No. 878,056. PATENTED FEB. 4, 1908.

V. FRANCEK & J. DYTRYCH.

SAFETY DOOR CHECK AND LOCK.

APPLICATION FILED SEPT. 4, 1907. 2 SHEETS—SHEET 1.

Fig. 1.

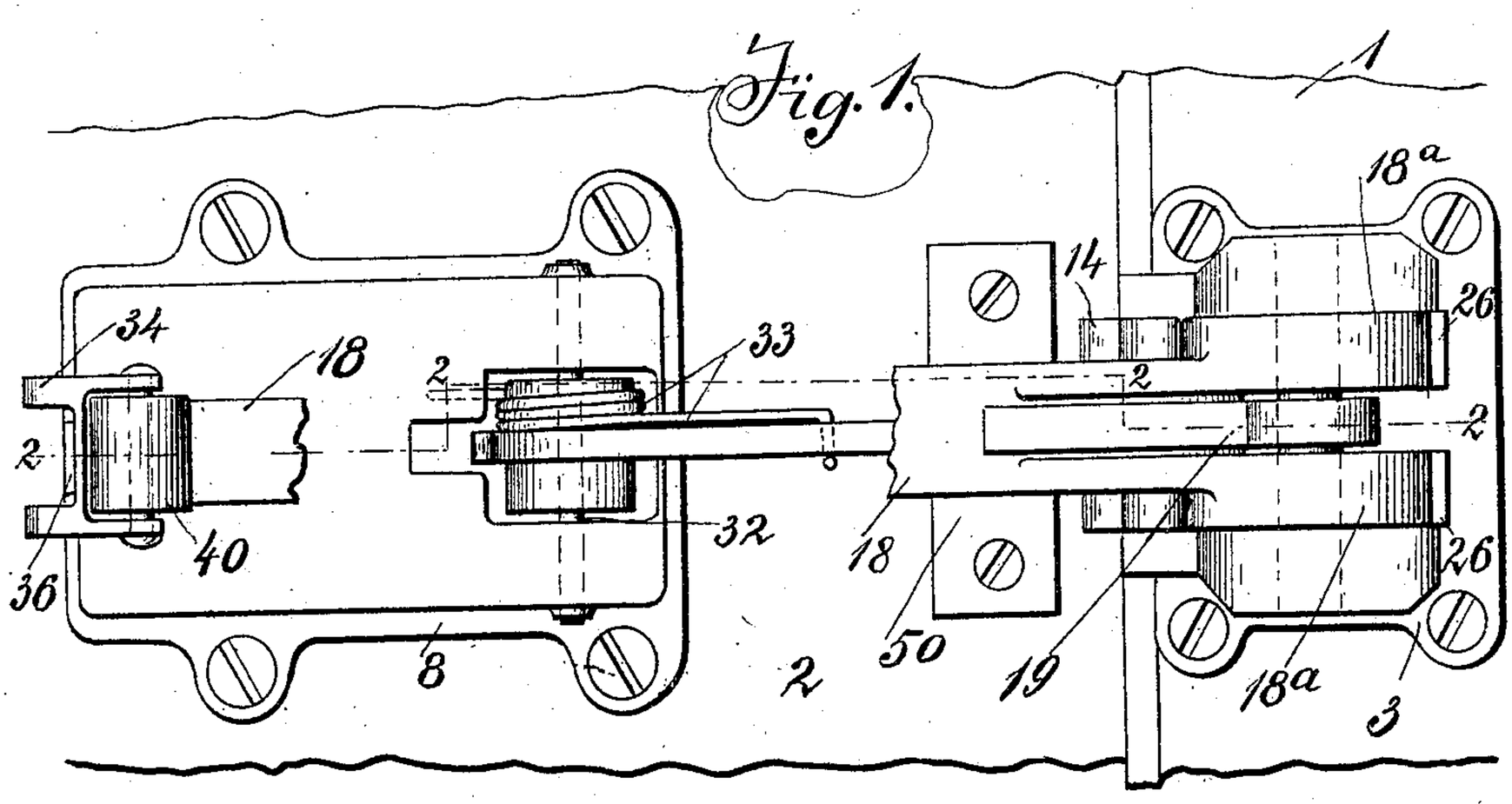

Fig. 2.

