

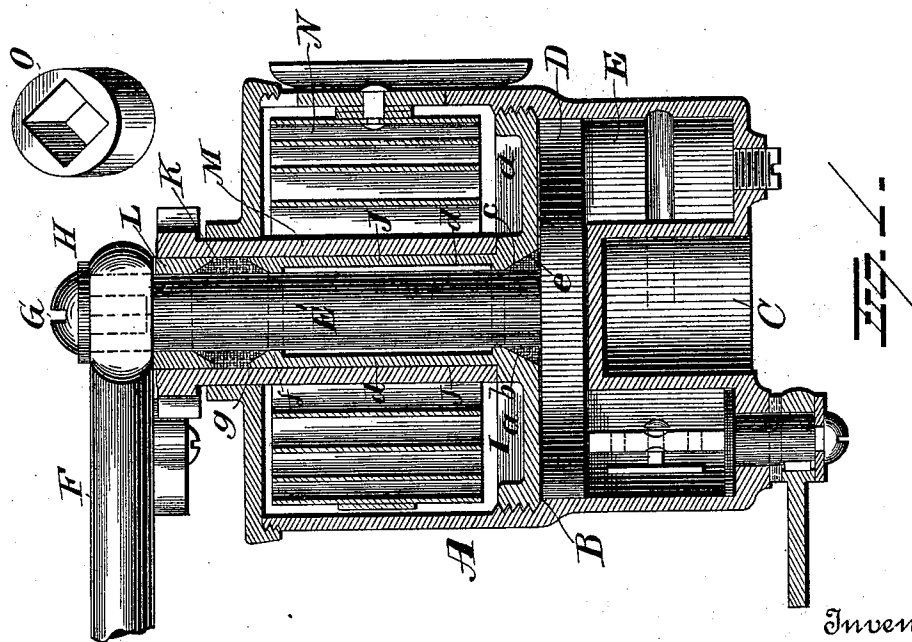
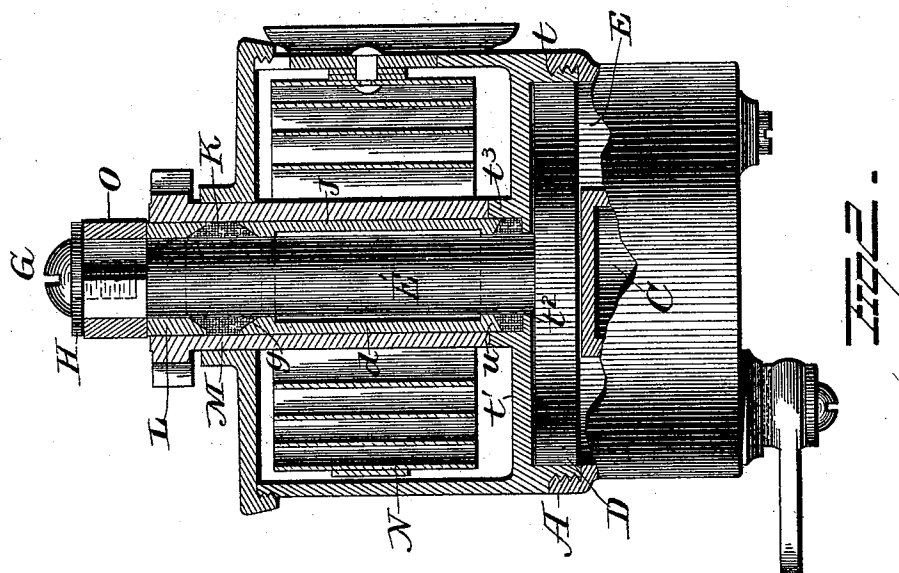
(No Model.)

2 Sheets—Sheet 1.

W. GILFILLAN.  
DOOR CHECK.

No. 497,651.

Patented May 16, 1893.



