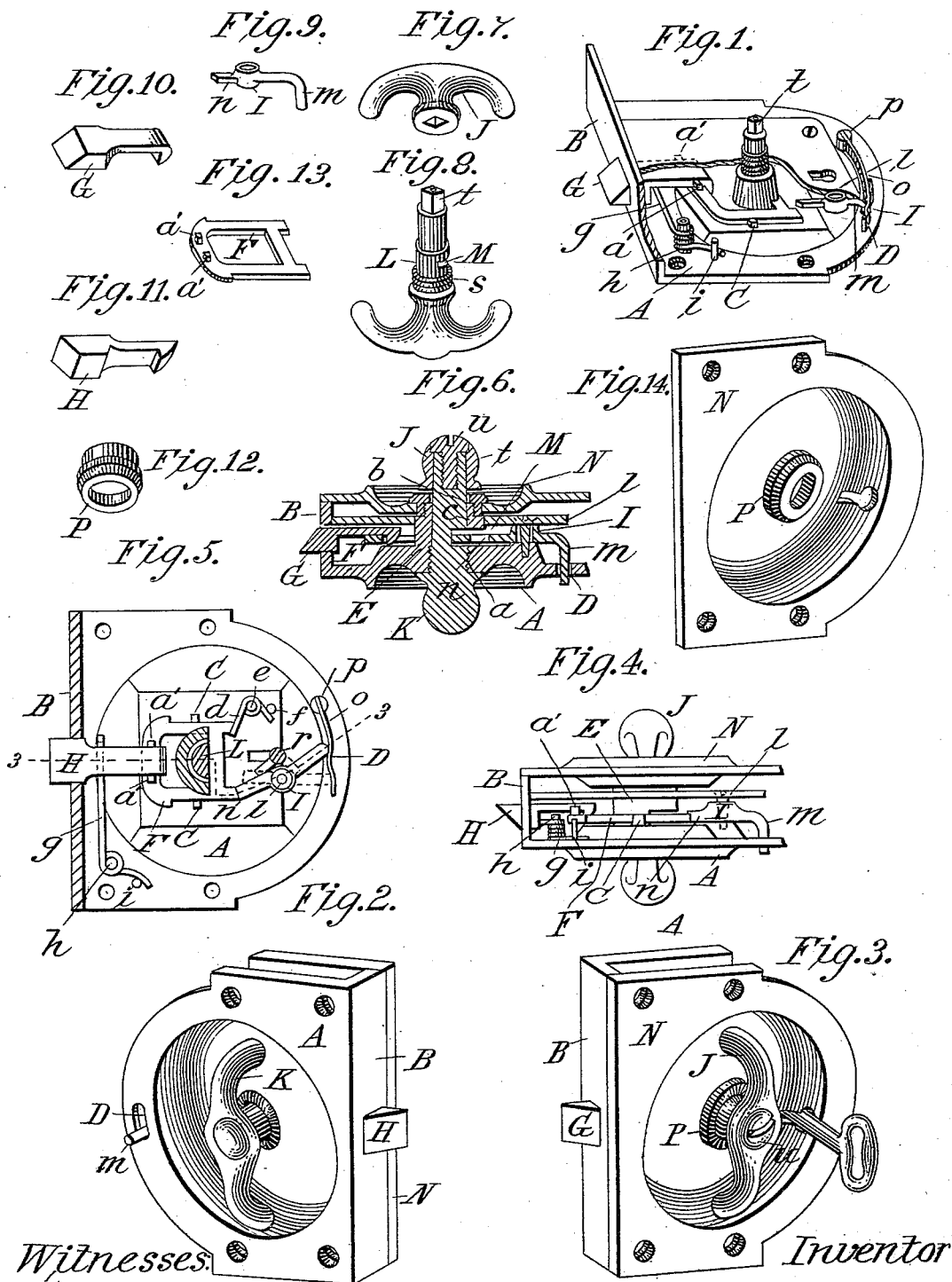


(Model.)

J. KIRBY, Jr.
LOCK.

No. 420,013.

Patented Jan. 21, 1890.



Witnesses.