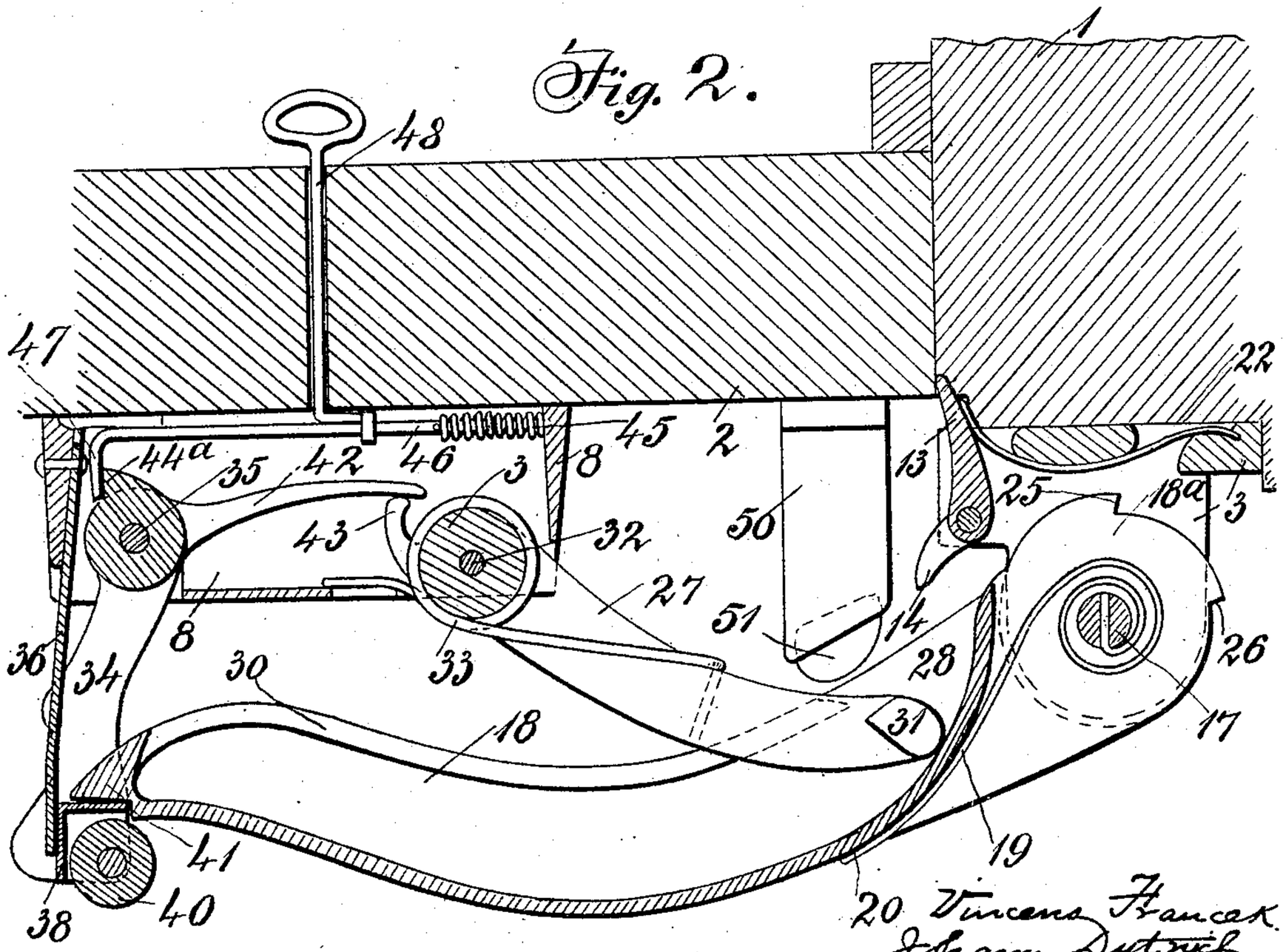

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Fig. 3

