

(No Model.)

A. A. OAT, Sr.
LOCK HINGE.

No. 469,333.

Patented Feb. 23, 1892.

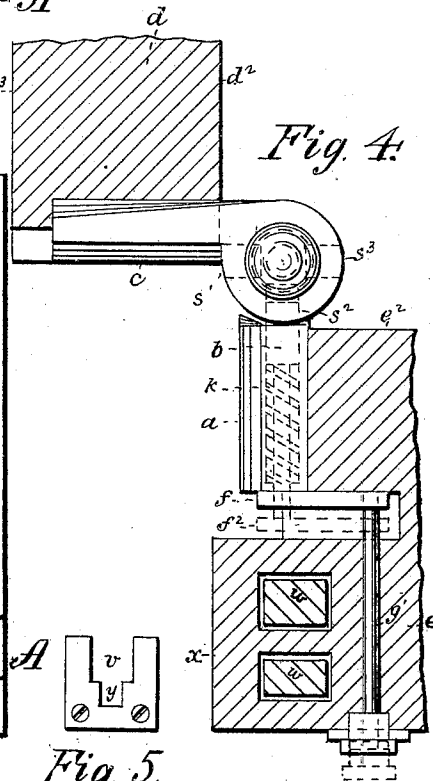
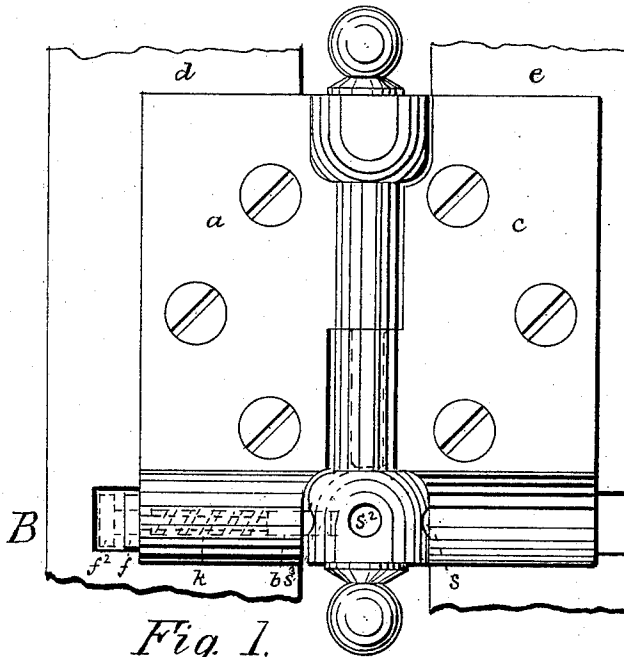
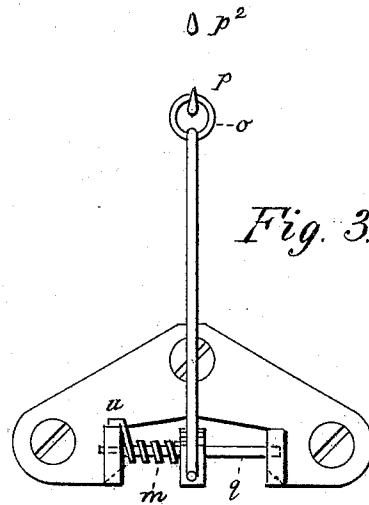
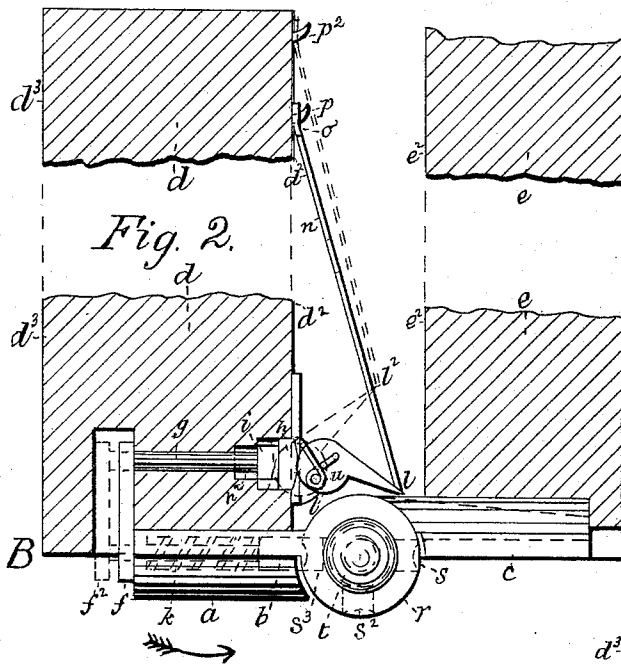


