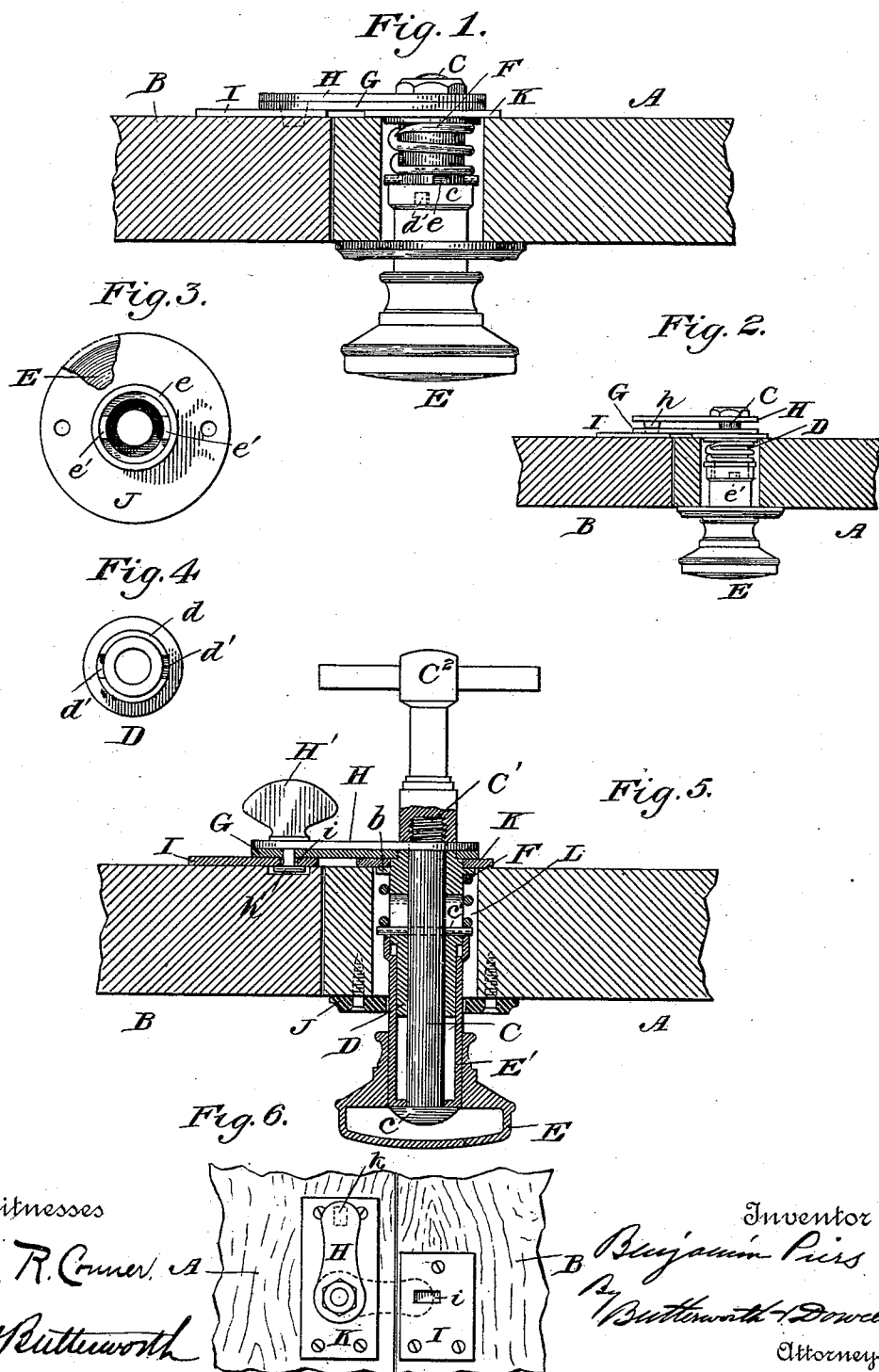


(No Model.)

B. PIERS.
LATCH.

No. 473,126.

Patented Apr. 19, 1892.



UNITED STATES PATENT OFFICE.

BENJAMIN PIERS, OF XENIA, OHIO.

LATCH.

SPECIFICATION forming part of Letters Patent No. 473,126, dated April 19, 1892.

Application filed September 28, 1891. Serial No. 407,046. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN PIERS, a citizen of the United States, residing at Xenia, in the county of Greene and State of Ohio, have
5 invented certain new and useful Improvements in Locks; and I do hereby 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
10 make and use the same.