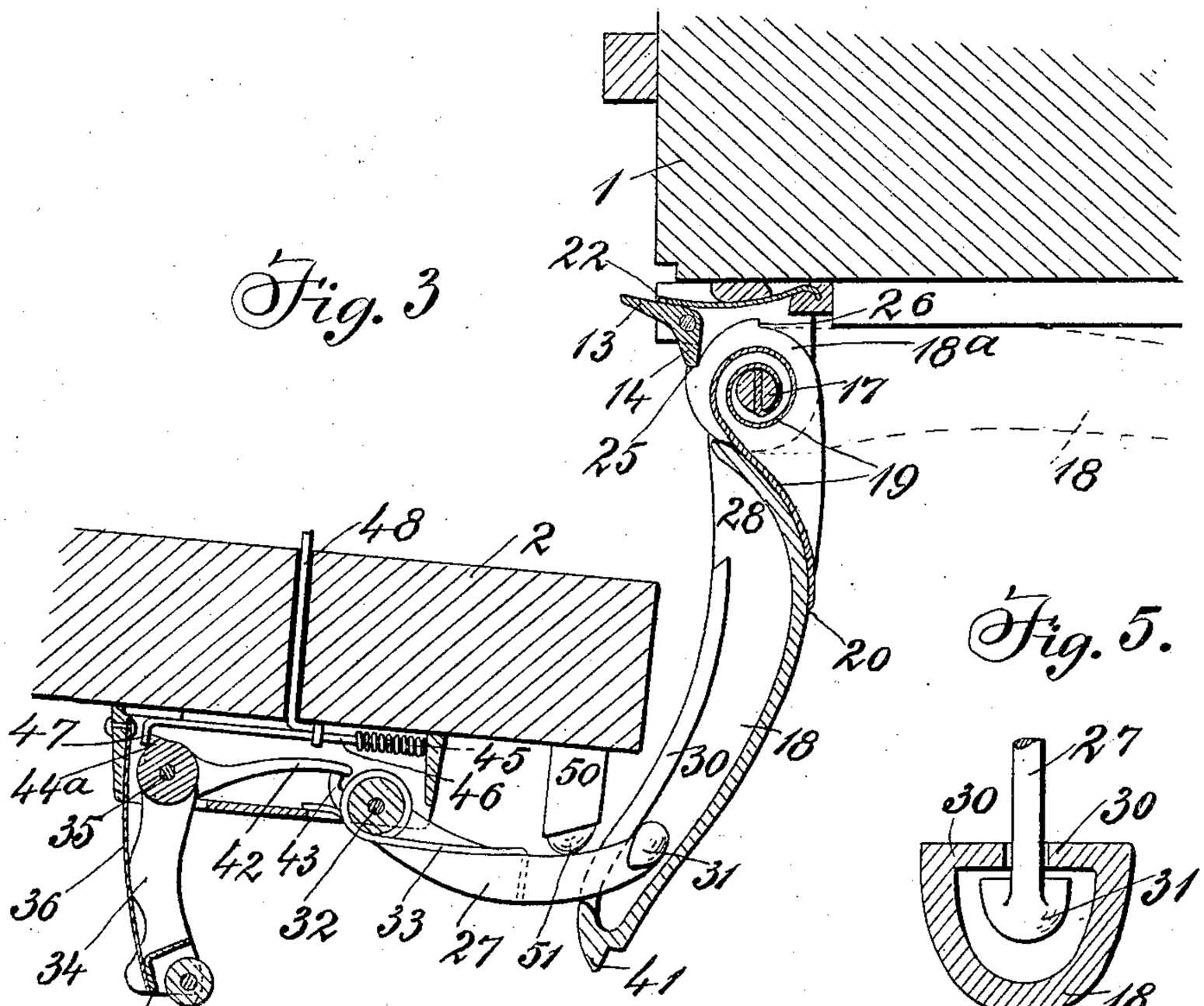
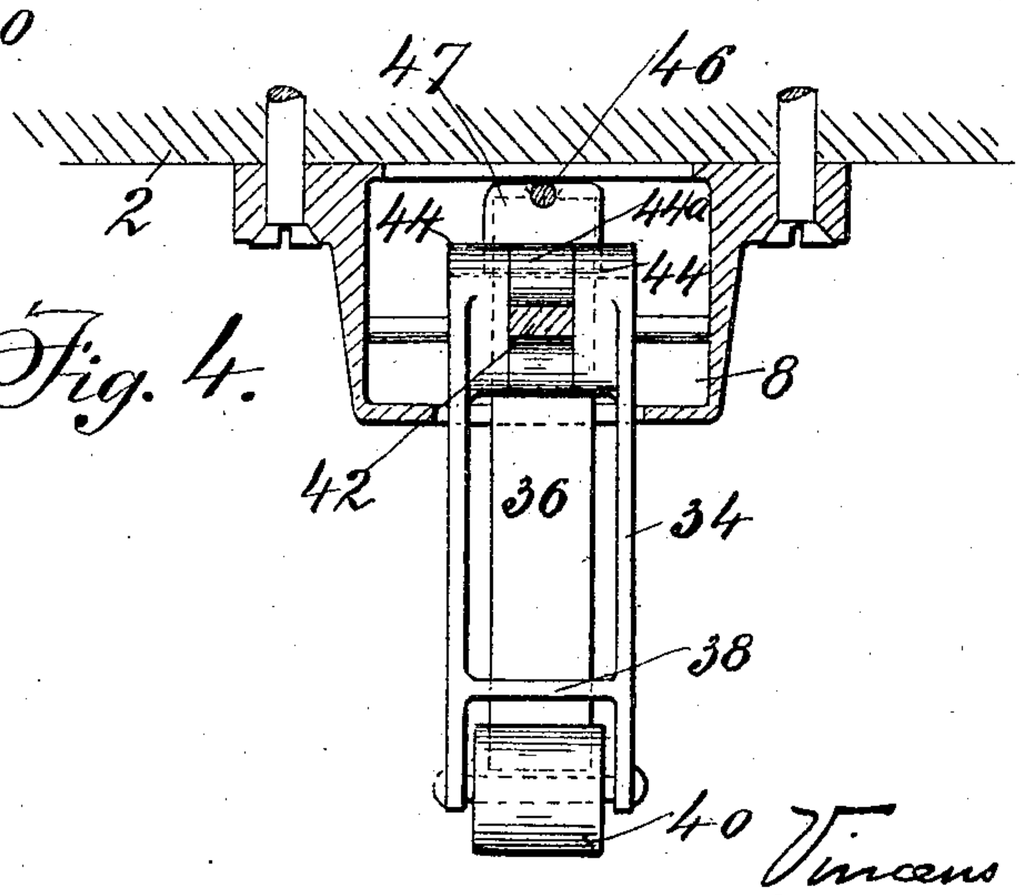


