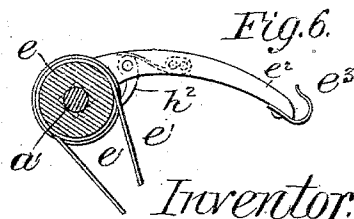
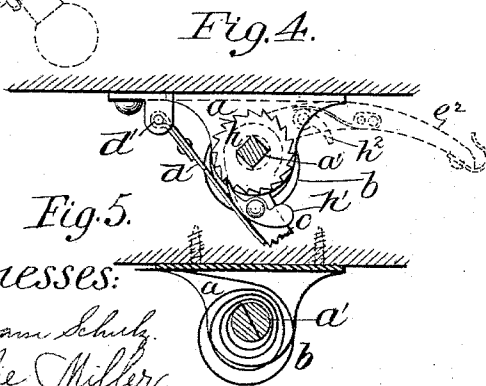
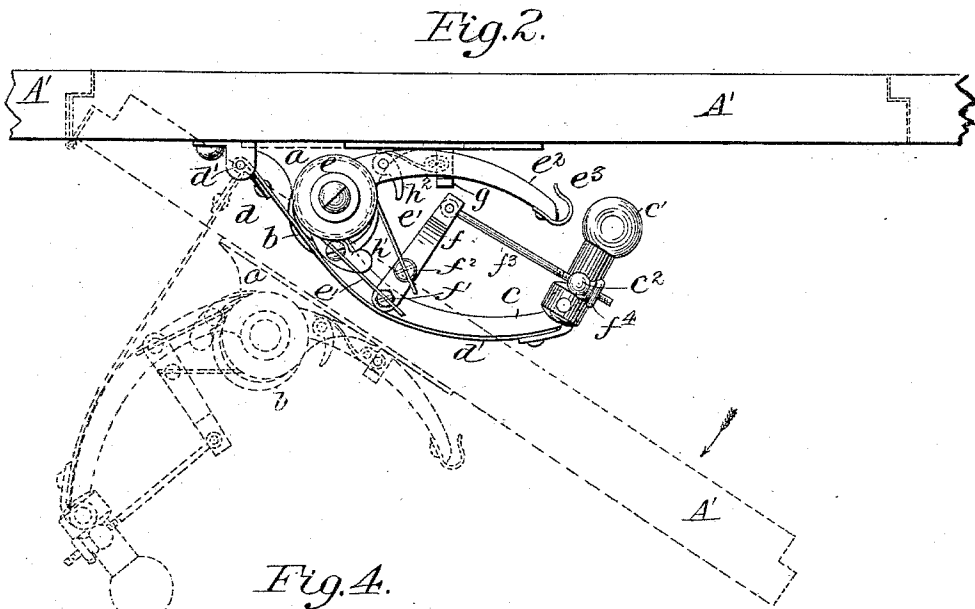
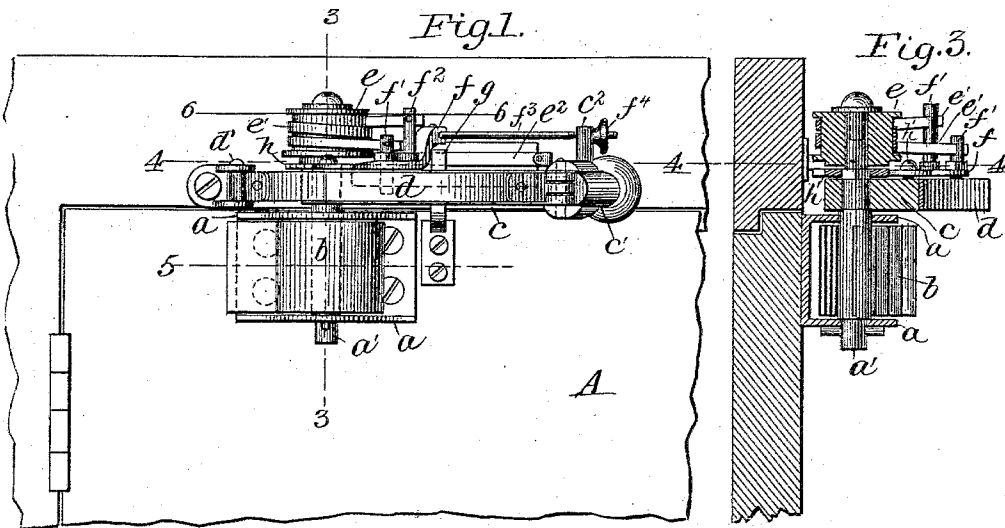


(No Model.)

F. WANKEL.
DOOR CHECK.

No. 565,100.

Patented Aug. 4, 1896.



Witnesses:

William Schuch.
Willie Miller.

Inventor.

Frank Wankel
by his attorneys
Roesler & Briesen

UNITED STATES PATENT OFFICE.

FRANK WANKEL, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF TO
WILLIAM GEPPERT, OF SAME PLACE.

DOOR-CHECK.

SPECIFICATION forming part of Letters Patent No. 565,100, dated August 4, 1896.

Application filed January 11, 1896. Serial No. 575,125. (No model.)

To all whom it may concern:

Be it known that I, FRANK WANKEL, of Brooklyn, Kings county, New York, have invented an Improved Door-Check, of which the following is a specification.