My invention relates to improvements in locks or fastening devices for locking the doors of closets, cupboards, and communicating rooms of buildings, and the drawers of
15 bureaus, wardrobes, &c., without rendering it necessary to use keys, such as are ordinarily employed, which are liable to be lost or mislaid, thereby annoying the user and oftentimes causing considerable inconvenience and
20 trouble.

The principal object of my invention is to provide a simple and inexpensive locking device of the character referred to which is specially adapted to prevent small children from
25 getting access to cupboards, closets, and the like, and at the same time to dispense with the use of keys for accomplishing such results.

Another object is to provide an indoor lock
30 or device by which the doors in partitions of communicating rooms in dwelling-houses and hotels may be locked without the use of a key, and, if desired, secured on the inside in such manner that the device cannot be operated to open the door by any one except an
35 occupant of the inner room or the room at that side of the device opposite the usual knob or operating-handle.

With these objects in view my invention
40 consists in the improved construction and arrangement of parts, substantially as herein-after described, and particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, to which
45 reference is made as a part of this specification, and in which like letters of reference are used to designate like parts of the device, Figure 1 represents a plan of the invention, illustrating the same applied to a cupboard-
50 door, parts of the door and jamb, with the lock attached, being shown in section. Fig. 2 is a similar view showing the sliding spring-catch

thrown forward to permit the knob to be rotated for the purpose of unlocking the door. Fig. 3 is a detail end view of the rotating knob
55 removed from the arbor. Fig. 4 is a detail end view of the sleeve or thimble removed from the arbor. Fig. 5 is a sectional view of the invention, illustrating the same applied to a door between communicating rooms of a
60 building, with an operating-handle and safety-catch or locking device on the inside. Fig. 6 is a detail view of the device as it appears on the inside of the room or closet with the door unlocked.

As illustrated in the drawings, A designates
65 a part or section of a door, and B the adjacent door-jamb, to which my invention is applied, the arrangement of parts being substantially the same when applied to a drawer, except
70 that in the latter case the parts of the drawer would appear in a vertical instead of a horizontal position.

C designates an arbor or spindle, on which is placed a sleeve or thimble D and a rotary
75 knob E, which may be formed with or secured to a cylindrical shank E', which is fitted upon the arbor or spindle between the head c thereof and a pin c', which passes transversely through the arbor and through an elongated
80 slot in the sleeve or thimble D. A coiled or other suitable spring F is placed upon the sleeve D between said pin c' and a suitable rib or flange b, formed upon the thimble D, so that said spring will constantly tend to
85 force the arbor, with its attached rotary knob, outward or away from said flange b, so as to separate the thimble and knob. A swinging plate G is made fast to the front end of the sleeve D, so as to rotate therewith, and adjacent to said swinging plate is a second similar
90 plate or sliding spring-catch H, which is made fast to the front end of the arbor, so that when said arbor is forced or drawn inward through the sleeve and against the pressure of the
95 spring F said spring-catch will be separated from the swinging plate, as shown in Fig. 2, for a purpose to be described. The door-jamb B or corresponding part of the drawer
100 to which the device is to be applied is preferably provided with a fixed plate I, which has an elongated slot i therein adapted to register with a similar slot in the swinging plate, so that when said plate is turned into

proper position the tooth or stud *h* upon the spring-catch *H* will engage said slot *i*, and the recoil of the spring *F* will force said tooth into engagement with the slot and lock the door. On the outside of the opening *L*, through the door, is placed a washer *J*, which covers the front of said opening, and on the inside of said opening is placed a plate *K*, which has a similar function, and is also provided with an elongated slot *k* therein, adapted to register with the slot in the swinging plate *G* when the parts are in the position shown in full lines in Fig. 6, in which position the tooth *h* of the spring-catch will be forced into said slot *k* and be retained therein by the pressure of the spring. The sleeve or cylindrical shank *E'* of the knob *E* has an enlarged end portion *e*, which is provided interiorly with lugs or projections *e'*, adapted to enter corresponding open-ended countersinks or depressions *d'* in the enlarged intermediate portion *d* of the thimble *D*, so that when the knob is turned in such position as to bring the projections *e'* in alignment with the depressions in the thimble the arbor may be forced inward against the pressure of the spring *F*, carrying with it the sliding spring-catch *H*, so as to release the tooth *h* from the notch or slot in the plate *I*, whereupon the knob may be rotated, so as to turn the spindle and swinging plate and catch into either of the positions shown in full and dotted lines in Fig. 6, for the purpose of locking or unlocking the door, and in either of these two positions the recoil of the spring *F* will force the tooth *h* into the slot *i* or *k*, as the case may be, and hold the parts in such position with the door or drawer locked or unlocked. The rotary knob *E* is held normally in such position that the spring-catch *H* will not be affected by turning the knob in either forward or backward direction, and to lock or unlock the door the knob must first be turned until the projections *e'* are brought into alignment with the depressions *d'*, which will be noticeable by a slight hitch or catch when these parts are brought into proper position, and thereupon pressure upon the knob *E* will result in disengaging the tooth of the spring-catch, so as to permit the same to be turned in the desired direction.

