No. 761,794. PATENTED JUNE 7, 1904.

D. W. TOWER.

CATCH FOR DOUBLE DOORS.

APPLICATION FILED JAN. 18, 1904.

NO MODEL.

Fig. 1.

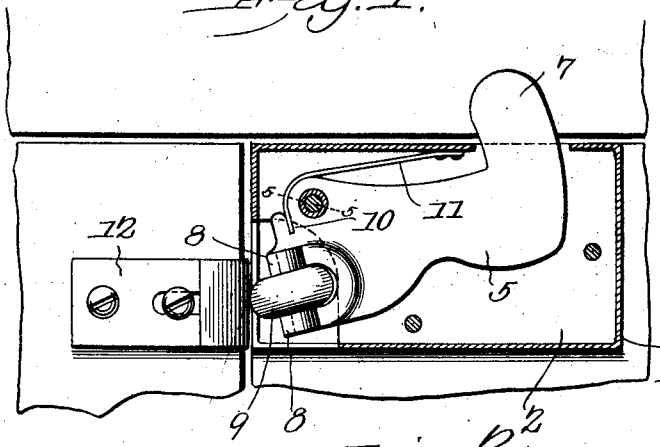


Fig. 3.

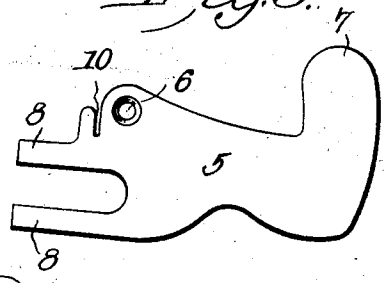


Fig. 4.

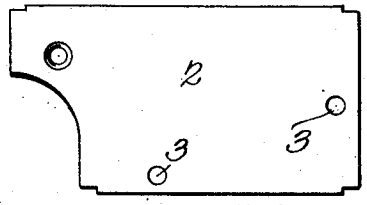


Fig. 2.

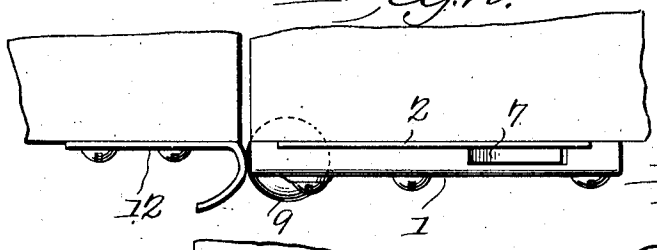


Fig. 5.

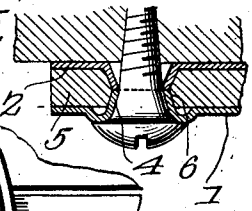


Fig. 6.

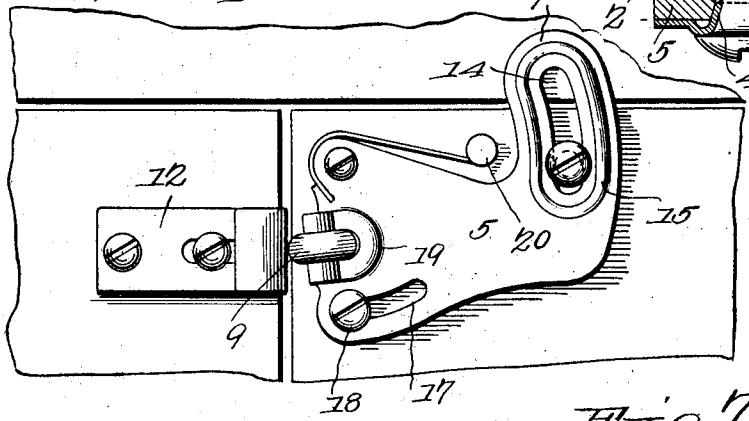


Fig. 7.

