

(No Model.)

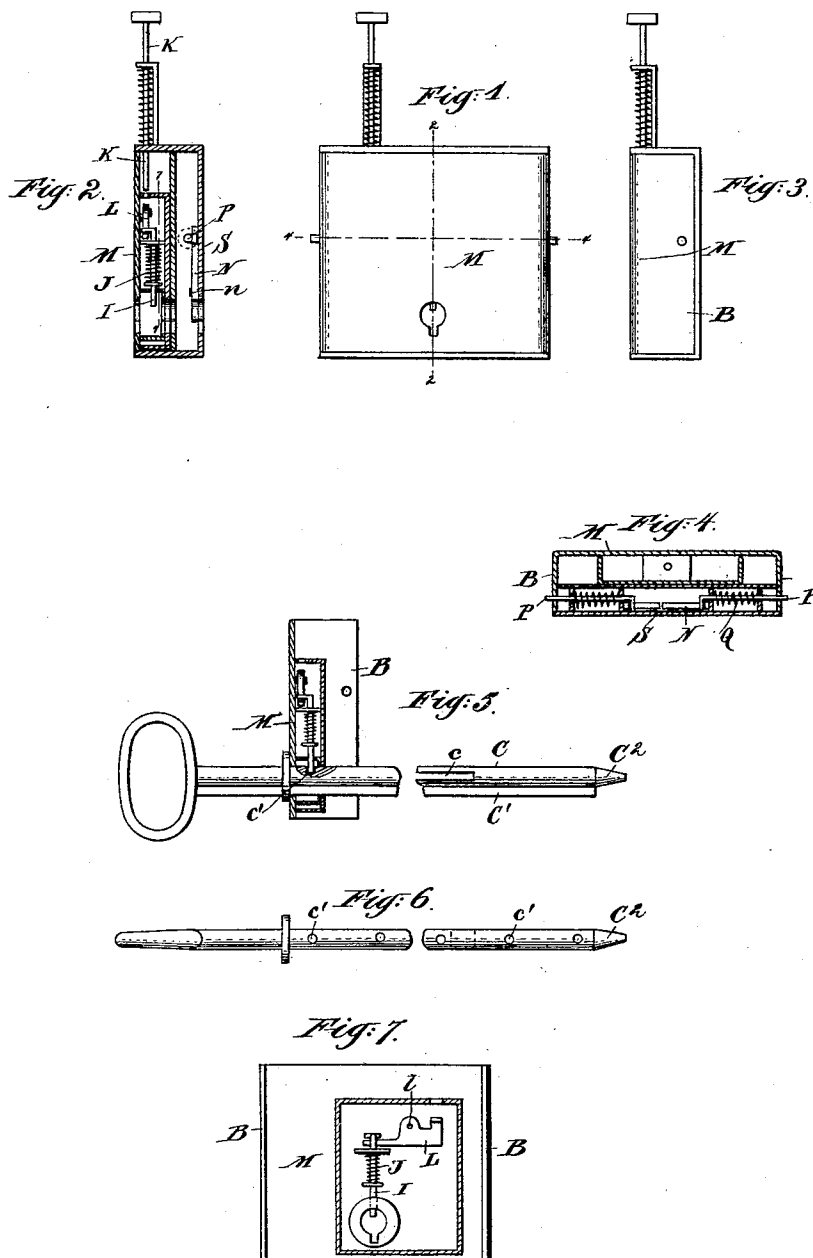
3 Sheets—Sheet 1.

P. ZIMMERMANN, Jr.

LOCK.

No. 480,359.

Patented Aug. 9, 1892.



Witnesses
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Charles R. Seale.

Inventor
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(No Model.)

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Fig. 8.

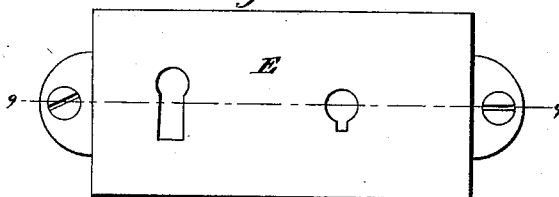


Fig. 9.

