A. C. DUNN.

DOOR CONTROLLING DEVICE.

APPLICATION FILED FEB. 28, 1914.

1,244,594. Patented Oct. 30, 1917.

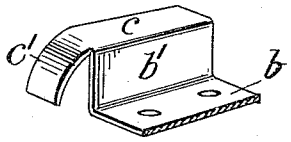


FIG. 1.

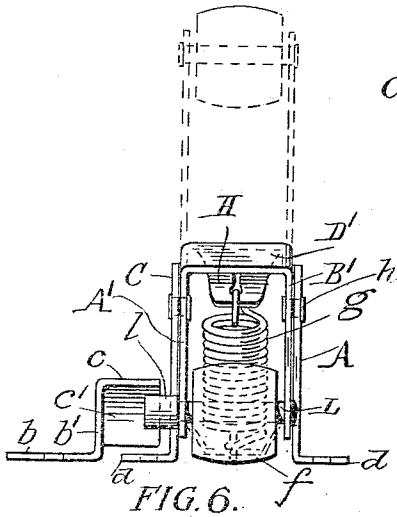


FIG. 6.

FIG. 2.

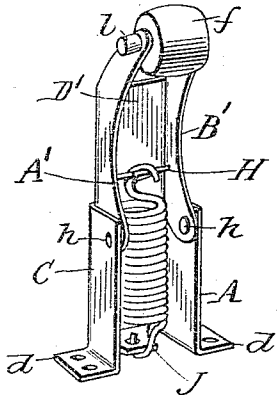


FIG. 4.

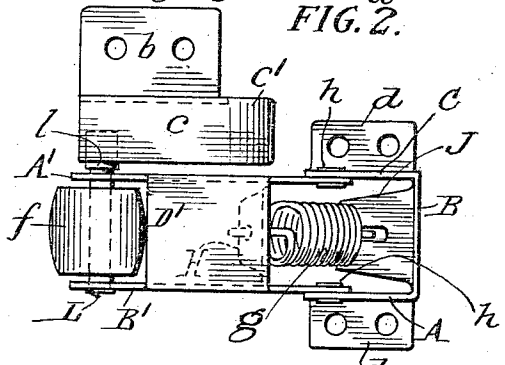


FIG. 3.

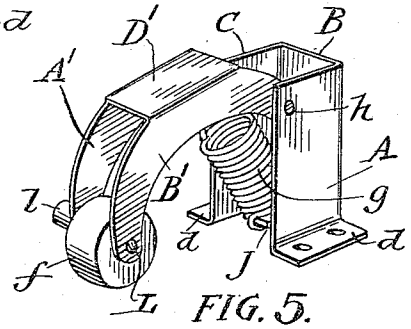


FIG. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

ANDREW C. DUNN, OF MANKATO, MINNESOTA.

DOOR-CONTROLLING DEVICE.

1,244,594. Specification of Letters Patent. **Patented Oct. 30, 1917.**

Application filed February 28, 1914. Serial No. 821,663.

To all whom it may concern:

Be it known that I, ANDREW C. DUNN, a citizen of the United States, residing at Mankato, in the county of Blue Earth and State of Minnesota, have invented new and useful Improvements in Door-Controlling Devices, of which the following is a specification.

This invention relates to a door controlling device which operates to securely hold the door in its closed position, so that the same will not gape and admit flies or permit the passage of air. A device of this character is applicable to all kinds of doors but more particularly to doors of refrigerators, screen doors and other light doors which are liable to become distorted and assume a position in which they are liable to remain slightly open while in their closed position.

It is the object of this invention to produce a door controlling device performing these functions which is simple, durable and inexpensive in construction, which can be readily applied to various kinds of doors and which will hold the door reliably in its closed position.

In the accompanying drawings:

Figure 1 is a detached perspective view, partly in section of the trip forming part of the means whereby the door is held in its closed position. Fig. 2 is a top plan view of the door closing device showing the same in its operative position. Fig. 3 is an end elevation thereof. Fig. 4 is a perspective view of the presser arm and associated parts showing the same in the position which it occupies preparatory to closing the door. Fig. 5 is a perspective view of the same showing the position of the parts when the door is closed. Fig. 6 is a side elevation of the door closing device corresponding to Fig. 2.

Similar characters of reference indicate corresponding parts throughout the several views.

