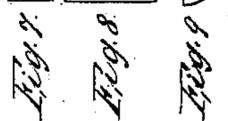
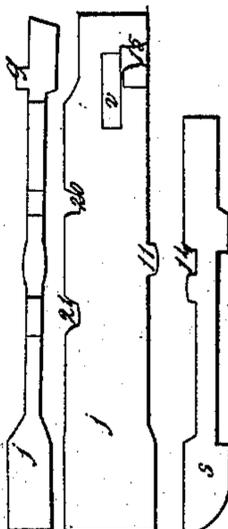
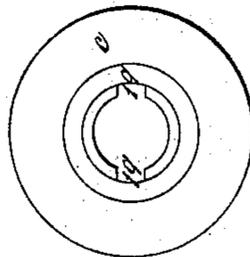
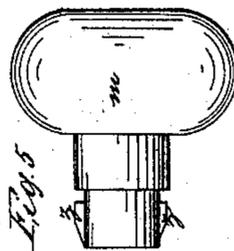
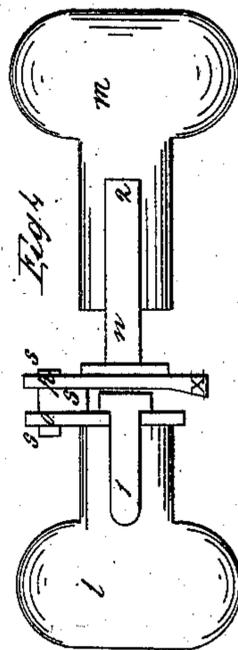
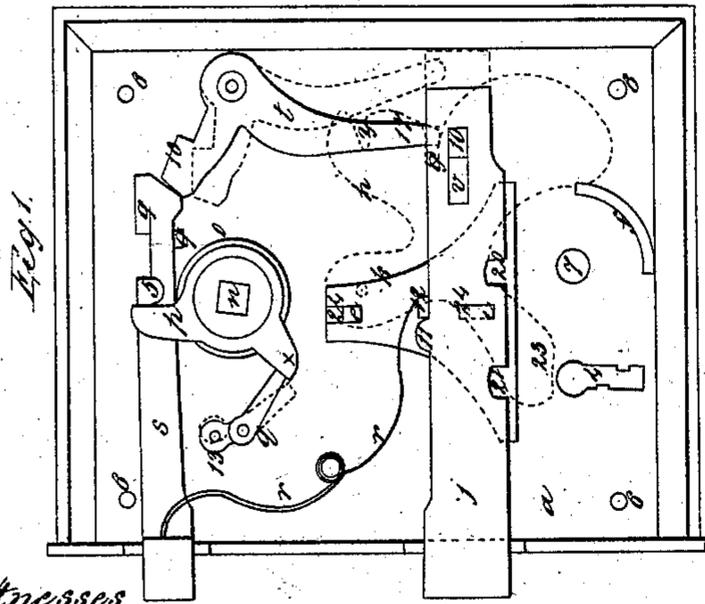
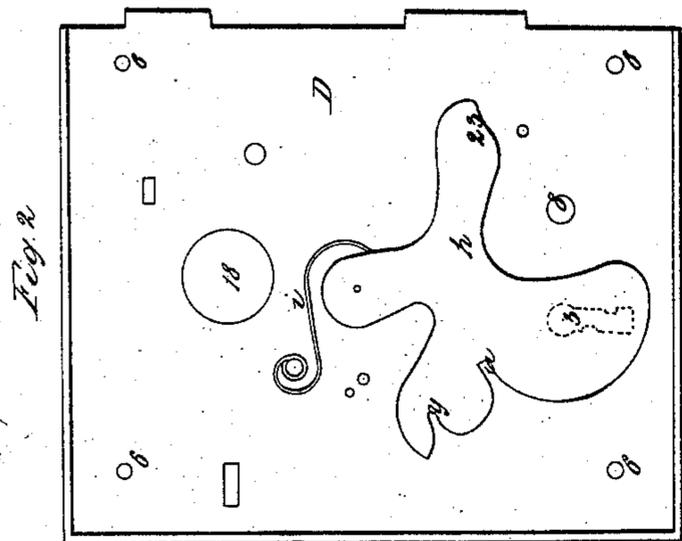
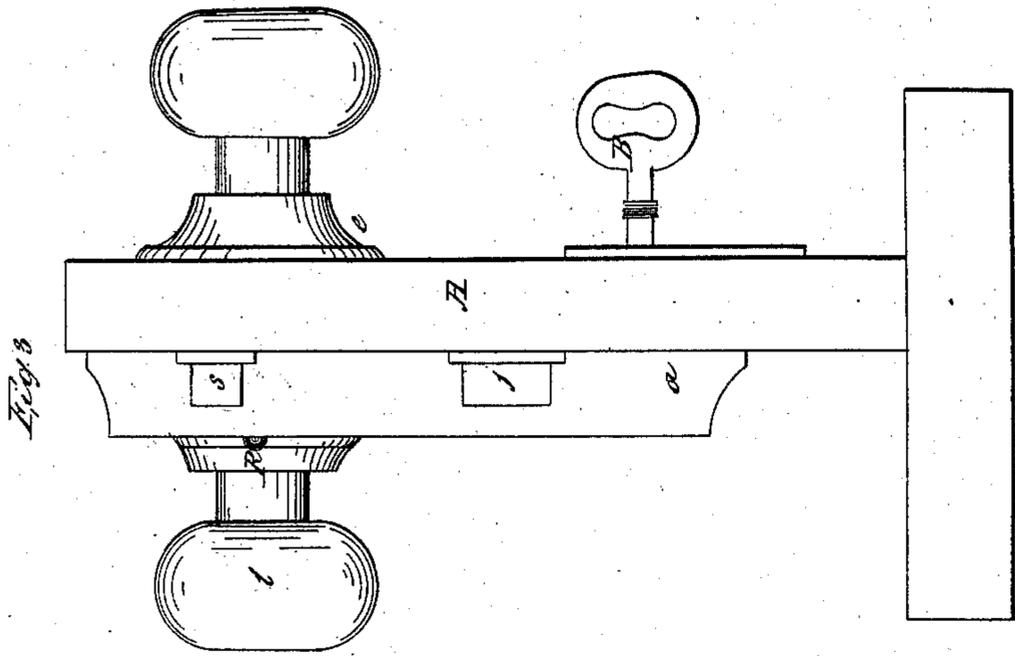