This invention relates to a door-check which is so constructed that a brake mechanism is set into operation by the closing of the door. The resistance offered by this mechanism is proportioned to the force with which the door is closed, and thus the door is closed with a gentle but positive force, which prevents slamming.

In the accompanying drawings, Figure 1 is a front elevation of my improved door-check. Fig. 2 is a plan thereof; Fig. 3, a vertical section on line 3 3, Fig. 1; Fig. 4, a horizontal section on line 4 4, Fig. 1; Fig. 5, a horizontal section on line 5 5, Fig. 1; and Fig. 6, a horizontal section on line 6 6, Fig. 1.

The letter A represents a door hinged within its frame A'. To the door A there is attached a frame or bracket a, carrying a revoluble spindle a', that projects above the upper edge of the door. To the spindle a' is affixed the inner end of a coiled spring b, the free end of which has a bearing against the base-plate of frame a. To the spindle a' is also attached, in manner hereinafter specified, a curved arm or lever c. To the free end of this arm is secured one end of a strap d, the other end of which is secured to the door-frame A' at a distance back of the pivoted end of arm c by means of the pin d'.

As thus far described the operation is as follows: When the door is opened, the arm c will be drawn backward by the strap d, so as to revolve the spindle a' and wind up the spring b. (Dotted lines, Fig. 2.) When the door is released, the spring will, by exerting its power against the spindle, revolve the arm forward to draw against the strap and close the door. (Full lines, Fig. 2.)

In order to provide the door-check with a brake mechanism which prevents slamming of the door, I employ the following construction: Upon the upper end of the spindle a' there is revolubly mounted a brake-drum e, around which is coiled a brake strap, rope, or wire e'. This strap is so connected to a weight

c', pivoted to the free end of the arm c, that when the weight flies outward by centrifugal force the strap is tightened up around the drum to apply the brake, while when the weight flies inward the strap is slackened to take off the brake. The connection between brake-strap and weight can be made as shown in the drawings, in which a lever f is shown to be pivoted to the arm c at f'. One end of the strap e' is attached to this pivot, while the other end of the brake-strap is attached to the lever at f². The free end of the lever f is connected to a rod f³, which passes through a perforated stud c² of weight c'. The threaded outer end of rod f³ is engaged by a nut f⁴, which may be set to vibrate lever f, and to thereby decrease or increase the resistance offered by the brake.

The brake acts by means of an arm or shoe e², having spring or buffer e³. This shoe is made integral with the drum e and is adapted to bear against the frame A'. When the door is opened, this shoe is held back, preferably by a stop g, projecting upwardly from door A. When the door is released and closed by the spring b, the weight c' will, by centrifugal force, be thrown outward to tighten the brake-strap around its drum, and to thus apply the brake by causing the arm e² to bear yieldingly against frame A'. After the door has closed the tension of the brake-strap will draw the weight c' inward to take the friction off the drum, when the parts will again be in operative position for the next opening of the door.

I prefer to connect the arm c to the spindle a' in such a manner that the tension of the spring b may be regulated. To this effect I secure upon a squared section of spindle a' a ratchet-wheel h, the teeth of which are engaged by a pawl h', pivoted to arm c. This arm is loosely mounted upon the spindle, but is locked thereto by means of the pawl h' and the strap d. When the tension of the spring b is to be regulated, the pawl h' is thrown out of engagement with the wheel h, the arm c is slightly rotated, and the pawl is brought into reengagement with the ratchet-wheel. In this way the working angle of the arm, and consequently the power developed by the

spring, is changed. To permit the above-described adjustment to be easily effected, I pivot a pawl h^2 to the arm e^2 . This pawl may be brought into engagement with the wheel h by using the arm e^2 as a handle. Thus the pawl h^2 serves to rotate the wheel h , and consequently the spindle a' , to any desired extent, during which rotation the pawl h' is of course thrown out of engagement with the wheel.

The advantages connected with my improved door-check are that it is not apt to get out of order, is readily adjustable, and that owing to the centrifugal action of the brake the resistance offered by the check is in proportion to the power employed in closing the door.

What I claim is—

1. In a door check and closer, a power-actuated arm, a weight pivoted thereto, a brake-shoe adapted to engage the door-frame, and a brake mechanism actuated by the weight and connected to the brake-shoe, substantially as specified.

2. In a door check and closer, a power-actuated arm, a weight pivoted thereto, a brake-

drum, and a brake-strap operated by said weight, substantially as specified.

3. In a door check and closer, a power-actuated arm, a weight pivoted thereto, a brake-drum, a lever pivoted to the arm, a brake-strap secured to the lever, and a rod for adjustably connecting the lever to the weight, substantially as specified.

4. In a door check and closer, a power-actuated arm, a strap connecting the arm to the door-frame, a brake-drum, a weight pivoted to the arm, a brake-strap actuated by the weight, and a brake-shoe adapted to engage the door-frame, substantially as specified.

5. In a door check and closer, a power-actuated arm, a strap connecting the arm to the door-frame, a brake-drum, a weight pivoted to the arm, a brake-strap actuated by the weight, a brake-shoe adapted to engage the door-frame, and a pawl and ratchet for connecting the arm to the arm-spindle, substantially as specified.

FRANK WANKEL.

Witnesses:

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