(Model.)

C. KOEGEL.

LATCH.

No. 454,053. Patented June 16, 1891.

Fig. 1

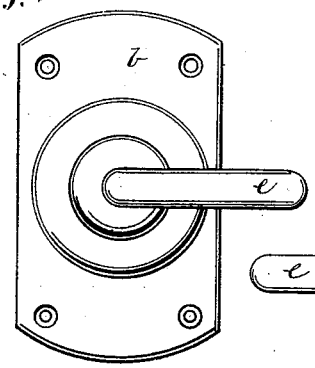


Fig. 2

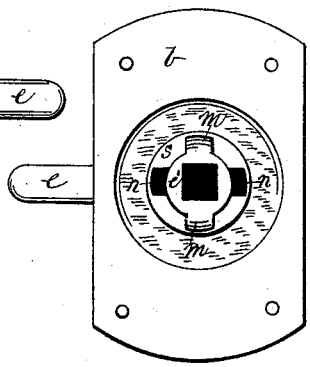


Fig. 3

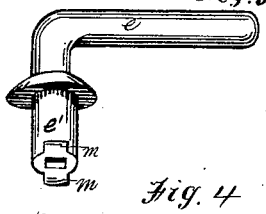


Fig. 4

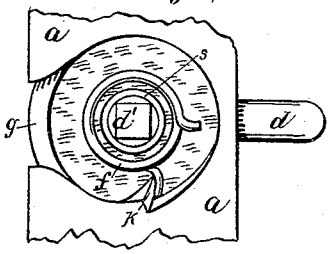


Fig. 5

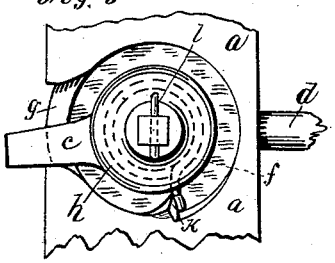


Fig. 6

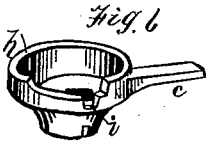


Fig. 7

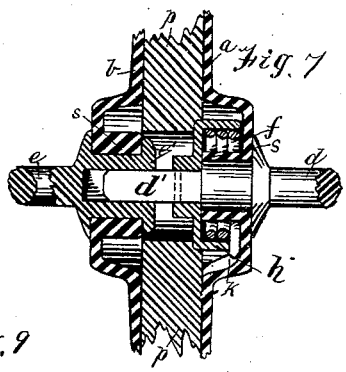


Fig. 8

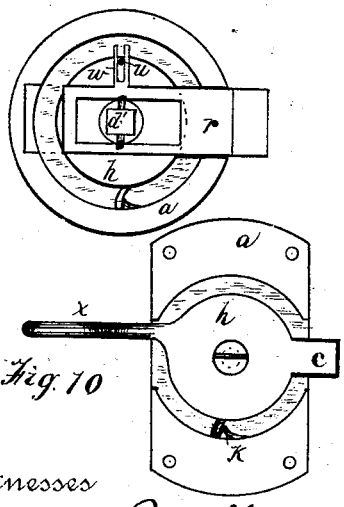
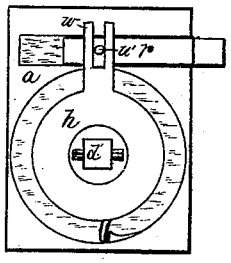


Fig. 10

Fig. 9



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UNITED STATES PATENT OFFICE.

CHARLES KOEGEL, OF HOLYOKE, MASSACHUSETTS.

LATCH.

SPECIFICATION forming part of Letters Patent No. 454,053, dated June 16, 1891.

Application filed March 27, 1890. Serial No. 345,592. (Model.)

To all whom it may concern:

Be it known that I, CHARLES KOEGEL, a citizen of the United States of America, residing in Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Latches or Locks, of which the following is a specification, reference being had to the accompanying drawings and letters of reference marked thereon, in which drawings like letters of reference indicate like parts.

Figure 1 is an outside view of one part of the preferred form of latch. Fig. 2 is a reverse or inside view of the same. Fig. 3 is a perspective of the latch-lever fitted thereto. Fig. 4 is an inside view of the other half of my device, the latch-lever being in place, but the latch being removed. Fig. 5 is a view of the same, the latch being in place. Fig. 6 is a perspective of the latch. Fig. 7 is a sectional view of the complete device; and Figs. 8, 9, and 10 show modifications.

In detail, *a* indicates the latch-bearing plate; *b*, the supplemental plate; *c*, a latch or bolt; *d*, the hand-lever in plate *a*; *e*, the hand-lever in plate *b*; *f*, the spring; *n*, openings in plate *b*; *m*, lugs on the stem of lever *e*; *h*, the body or cup-shaped part of the latch; *e'*, the inner portion or stem of lever *e*, and *d'* the inner portion or stem of lever *d*, and *p* indicates the door.

The construction is such that two levers or knobs may be used, one projecting from each side of the door, or but one lever or knob may be used, so that the door can be opened from one side only. This is especially desirable in some doors in factories.

