

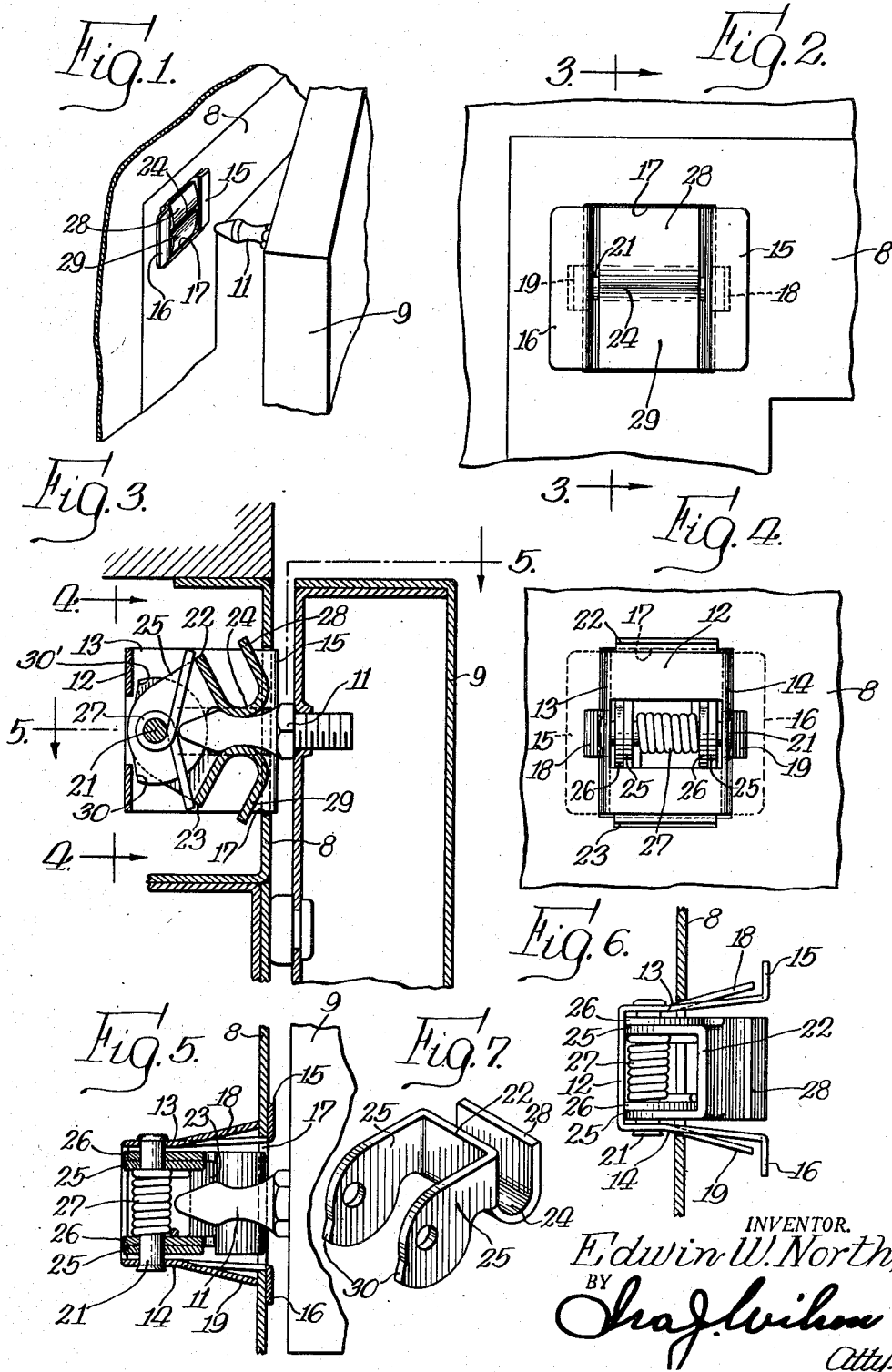
May 1, 1951

E. W. NORTH

2,550,852

CATCH

Filed March 29, 1946



INVENTOR.
Edwin W. North,
BY
Chas. L. Wilson
Attys.