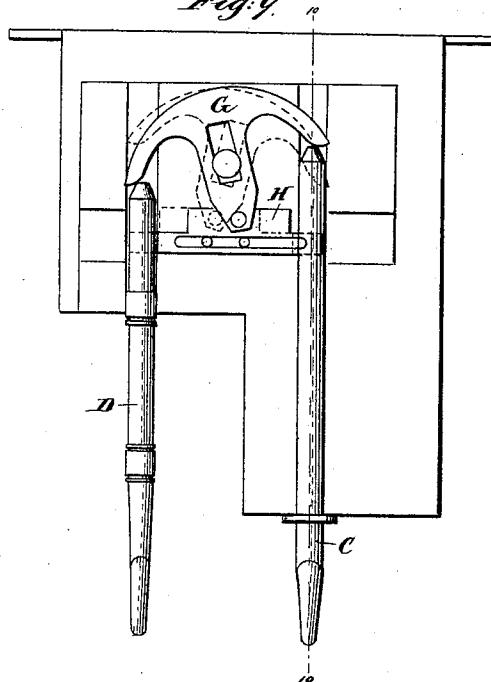
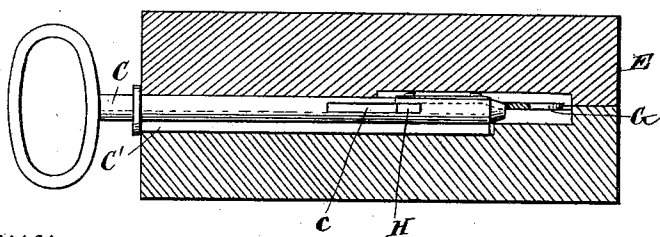


Fig. 10.



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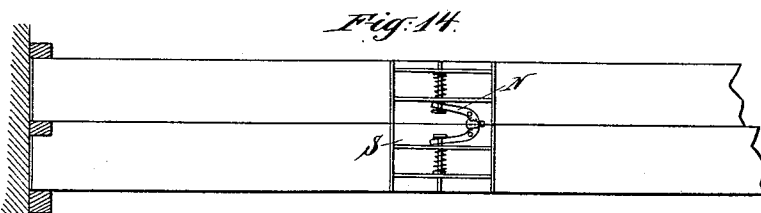
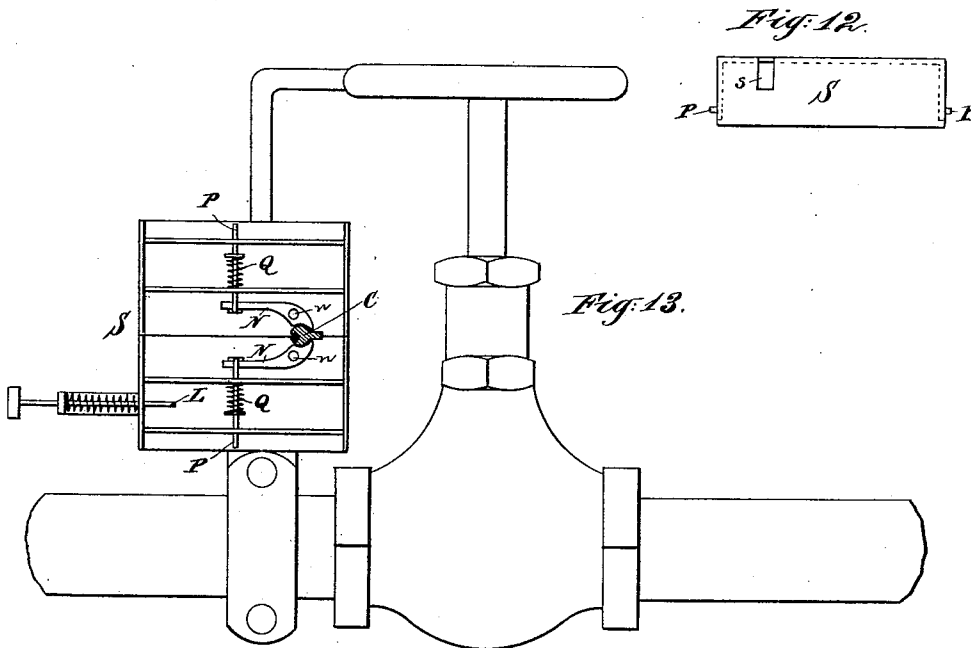
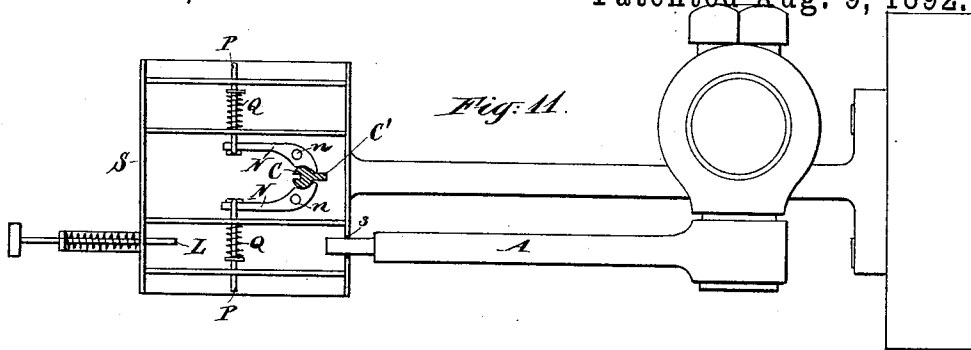
3 Sheets—Sheet 3.