Mounted on the outer face of the jamb of the door frame preferably at a point immediately below the catch is a presser bracket which is constructed of sheet metal and which comprises two side pieces or flanges A and C, a web B connecting one pair of corresponding longitudinal edges of said flanges, two attaching feet or fastening lugs *d* arranged at the inner end of the flanges and adapted to be secured by screws or otherwise with the frame jamb and a perforated attaching ear J arranged at the inner end of the web B. Upon the outer end of this bracket is mounted a rocking presser arm which is also preferably constructed of sheet metal and comprises two longitudinal flanges or side pieces A^1 and B^1, a transverse web D^1 connecting the central parts of the flanges and a perforated attaching ear H arranged at the inner end of the web D^1. This presser arm is pivotally supported at its inner end on the presser bracket preferably by arranging the inner end of the flanges A^1, B^1 between the flanges C and A and pivotally connecting these flanges with each other by means of pins *h*. At its outer end the presser arm is provided with a presser roller *f* which is preferably pivoted between the outer ends of the flanges of this arm by means of a transverse pivot pin L. This presser arm is yieldingly held either in its operative or inoperative position by means of a spring *g* which is preferably of helical form and secured at its opposite ends to the attaching ear H of the presser arm and the attaching ear J of the presser bracket so that upon turning this arm into one or the other extremes of its movement the free end of the spring *g* will be carried across the fulcrum of this arm and the spring caused to hold the presser arm yieldingly either in its operative or in its inoperative positions. The shifting of the presser arm into its operative position is effected by means of a trip which is mounted on the adjacent part of the outer or rear side of the door and which preferably comprises a trip flange *c* having an inwardly curved front end c^1 and connected by a web b^1 with the base *b*. One end of the roller pivot L is extended to form a tappet or shifting pin *l* as shown in Figs. 3–6.

While the door is opened more or less fully the presser arm is swung outwardly into its inoperative position, as shown by full lines in Fig. 4, and by dotted lines in Figs. 2 and 6, in which position of the presser arm the same clears the path of the free edge of the door and is held yieldingly in this position by the spring *g* owing to the connection between the free end of this spring and the presser arm at this time being in rear of the fulcrum *h*. The rearward movement of the presser arm into its inoperative position is limited by a stop device consisting of the inner edge of the presser arm web D^1 engaging with the outer edge

of the bracket web B. During the last portion of the closing movement of the door its trip flange c engages its inwardly curved front end c^1 with the tappet l of the presser arm and causes the latter to be swung from a position in which the presser rollers clear the door to a position in which this roller is arranged in rear of the door. The instant the presser arm has been turned sufficiently from its inoperative position to its operative position for bringing the connection between the spring g and the presser arm in front of the fulcrum h then the resilience of this spring tends to hold the presser arm in its operative position and press the roller f against the outer or rear side of the door, whereby the last part of the closing movement of the door is effected automatically and the door is yieldingly held in its closed position at its free edge. Any gaping between the door and door frame is thus prevented which is particularly desirable in the case of light screen doors which must be kept shut tightly in order to prevent the entrance of flies. The shifting of the presser arm for engaging its roller with the outer side of the door is effected in such manner that the roller is arranged quite close to the door at the time the spring g exerts its pull for holding the door shut, thereby preventing any slack between the roller and door and avoiding any undue noise which otherwise might occur.

Upon swinging the door open its free edge by engaging with the roller f turns the presser arm outwardly again into its inoperative position until the connection between the spring g and the presser arm is again arranged in rear of the dead center of the pivot h at which time the spring g again becomes active and completes the throw of the presser arm into its inoperative position.

It will be noticed that in this presser device a comparatively long leverage is obtained whereby the shifting of the presser arm may be effected easily while at the same time preventing any thumping action of the presser roller against the door.

I claim as my invention:

A door controlling device, comprising a bracket adapted to be secured to the door frame and having two side flanges, a web connecting the flanges, attaching feet at the inner ends of the flanges and a perforated ear at the inner end of said web, said flanges, web, feet and ear being constructed from a single sheet of metal, a rock arm having two longitudinal flanges pivoted at their inner ends on the flanges of said bracket, a web connecting said flanges and an ear arranged at the inner edge of said flanges and formed integrally with said last-mentioned web, said last mentioned flanges, web and ear being constructed integrally from a single sheet of metal, a spring connecting the ear of said bracket with the ear of said arm, and a trip adapted to be mounted on said door and to shift said arm for engaging said roller with the rear side of the door, the rearward movement of said presser arm into its inoperative position being limited by a stop device consisting of the inner edge of the presser arm web engaging with the outer edge of the bracket web.

Witness my hand this 24th day of February, 1914.

ANDREW C. DUNN.

Witnesses:
C. O. Dailey,
Martha Fallenstein.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."