Fig. 5.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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SAFETY DOOR CHECK AND LOCK.

No. 878,056. Specification of Letters Patent. Patented Feb. 4, 1908.

Application filed September 4, 1907. Serial No. 391,379.

To all whom it may concern:

Be it known that we, VINCENS FRANCEK and JOHANN DYTRYCH, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Safety Door Checks and Locks, of which the following is a specification.

This invention is a safety door check and lock, of that class having a device which will prevent the door being opened beyond a certain limit except when manipulated by a person inside the door.

The invention includes means whereby the check may be locked, and also whereby it may be unlocked and thrown off from the outside, so that the device has the functions both of a stop or check and a lock.

The invention is illustrated in the accompanying drawings, in which,

Figure 1 is a front elevation of the device, parts being thrown away. Fig. 2 is a section on the line 2—2 of Fig. 1 with the door closed. Fig. 3 is a section on the same line with the door partly open. Figs. 4 and 5 are details in section.

The door frame is indicated at 1 and the door at 2, and the bracket 3 to which the check arm is pivoted is screwed to the frame, being seated in a recess in the frame so that the tail 13 of the detent 14 will enter or be held between the edge of the door and the door frame, when the door is closed, as shown at Fig. 1.

The check arm 18 is pivoted by the pin 17 between the ears of the bracket 3, and said arm is normally swung in toward the door by means of the flat spring 19 which is fastened to and coiled at one end around the pin 17 and bears at its other end on the back of the arm 18, as indicated at 20. The spring is seated or located between the knuckles 18^a at the end of the arm 18. These said knuckles are notched as indicated at 25 and 26, to receive the head of the detent 14, under certain conditions. A flat spring 22 properly fixed in the bracket 3 tends to press or turn the detent 14 so that its head or front end will engage in said notches, this engagement occurring when the door is opened, as shown in Fig. 3. When the door is closed the edge of the door strikes the tail of the detent and releases the same, allowing the arm 18 to swing to a closed position. When the arm is in operative position, and the door is opened, the detent engages in the notch 25. When the arm is not to be used, it may be swung back to inoperative position, as shown in dotted lines in Fig. 3, and the detent then engages the notch 26, and holds the arm in said position as long as the door is open.

The arm 18 is grooved or hollow in section, with its open side toward the door, and at its edges has ribs 30 projecting inwardly, forming a slot therebetween. The ribs terminate short of the inner end of the arm forming an enlargement or entrance at 28 for the head 31 of the link 27, the head being wider than the slot, so that when moved up beside the ribs 30 the separation of the parts is prevented.

