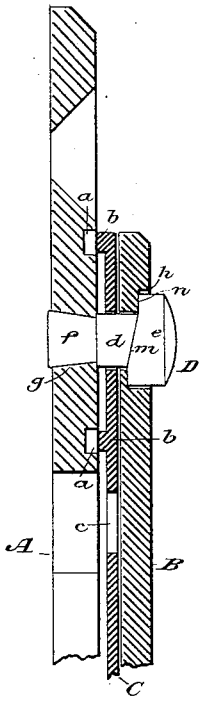


Fig. 13.

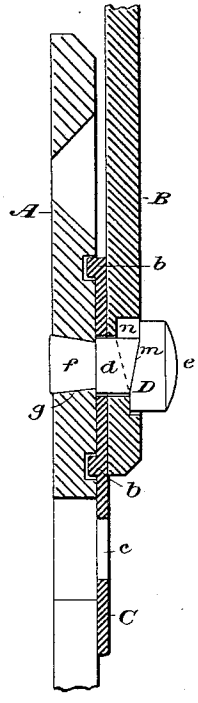


Fig. 14.

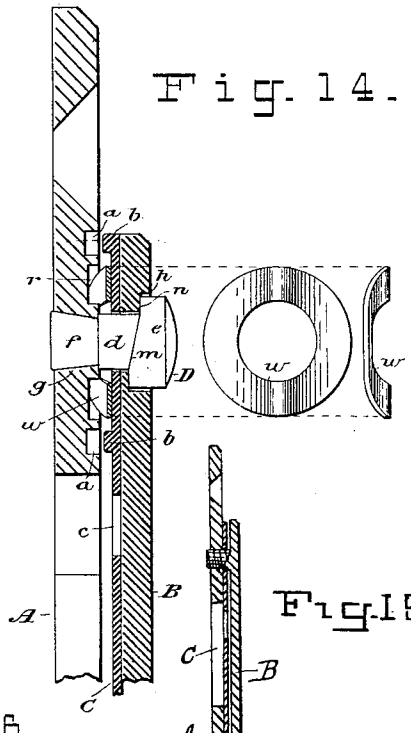


Fig. 19.

Fig. 16.

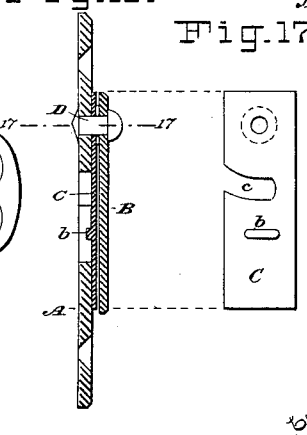


Fig. 15.

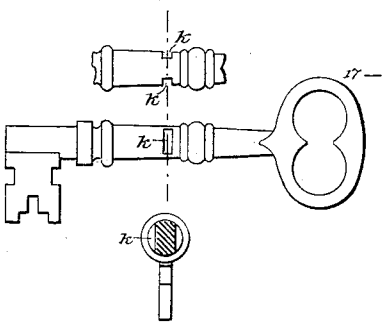
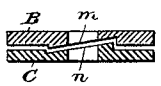


Fig. 17.

Fig. 18.



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UNITED STATES PATENT OFFICE.

CHARLES A. SINGER, OF NEW YORK, N. Y.

KEY-FASTENER.

SPECIFICATION forming part of Letters Patent No. 344,416, dated June 29, 1886.

Application filed October 12, 1885. Serial No. 179,574. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. SINGER, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Key-Fasteners, of which the following is a specification.

This invention relates to key-hole plates or guards, which are capable of closing over the key-hole while the key is in place therein, thereby not only closing the hole, but also fastening the key.

It has long since been proposed to make the pivoted guard-plate with a notch or slot extending into it from one side, to enable it to be turned down while the key is in the lock, and to flatten the key on opposite sides where it is engaged by said slot, in order that when the guard is thus turned down the turning of the key shall be prevented. A catch has also been provided to engage the slotted guard when the latter is turned down, so that by no manipulation from the outside of the door can it be turned up to release the key. This construction has proved objectionable, from the fact that the slotted guard has a mutilated appearance, which would make it a defacement to a door, and for the further reason that the catch has been complicated or unsightly.

My invention is designed to overcome the defects of such escutcheons, and to provide a key-fastening escutcheon of simple and practicable construction and of neat appearance.

My escutcheon is composed of but four parts—the usual key-hole plate, the usual key-hole cover or guard, a slotted key-fastening plate, and the pivot pin or rivet by which the other parts are pivoted together.