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JOHN KIRBY, JR., OF DAYTON, OHIO.

LOCK.

SPECIFICATION forming part of Letters Patent No. 420,013, dated January 21, 1890.

Application filed May 5, 1888. Serial No. 272,995. (Model.)

To all whom it may concern:

Be it known that I, JOHN KIRBY, Jr., of Dayton, county of Montgomery, and State of Ohio, have invented certain new and useful
5 Improvements in Locks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

10 This invention relates to locks, and more particularly to a lock adapted to be used upon railway-car doors which open into narrow passage-ways.

The object is to produce a lock of such construction that the knobs will be approximately level with the outer surface of the door; furthermore, to produce an efficient, durable, and desirable lock.

With these objects in view the invention
20 consists, broadly, of a lock having a plate provided with an outside depression forming a recess which extends inward and forms a boss or raised surface, locking mechanism carried by the said plate and boss, a recessed plate
25 forming the opposite side of the lock, the two plates having knob-shank apertures extending through the recessed portions, and a knob-shank mounted in the said apertures and carrying knobs or handles, the outer portion
30 of which occupies and extends within the said recesses.

The invention further consists in the various novel details of construction, as will be hereinafter fully described in the specification, illustrated in the drawings, and more
35 particularly pointed out in the claims.

The use of rim-locks with their knobs projecting out from their faces on inside doors of railroad-cars is very objectionable, and especially so where such doors open into passage-ways which are usually narrow. My lock overcomes the objections raised against such other locks.

In the drawings, Figure 1 is an inverted
45 perspective view with the back cover and front broken away, exposing the working parts to view. Fig. 2 is a perspective front view of the complete lock with its latch-face beveled directly opposite the one shown in
50 Fig. 1. Fig. 3 is a perspective back view of the complete lock, showing the key inserted for use

and with its latch-face beveled, as in Fig. 1. Fig. 4 is a top view of the complete lock with its several parts in the positions they occupy when applied to the door. Fig. 5 is a vertical
55 cross-section through the line 2'2' of Fig. 4, with the sleeve and shank cut through where slotted to receive the latch-pull. Fig. 6 is a horizontal cross-section taken on the line 3 3 of Fig. 5. Fig. 7 is a perspective view
60 of the outside handle. Fig. 8 is a perspective view of the inside handle and spindled shank. Fig. 9 is a perspective view of the lever. Figs. 10 and 11 are perspective views of latches with opposite beveled faces. Fig. 12
65 is a perspective view of the collar. Fig. 13 is a similar view of the latch-pull. Fig. 14 is a perspective front view of the outside recessed plate separated from the lock.

Similar letters of reference in the several
70 figures denote the same parts.

A is a recessed plate provided with a front flange B, studs C C, whose functions are to guide the latch-pull, slot D, and sleeve E. The sleeve is preferably cast to the plate A
75 and has an interior screw-thread *a* at its end adjoining plate A, also an interior screw-thread *b* at its opposite end. It is cut away on one side at *c* to allow of the placing of the latch-pull.

80 F is the latch-pull, provided with studs or guides *a'*, operated by the free end of spring *d*, Fig. 5, which is coiled around post *e* and whose fixed end bears against stud *f*.

G, Figs. 1, 3, 6, and 10, is a latch having a
85 regular beveled face, and H, Figs. 2, 4, 5, and 11, is a similar latch with a reversed beveled face, either of which may be used as will be hereinafter more closely defined. The latch is operated by the free end of the spring *g*,
90 which is coiled around post *h* and whose fixed end bears against stud *i*. The latch and latch-pull may be in one piece and operated by one spring; but I prefer to make them as shown, as a light spring can then be used to operate
95 the latch, which will allow it to work easy in closing the door, and a strong spring may be used to operate the latch-pull.

I is a lever pivoted to the recessed plate A and having an upturned projection *m*, which
100 extends through the slot D, and may thereby be operated from the face side of the lock.

It has also an extension *n*, which in Fig. 5 is shown engaged immediately behind the latch-pull, thus preventing the latch being operated or the handles turned.