Fig. 5.

Inventor

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By his Attorney

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Witnesses
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UNITED STATES PATENT OFFICE.

ALFRED A. OAT, SR., OF PHILADELPHIA, PENNSYLVANIA.

LOCK-HINGE.

SPECIFICATION forming part of Letters Patent No. 469,333, dated February 23, 1892.

Application filed April 21, 1891. Serial No. 389,762. (No model.)

To all whom it may concern:

Be it known that I, ALFRED A. OAT, Sr., a citizen of the United States, and a resident of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Lock-Hinges, of which the following is a specification.

My invention relates to a style of "lock-hinge" which can be adapted to doors as well as blinds and shutters, by which they can be fastened when placed in any convenient position or may be left unfastened. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical front elevation of a "loose-butt hinge" fitted with my improvement attached to a door, which is hung to a frame in the usual manner. Fig. 2 is a horizontal section through A B of Fig. 1. Fig. 3 is an elevation of cam-lever and bracket for operating hinge. Fig. 4 is a horizontal section through A B of Fig. 1 of one of my lock-hinges fitted to a window-shutter or door swung to open outside. Fig. 5 is a front elevation of catch or fastening for head of pin *g*.

Similar letters refer to similar parts throughout the several views.

Previous to my invention lock-hinges have not been constructed so they could be used and operated from the inside on doors of rooms or shutters hung to swing inside of the room and against a wall or partition when opened. I overcome this difficulty by my improvement, which permits the door to be locked and unlocked by my lock-hinge from the inside when in any desired position; and it consists of a hinge having in one leaf *a* a sliding bolt *b*, and spring *k* with an arm *f*, pin *g*, cam-lever *l*, spring *m*, rod, chain, or handle *n*, ring *o*, and hooks or pins *p* *p*². The other leaf *c* of the hinge has an arbor *r*, having sockets or openings *s* *s*² *s*³, &c. In the drawings I have shown what are known as "loose-butt hinges," which are made of two parts or leaves *a* and *c*. The part *c*, which contains the pin or fulcrum *t*, is fastened to the door-frame *e*, *e*² being the inside or side on which the door *d* opens against when fastened to the leaf *a* of my hinge. The door *d*, attached to this leaf *a* of this form of hinge or loose butt, swinging on its fulcrum *t*, may

be lifted off when the door is opened in the usual manner with loose-butt hinges.

My improvement when used for hanging a door or shutter intended to be locked by it from the inside, as at *d*², Fig. 2, has its stationary leaf *c* attached to the door-frame *e*, this stationary leaf *c* in this case containing the sockets *s* *s*² *s*³, &c, into which the bolt *b* engages when it is desired that the door shall remain in a corresponding position, the bolt *b* being retained in the desired socket by the pressure of the spring *k*, the outer end of this bolt *b* being attached to the arm *f*, which is attached to the pin *g*, the head *h* of this pin *g* being actuated by the cam-lever *l* and handle *n* with its ring or other fastening *o*, and catches *p* *p*² for fixing the ring in either desired position.