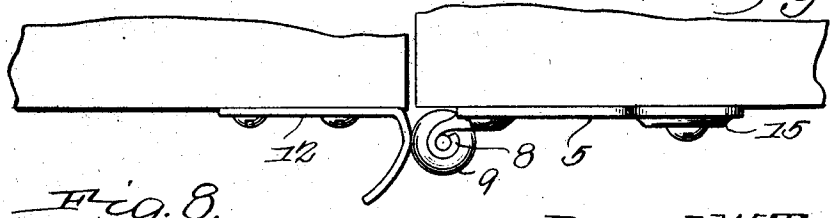
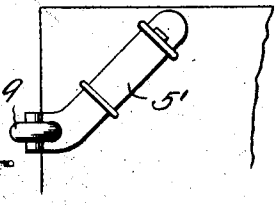


Fig. 8.



Witnesses

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No. 761,794. Patented June 7, 1904.

UNITED STATES PATENT OFFICE.

DANIEL W. TOWER, OF GRAND RAPIDS, MICHIGAN.

CATCH FOR DOUBLE DOORS.

SPECIFICATION forming part of Letters Patent No. 761,794, dated June 7, 1904.

Application filed January 18, 1904. Serial No. 189,576. (No model.)

To all whom it may concern:

Be it known that I, DANIEL W. TOWER, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Catch for Double Doors, of which the following is a specification.

This invention relates to certain improvements in locks or catches adapted more especially for use on furniture, and has for its principal object to construct a device for automatically locking the left-hand or in some cases the right-hand door of refrigerators, china-closets, bookcases, cupboards, and the like.

A further object of the invention is to provide a catch of simple and economical construction which may be placed on the door to be secured and operated by the mating door, so that both doors may be secured.

With these and other objects in view, as will hereinafter appear more fully, the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a view looking from the inside of an article of furniture and illustrating a catch constructed in accordance with the invention, the casing of the catch being in section. Fig. 2 is a plan view of the same. Fig. 3 is a plan view of the blank from which the catch is formed. Fig. 4 is an elevation of the face-plate of the casing. Fig. 5 is an enlarged detailed sectional view on the line 5 5 of Fig. 1. Fig. 6 is a view corresponding to Fig. 1, illustrating a modified construction. Fig. 7 is a plan view of the structure shown in Fig. 6. Fig. 8 is a detail view of a modification.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

In the majority of articles of furniture of the double-door type—such as cupboards, china-closets, and the like—the left-hand door is usually held in closed position by means of a hook or other manually-operated catch, which must first be moved to locking position before the right-hand door, which usually carries the lock, can be closed and secured.

In carrying out the present invention the left-hand doors of articles of furniture of this type are provided with catches so arranged that when the mating door is moved to closed position the catches will be automatically moved to engage with a suitable keeper carried by a fixed part of the article of furniture or by direct engagement with the inner wall thereof.

When the catch is made for use in connection with china-closets and articles of furniture of similar type, it is preferred to place the catch in a suitable case in order to add to the finish, and this case may be placed on the inside wall of the door or may be inserted in a slot or mortise cut in the edge of the door, if desired.

In the drawings there is shown a two-part case, including a body portion 1 and back plate 2, both of which are formed of die-cut metal, and each is provided with a number of openings 3 for the passage of securing screws or nails. The walls of one pair of openings are struck up to form annular ribs 4, which serve in part as pivotal supports for the catch proper. The catch 5 is in the form of a sheet of metal provided with an opening 6, countersunk from both sides in order to accommodate the flanges 4, and when the two parts of the case are in position the catch will be properly supported without the necessity of employing a separate pivot-pin or screw. One end of the catch is in the form of a segmental tongue 7, arranged on curved lines struck from the center of the opening 6, and the end of the tongue is adapted to pass through a suitable slot in the casing and engaged with the inner wall of the article of furniture or with a suitable keeper or slot, which will prevent outward movement of the door to which the catch is secured. At the pivoted end of the catch-plate the metal is cut to form a pair of spaced strips 8, that are afterward bent in such manner as to form bearings for the re-

ception of the end pintles of a small roller 9, and the roller will normally project for some distance beyond the inner edge of the casing and the edge of the door to which the latter is secured. At a point adjacent to the opening 6 a small slot 10 is formed in the catch for the reception of one end of a spring 11, the opposite end of which bears against the inner wall of the casing and serves normally to hold the tongue 7 in unlocked position.