The link 27 is pivoted at 32 to a casing 8 fixed to the door. A spring 33 is coiled around the knuckle or pivot of the link and bears against the link with a tendency to swing said link outwardly and hold the same in engagement with the arm 18. A locking latch or link 34 is also pivoted to the casing 8, by a pin 35, in proper position to engage over the finger 41, at the end of the arm 18, when said arm is swung to closed position, said latch link being normally pressed to engagement by the spring 36. At the outer end of the latch link is a roller 40, for the end of the arm to strike, and when the door closes the curved end of the arm striking said roller causes the latch to swing out and to then snap over the finger 41 at the end of the arm. This prevents the door being opened until said latch is released. Obviously it may be readily released from the inside.

In order to release the check and latch from the outside, the following means are provided: 42 indicates a lever which is pivoted on the pin 35, between the upper and lower sides or forks of the latch link 34, and this lever 42 rests against a heel 43 at the inner end of the link 27. Said lever also has a projection 44 which is located directly beside, or under, a similar projection 44^a at the rear end of the latch 34. 46 indicates a bolt or slide of a lock which is bent out at one end to form a projecting finger 47 which engages the projections 44 and 44^a. Said bolt or slide 46 is normally pressed back by a spring 45, but may be advanced or slid toward the edge of the door by means of a key 48 inserted through a suitable keyhole from the outside.

When so operated by means of the key the finger 47 at the end of the slide 46 will press

against the projections 44 and 44[a] and will swing the latch 34 so as to disengage the striking piece 38 thereof from the finger 41 of the arm 18, thereby releasing said arm and allowing it to swing out. At the same time the lever 42 bearing against the heel 43 will swing the link 27 inwardly, causing the head 31 to pass out through the opening 28, thereby releasing the link from the arm and allowing the door to open freely to any desired extent.

When the key is released the various springs cause the parts to assume their normal position, and when the door is closed the edge thereof strikes the tail of the detent 14 and releases the arm 18, allowing said arm to swing in and engage the latch 34, and by the same motion the head 31 enters through the opening 28 into the hollow of the arm 18. If and when the door is operated from the inside, to prevent its being opened beyond a certain extent, the latch 34 is first released by hand and the door swung open, and when the head 31 reaches the outer end of the hollow in the arm 18 it forms a stop which holds the door and prevents it being opened any farther, as shown in Fig. 3, and it cannot be completely opened until the door is first closed again and the link 27 held while the arm 18 is swung back or out and disengaged therefrom.

To receive the impact of the arm 18 as it swings in when the door is closed I provide a block 50, secured to the door, with a rubber head 51 for the arm to strike.

I claim:—

1. In a door check and lock, the combination of a swinging arm pivoted to the door casing, a latch carried by the door and movable into and out of engagement with the arm and arranged to engage the arm and prevent movement thereof when the door is closed, and key-operated means to release the latch.

2. In a door check and lock, the combination of a swinging arm pivoted to the door casing, a link connected to the door and having a sliding engagement with the arm limited to stop the door when swung partly open, a latch carried by the door and movable to engage the arm when the door is closed, and key operated means to release the latch and disengage the link from the arm.

3. In a door check and lock, the combination of a swinging arm pivoted to the door casing and having a spring tending to swing the same in toward the door, a spring latch pivotally connected to the door and arranged to engage the end of the arm and hold the same when the door is closed and a detent pivoted to the door casing beside the arm and arranged to engage the arm and hold the same in open position while the door is open, the detent having a projection extending into the path of the door and arranged to be struck thereby, to release the detent and allow the arm to swing to closed position and engage the latch, when the door is closed.

4. In a door lock, the combination of a spring-actuated swinging arm pivoted to the door casing, a detent for holding the same, a spring locking latch carried by the door and locking with the arm when the door is closed, and means actuated by closure of the door to release the detent and permit the arm to swing to engagement with the latch.

5. In a door check and lock, the combination of a swinging arm pivoted to the door casing, a link pivoted to the door and engaging with the arm, a spring catch pivoted to the door and engageable with the arm when the door is closed, the link having a projecting heel, a lever pivoted on the door and bearing against said heel and adapted to disengage the link from the arm, said lever and latch having projections, and a key-operated slide having an offset portion bearing against said projections and arranged to release the latch and turn the lever when operated.

In testimony whereof we affix our signatures in presence of two witnesses.

VINCENS FRANCEK.
JOHANN DYTRYCH.

Witnesses:
NELLIE FELTSKOG,
WM. J. ROBINSON.