

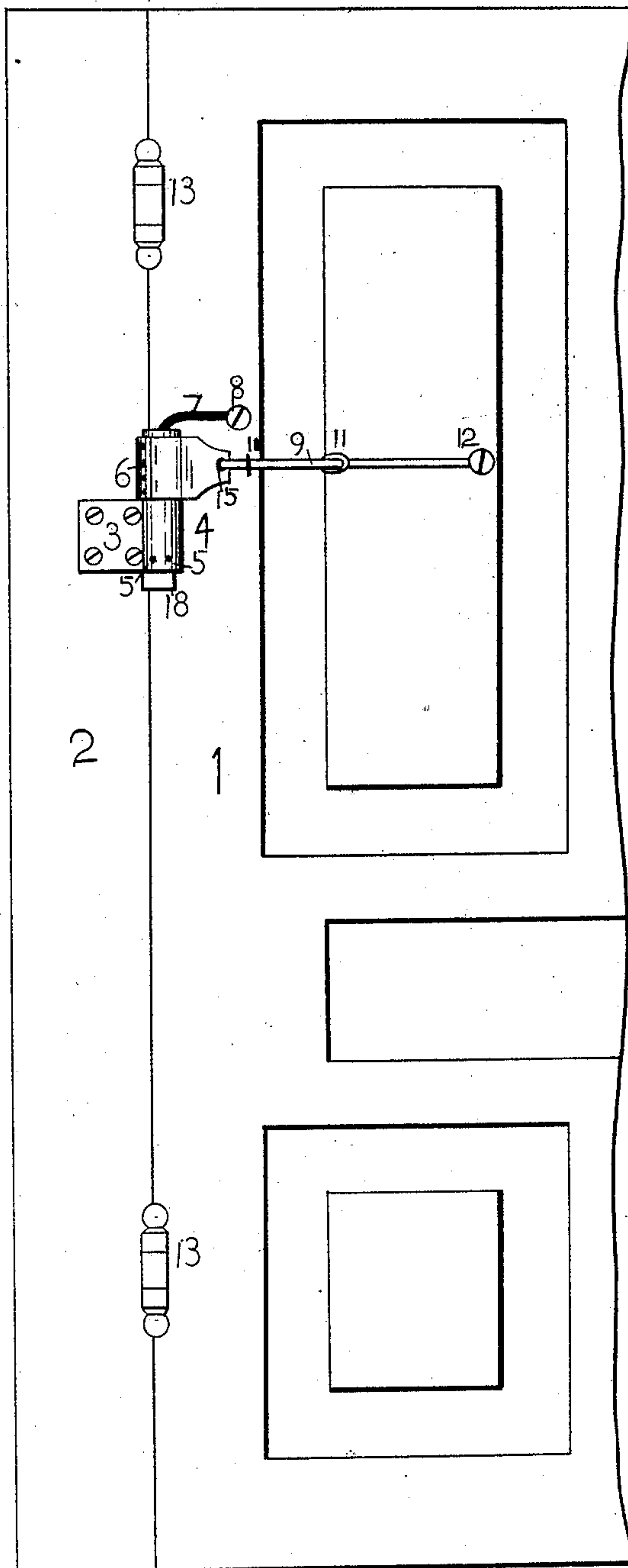
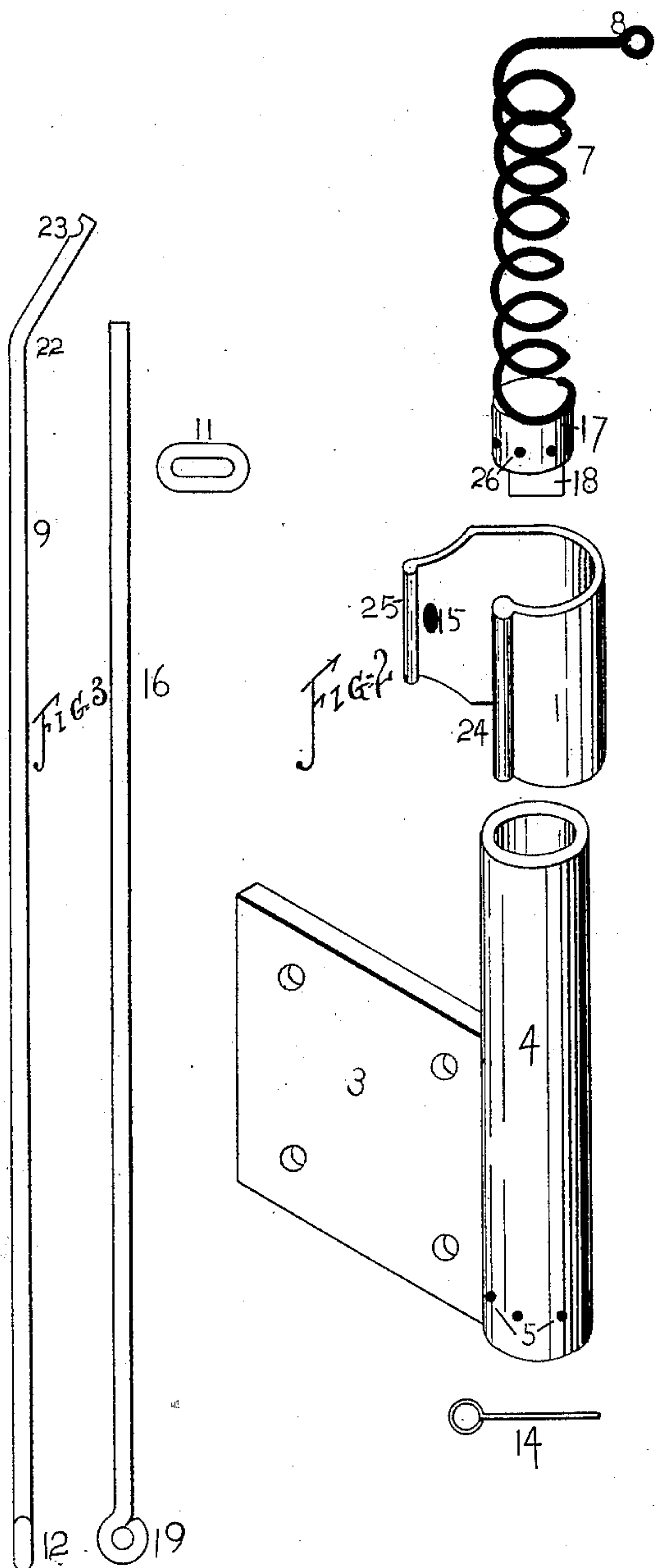
(No Model.)

