

No. 711,598.

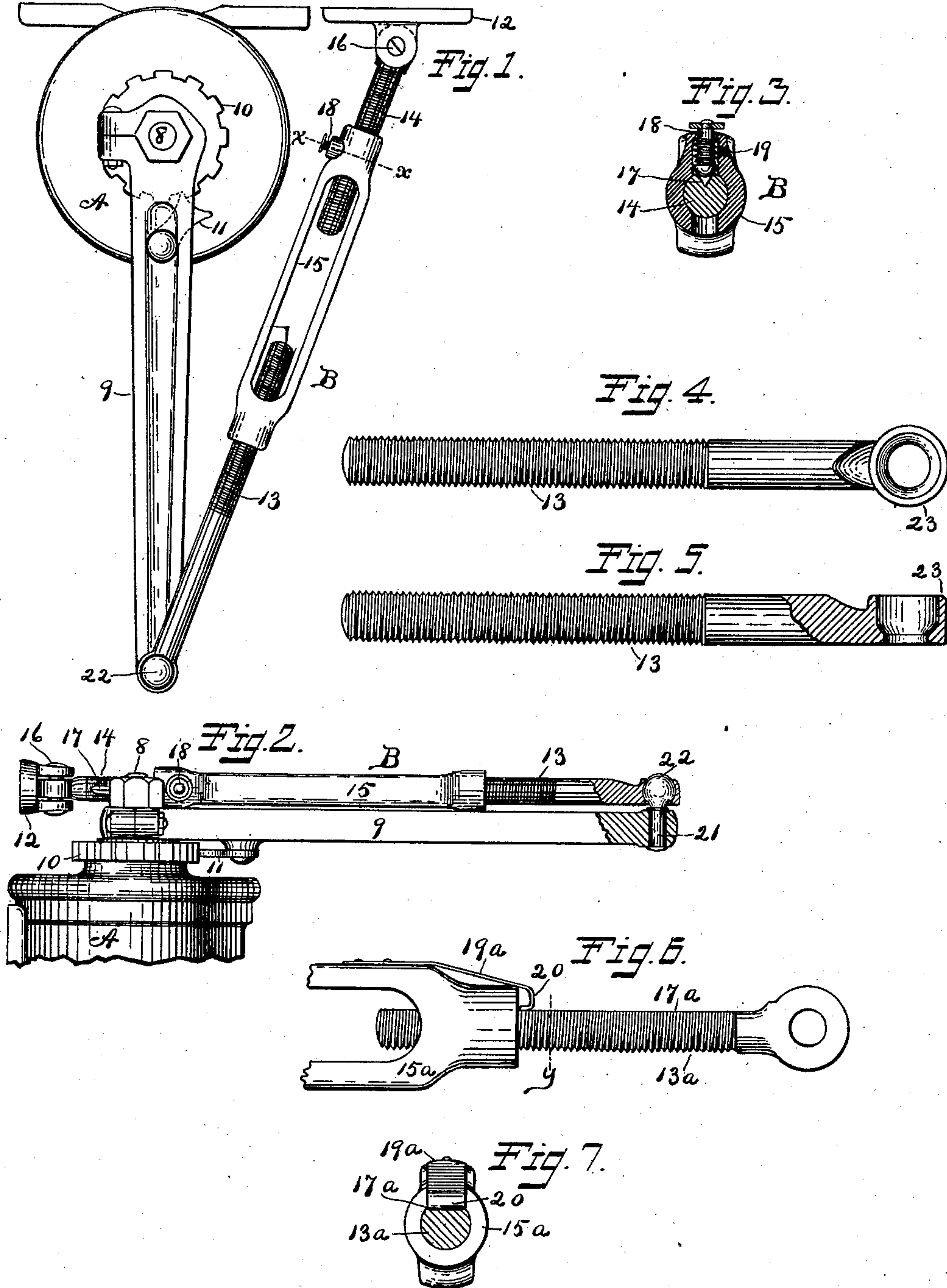
Patented Oct. 21, 1902.

H. G. VOIGHT & H. K. JONES.

DOOR CHECK.

(Application filed Feb. 28, 1902.)

(No Model.)



Witnesses.

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UNITED STATES PATENT OFFICE.

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DOOR-CHECK.

SPECIFICATION forming part of Letters Patent No. 711,598, dated October 21, 1902.

Application filed February 28, 1902. Serial No. 96,087. (No model.)

To all whom it may concern:

Be it known that we, HENRY G. VOIGHT, of New Britain, and HORACE K. JONES, of Hartford, in the county of Hartford and State of Connecticut, citizens of the United States, have invented certain new and useful Improvements in Door-Checks, of which the following is a specification.

Our invention relates to improvements in door-checks; and the objects of our invention are simplicity and economy in construction and convenience and efficiency in operation.

In the accompanying drawings, Figure 1 is a plan view of our door-check. Fig. 2 is a side elevation of the upper part of our door-check with a portion thereof in vertical section. Fig. 3 is an enlarged sectional view of a portion thereof on the line *x x* of Fig. 1. Fig. 4 is a detached plan view of the screw-eye of the adjustable link or lever for being secured to the outer end of the lever-arm. Fig. 5 is a sectional side elevation of the same. Fig. 6 is a plan view of the other screw-eye and part of the turnbuckle of the adjusting-link in a modified form; and Fig. 7 is a sectional view of the same on the line *y*, Fig. 6.