Figures 1 to 13 show my invention in its preferred form. Figs. 1, 2, 3, 4, and 5 are front elevations of the escutcheon. Fig. 6 is a vertical mid-section cut on the line 6 6 in Fig. 1. Fig. 7 is a front elevation of the key-hole plate alone. Fig. 8 is a rear elevation of the key-fastening plate. Fig. 9 is a front elevation of the key-hole guard. Fig. 10 is a rear and side elevation of the pivot pin or rivet. Fig. 11 is an enlarged transverse section on the line 11 11 in Fig. 1. Fig. 12 is a fragmentary section, being an enlargement of Fig. 6; and Fig. 13 is an enlarged view similar to Fig. 12, but showing the parts in the position represented in Fig. 5. Fig. 14 includes three views showing the application of a releasing-spring. Fig. 15 is a view of the notched key, as prepared for use with my invention. Fig. 16 is a view similar to Fig. 6, but showing a modified construction. Fig. 17 is a rear elevation of the key-fastening plate in Fig. 16. Fig. 18 is an enlarged cross-section on line 17 17 in Fig. 16 of the two pivoted plates; and Fig. 19 is a view similar to Fig. 6, and showing another modification.

I will first describe the preferred construction of my invention with reference to Figs. 1 to 13.

Let A designate the key-hole plate or escutcheon-plate; B, the usual pivoted guard-plate; C, the key-fastening plate, and D the pivot pin or rivet. The plates A and B are, in general, of the usual or any good construction. The plate C has a curved slot, *c*, extending into it from one side, the edges of the slot being circular arcs, with their centers at or close to the center of the pivot from which the plate turns. The key is flattened, as shown in Fig. 15, by filing two notches, *k k*, into it on opposite sides, at the point where it is engaged by the plate C when in the lock, and slot *c* is only wide enough to receive the flattened portion of the key, so that when the key is engaged by the slot it cannot be turned. This is in itself an old construction. The slotted plate C lies next to the plate A, and the guard-plate B is arranged in front of it. The two plates should be of the same size and shape, so that when not in use the plate B will cover and entirely conceal the plate C, as seen in Fig. 1, where the escutcheon is shown with the key removed and both plates hanging freely downward. Thus my invention overcomes the objection of the mutilated appearance of the key-hole guard heretofore used, no mutilation or slotting being ordinarily visible. The mutilation of the plate C is equally well concealed when the key is in the lock without requiring to be fastened there, as shown in Fig. 2.

Before inserting the key for ordinary use, when the key does not require to be fastened, both plates B and C are turned to the right, as shown in Fig. 2.

When my escutcheon is to be used for fastening the key or for closing the key-hole while the key is in place, the plate B is to be turned to the right and the plate C to the left, as shown in Fig. 3. If turned far enough they will remain without being held, as will be presently explained. The key is then inserted, the door locked, and the key turned with its flattened portions *k k* standing horizontally. The plate C is then turned down, as shown in Fig. 4, thus locking the key. It is obvious that it would be easy, by inserting a suitable instrument through the key-hole from the outside of the door, to move the plate C back to the left again, thus releasing the key, and then, by grasping the end of the key with nippers, to turn the key and unlock the door.

To prevent the turning back of the plate C, I provide for locking it in place. This is accomplished by the simple manipulation of moving the plate B upward as far as it will go, leaving it as shown in Fig. 5. The plate C is thus securely fastened.

I will now describe the construction whereby this locking of the plate C is accomplished, first observing, however, that it involves no complication of the device by the addition of other parts. The plate A has two holes or recesses, *a a*, formed in it, as best shown in Figs. 7 and 12. The plate C has also two coinciding projections, *b b*, formed on its rear side, as best shown in Figs. 8 and 12. When the plate C stands in the locking position, Fig. 5, the projections *b b* coincide with the recesses *a a*, and by pressing back the plate C the projections are caused to enter the recesses, as shown in Fig. 13, thus preventing any lateral movement of the plate C. The turning up of the plate B has the effect of thus pressing back the plate C. This may be accomplished in various ways—as, for instance, by forming a screw on the plate B, as shown in Fig. 19, so that as the plate is turned up this screw shall be caused to enter farther into the plate A, thus drawing back the plates B and C; but I prefer to accomplish it by the construction shown best in Figs. 12, 13, and 14, which consists in providing the plate B and the head of the pin D with inclined planes, which act against each other as wedges when the plate B is turned. The pin D has a cylindrical body, *d*, an enlarged head, *e*, and a square end, *f*. The plate A has a square hole, *g*, Fig. 7, which is preferably slightly larger on the back than on the front, as shown in Figs. 11 to 13. The square end *f* is inserted into the hole *g* and riveted down on the back, thus expanding it to fill the taper of the hole, and making it in effect a dovetail rivet. Thus the pin is fixed rigidly to the plate A, and is prevented from turning. The rear side of the head *e* is formed with an incline, *m;* or, in other words, the rear face of the head extends farther backward at its under side than it does at its upper side. The front side of the plate B is formed with a recess, *h*, around its pivot-hole, which recess is large enough to receive the head *e*, as shown in Fig. 12, and its bottom is formed as an incline, *n*, which coincides with the incline *m* on the head *e*, when the plate B is hanging downward. There is sufficient looseness or space between the plates B and A to enable the plate C with its projections *b b* to be turned to either side when the plate B is turned no farther than is shown in Figs. 2, 3, and 4; but when the plate B is turned up, as shown in Fig. 5, the plate C is pressed fully back, and its projections *b b* are retained in the recesses *a a*, as shown in Fig. 13.

