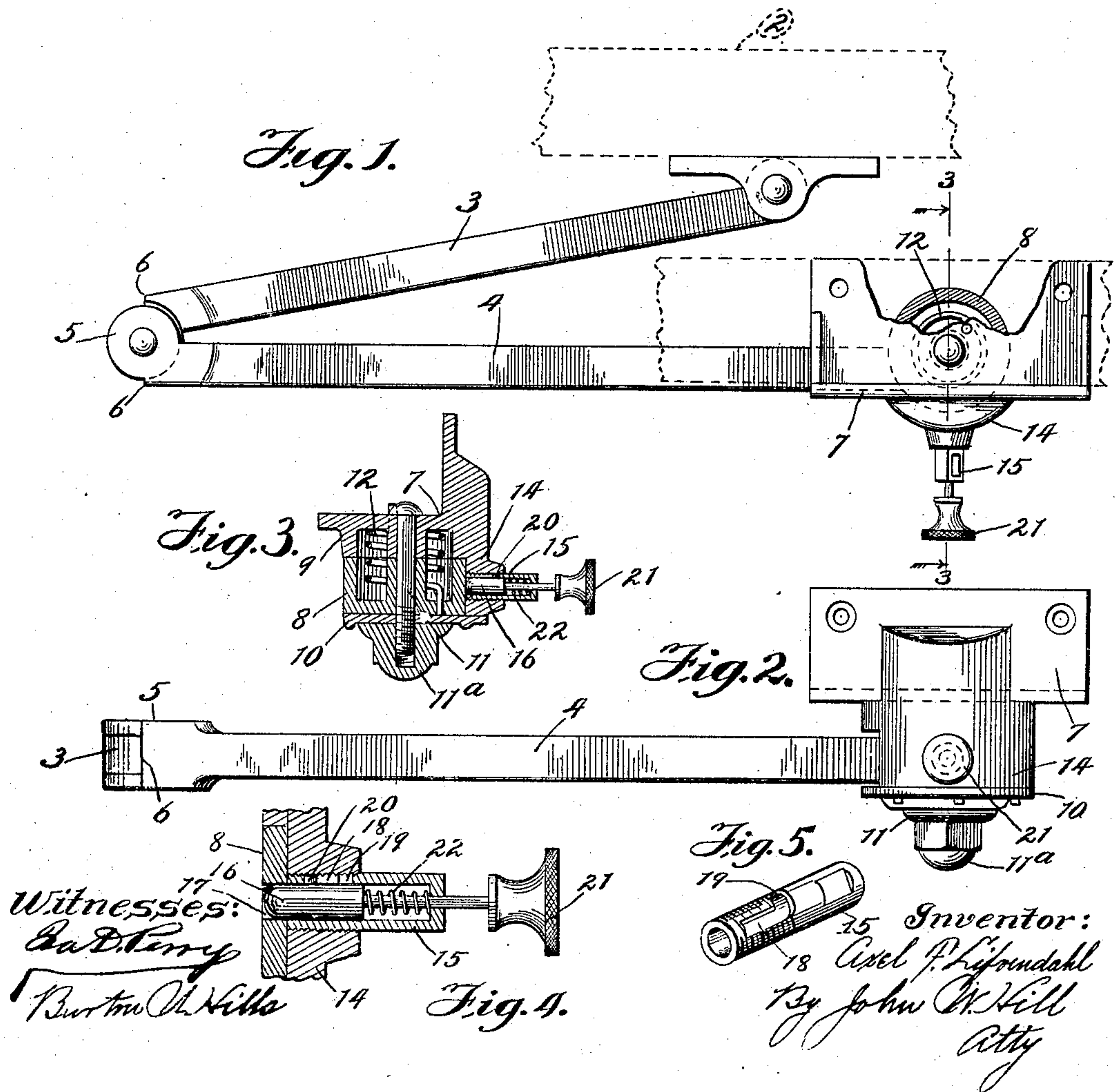


No. 819,356.

PATENTED MAY 1, 1906.

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DOOR STOP AND HOLDER.  
APPLICATION FILED SEPT. 6, 1904.