The operation of my improvement is as follows: In Figs. 1, 2, and 3 the door *d* is wide open and set back against the wall or partition *e*, with the bolt *b* in the socket *s*³ locking the hinge and keeping the door *d* wide open, the cam-lever *l* being in the position shown by the solid lines, its lever being at *l*, the handle *n* having its ring *o* at *p*. If this handle *n* and ring *o* are now drawn to *p*², the lever of the cam-lever will be drawn to *l*², forcing the head *h* of the rod or pin *g* to *h*², its arm to *f*², compressing the spring *k* and withdrawing the bolt *b* from the socket *s*³, which unlocks the hinge and allows the door or shutter to swing freely in the direction shown by the arrow to close it. When closed it may be locked by moving the ring *o* and handle *n* back from *p*² to *p*, thus permitting the compressed spring *k* to force the bolt *b* into the socket *s*, and carrying the arm *f* and rod *h* back to their original positions, locking the hinge with the door *d* closed. By first withdrawing or unlocking the bolt *b* in the manner just described by drawing the ring to *p*, the door may be set in any convenient position and then locked in that position by returning the ring *o* to *p*, whereby the bolt *b* is forced by the spring *k* into the nearest socket, thus locking the hinge and keeping the door in the desired position. In the drawings I have shown three sockets *s*, *s*², and *s*³; but I do not confine myself to this number, but can place as many more in the arbor *r* as its size will permit.

When I use a chain for a handle *n*, I place a spring *m* on the pivot *q* of the cam-lever *l*, one end of the spring *m* being attached to the cam-lever *l*, and the other end to or
 5 against the bearing *u*, so that the elasticity of the spring *m*, when it is compressed by drawing the handle *n* to *p*² will press the cam-lever toward *l* as soon as the ring *o* and handle *n* are released or returned to *p*.

10 In Figs. 1 and 2 the hinge is placed so that the hub *r* and bolt *b* are at the lower part of the leaf *a* of the hinge to permit the door, when opened with the bolt and socket released or unlocked, to be lifted from its position, if desired.

15 If the door or shutter is hung on the outside of the frame to open outwardly and it is desired to operate the lock-hinge from the inside of the door and frame, the hinge must be reversed, so that the leaf *a* with the bolt *b* shall be the stationary leaf attached to the door-frame *e*, the bolt *b* being at the top of the hinge, and the other leaf having its hub *r* attached to the door *d*. The rod *g* is then
 25 reversed in the arm *f*, so that its head *h* is on the inside of the door-frame and room, and operated by drawing or pulling the rod *g* sufficiently from the hinge to release the bolt *b* from the socket in the hub *r* and allow the door or shutter to swing freely, and the pin
 30 *g* may be retained in this position by dropping it into the narrow part *y* of the catch, Fig. 5, where the shoulder *i* on the pin *g* prevents it from being drawn back by the spring *k* on the bolt *b*. When it is desired to lock the door or shutter in any position, the rod
 35 *g* is raised to the wider part *v* of the catch, Fig. 5, which allows the bolt *b* to fall into any desired socket in the hub *r*. The arm *f* may
 40 be of such length that the rod *g* will pass clear of the pulley-box in a window-frame to

avoid contact of the rod *g* with the weights *w w*, as shown in Fig. 4. When used on a door-frame, as described in reference to Fig. 5, if desired, the arm *f* may be extended to
 45 the face *x*, Fig. 4, where the rod *g* and its catch may be placed; but I prefer to pass it through the frame, as shown.

In the drawings I have shown the form of hinge known as a "loose butt," which I prefer to use from the facility with which the door or shutter hung by it may be raised and removed when desired; but I do not confine myself to the use of loose butts, as any other convenient form of hinge may be made with
 55 my improvement and locked or unlocked by its operation.

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

In a lock-hinge, the combination, with one
 60 leaf of a hinge and located therein the sliding spring-bolt having an arm, a pin or rod in engagement with said arm, a bracket adapted to be secured to the door or door-frame, a spring-actuated cam-lever mounted in said
 65 bracket to engage said pin or rod, a handle having a ring and secured to the outer end of said cam-lever, and a catch on the door or frame, whereby the lever may be fastened in position, of the other leaf of the hinge, provided with sockets adapted to receive the
 70 end of the spring-bolt, substantially as shown and set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 23d day of March, 1891.

ALFRED A. OAT, SR. [L. S.]

Witnesses:

C. HENRY RONEY,
 JEFF. H. CLARK.