Witnesses  
*E. Nottingham*  
*G. J. Downing*

Inventor  
*William Gilfillan*  
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Attorney

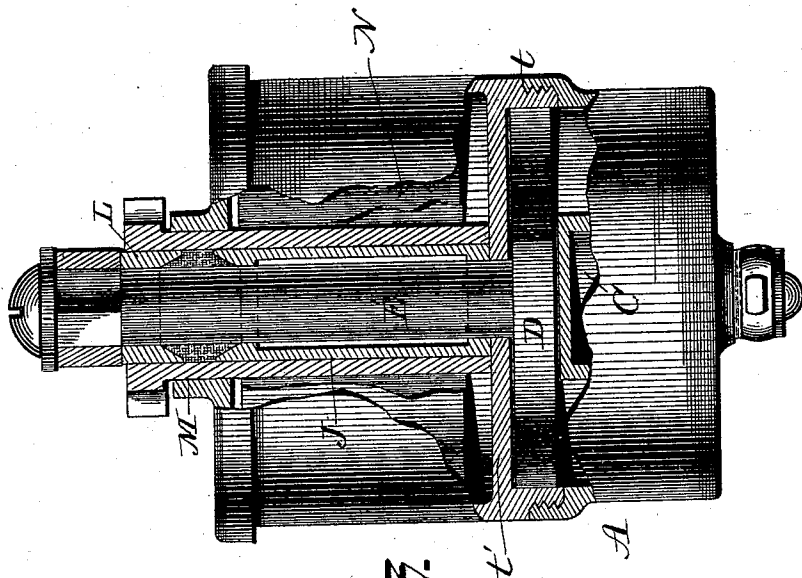
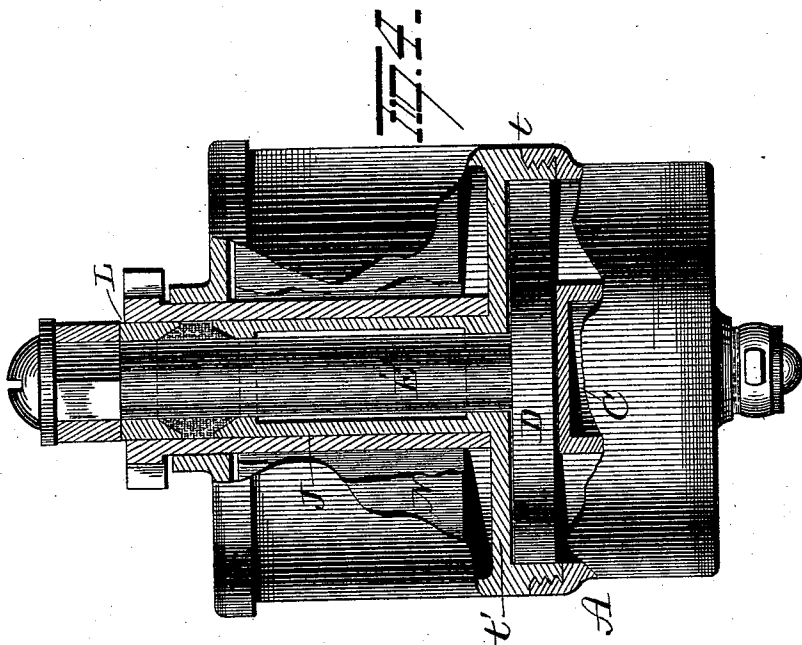
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2 Sheets—Sheet 2.

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# UNITED STATES PATENT OFFICE.

WILLIAM GILFILLAN, OF NEW BRITAIN, CONNECTICUT.

## DOOR-CHECK.

SPECIFICATION forming part of Letters Patent No. 497,651, dated May 16, 1893.

Application filed December 7, 1892. Serial No. 454,374. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM GILFILLAN, of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Door-Checks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in door checks, the object of the invention being to provide such a construction of parts as will prevent any leakage of the checking fluid past the spindle.

With this end in view the invention consists in certain features of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in vertical section of one construction of door check having my invention embodied therein. Figs. 2, 3 and 4 are modifications.

A represents a shell or casing preferably cast in a single piece and provided with a ledge or annular seat B. A dome C is cast integral with the bottom of the casing and forms the inner wall of an annular chamber E the outer wall of which is formed by the casing. The top of the dome is finished to form a smooth flat bearing for the rotary disk D. A spindle E' is secured at its lower end to disk D. The upper end of the spindle is squared to allow of the attachment of the arm or crank F which latter is secured in place by means of the screw G and washer H. Locking cap I is provided on its periphery with screw threads which engage corresponding screw threads formed on the inner wall of the casing above the ledge or annular seat B. The upper surface of the locking cap is constructed with radial ribs *a* with which a suitable wrench or tool may be engaged to screw it down snugly against its seat B. The lower face of the locking cap is provided with a conical seat *b* which encircles the spindle and within which is placed a conical packing ring *c* which latter serves to pack the joint around the spindle. A sleeve J preferably formed integral with the locking cap extends upwardly nearly to the top or cover of the