2 SHEETS—SHEET 1.

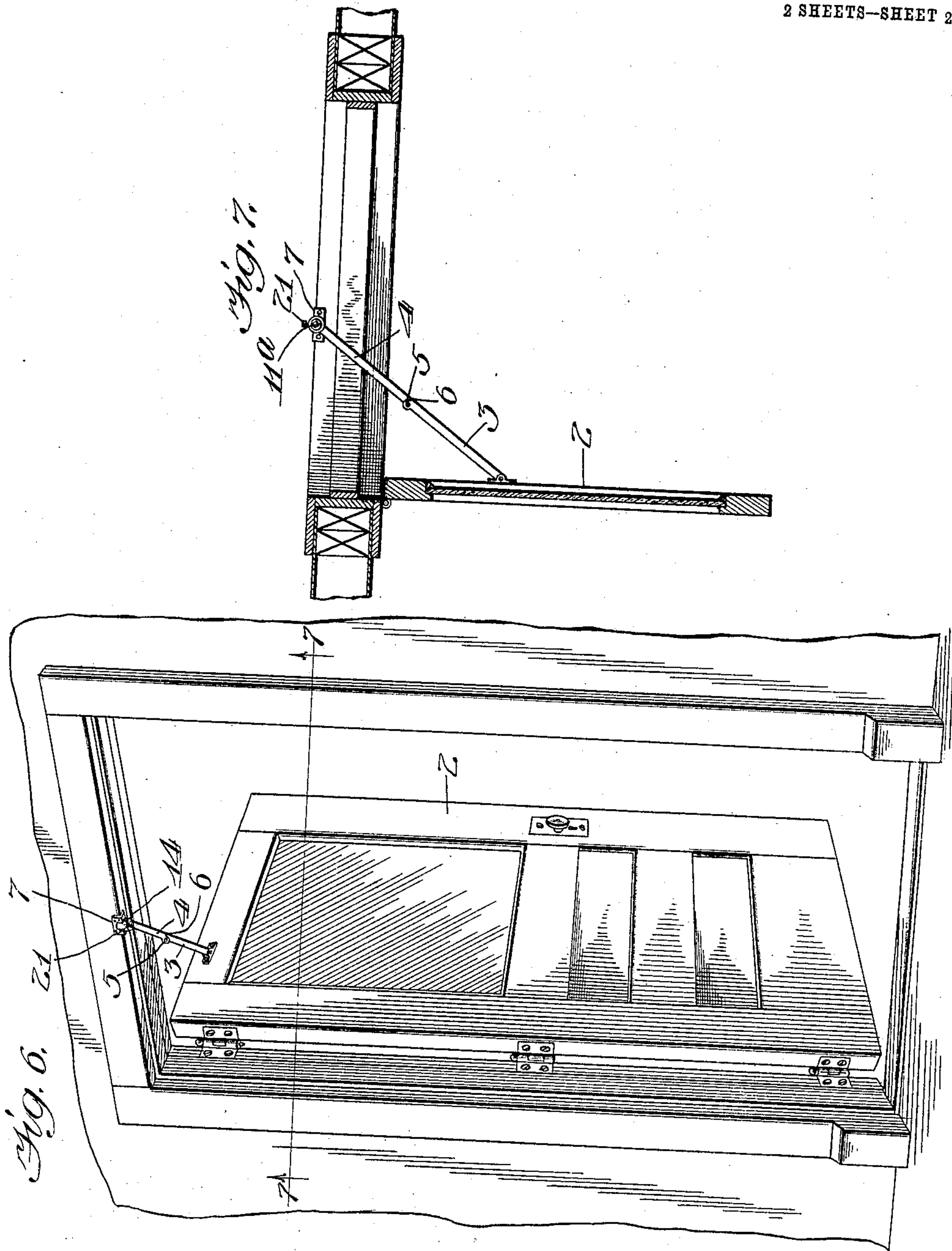


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2 SHEETS—SHEET 2.



Witnesses:  
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J. B. Weir

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By John W. Hill  
Atty



# UNITED STATES PATENT OFFICE.

AXEL F. LIFVENDAHL, OF CHICAGO, ILLINOIS.

## DOOR STOP AND HOLDER.

No. 819,356.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed September 6, 1904. Serial No. 223,358.

*To all whom it may concern:*

Be it known that I, AXEL F. LIFVENDAHL, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improved Door Stop and Holder, of which the following is a description.