In order to move the catch positively to locking position, the right-hand mating door is preferably provided with a strike-plate 12, having a curved end flange to engage the roller, and thus move the catch to working position.

In Fig. 6 is shown a slight modification of the invention, the construction being adapted more especially for use in connection with refrigerators and other heavy articles of furniture. The catch-plate 5 in this case is formed of somewhat heavier metal, and in the tongue is a slot 14, arranged on an arcuate line struck from the center of the pivotal opening, and the plate is further strengthened by the formation of a rib 15, following the outlines of the slot. Through this slot extends a screw or securing-pin which serves to hold the tongue end of the plate in proper position against the inner wall of the door. The lower portion of the plate is also provided with an arcuate slot 17, struck from the pivotal center of the plate and adapted for the passage of a guiding and retaining screw 18. The plate may be further strengthened by an outstruck rib or corrugation 19 around the edge of the plate where the roller is carried. The spring is of the same character as that previously described; but as no casing is provided the end of the spring is held by a nail or screw 20, which may be driven into the rear wall of the door.

The catch may be secured in place by screws or nails driven through the openings formed in the casing or in the catch-plate itself, and preferably is arranged at the upper portion of the inside face of the left-hand door, although it may be reversed and placed near the bottom edge of the door, or a suitable mortise or slot may be cut in the edge of the door and the catch inserted therein, although this would add merely to the appearance of the door without increasing the efficiency of the catch.

When the left-hand door is closed, as it always is in advance of the right-hand door, the tongue is below the top edge of the door and will not interfere with the closing movement. When the right-hand door is closed, the strike-plate will engage the roller and acting as a cam will swing the plate on its pivot and move the tongue 7 back beyond the top edge of the door into engagement with the inner face of the article of furniture or into a suitable keeper carried thereby.

The construction may be modified by the employment of a slidable plate or bar 5′ in place of the pivot-plate shown, the slidable plate or bar being preferably arranged at an oblique angle, so that when its outer or roller-carrying edge is struck by the mating door its inner end will be moved over the top of the door.

Having thus described the invention, what is claimed is—

1. In double-door catches, a single-piece pivoted catch-lever mounted on the inner face of one door and movable in a plane parallel therewith, there being at the outer end of the longer arm of said lever a tongue for engaging a rigid member, the shorter arm of the lever being adapted to project beyond the vertical edge of the door, and in a plane parallel with the inner face of said door, and a cam carried by the inner face of the second door and projecting inward therefrom to engage the shorter arm of said lever.

2. In a device of the class specified, a pivotally-mounted catch having a locking-tongue, and an antifriction-roller carried by the catch and serving when engaged by an operating device to move the tongue to locking position.

3. In a device of the class specified, a pivotally-mounted catch having a locking-tongue, an antifriction-roller carried by the catch, and means for engaging the antifriction-roller and thereby effecting movement of the tongue to locking position.

4. In a device of the class specified, a sheet-metal plate having a locking-tongue at one end and provided at its opposite end with a pair of integral spaced strips bent to form bearing members, an antifriction-roller having pintles extending into said bearing members, that end of the plate adjacent to the strips being ribbed, an attaching means for the plate, and means for engaging the roller and moving the tongue to locking position.

5. In combination, a pivoted catch having a pivot-receiving opening countersunk on both sides, a casing including opposite side plates provided with openings in alinement with the pivot-opening of the catch, the walls of the openings in both plates being struck up to form annular ribs adapted to said countersunk portion, and a combined casing securing and attaching means extending through said openings.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DANIEL W. TOWER.

Witnesses:

EDWARD L. KNAPP,

HAROLD M. BERTELSON.