S. Frye,
Door Latch.

No 32,218.

Patented Apr. 30, 1861.



Witnesses
James J. Johnston
James Miller

Inventor
Solomon Frye

UNITED STATES PATENT OFFICE.

SOLOMON FRYE, OF MONONGAHELA, PENNSYLVANIA.

DOOR-LOCK.

Specification of Letters Patent No. 32,218, dated April 30, 1861.

To all whom it may concern:

Be it known that I, SOLOMON FRYE, of Monongahela city, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Door-Locks; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the characters of reference marked thereon.

The nature of my invention consists in the use of a key-hole guard and spring, in combination with the lock bolt, and bolt click. And also in an arrangement of springs, spring bolt, knobs, shank, cams, and levers, the whole being so arranged, constructed and operated that the inside knob used for operating the spring bolt will remain operative, while the outside knob can be made operative or inoperative at pleasure without affecting the action of the inside knob, and also arranged, constructed and operated so that in locking the door on the inside the key-hole guard will close the outside key-hole of the lock, and that when locked either from the inside or outside of the door the lock bolt and spring bolt will be held firmly and securely in their place.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

In the accompanying drawings, Figure 1, is a face view of the interior of the lock. Fig. 2, is a face view of the inside of the face plate of the lock. Fig. 3, is an end view of the lock secured to a board which represents a door. Fig. 4, is a cut or sectional view of the knobs, shank, spring bolt, and cams. Fig. 5, is a side view of the outside door knob. Fig. 6, is a face view of the guard or washer used for holding the outside knob to its place on the shank. Fig. 7, is a top view of the lock bolt. Fig. 8, is a side view of the lock bolt. Fig. 9, is a top view of the spring bolt.

(a) is the lock case.

(D) is the face plate of the lock case, (6) are holes for the screws used for securing the lock to the door, (3 and 4) are key-holes, (7 and 8) are openings or bearings for the shank of the key. The opening (8) when the face plate (D) is placed on the case (a) is opposite to the key-hole (4), and the opening (7) is opposite to the key-hole (3); the key-hole (4) is used for operating the lock on the inside of the door, and the key-

hole (3) is used for operating the lock on the outside of the door.

(h) is the key-hole guard which is secured to the face plate (D) and is held off from the key-hole by the spring (i).