My invention relates to means for preventing a hinged or pivoted door from being opened beyond a certain fixed point in combination with means for holding the door open to that fixed point when desired.

The object of my invention is to produce a device of the kind described simple and effective in construction and operation and capable of withstanding the rough treatment such a device is subjected to in general service, and in which the adjustment required when the device is to be employed as a door-holder may be made by a simple movement of a part or parts of the device which will cause it to operate to hold the door open when next the door is opened to its limit of movement.

A further object is to provide a device neat and attractive in appearance and one which will not mar the adjacent woodwork or glass nor form a permanent obstruction upon the floor or walk and firmly hold the door open when employed for that purpose.

To this end my invention consists in the novel construction, arrangement, and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the accompanying drawings, wherein like or similar reference characters indicate like or corresponding parts, Figure 1 is a plan view of my device with a portion broken away to more clearly show the construction. Fig. 2 is an elevation of my device. Fig. 3 is a section taken substantially on line 3 3 of Fig. 1. Fig. 4 is an enlarged section of the locking portion. Fig. 5 is an enlarged perspective view of a detail. Fig. 6 is a perspective view of a door and its frame with my device in operative position when the door is open. Fig. 7 is a section taken substantially on line 7 7 of Fig. 6.

In the preferred form of my device shown in the drawings, 1 is a bracket adapted to be attached to the upper end of a door 2 in any preferred manner. The arms 3 and 4 are hinged together at 5, and each arm at the hinge may be provided with a shoulder 6 6, so arranged as to abut to prevent the adja-

cent ends of the arms moving to any extent beyond the center line when the device is operated very rapidly. The free end of the arm 3 is suitably formed to engage with the bracket 1 to form a hinged connection and thereby attach the arm to the door, while the free end of the arm 4 is formed to be engaged with a head 7 to attach that arm to the head-casing or other convenient parts of the door-frame.

In the construction shown in the drawings a circular portion 8 is formed upon the end of the arm 4, adapted to be held between the parts 9 and 10 of the head 7 by the bolt 11 passing centrally through the part 8 and arranged to hold the parts 9 and 10 in suitable relation therewith by means of the nut 11<sup>a</sup>. Preferably an annular recess is formed in the adjacent faces of the parts 8 and 9 and a helical spring 12 arranged within this recess with its ends engaged, respectively, with the parts 8 and 9 in such positions that when the device is in position upon a door the spring 12 tends to normally hold the arm 4 in the position shown in Fig. 1 or in the position they occupy when the door is closed. In this specification where I refer to the arms as "closed" it is to be understood as indicating the above-described position. To strengthen my device and prevent the bolt 11 from bending, I provide a semicylindrical flange 14 upon the head 7 and secure the part 10 to this flange against lateral movement by suitable pins or screws. The flange 14 also serves as a convenient means for supporting the sleeve 15, containing a spring-actuated pin 16, arranged to engage a suitable recess 17 in the periphery of the part 8 when my device is to be employed to hold the door open. Preferably on one side of the sleeve 15 I provide a longitudinal slot 18, with a short lateral extension 19 at its outer end, and arrange a stud 20 upon the pin 16 and projecting into the slot. When it is desired to use my device as a door-stop only, the pin 16 is drawn outward by means of a suitable knob 21 until the end of the pin clears the opening in the part 8 and the stud 20 is in position to enter the lateral slot extension 19, when by partially rotating the pin the stud will enter the slot extension and prevent the spring 22, preferably arranged within the outer end of the sleeve 15 and engaging the enlarged head of the pin 16, from returning the same into engagement with the part 8. Preferably when attaching my device to a door it should



be so positioned and arranged that when the pin 16 is in engagement with the recess 17 in the part 8 the center of the hinge 5 will lie in line with the centers of the hinges at the other ends of the arms, thus practically relieving the pin 16 from all strain, except that caused by the tension in the spring 12, regardless of the pressure upon the door tending to close the same.

It is evident that while I have described the preferred form of my device that the construction may be modified in a number of ways without changing its general operation. For example, it is obvious that the spring 12 may be arranged upon the bracket 1 or at the hinge 5, if preferred. The head 7 may also be modified in a variety of ways to better adapt it to particular conditions or cheapen its construction, and in some cases it may be desirable to attach the head 7 to the door and the bracket 1 to the casing or adjacent parts.