2 Sheets—Sheet 1.

A. McNICOL.  
DOOR CHECK.

No. 354,336.

Patented Dec. 14, 1886.



Witnesses  
C. H. Mason  
Charles B. Lothrop

Fig. 1 Inventor  
Archibald McNicol  
by Geo. H. Lothrop  
atty

(No Model.)

2 Sheets—Sheet 2.

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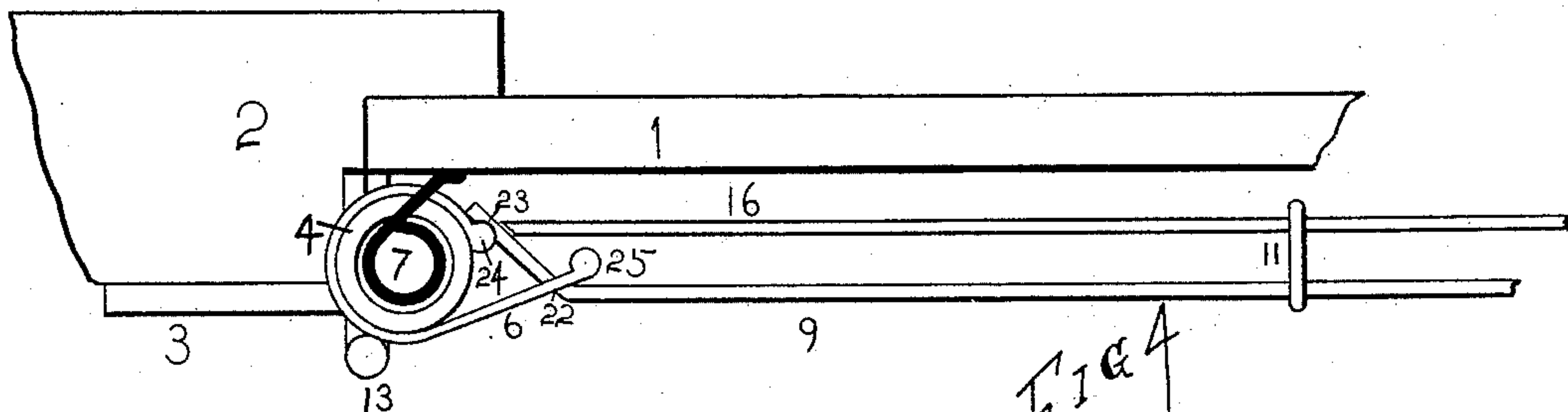