When it is desired to use the device for locking the doors in partitions or between communicating rooms, the spindle or arbor *C* may be provided with a screw-threaded extension *C'* or other suitable means for the attachment of an operating-handle *C''*, by which the arbor may be drawn inward from the inside, and the spring-catch may be provided with a swiveled tooth *h'*, having a thumb piece or handle *H'*, as shown in Fig. 5, so that when the tooth *h'* is passed through the slot in the plate *I* the thumb-piece or handle may be rotated, so as to turn said tooth athwart the opening through the plate *I*, in which position the tooth cannot be withdrawn and will serve as a safety device to prevent the

door from being unlocked by any one outside of the room. By these simple and inexpensive contrivances *I* provide efficient means for locking the doors of cupboards, closets, &c., so as to prevent small children or others who may not understand how to manipulate the lock from opening such doors, and at the same time dispense with the use of keys, and by the addition of the simple safety device the attachment may be used as a burglar-proof lock to prevent the entrance of any person into a bed-room or private apartment without first violently breaking the lock.

It will of course be understood that the several parts described may be modified in a number of ways and that the general construction and arrangement of parts may be varied without departing from the spirit of my invention, and I do not desire to be understood as limiting my invention to the exact construction shown and described herein; but

What I claim as new, and desire to secure by Letters Patent, is—

1. A lock or fastening device for closets, cupboards, &c., comprising a sliding rotatable arbor or spindle supporting a catch, an operating handle or knob, which is free to rotate upon said spindle in either forward or backward direction, a slotted plate or device for engaging said catch, and means whereby the knob and spindle when occupying relatively fixed positions in respect to each other may be locked together for the purpose of engaging or disengaging the catch and slotted plate, substantially as described.

2. A lock or fastening device comprising a sliding arbor or spindle, an operating knob or handle loose upon said spindle, a catch secured to said spindle, a locking plate or device adapted to be engaged by said catch, a spring which tends to hold the catch normally in engagement with the locking-plate, and means whereby the knob may be locked to the spindle so as to disengage the catch, substantially as described.

3. In a lock or fastening device, the combination of the sliding arbor or spindle, the loose thimble or sleeve thereon adapted to rotate therewith, the rotary knob or handle adapted to be locked to said spindle, the spring which tends to force said thimble and knob apart, the swinging toothed plate secured to said arbor, and the slotted plate or locking device adapted to be engaged by said toothed plate, substantially as described.

4. A lock or fastening device comprising a pair of slotted plates, a sliding spring-pressed catch adapted to be held normally in engagement with one of said plates, an arbor or spindle to which said catch is attached, a sleeve or thimble fitted on said arbor, so as to rotate therewith, a knob or operating-handle secured on said spindle so as to revolve freely thereon, and means whereby the spindle and knob may be made to revolve together so as to disengage the catch, substantially as described.

5. A lock or fastening device comprising a sliding rotatable spindle, a spring-pressed catch secured to said spindle, a locking device or plate adapted to engage said catch, an operating handle or knob rotatably secured on said spindle, means for causing the spindle to revolve with said knob, a detachable handle rigidly secured to said spindle, and a safety-locking device carried by said spring-pressed catch, substantially as described.

6. In combination with the slotted plates, the sliding spring-pressed catch, the arbor carrying a pin which passes transversely through the same, the flanged sleeve having an elongated slot therein to receive the ends of said pin, the spring fitted on said sleeve between said flange and pin, and the knob having the cylindrical shank rotatably secured on said arbor and provided with lugs or projections adapted to engage recesses or depressions formed in said sleeve, substantially as described.

7. In combination with the slotted plates, the sliding spring-pressed swinging plate, the arbor having the pin which passes transversely through the same, the flanged sleeve having an elongated slot to receive the ends of said pin and longitudinal recesses or depressions therein, the spring placed upon said sleeve between said flange and pin, the knob having the cylindrical shank rotatably secured on said arbor and provided with lugs or projections adapted to register with the depressions in said sleeve, the operating-handle detachably secured to an extension of said arbor, and the tooth or catch swiveled in said swinging plate, substantially as described.

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

BENJAMIN PIERS.

Witnesses:

JOHN LITTLE,
HENRY R. SWAN.