

G. C. KLEIN.
LINK DOOR CHECK.
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1,029,693.

Patented June 18, 1912.

2 SHEETS—SHEET 1.

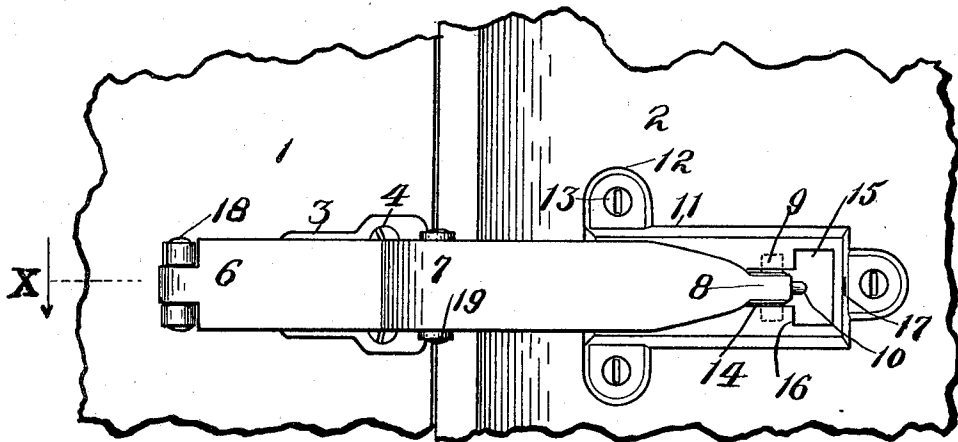


Fig. 1

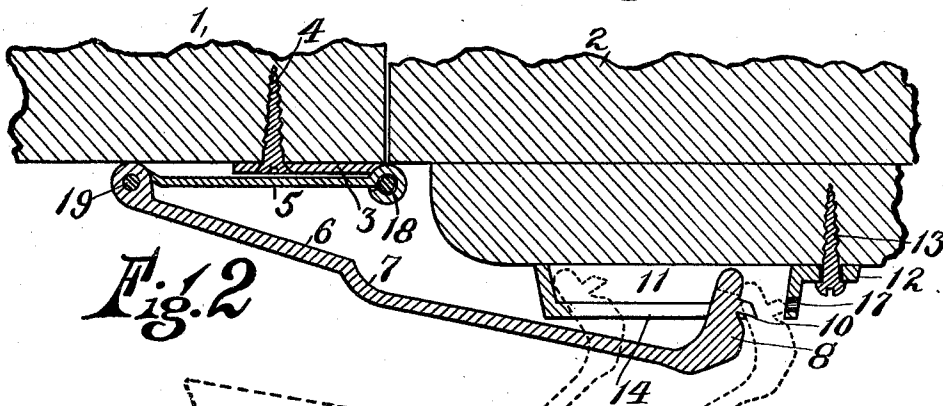


Fig. 2

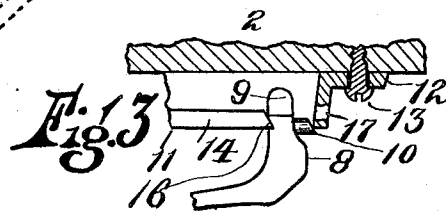


Fig. 3

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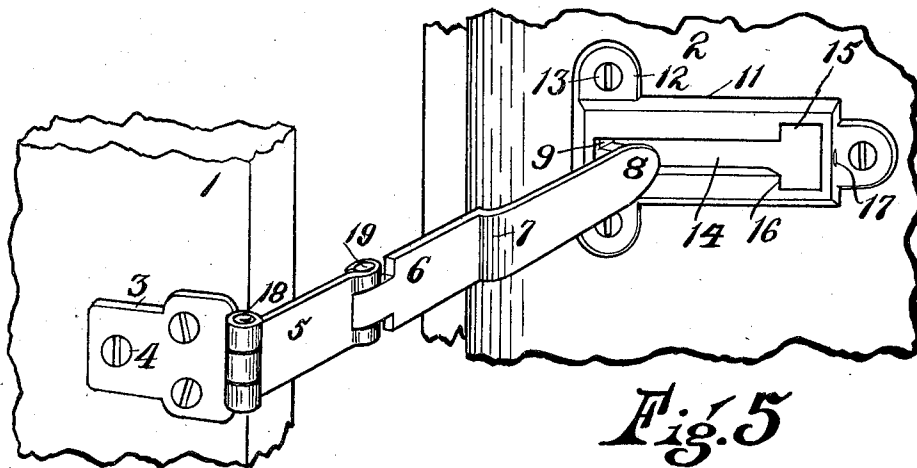
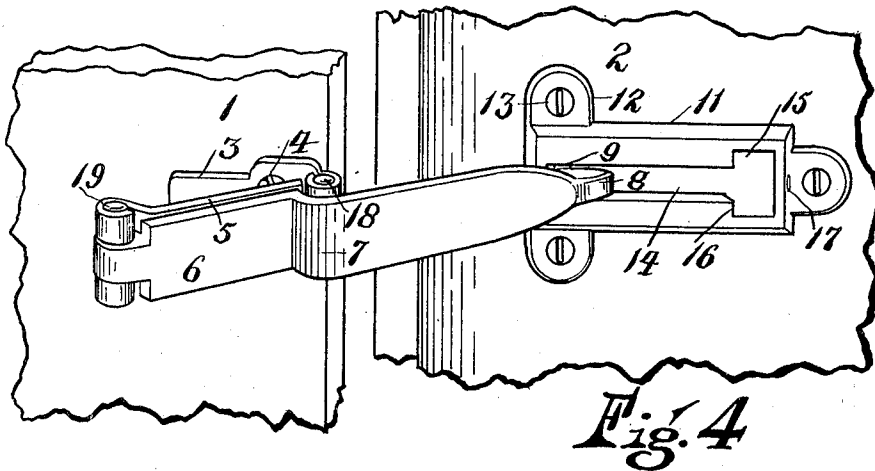
By C. E. Humphrey
ATTORNEY.