spring casing and if desired it may project outside of the latter. This sleeve is counter-bored at *d* so that an annular space is formed between the spindle and sleeve which prevents any checking liquid that may escape past the packing ring *c* from being drawn upwardly between the sleeve and spindle by capillary attraction. It will be noted that by the construction thus far described the spindle is provided with a lower bearing *e* and an upper bearing *f* within the sleeve. The upper end of sleeve J is constructed with an inwardly beveled seat *g*, which supports the lower end of packing K wound around or placed upon the spindle. Upon the upper end of the spindle is placed a ring L the lower and beveled end of which engages packing K. Over the sleeve J and ring L, is placed the ratchet thimble M, with which engages one end of spring N. When the ratchet thimble has been applied, the upper end of the ring L will project above the upper end of the ratchet thimble, so that when the arm or crank is placed upon the squared end of the spindle, it will rest upon the upper end of ring L. Washer H is then placed on the crank or arm and fastening screw is then applied and when turned down serves to force ring L downwardly and thereby compress the packing K snugly around the spindle and thus form a perfectly tight joint around the outer end of the spindle. It will thus be observed that the extended sleeve and the ring enable the spindle to be packed near its outer end and at a point so far distant from the strain and wear on the lower bearing of the spindle, that the packing is less liable to be cut and worn away than when applied to the lower end of the spindle. Again by locating the packing at the outer end of the spindle and utilizing the fastening screw G for securing the arm or crank to the spindle and also to force the packing ring L to its seat I am enabled to dispense with the use of a separate packing gland or follower which latter is required when the packing is applied solely to the lower end of the spindle.

To prevent leaking during shipment or while the door checks are on the shelves of dealers, I provide a ring O which is constructed to fit upon the squared end of the

spindle and is of the same size and thickness as the corresponding end of the crank or arm. The washer and screw being applied, this ring will be forced down against the packing ring L and make a tight joint. When the check is put into use ring O is removed and the crank or arm is applied and when secured in place the joint around the outer end of the spindle is rendered perfectly tight and secure.

In Fig. 2 I have represented another embodiment of my improvement. In this construction of door check, the casing is formed in two sections which are screwed together at *t*. The upper section which constitutes the spring chamber has a partition or bottom plate *t'* cast integral therewith. Through a hole *t<sup>2</sup>* formed in the center of the partition or plate *t'* projects the spindle to the lower end of which is secured the rotary disk. A stuffing box *t<sup>3</sup>* for the insertion of packing is formed on the plate or partition *t'*. A packing gland *u* encircles the spindle and enters the stuffing box and compresses the packing therein. This gland is provided with an extended sleeve J, which is of the construction hereinbefore described. By forcing down the ring L, the packing is firmly compressed around the upper and lower ends of the spindle.

In Fig. 3 I have represented another modification in which the stuffing box around the lower end of the spindle is dispensed with, the lower end of the extended sleeve being seated upon the plate or partition *t'*.

Fig. 4 represents another embodiment of the invention and in which the extended sleeve is formed integral with or secured to the plate or partition *t'*.

I will not describe in detail the construction and mode of operation of the liquid check illustrated in the drawings because it is shown and fully described in Letters-Patent No. 470,188, granted to me March 8, 1892, and

my present improvement may be applied to widely different constructions of door checks and hence I do not in anywise restrict the invention to its application to a door-check of the particular construction illustrated in the accompanying drawings.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a door check, the combination with a spindle, of a packing cap or gland provided with an extended sleeve which encircles the spindle, a packing ring and packing interposed between the packing ring and outer end of the sleeve, substantially as set forth.

2. In a door check the combination with a spindle, a packing cap or gland provided with a sleeve encircling the spindle, a packing ring, packing interposed between the packing ring and outer end of the sleeve, a crank or arm, and means for securing the crank or arm to the spindle and for forcing the packing ring to its seat, substantially as set forth.

3. In a door check, the combination with a spindle, of a packing cap or gland constructed with an extended sleeve counterbored on its interior to form an annular space between the spindle and interior of the sleeve, substantially as set forth.

4. In a door check, the combination with the spindle, of a packing cap or gland provided with an extended sleeve, packing between the outer end of the sleeve and spindle, and means located outside of the casing for forcing the packing snugly to its seat, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM GILFILLAN.

Witnesses:

JOHN P. BARTLETT,  
CHARLES H. PARSONS.