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UNITED STATES PATENT OFFICE.

PETER ZIMMERMANN, JR., OF NEW YORK, N. Y.

LOCK.

SPECIFICATION forming part of Letters Patent No. 480,359, dated August 9, 1892.

Application filed December 17, 1891. Serial No. 415,344. (No model.)

To all whom it may concern:

Be it known that I, PETER ZIMMERMANN, JR., residing in the city and county of New York, in the State of New York, have invented a certain new and useful Improvement in Locking Devices, of which the following is a specification.

My improvement applies to all that class of locking devices which are intended to insure that certain preliminaries are performed, as the fastening of windows and the closing of water and gas cocks, before the main key, which may be an ordinary ward-key, can be applied to a corresponding lock to secure the outer or main door on leaving an apartment or building. I provide a pin separate from and independent of the ordinary key which secures the main door, which pin receives the several sub-locks and holds them upon itself. The key is retained in a stationary holder during the day and is released only by the introduction of the pin after the several locking devices have been properly placed on the several window-fastenings, water-cocks, &c., so that the pin is empty and can be thrust in the proper hole in the holder. After opening the place the next morning the main door-key must be introduced into the holder before the pin can be liberated. Then the pin is used to successively liberate and retain on itself the several locking devices or sub-locks and is hung up or otherwise disposed of in any convenient manner, with the sub-locks strung thereon, until it becomes time to again secure the parts, when the several locks are again placed on the several subordinate parts to secure them, and the empty pin is again thrust into the holder to liberate the main key.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a front view of one of the main locks with the sub-lock in place nearly covering and concealing it. Fig. 2 is a section thereof on the line 2 2 in Fig. 1. Fig. 3 is an edge view. Fig. 4 is a section on the line 4 4 in Fig. 1. Fig. 5 is a vertical section on the line 2 2 corresponding to Fig. 2, but with one of the sub-locks strung upon the pin. Fig. 6 is a top view of the pin alone. Fig. 7 is a vertical section of one of the sub-locks on the

line 7 7 in Fig. 2. Fig. 8 is a front view of the holder. Fig. 9 is a horizontal section thereof on the line 9 9 in Fig. 8. Fig. 10 is a vertical section on the line 10 10 in Fig. 9. Fig. 11 shows the main lock properly applied to a cock for gas and for other fluid, as water or steam, and with the sub-lock removed, allowing the cock to be operated. The pin is in place to allow the sub-lock to be applied or removed. Fig. 12 is an edge view of one of the sub-locks. The remaining figures show modifications. Fig. 13 is an elevation showing my invention applied to secure a screw-valve. Fig. 14 is a horizontal section showing the invention applied to secure the sashes of a window. The sub-lock has been removed and the window-sashes are free to be raised or lowered.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

Referring to Figs. 1 to 12, inclusive, A A are parts, as the levers of water-cocks, which require to be secured.

M M are sub-locks adapted to secure the parts A and having so little thickness that a number can be strung upon a single pin C, which is straight and equipped with a series of shallow holes, each aiding, by means to be described farther on, to retain one of the sub-locks M when the latter are strung thereon.

The key D may be of any desired size or form and adapted to operate in any ordinary or suitable manner with any style of lock on the main door. (Not shown.)

E is a stationary holder set in any conveniently-accessible position and adapted to receive either the pin C or the key D; but it will release only one at any one time and only on the insertion of the other. It incloses a lever G, adapted to be operated by the introduction of either the key D or the pin C to move a transverse slide H and effect the liberation of the other. Thus when the main key is inserted the slide H is engaged therewith and the pin C is liberated and may be withdrawn and used. When at a later period the pin C is introduced, it operates the lever G and is engaged by the slide H and the key D is liberated and can be withdrawn and used.