The plate *a* is recessed in its inner face to receive the body or circular cup-shaped part *h* of the latch, and a recess *g* is also formed at one side of the central recess to allow the latch to project to engage the catch on the door-casing. The stem *d'* of the lever *d* projects through the central recess of the plate *a*, and the body *h* of the latch is mounted thereon, the end of the stem being preferably square and the opening in the body *h* being of like shape to receive it. To give the stems sufficient bearing, the portions of the plates immediately surrounding the stem-receiving openings are projected inward, as shown at *s*, and a short special spring *f* is coiled or laid within the cup-shaped body *h* of the latch, one end of which spring is bent outward and enters a recess *i*, made in the wall of the body *h* to receive it, and the other end of the spring passes outward beyond the wall of the body (a portion being cut away for this purpose) and engages a lug *k*, formed in the plate-recess. The stem *d'* is fastened in position, preferably by a pin passing through it, next the body of the latch. The spring, it will be seen, will tend to turn the body of the latch in one direction, thus carrying the latch *c* in the same direction, and if the hand-lever be moved to turn the stem in the opposite direction the body and latch attached will be moved in the same direction until the latch strikes the wall of the recess *g* in the plate *a*. This plate and parts attached as above described may be fastened to a door and form a very convenient latch for inside locking, and as no stem or parts project through the door no opening is required in the door to receive it, and the latch may be applied without defacing the door. In this case the recess in the plate is made sufficiently deep to receive the latch-body and allow its inner face to be flush with the inner face of the plate.

If it is desired to operate the latch from both sides, then a plate *b* is employed, a hole being cut through the door of sufficient size to allow the stem of either of the levers to pass through. The stem *e'* of the lever *e* is made larger than the stem *d'* of the lever *d*, and is provided with a square opening of a size to receive the square end of the stem *d'* of lever *d*. The stem *e'* is provided with two outwardly-projecting lips *m*, and slots *n* are formed in the side walls of the stem-receiving opening in the plate *b* to allow the lips *m* to pass through. The stem then being rotated to carry these lips away from the openings will cause them to bear against the inner face of the part *s* of the plate adjacent to the stem-opening and prevent the escape of the stem until again turned to the position occupied when it was inserted.

I am aware of the construction shown in United States Letters Patent No. 305,426, and make no claim to the same.

When both plates are used, either of the stems may be made long enough to reach

through the door and engage the other, preference being given to making the stem d' of sufficient length, as a smaller opening will thus be required than if the stem e' be extended.

The recess in the stem e' to receive the squared end of the stem d' is made of sufficient depth to allow the end of stem e' to enter a considerable distance, so that the same device may be used on doors of different thickness, provided the variation in thickness does not exceed the depth of this opening.

It will readily be seen that knobs may be attached to the spindles or stems and be substituted for the hand-levers illustrated herein, and the operation of the device will be the same, and that the lever may be attached to the body h with a like result, as shown in Fig. 10.

An ordinary beveled catch fastened to the door-casing serves to form a means for the engagement of the latch to hold the door closed.

In many instances it is desirable that the latch be made to retreat within its case rather than to be lifted, as first shown, in which event I prefer to construct the device as illustrated in Figs. 8 or 9. In Fig. 8 the body portion h of the latch is detached from the bolt r or latch proper; but the operation of the spring, stems, levers, and body is the same as first described, the projecting portion of the bolt, however, being arranged to be drawn into the case by the turning of either of the spindles. This may be accomplished in several ways. In Fig. 8 the bolt r is arranged to slide toward and from the center of the plate, which plate may be of any desired shape, it being shown in this figure as circular, the latch-body h being of the same form as above described. The latch c, however, is omitted, and a pin u projects from the face of the body and passes through a slot in the pin-arm u'. The central portion of the bolt is cut away to allow it to slide past the stem and to give it sufficient bearing. The central portion of the body h is made circular and adapted to fit the slot or opening in the bolt r. When the spindle is revolved by the knob or hand-lever, the body h moves in the same direction, and the pin u will move the bolt in the direction in which the pin moves.

The construction shown in Fig. 9 is substantially the same as that shown in Fig. 8, except that the bolt is arranged at one side of the center, and in Fig. 10 the operating-lever is attached directly to the body h and the stems are omitted. The face of the projecting portion of the bolt in either case, as illustrated in Figs. 8 or 9, are beveled in the usual manner.

By the construction of the latch-body hereinbefore described I am enabled to dispense with projecting bearings for the body, as the latter is supported upon the inwardly-projecting bearing or thimble of the casing. The hollow body also serves as a receptacle for the spring which surrounds the inwardly-projecting collar of the casing, thus affording a compact assemblage of the parts.

Having therefore described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a recessed plate, of a hollow cup-shaped body h, arranged within the recess of the plate, a spring arranged within said body, a handle or lever for rotating the body, and a latch moved by the body, substantially as set forth.

2. The combination of plates a and b, each having a latch-provided stem arranged therein, as shown, a latch-body h, having a latch c, and a spring arranged to rotate the latch-body, one or both of said plates having the stem-receiving openings slotted from end to end, and the stem fitting therein provided with lugs or lips m to pass through said slots and when the stem is turned to engage the inner face of the plate, substantially as shown.

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Witnesses:
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MAMIE POWELL.