- 5 O is a spring secured at one end to stud *p*, corrugated, as most clearly shown in Fig. 5, and serves to retain lever I in either of the positions shown in Figs. 1 and 5.

When in the position shown in Fig. 1, the latch-pull can be operated by turning either of the handles, as will be hereinafter more clearly described.

- 10 *n*, Figs. 3 and 5, is the key, which in Fig. 5 is shown in the position it occupies after having engaged the arm *n* of lever I with the latch-pull, and the reverse positions are shown by dotted lines in Fig. 5.

J is the outside handle; K, the inside handle provided with shank L, having an exterior screw thread *s* to engage with the interior screw-thread *a* in sleeve E, and a spindle *t*, which engages handle J, as shown in Figs. 6, 7, and 8. Handle J is held in place on spindle *t* by means of screw *u*, as shown in Fig. 6. Shank L is cut away to the center of its diameter at M, and latch-pull F is pressed against the flat side of the shank, as shown in Fig. 5. When either of the handles are turned, the latch-pull and latch are drawn back till the latch is released from its keeper.

To put my improved lock on a door, the lock, as shown in Fig. 1, is first fitted to the inside of the door, and the recessed plate N is then put in position, and the collar *p*, which is provided with an interior screw-thread, is next screwed onto the sleeve E. The whole is then firmly screwed to the door by screws in the usual manner.

It will be seen that my lock when provided with latch G can be used on either right or left hand doors swinging outwardly, and when provided with latch H can be used on either right or left hand doors swinging inwardly.

The construction of sleeve E and handle K is substantially the same as described and claimed in the first claim of my patent, No. 281,701, and I disclaim herein the said construction, broadly.

I am aware that double-recessed locks similar in form to the one I have described having swing-latches and sliding bolts have been made prior to my invention, and I do not therefore claim such form broadly.

What I do claim is—

- 55 1. In a door-lock, the combination of a plate forming a side of the lock and having an outside depression forming a recess which extends inward and forms a boss or raised surface, a return-flange on the said plate having an opening for the latch, a sliding latch, a latch-pull and guide therefor, the latch and

the latch-pull being operated on the boss or raised surface by one or more springs, a recessed plate forming the opposite side of the lock, the two plates having bearings formed in the recessed portions, and knobs or handles mounted in the said bearings. 65

2. In a door-lock, the combination of a plate forming a side of the lock and having an outside depression forming a recess which extends inward and forms a boss or raised surface, a return-flange on the said plate having an opening for the latch, a sliding latch, a latch-pull and guide therefor, the latch and latch-pull being operated on the boss or raised surface by one or more springs, a lever or tumbler whose function is to prevent the movement of the latch-pull, and a spring for retaining the said tumbler in position, a recessed plate forming the opposite side of the lock, having a key-hole through which the tumbler may be operated by a key, bearings formed in the recessed portions of the said plates, and knobs or handles mounted in the said bearings. 70 75 80 85

3. In a lock, the combination, with a plate forming a side of the lock and having an outside depression forming a recess which extends inward and forms a boss or raised surface on the inner side of the plate, of locking mechanism carried by the said plate and boss, a knob-shank aperture through the boss, and a knob-shank mounted in said aperture and having a knob or handle the outer portion of which occupies or extends within the said outer recess. 90 95

4. A door-lock whose shell or case is composed of a recessed plate, as A, with a return-flange, as B, and an opening for the latch provided also with screw-threaded sleeve extending through the lock and its back plate, and a handle having a screw-threaded shank and spindle for engagement with a corresponding handle on the opposite side, said sleeve and shank being cut away to receive and operate the latch-pull, in combination with a sliding latch and a latch-pull operated by springs in a manner substantially as set forth. 100 105

5. A door-lock whose shell or case is composed of a recessed plate, as A, provided with a return-flange, as B, having an opening for the latch, slot D, guides *a' a'* and *c c*, screw-threaded sleeve E, handle K, screw-threaded shank L, sliding latch G, latch-pull F, lever I, and springs *g*, *d*, and *o*, in combination with collar P and recessed plate N, the whole to operate substantially as set forth. 110 115

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Witnesses:

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