What I claim as new, and desire to secure by Letters Patent, is—

1. A device of the kind described, comprising a pair of pivotally-connected arms, each arm provided with means for pivotally attaching its free end to one of two objects united by a hinged connection thereby when said arms are extended limiting the action of said connection, in combination with resilient means tending to normally hold the arms partly closed.

2. A device of the kind described, comprising a pair of pivotally-connected arms, each arm provided with means for pivotally attaching its free end to one of two objects united by means of a hinged connection thereby when said arms are extended limiting the action of said connection, in combination with resilient means tending to normally hold the arms partly closed and a lock adapted when engaged to hold the pivotal connections to said arms in a straight line.

3. A device of the kind described, comprising a pair of pivotally-connected arms each arm provided with means for pivotally attaching its free end to one of two objects united by means of a hinged connection, thereby when said arms are extended limiting the action of said connection, in combination with resilient means tending normally to hold the arms partly closed and locking means adapted to engage one of the pivotal connections of said arms to fixedly maintain the same in a certain position.

4. A device of the kind described, comprising a pair of pivotally-connected arms, each arm provided with means for pivotally attaching its free end to one of two objects united by means of a hinged connection, and adapted to limit the action of said connection, in combination with resilient means tending to normally hold the arms partly closed and a bolt adapted to engage one of the pivotal

connections of said arms to fixedly maintain said arm in a certain position.

5. In a device of the kind described, the pivotally-connected arms one of which is provided with a bracket at its free end adapted to be secured to one of a pair of hinged parts, in combination with a head pivotally carried upon the free end of the other arm and comprising a plate adapted to be secured to the other member of the pivotally-connected pair and provided with intermediate resilient means positioned between the plate and the free end of the arm and when the parts are in place tending to normally hold the arms partly closed.

6. In a device of the kind described, a head comprising a plate adapted to be secured to a movable part, an arm pivotally connected to the plate by a bolt securing the parts in position, in combination with a spring intermediately arranged between the arm and plate and having one end connected to the arm and the other end to the plate.

7. In a device of the kind described, a head comprising a plate adapted to be secured to a movable part and provided with a spring-pocket, in combination with an arm pivotally connected to the head by a bolt centrally positioned in the pocket, a helical spring centrally arranged within the pocket and having one end connected with the arm and the other with the plate and a retaining-plate carried by the bolt and adapted to partially inclose and retain the parts in position.

8. In a device of the kind described, pivotally-connected arms one of which is provided with a bracket at its free end adapted to be secured to one of a pair of hinged parts, in combination with a head pivotally carried upon the free end of the other arm comprising a plate adapted to be secured to the other member of the pivotally-connected pair and provided with intermediate resilient means positioned between the plate and the free end of the arm, tending, when the parts are in place to normally hold the arms partly closed, and locking means adapted when engaged to prevent the closing of said arms.

9. In a device of the kind described, a head comprising a plate adapted to be secured upon a movable part and provided with a recessed chamber, and a spring arranged within said chamber, in combination with an arm resiliently and pivotally connected to said plate by said spring, means for securing the parts in said position, and locking means adapted to engage the pivotal connection of said arm to fixedly maintain the same in a certain position.

10. In a device of the kind described, a head comprising a plate adapted to be secured to a movable part, an arm pivotally connected to the plate by a bolt securing the parts in position, in combination with a spring intermediately arranged between the



arm and plate, having one end connected to the arm and the other end to the plate, and locking means connected to the plate adapted to engage said arm to fixedly maintain the same in a certain position.

11. In a device of the kind described, a head comprising a plate adapted to be secured to a movable part and provided with a spring-pocket, in combination with an arm pivotally connected to the head by a bolt centrally positioned in the pocket, a helical spring centrally arranged within the pocket and having one end connected with the arm

and the other with the plate and a retaining-plate carried by the bolt and adapted to partially inclose and retain the parts in position, and locking means adapted to engage the pivotal connection of said arm to fixedly maintain the same in a certain position.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

AXEL F. LIFVENDAHL.

Witnesses:

BURTON U. HILLS,  
CHARLES I. COBB.