A designates the case, which may be of any ordinary form and having projecting from its upper end the shaft 8, to which the lever-arm 9 is secured in any proper manner. As shown, there is a sleeve 10 surrounding this shaft, to which sleeve the inner end of the spring (not shown) is secured, the said arm being connected with the said sleeve by means of the pawl 11, which may be changed for different-handed doors. As illustrated in Fig. 1, the hinge of the door is on the left-hand side of the check. The outer end of the lever-arm 9 is connected with the casing by means of the adjustable link B and its bracket 12. This link consists of two screw-eyes 13 and 14, a turnbuckle 15, and a self-acting fastening device that permits the turnbuckle to be readily turned while connected to the door and to fasten the turnbuckle against accidental displacement. As in other turnbuckles, one end is provided with a left-hand thread and the other with a right-hand thread, and the body of the screw-eyes are corre-

spondingly threaded. In Figs. 1 to 5, inclusive, the left-hand screw-eye 13 is connected with the lever-arm 9, while the right-hand screw-eye 14 is connected to the bracket 12 by a screw or pin 16. The body of the screw-eye 14 is provided with a longitudinal groove 17, preferably having slanting sides, and in the hub of the turnbuckle is a sliding pin 18, with a rounded end that sets into the said groove, as shown in Fig. 3. This sliding pin is forced inwardly into the said groove by means of the spring 19, Fig. 3. After the parts have been connected to the door if the adjustable link B is not of the proper length the turnbuckle 15 can be readily turned by hand without disturbing or taking down the connections, and thus readily bring the link to the proper length. The spring-pin readily yields upon the application of a little force and moves endwise out of the groove to permit the turnbuckle to revolve and snaps in again to hold the turnbuckle against accidental displacement as the groove next comes opposite the end of the said pin. The buckle should be stopped in its revolution with the pin in the groove; but whatever position the turnbuckle may be left in it will never revolve more than one revolution before it will be fastened in place by the self-fastening spring-pin.

In Figs. 6 and 7 we have shown the self-fastening device in a modified form and acting upon the screw-eye 13^a, having the left-hand thread. It is immaterial upon which one of the screw-eyes the self-fastening device is placed. Instead of a groove the body of the screw-eye 13^a is slabbed off on one side to make a longitudinal and flat spring-seat 17^a. On the turnbuckle 15^a is a spring 19^a, with a bent end 20, that bears upon the spring-seat 17^a. The operation is the same as that before described for the spring-pin.

The next part of our improvement relates to the ball-and-socket connection of the lever-arm 9 with the link B. We perforate the outer end of the lever-arm and secure within the said perforation the shouldered pin 21, having at its projecting upper end the ball-shaped knob 22. The hub or head of the screw-eye 13 is first made with a bore of a di-

ameter at its upper and larger part large
 enough to receive the ball-shaped head 22 of
 the pin 21, while it is contracted at its lower
 part to a size that the said ball-shaped head
 5 cannot pass through. The upper side of the
 eye is provided with a thin annular portion
 23, surrounding the opening therein, as shown
 in Figs. 4 and 5. To secure the parts to-
 gether, the body of the pin 21 is passed through
 10 the opening in the head of the screw-eye 13 and
 then into the hole in the end of the lever-arm
 9, where it is rigidly secured by riveting the
 lower end. The parts are all placed in a
 suitable die or holder, and the annular por-
 15 tion 23 is turned in to close it upon the ball-
 shaped end 22, changing the hub of the screw-
 eye 13 from the form shown in Figs. 4 and 5
 to that shown in Fig. 2. In use the link B
 swings on the ball-shaped head 22 as the pivot
 20 of the two ends of the said link and lever-arm
 when the door is opened and closed, while at
 the same time the headed pin and hub of the
 screw-eye form a ball-and-socket joint to ac-
 commodate the link B to a position out of
 25 parallel to the lever-arm 9, such as it may
 have by placing the bracket 12 higher or
 lower or by reason of any different elevations
 that the check may have on the door.

It is apparent that some changes from the
 30 specific construction herein disclosed may be
 made, and therefore we do not wish to be
 understood as limiting ourselves to the pre-
 cise form of construction shown and de-
 scribed, but desire the liberty to make such
 35 changes in working our invention as may
 fairly come within the spirit and scope of the
 same.

We claim as our invention—

1. The combination of a door-check case,

with the lever-arm mounted thereon, the 40
 screw-eyes and turnbuckle forming the ad-
 justable link pivoted by one end to the said
 lever-arm and by their other end to a bracket,
 and a self-fastening device for securing the
 turnbuckle against accidental displacement, 45
 but permitting it to turn readily when the
 parts are connected, substantially as de-
 scribed.

2. In a door-check, the lever-arm 9 having
 a bore for a pin through its outer end, the pin 50
 21 having the ball-shaped knob 22 at its up-
 per end with a shoulder just below the base
 of the said knob, and the link having the up-
 per and largest part of the bore of its hub at
 one end first made large enough to receive 55
 the said ball-shaped knob by passing the pin
 longitudinally therein, the said bore of the
 hub of the link being contracted at its lower
 part to a size that the said ball-shaped head
 cannot pass through, the upper face of the 60
 said hub having a thin annular portion 23
 surrounding the bore therein, the said pin
 being inserted longitudinally into the bores
 of the link and crank-arm with the shoulder
 of the said pin resting on the top of the crank- 65
 arm and its lower end riveted in place, the
 annular portion that surrounds the bore at the
 upper side of the crank-arm being contract-
 ed and turned over the upper end of the
 ball-shaped knob to prevent the confronting 70
 faces of the link and arm from coming in
 contact with each other, substantially as de-
 scribed.

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Witnesses:

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