The opening (18) in the face plate is used for admitting the neck of the knob (m). The recess (u) in the guard plate (h) is used for the purpose of allowing the lock bolt (j) to move back and forward without the projecting pin (g) on the lock bolt interfering with the guard plate (h) when locking or unlocking from the outside of the door. The notch (y) in guard (h), and pin (g) on lock bolt (j), are used for holding the guard to its place over the key-hole (3) when locking the door on the inside. The lever (t) furnished with arms (16 and 17) is used for the purpose of holding the spring bolt (s) when the door is locked. The dotted lines represent the position of the lever (t) when the door is unlocked. The click (k) is used for holding the lock bolt (j) in the desired position, and is moved up by the action of the key, and is pressed down by the action of the spring (r), and is held in its proper position by the use of the slots (e) in the click, and the projections (24) on the inside face of case (a). The projecting pin (12) on the face of the click (k), and the elevation (11) on the lock bolt are used for the purpose of holding the lock bolt in the desired position; the back end of the bolt (j) is held and guided by the projecting piece (10) on the inside face of the case (a), and the slot (v) in the bolt, the notch (15) in the side and near the back end of the lock bolt (j) is used for receiving the end of the arm (17) of lever (t).

The spring bolt (s) is held out to its place by the spring (r); the back end of the spring bolt is held to its place by means of two guides (9). On the inside of the spring bolt is a notch (14) into which is placed the arm of the cam (o) which is secured to the neck of the knob (l) which is used in connection with the cam (o) for operating the spring bolt from the inside of the door. The cam (p) with arm (x) is placed on the shank (n) which is round at the part marked (1), and square at the part marked (2), seen in Fig. 4. The round part of the shank is used for the purpose of allowing the knob (l), and cam (o) to operate the spring bolt (s) without moving the shank (n), cam (p), or knob (m). The lever (q) is used for hold-

ing or making the cam (*p*), shank (*n*), and knob (*m*) inoperative; which is done by moving that part of lever (*q*) marked (13) so that the long arm of the lever will come in contact with the arm (*x*), as represented in Fig. 1. The washer (*c*) with notches (19) is used in connection with the projections (*z*) on the neck of the knob (*m*), for the purpose of holding the knob on the shank *n*. The washer (*c*) is arranged on and secured to the door in the usual manner.

(*f*) is a piece cast to the case (*a*) and is used as a support for the guard plate (*h*).

The board (A) to which the lock is attached is used for the purpose of representing a door.

(B) is the key which is of ordinary make.

The operation of my improvement is as follows: In locking the door on the inside the key is placed in the key-hole marked (4), the key is then turned to the right, which will raise up the arm (23) of the guard plate (*h*) and bring the guard over the key-hole (3) as represented in Fig. 2, the click (*k*) is then raised up and the lock bolt (*j*) is thrown forward by the key entering notch (21) of the bolt (*j*) and the forward movement of the bolt (*j*) will bring forward arm (17) of the lever (*t*) which will throw up the arm (16) behind the spring bolt (*s*) as represented in Fig. 1. The forward movement of the bolt (*j*) will also bring the pin (*g*) into the recess (*y*) in the guard plate (*h*), and thereby hold the guard plate until the door is unlocked from the inside. In unlocking, the key is turned to the left, which will raise up the click (*k*), and enter the notch (21) in bolt (*j*), and throw back the bolt (*j*) and the arm (17) of the lever (*t*); and the backward movement of the arm (17) will lower the arm (16). The pin (*g*) will be removed out of the recess (*y*) in the guard (*h*), by the movement of the

bolt (*j*) in unlocking, and the spring (*i*) will throw the guard (*h*) from over the key-hole (3) into the position represented by the dotted lines in Fig. 1. It will be observed that in locking or unlocking from the outside, the key will not come in contact with guard (*h*). The notch (20) in the lock bolt (*j*) is used when locking or unlocking the door from the outside. By turning the knob (*m*) to the right the cam (*p*) will press against the pin (5) on the spring bolt and throw back the bolt. The spring (*r*) will throw the spring bolt (*s*) out. By turning the knob (*l*) to the left the spring bolt (*s*) will be thrown back by the cam (*o*) without turning the shank (*n*) or knob (*m*). The cam (*p*), shank (*n*), and knob (*m*) are made inoperative by moving the short arm (13) of lever (*q*) so the long arm of it will come in contact with the arm (X) of cam (*p*) as represented in Fig. 1. The lever (*q*) is operated by moving the knob (R) on the outside of case (*a*). It will be observed that when the door is locked from the outside, that it cannot be unlocked from the inside, and when locked from the inside it cannot be unlocked from the outside.

Having thus described the nature, construction and operation of my improvement, what I claim as of my invention and desire to secure by Letters Patent of the United States is—

The arrangement of the key-hole guard (*h*), springs (*i* and *r*), bolts (*s* and *j*), levers (*q* and *t*), click (*k*), and cams (*o* and *p*), arranged, constructed, and operated substantially as herein described, and for the purpose set forth.

SOLOMON FRYE.

Witnesses:

JAMES J. JOHNSTON,
JAMES MILLER.