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UNITED STATES PATENT OFFICE.

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LINK DOOR-CHECK.

1,029,693.

Specification of Letters Patent.

Patented June 18, 1912.

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To all whom it may concern:

Be it known that I, GEORGE CONRAD KLEIN, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Link Door-Checks, of which the following is a specification.

This invention relates to link door-checks adapted to permit a door to swing to a partially open position and to constitute a lock for preventing further swinging thereof unless the door is moved to its closed position and the lock released.

The object of the invention is to provide means for connecting the free swinging side of the door with a jamb in such a manner that the door may be swung to produce a slight opening when the movement of the door is comparatively gentle and to enlarge the opening or swing the door farther if the latter be moved with a positive jerk or sudden forceful movement. The device serves to limit the movement of the door and can only be released so as to permit the swinging of the door into its open position when the locking device has been released or moved to its inoperative position, and requiring as a prerequisite thereto a preliminary movement of the door to its closed position to permit the release of the lock.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of parts constituting the invention to be hereinafter specifically described and illustrated in the accompanying drawings which form a part hereof wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings in which similar reference numerals indicate like parts in the different figures, Figure 1, is a view in side elevation of a device embodying this invention shown in operative relation with respect to a door and jamb; Fig. 2, is a horizontal section approximately on line X of Fig. 1; Fig. 3, is a detail showing the position which the arm must assume when being inserted in the hasp or keeper; Fig. 4, is a perspective view of the device shown in Fig. 1 showing the door swung to its partially open position; and, Fig. 5, is a view

similar to Fig. 4 showing the door moved to a more open position.

Referring to the drawings in detail the reference numeral 1 denotes a swinging member such as a door, window or similar device and 2 is a jamb or casing adjacent to the door to which it is desired to secure the door for the purpose of limiting the movement thereof. Secured to the door adjacent to the free swinging edge thereof is a member 3 secured to the door by hold-fast devices such as screws or bolts 4 and carrying a pivot-bolt 18.

Pivotally mounted on the member 3 is a short arm 5 free to swing on said member and with its axis of revolution substantially coincident with the plane of the free swinging face of the door. Pivotally secured to the free end of the arm 5 by a pivot bolt 19 or otherwise is a link 6 with an off-set portion 7 preferably formed in an arc of which the axis of the bolt 18 is the center. The free end of the link 6 is provided with a laterally-bent head 8 terminating in transversely-extending lugs 9 to form in association with the end of the link a T-shaped head. The head portion 8 is bent inwardly toward the jamb 2 approximately at right angles to the off-set portion 7 of the link and is provided with a forwardly-extending truncated lug 10. It will be pointed out that when the parts are in the position shown in dotted lines in Fig. 2 the axis of the bolt 18 is out of alinement with a line between the pivot-bolt 19 and the lugs 9 on the T-shaped head for a purpose to be later described.

Mounted on the jamb 2 is the complementary member 11 of the device comprising a hollow body portion provided with apertured ears 12 through which may be passed hold-fast devices 13 for securing the complementary member in position. The upper wall of the body of the member 11 is provided with a horizontally-extending slot 14 arranged in substantially the same plane as the longitudinal center of the link 6 and extending approximately parallel thereto. The end of the slot which is the more remote from the door, is provided with a pair of notches 15 communicating with the slot for forming a T-shaped opening. The inner walls of the notches 15, designated by the reference numeral 16, are preferably beveled for a purpose to be later described, and the T-shaped opening is only slightly larger

than the T head of the link 16. The end wall of the complementary member 11 and opposite to the T-shaped opening therein is provided with an aperture 17 communicating with the interior of the body-portion.