Fig 4

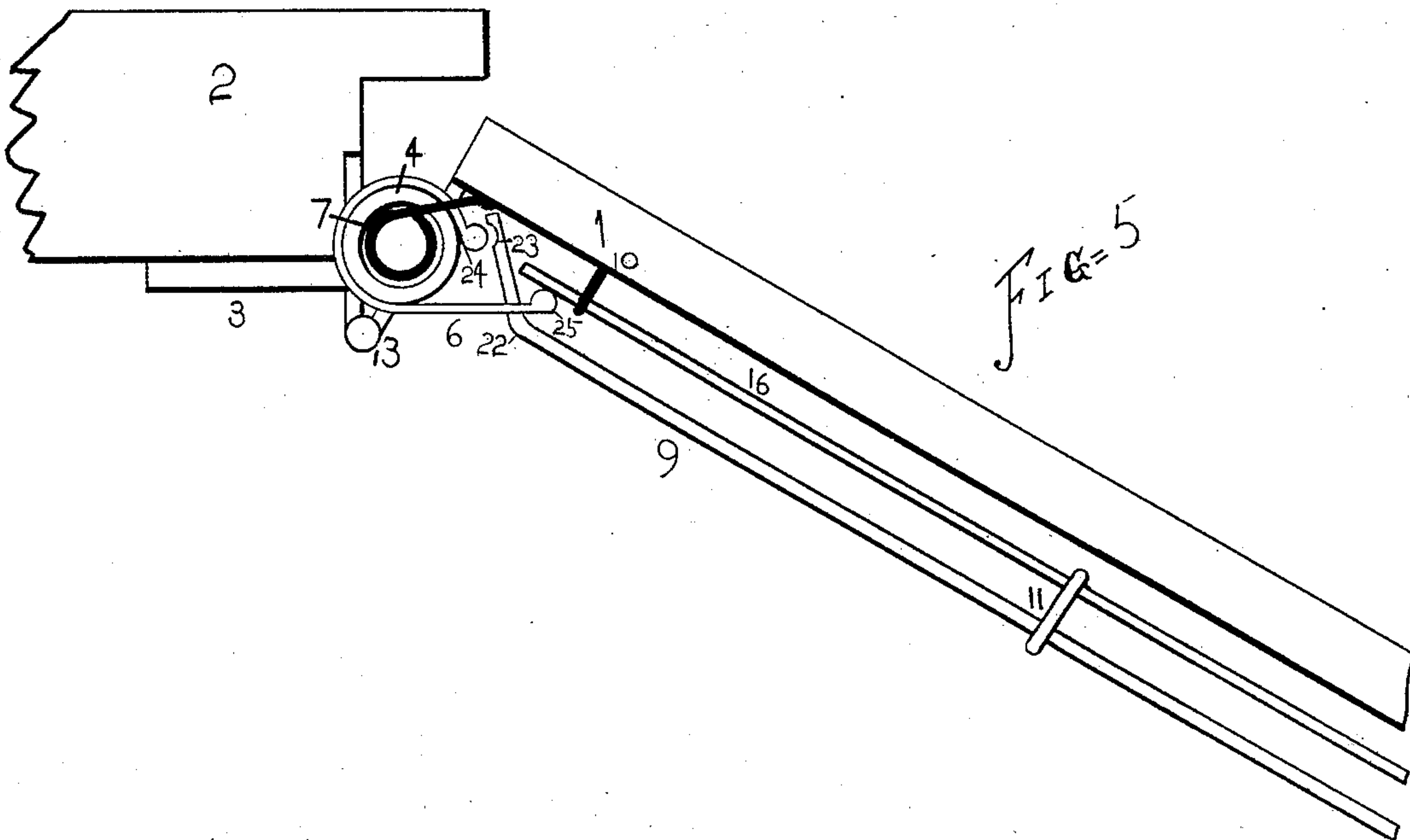


Fig 5

Witnesses  
C. H. Mason,  
Charles B. Lothrop

Inventor  
Archibald McNicol  
by Geo. H. Lothrop,  
att'y.



# UNITED STATES PATENT OFFICE.

ARCHIBALD McNICOL, OF YPSILANTI, MICHIGAN.

## DOOR-CHECK.

SPECIFICATION forming part of Letters Patent No. 354,336, dated December 14, 1886.

Application filed June 4, 1886. Serial No. 204,150. (No model.)

*To all whom it may concern:*

Be it known that I, ARCHIBALD McNICOL, of Ypsilanti, in the county of Washtenaw and State of Michigan, have invented a new and useful Improvement in Door-Checks, of which the following is a specification.

My invention consists in an improved door-check, hereinafter fully described.

Figure 1 is an elevation of part of the door and casing with my invention applied thereto. Fig. 2 is an elevation of two parts of the door-check and a spring adapted to be used therewith separated from each other. Fig. 3 is an elevation of two rods and a connecting-link, which form parts of my invention, separated from each other. Figs. 4 and 5 are plan views of part of the door and casing, showing the door closed and partly opened.

1 represents a door. 2 represents part of a door-casing. 13 13 represent hinges by which the door is hinged to the casing.

