(No Model.)

J. X. KAISER.

TIME LOCK ATTACHMENT.

No. 481,572. Patented Aug. 30, 1892.

Fig. 1.

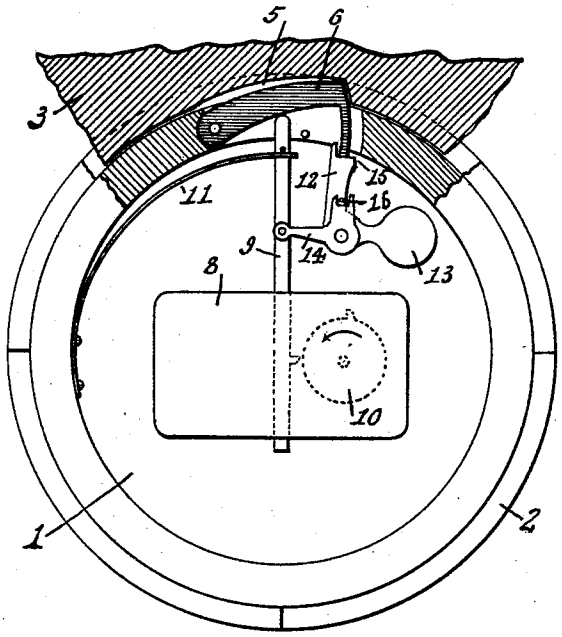
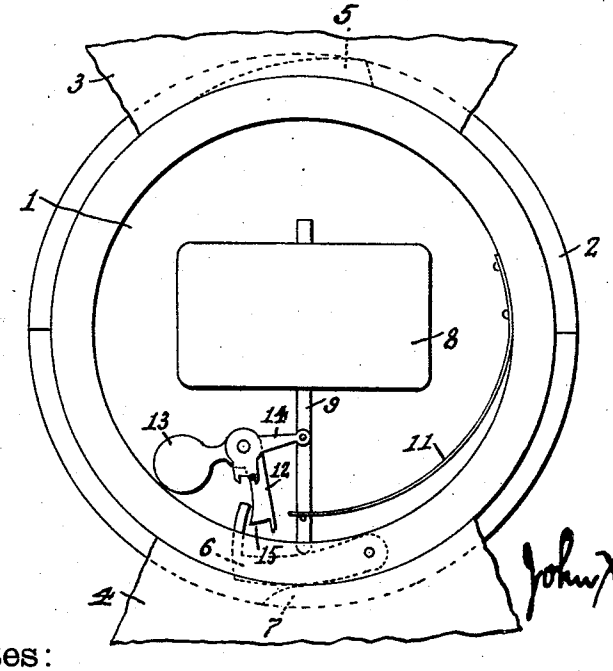


Fig. 2.



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TIME-LOCK ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 481,572, dated August 30, 1892.

Application filed April 21, 1892. Serial No. 430,015. (No model.)

To all whom it may concern:

Be it known that I, JOHN X. KAISER, of Newport, Campbell county, Kentucky, have invented certain new and useful Improvements in Time-Look Attachments, of which the following is a specification.

This invention pertains to time-lock attachments for use on screw-door safes and relates to improvements in the system set forth in Peck's patent, No. 472,224, of April 5, 1892. Reference may be had to that patent for a more general understanding of the fundamental system upon which this improvement is based.

The matter of the Peck patent being understood, my present improvements will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is an elevation of the rear face of the door of a circular screw-door safe provided with a time-lock attachment exemplifying my improvements, a part of the thread portion of the door being broken away to show the locking-pawl and the upper portion of the threaded jamb of the safe appearing in vertical section, this view showing the door as in locked position—that is to say, with the locking-pawl engaging the locking-notch in the jamb; and Fig. 2, a similar elevation of the door when in position just ready to be screwed into the jamb.