The pin C is provided with a longitudinal wing or spline C', and each sub-lock M is provided with a corresponding hole adapted to

receive the slender cylindrical body of the pin C and its wing C'. This insures that it shall be held on the pin in a certain determined position. The pin is provided with a series of holes c' opposite to the wing C', each of which holes, when the sub-locks are strung on the pin, receives an internal bolt or catch from one of the sub-locks.

The pin C has a conical or tapering point C². Each main lock S contains two levers N N, turning on centers n and connected by one end to sliding bolt P, subject to the force of a spiral spring Q and adapted to protrude through the casing of the main lock and engage it with the sub-lock M. The levers N are operated in one direction by the springs Q and allow the bolts P to be thrust out and to engage with corresponding holes in the sub-lock. These levers are operated in the opposite direction by the thrusting in of the pin C, which acts by its tapering end C² on the proper ends of the levers N and withdraws the bolts P in opposition to the force of the springs Q. The casing S is notched, as at s, to receive a spur on the end of the handle A, (see Fig. 11), and the introduction of the sub-lock into the main lock and the protrusion of the bolts P of the latter by the withdrawal of the pin C leaves the sub-lock engaged with the main lock, covering the end of the lever A and retaining it until the attendant shall on the morning succeeding thrust the pin C again into the sub-lock and withdraw the bolts P. Then on removing the sub-lock the lever A is free and can be turned by the attendant into the required position to supply the building until the reverse operation is effected at night and the sub-lock is again left engaged with the main lock, again securing the lever of the cock.

The shank of the key D and also a proper point in the cylindrical portion of the pin C is mortised, as indicated by c, to receive the proper end of the transverse slide H. It will be readily seen that such mortise should be of sufficient length to allow the pin or key to complete its movement while the slide H remains engaged in the mortise. The small holes c' in the pin (see Fig. 6) receive each a small sliding bolt I from any sub-lock. (See Figs. 5 and 7). This bolt I is actuated by a spring J, tending to urge it into engagement with the hole c' in the pin C when the latter is inserted with the sub-lock and thrust through it and through the main lock on which it is to serve. When a sub-lock has been put in its place to properly secure the main lock of the gas-cock, window, or other part, the attendant can liberate it by withdrawing the bolt I in opposition to the force of the spring J. He effects this by thrusting inward on the pin K, which acts against a lever L, turning on a center l. (See Figs. 2, 5, and 7.) Then the bolt I may be withdrawn, and on taking away the pin C the sub-lock will be left in place.

Modifications may be made in the details without departing from the principle or sacrificing the advantages of the invention. I can vary the thickness of the sub-locks, correspondingly varying the distance apart of the holes c' in the body of the pin C.

Figs. 13 and 14 show modifications to which I attach some importance. Each shows the main lock made in two parts, with provisions for inserting the pin C in a hole formed half in each part. The two levers N, each with its proper bolt P and actuating-spring Q, are carried one in one part and the other in the other part. In Fig. 13 the one part is carried on the hand-wheel which operates a screw-valve, and the other part is correspondingly fitted on the stationary pipe. In Fig. 14 the two parts of the main lock are carried on the two sashes of a window.

It will be understood that the invention may be applied in other situations, as the valves of the steam-heating apparatus, the switch of the electric-lighting wires, the door of the safe, and any other places which it is desired shall be properly taken care of before the place of business is closed for the day.

I claim as my invention—

1. The locking means described, comprising a series of thin locks or sub-locks M and main locks S, the latter each equipped with means P for retaining a sub-lock in a main lock, and with means I J, carried in the sub-lock, for retaining it at another period upon a pin C, the whole adapted to serve in securing water, gas, windows, &c., in an apartment or building, as herein specified.

2. The locking means described, comprising a series of thin locks or sub-locks M and main locks S, the latter each equipped with means P for retaining a sub-lock in a main lock, and with means I J, carried in the sub-lock, for retaining it at another period upon a pin C, in combination with the means K L in the main lock for effecting the liberation of the sub-lock from such pin when desired, arranged for joint operation as herein specified.

3. In a locking system, the holder E, having two holes adapted to receive the pin C and key D, and means, as the lever G and locking-slide H, for engaging and liberating each, one at a time, as herein specified.

4. In a locking system, the pin C, having the wing C' extending along one side and holes c and c', and having a taper end C², adapted to serve with the levers G and slide H of a series of sub-locks M, and with a holder E and key D, substantially as herein specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

PETER ZIMMERMANN, JR.

Witnesses:

EDWARD HAMNER,
FRED. HAMNER.