4 represents a cylinder, either hollow or solid, which is attached to or formed on the butt 3, which is provided with holes by which it may be secured to the casing.

5 represents holes through the wall of the cylinder 4, which, however, are only used when the cylinder is made hollow.

6 represents a friction-clutch, adapted to work on the upper part of cylinder 4 and formed of a band of sheet metal bent in circular form, so as to loosely embrace cylinder 4, having one edge either turned over or provided with a bead, 24, and preferably having its other edge finished in the same way, as shown at 25, and having therethrough, near the edge 25, a hole, 15. The friction-clutch 6 is so formed that when in position its edge 24 lies close to the cylinder 4, while its edge 25 projects beyond the edge 24, as clearly shown in Figs. 4 and 5. The upper part of the cylinder 4 may be of smooth metal, or may be lined with leather, wood, or any other suitable material.

16 represents a rod adapted to be fastened to the door so that one end will lie between the door and edge 25 of the friction-clutch, and this may be done either by putting ordinary screw-eyes in the door and inserting the rod 16 in said screw-eyes, or by forming eyes 10 19 in rod 16 to receive screws 20.

9 represents a lever, bent near one end, as

shown at 22, and having near its end a notch, 23, to engage with the beaded edge 24 of clutch 6.

11 represents a link adapted to hold rod 16 and lever 9 together, and to be adjusted at any desired point thereon by simply sliding the same.

The operation of this part of my invention is as follows: Butt 3 is screwed to the casing so that the cylinder 4 stands in the pintle line of the hinge, though it is not necessary that it be exactly in this line, and friction-clutch 6 is set over the upper part of cylinder 4, as shown in Figs. 1, 4, and 5. Rod 16, having thereon the link 11, is secured to the door so that its inner end lies under the edge of 25 of friction-clutch 6, and preferably in the same plane with hole 15. The bent end of lever 9 is passed through hole 15 until the notch 23 engages with the beaded edge 24 of friction-clutch 6, and the link 11 is then slipped over the outer end of lever 9. The door is supposed to be provided with a spring to close it. When the door is opened, clutch 6 turns loosely on cylinder 4 as the edge 25 is pushed by the rod 16 in such manner as to open the clutch. When the door begins to close, the rod 16, by means of link 11, exerts a pull on the lever 9, and this draws the edges of clutch 6 toward each other in a manner readily understood by mechanics, and causes clutch 6 to grasp cylinder 4, and thus resist the closing motion of the door. As the friction exerted by clutch 6 on cylinder 4 depends upon the speed with which clutch 6 is revolved around said cylinder, and also upon the power with which the edges of the clutch 6 are drawn together, it is evident that the greater the speed of the door the greater will be the retarding effect of the clutch, so that the device automatically adapts itself to springs of varying power; and it is also evident that the action of the clutch may be increased by sliding link 11 toward the outer end of lever 9, and decreased by sliding link 11 in the opposite direction, so that the device can be easily and quickly adjusted to suit any door, no matter what the power of the spring used thereon. When it is desired to combine the spring with the check, I do so by making the cylinder 4 hollow. Into this cylinder I insert a torsion spring of any known kind, as shown at 7, and secure the lower end of the spring to cylinder 4 by a pin, 14,



which passes through a hole, 5, and into a hole, 17, formed in the spring, or in an attachment to the spring, such as is ordinarily used on gate and door springs.

5 18 represents an extension of the spring below cylinder 4, adapted to receive a wrench to adjust the tension of the spring. The upper end of the spring is carried over and fastened to the door in any known manner, as shown  
10 at 8.

The operation of the spring is so well understood that I do not deem it necessary to here describe it.

What I claim as my invention, and desire  
15 to secure by Letters Patent, is—

1. In combination with a spring-actuated door, a friction-clutch supported by the door-casing, and rods connecting said clutch with the door to retard the closing thereof, substantially as described.  
20

2. In combination with a door, a cylinder secured to the side casing of the door, a friction-clutch mounted on said cylinder, and rods forming a connection between said clutch and

the door, whereby the opening of the door 25 opens the clutch and closing the door closes the clutch, substantially as shown and described.

3. In combination with the door and a friction-clutch mounted upon a support secured to the casing, a pair of rods and an adjustable 30 link forming an adjustable connection between the clutch and the door, substantially as shown and described.

4. A door-check consisting of the cylinder 4, butt 3, friction-clutch 6, rod 16, link 11, and 35 bent lever 9, substantially as shown and described.

5. In combination with a hollow cylinder, 4, and butt 3, a torsion-spring lying within said cylinder, having one end adjustably secured to 40 said cylinder and the other end adapted to be secured to a door, substantially as shown and described.

ARCHIBALD McNICOL.

Witnesses:

CHARLES E. KING,  
DARWIN C. GRIFFEN.