In the drawings, 1 represents the usual circular door of a screw-door safe; 2, the usual threads upon the periphery of the door adapted to engage with the threaded door-jamb of the safe; 3, that portion of the threaded door-jamb of the safe at the top of the door-opening; 4, that portion of the threaded door-jamb of the safe below the door; 5, the usual notch in the thread at the upper portion of the door-jamb to be engaged by the locking-pawl of the door when the door is screwed home; 6, the usual pawl pivoted in the threaded portion of the door and adapted, when the door is screwed home, to engage in the jamb-notch and prevent the unscrewing of the door so long as the pawl is seated in the notch; 7, the usual initial end of the thread of the door-jamb at the base of the door-opening, this end of the jamb-thread being that portion which the door-thread first engages when the door is to be screwed into the door-jamb; 8, the time-lock which is in the usual manner to control the time of release of the pawl from the jamb-notch; 9, the time-lock bolt or that part of the device through which at the proper time the time-lock effects the release of the pawl, this pawl in the exemplification engaging under and supporting the pawl and holding it up in locked position in the jamb-notch; 10, an exemplifying part of the time-lock, driven, as usual, by the time-movement and tending in course of time, as it revolves in the direction of the arrow, to pull the bolt down and allow the pawl to drop out of the jamb-notch; 11, the usual spring tending at all times to press the pawl outwardly and into the jamb-notch, the time-lock at the proper time pulling this spring inwardly, so that the pawl is at liberty to drop out of the jamb-notch; 12, an arm freely pivoted to the door below the pawl and adapted, when the parts are in locked position, as in Fig. 1, to form a rigid but movable support under the pawl and prevent its dropping; 13, a weight formed with the arm 12 and tending, when the parts are in the position shown in Fig. 1, to hold the arm under the pawl and tending, when the door is reversed, as in Fig. 2, to rock the arm 12 out from under the pawl, so that the pawl is at liberty to move inwardly; 14, a lever pivoted to the door and attached to the time-lock bolt 9 and connected with the arm 12, so that when the parts are in the position shown in Fig. 1 the downward movement of the time-lock bolt as produced by the action of the time-lock will move lever 12 out from under the pawl; 15, the end corner of the lever 12, the last portion of the lever 12 to disengage from the pawl when the lever rocks out from under the pawl; 16, a fly connection between lever 14 and lever 12 to permit lever 12 to make its rocking motion under the influence of weight 13 while the time-lock bolt is up.

In Fig. 1 the door is screwed home, the pawl is in the jamb-notch, and the spring holds the pawl in that position, and the door cannot be unscrewed so long as the pawl is in that position; but the pawl is held in locked position not only by the spring 11 but also by the lever 12, which forms a rigid support under the

pawl, this supporting-lever being held in this position by the weight 13. When the time-lock in course of time pulls down bolt 9, the spring is pulled down but the pawl is still supported by the lever 12, and when corner 15 of the lever gets from under the pawl the pawl is at liberty to drop instantly. The time-lock thus pulls away the spring and pulls away the lever 12 and allows of the instantaneous dropping of the pawl at proper time.

Assume the parts to be in the position shown in Fig. 1, but that the safe is open—that is, the door not screwed into the door-jamb. In order to screw the door into the door-jamb, the pawl must yield inwardly in order to ride over the thread of the door-jamb till it reaches the notch. The spring 11 would of course allow such inward yielding of the pawl as the door was screwed in; but the support formed by the lever 12 is inelastic and cannot yield, and with that lever in locking position the pawl would jam against the initial end 7 of the jamb-thread and the door could not be screwed in; but as the door is turned from the position shown in Fig. 1, with its top moving toward the left toward the position shown in Fig. 2, weight 13 will finally reach such a position that it will drop and bring lever 12 into the position shown in Fig. 2, thus removing it from obstructing position and permitting the pawl to move inwardly, as indicated in Fig. 2, thus allowing the pawl to ride upon the jamb-thread. When, as the rotation of the door is continued, the pawl finally reaches the jamb-notch 5, the spring 11 will throw the pawl out into the notch, and then weight 13 will cause lever 12 to take its obstructing position under the pawl. The safe is now locked and will remain so till the action of the time-lock pulls down the spring and rocks the lever 12 out from under the pawl.

I claim as my invention—

1. In a time-lock attachment, the combination, substantially as set forth, with a safe-door, a latch therefor arranged to fall to unlatched position by gravity, a spring to force the latch to latched position, and a time-lock arranged to retract the spring and again to permit it to act at proper times, respectively, of a movable support arranged to normally engage below said latch and support it in latched position, a connection between said movable support and time-lock to cause the support to be moved to inactive position when the time-lock retracts said spring, and a weight connected with said movable support and tending to hold it in active position when the door is in position corresponding to the latched position and to move the support to inactive position when the door is reversed.

2. In a time-lock attachment, the combination, substantially as set forth, of a jamb-thread having a notch, a door having a thread to fit the jamb-thread, a pawl pivoted in said door and adapted to engage said notch when the door is screwed home, a spring to force said pawl into the notch, a time-lock arranged to retract said spring at proper time, a movable rigid support under said pawl, a weight connected with said movable support and tending to hold it in active position and to move it to inactive position as the door is turned, and connections between said spring and movable support and time-lock to cause the time-lock to retract said spring and lift said weight and move said support to inactive position.

3. In a time-lock attachment, the combination, substantially as set forth, of a threaded door-jamb having a notch, a circular-threaded door, a pawl pivoted to the door and adapted to engage the notch, a spring tending to force the pawl outwardly into the notch and permitting the pawl to yield inwardly, a pivoted lever with its end under and supporting the pawl in locked position, a weight on said lever to hold it in active position, a second lever engaging said supporting-lever by a fly connection and adapted when the second lever is rocked sufficiently to rock the first lever into inactive position, a bolt engaging said spring and second lever and serving when moved to retract the spring and move the support to inactive position, and a time-lock arranged to operate upon said bolt and move it at proper times.

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