In using this device the door is first shifted to its closed position and the T head of the link 6 is passed into the T-shaped portion of the slot, in doing which it is necessary to swing the arm 5 slightly away from the face of the door to bring the head and opening into registration after which when the arm 5 is returned to the position shown in the full lines in Fig. 2 and in Fig. 1 the lugs 9 in the end of the link will interlock behind the wall of the slotted portion of the complementary member and assume the position substantially shown in Fig. 1 which prevents the T head of the link from becoming accidentally removed without first swinging the arm 5 and the link on the bolt 18 to bring the T head of the link again into registration with the enlarged portion of the T-shaped slot in the complementary member and if this revolution of the arm 5 and link 6 is carried beyond a point which will cause the T head of the link to register with the opening the lug 10 will pass into the aperture 17 and prevent the disengagement of the link from the complementary member, that is to say, the T head of the link must be in perfect alinement with the enlarged portion of the opening in the complementary member or the parts cannot be disengaged. It will be pointed out that in inserting the T head into the T-shaped opening in the complementary member that it can only be done by imparting to the link 6 a slight longitudinal shifting movement so that as the inclined face of the lug 10 rides over the outer end wall of the complementary member the lugs 9 will travel over the inclined or beveled surface 16 to permit the insertion of the T head into the complementary member. The space between the wall 16 and the opposite wall of the openings 15 being just sufficient to permit the head to be inserted by giving the same a slight shifting movement and preventing the direct insertion of the head into the opening and of course, thereby preventing the direct removal of the T head therefrom unless during the removal of the head a slight shifting movement longitudinal of the link is imparted to the latter to cause the end of the lug 10 to clear the aperture 17 and yet permit the withdrawal of the T head from the slot.

If it is desired to swing the door to provide a small opening, the door is gently opened and its swinging will be arrested by the engagement of the T head of the link with the end of the slot which is nearest the door and the parts assume the position substantially as shown in Fig. 4, that is to say,

the portion of the member 3 which contains the pivot-bolt 18 will be positioned in the offset 7 of the link 6 which prevents the door being swung to a more open position by reason of the fact that the pin-holding portion of the member 3 engages the link which latter constitutes an abutment for the same to prevent the further shifting of the door unless the member 5 be swung on its pivot-bolt 18 outwardly away from the door 1 and this movement of the arm 5 when the parts are in the position shown in Fig. 4, is prevented by the fact that the pin 18 is moved past a line drawn between the center of the bolt 19 and the point where the T-head of the link 7 engages the complementary member 11 and consequently the result of the effort to shift the door to a more open position would be to move the pivot-bolt 19 inwardly toward the door 1 instead of swinging the arm 5 away from the door. If it is desired to swing the door to its extreme open position it is first closed and then swung open quickly and with a slight jerk sufficient to cause a sharp impact of the pin-carrying portion of the member 3 with the shoulder on the link formed adjacent to the offset portion 7 and if this impact is of sufficient force the result will be a free swinging of the arm 5 on its pivot-bolt 18 outwardly into a position to hold the link 7 away from the door a sufficient distance to prevent the seating of the pin carrying portion of the member 3 within the offset portion 7 and the parts will then be in the position shown in Fig. 5.

I claim:

1. The combination with a swinging element and a fixed element such as a door and its jamb, of a link pivotally connected with one of said elements, and provided with a T-shaped head, a complementary member mounted on the other of said elements and provided with a T-shaped opening, and cooperating means embodying a lug carried by one of said parts adapted to engage in a suitable opening in the other part for preventing the engagement and disengagement of said parts unless they are in approximate parallelism and one of said members is longitudinally shifted with respect to the other during the operation.

2. The combination with a swinging element and a fixed element such as a door and its jamb, of a member secured to one of said elements, provided with a pin-carrying portion, a pivot-pin carried by said member, a swinging arm mounted on said pin, a pivot-pin carried at the opposite end of said arm, a link mounted on said second pivot-pin and provided at its opposite end with a T-shaped head, said link further provided intermediate its ends with an offset portion arranged to receive the pin-carrying portion of said first member, a complementary mem-

ber mounted on the other of said elements
and provided with a T-shaped opening
adapted to receive the T-head of said link,
said arm and link arranged to co-act when
5 said door is swung to its initial position to
receive the pin-carrying portion of said first
member in said offset and beyond a line
drawn between said second pivot-pin and
the T-head of said link whereby the offset
10 portion of said link constitutes an abutment
for preventing further opening of said
door, said mechanism adapted to permit the

shifting of said door to a more open posi-
tion when the pin-carrying portion of said
first member is not seated in the offset in 15
said link.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

GEORGE C. KLEIN.

Witnesses:

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A. L. McCLINTOCK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."