In order to facilitate the freeing of the projections *b b* when the plate B is turned down again, a flat spring—such as a spring-washer—may be inserted between the plates A and C, to press the plate C outward. Such an arrangement is shown in Fig. 14, the left-hand view, in which is a section similar to Fig. 12, and the middle and right-hand views show the spring-washer.

In the front of the plate A is an annular recess, *r*, in which is inserted the washer *w*, which is crimped, as shown in the edge view, and tends to expand and press the plate C toward the front. Figs. 16, 17, and 18 show a modification of this construction, wherein the respective wedging-inclines *m n* are formed on the plates B and C, respectively, instead of on the pin D and plate B. The pin D is a simple round rivet, it being immaterial whether it is free to turn or not.

Fig. 18 is a transverse section of the two plates, showing their inclines coinciding, as they stand when the plates are both hanging down. When one plate is turned relatively to the other, one incline rides up upon the other, the plate B is forced forward against the rivet-head, and the plate C is forced backward. The plate C is locked by a single projection, *b*, (shown in Figs. 16 and 17,) which enters the key-hole, thus avoiding the necessity of making the special recesses *a a* in the plate A. This construction, however, is subject to the disadvantage that the plate C may be sprung forward by pressure behind it far enough to enable it to be turned to one side. To avoid this the notches *k k* in the key should be so placed that the plate C will bear forward against them, and, since the key is turned in the lock and cannot be moved forward, it resists such springing of the plate C as would free the projection *b*.

Any desired materials may be employed in constructing my escutcheon; but I prefer that the plates A and B shall be of brass and the plate C and the rivet D of steel. The plate B may be made of porcelain, if preferred, in which case the incline *n* will be formed in it; or it may be formed on a disk of metal to be embedded in the porcelain plate. It will be understood that one projection *b* and one depression *a* will be sufficient; or these may be entirely omitted and the plate C be fastened frictionally by the wedging-inclines alone.

I claim as my invention—

1. The combination of a key-hole plate, a slotted key-fastening plate pivoted thereto, and a guard-plate, also pivoted to said key-hole plate, and arranged in front of and adapted to cover and conceal said slotted plate, substantially as set forth.

2. The combination of a key-hole plate, a slotted key-fastening plate pivoted thereto, a projection on one of said plates coinciding with a depression on the other when in the fastening position, and adapted when engaged with each other to prevent lateral movement of the slotted plate and a guard-plate pivoted in front of said slotted plate, substantially as set forth.

3. The combination of a key-hole plate, a slotted key-fastening plate pivoted thereto, interlocking projections and depressions on said respective plates, arranged to coincide when in the fastening position, a guard-plate pivoted in front of said slotted plate, and wedging-inclines adapted to press back said slotted plate and fasten it, substantially as set forth.

4. The combination of a key-hole plate, a slotted key-fastening plate pivoted thereto, a guard-plate pivoted in front of said slotted plate, and wedging-inclines in connection with said guard-plate, substantially as set forth, whereby the turning of said guard-plate acts to press the slotted plate back against the key-hole plate.

5. The combination of a key-hole plate, a slotted key-fastening plate pivoted thereto, a guard-plate pivoted in front of said slotted plate, the pivot-pin uniting said plates, and wedging-inclines *m n* on said guard-plate and pivot-pin, respectively, substantially as set forth.

6. The combination of a key-hole plate, a slotted key-fastening plate pivoted thereto, interlocking projections and depressions on said respective plates, arranged to coincide when in the fastening position, a spring interposed between the key-hole plate and said slotted plate, and acting to press the latter forward to free said interlocking devices, and wedging-inclines for pressing the slotted plate backward to engage said devices, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CHARLES A. SINGER.

Witnesses:
ARTHUR C. FRASER,
GEO. BAINTON.