UNITED STATES PATENT OFFICE

2,550,852

CATCH

Edwin W. North, Rockford, Ill., assignor to National Lock Company, Rockford, Ill., a corporation of Delaware

Application March 29, 1946, Serial No. 658,173

3 Claims. (Cl. 292—18)

1

This invention pertains to catches adapted for use on metal furniture and the like for releasably holding the doors of cabinets, such as kitchen cabinets, bathroom cabinets and the like, in closed position.

Catches of this character are designed to be mounted in an opening formed in a metal wall of a door frame or cabinet face, and in many installations the cabinet structure is such that the depth inside the cabinet wall for the reception of the catch is quite restricted.

One of the purposes of my present invention is to provide a catch of minimum longitudinal or depth dimensions so as to be capable of being mounted in cabinets or the like which are restricted in the depth of space available for such catches.

Another purpose of my invention is to provide a catch in which the holding jaws will be disposed entirely back of the face of the cabinet wall or frame, so that no portion of the jaws projects outwardly beyond the plane of the wall face.

A further feature of my invention resides in the structure of the clamping jaws which are so shaped and proportioned as to present a closure or barrier across the opening in which the catch is mounted, so that the opening appears to be entirely closed by the catch structure and the entrance of dust, dirt or other particles through the opening into the cabinet is to a large degree prevented by such closure.

Another object of my invention is to provide a catch which is simple in construction, which can be easily manufactured, readily assembled and which can be mounted in operative position in a wall opening by simply projecting it through such opening to a point where it becomes automatically locked in position.

For the purpose of facilitating an understanding of my invention, I have illustrated on the accompanying drawings a preferred embodiment thereof.

Referring to the drawing,

Fig. 1 is a fragmental perspective view of a cabinet equipped with a latch embodying my invention;

Fig. 2 is a face view of the latch illustrated in Fig. 1;

Fig. 3 is a sectional view on the line 3—3 of Fig. 2;

Fig. 4 is an elevation looking toward the right on the plane indicated by the line 4—4 in Fig. 3;

Fig. 5 is a sectional view on the line 5—5 of Fig. 3;

Fig. 6 is an elevation of the catch in the initial

2

stage of being mounted in the cabinet wall; and Fig. 7 is a perspective view of one of the clamping jaws.

Referring to the drawing more in detail, reference character 3 indicates generally the door frame or the surrounding walls of a door opening in a sheet metal cabinet such as a kitchen cabinet or other storage cabinet, and 9 indicates the door of hollow sheet metal construction adapted to close the door opening. A strike 11 mounted on the inner face of the door is adapted to project inwardly through the opposed cabinet wall in position to be engaged and held by my novel catch.

The catch consists, generally speaking, of a sheet metal body, a pair of sheet metal clamping and holding jaws, a pintle upon which said jaws are pivotally mounted, a spring by which said jaws are yieldably biased into holding and clamping position, and means whereby the body will be automatically locked in mounted position upon being projected into a suitably shaped opening in the cabinet wall.

The body of the catch, which is struck out from a sheet of metal possessing substantial resiliency, comprises a base 12 and a pair of side walls 13 and 14 formed integrally with the base, so as to provide a body of substantially channel shape. The margins of the free edges of the side walls of the channel are bent outwardly in opposite directions to form the flanges 15 and 16 which serve as abutments to limit the projection of the body through an opening in the wall in which the catch is mounted. The opening 17 in the wall 8 is preferably, as shown in the drawing, substantially rectangular in shape and of a size to permit the insertion of the body of the catch therethrough until further movement is obstructed by the abutment flanges 15 and 16 previously described.

The side walls 13 and 14 are slitted to provide the tangs 18 and 19, respectively, which are normally, by reason of their resiliency, biased outwardly into the position illustrated in Fig. 5, from which it will be observed that when the catch body has been inserted through the opening 17 in the wall 8 as far as is permitted by the abutment flanges 15 and 16, the ends of the tangs 18 and 19 will at such time have passed through the opening 17 and snapped outwardly into the position illustrated in Fig. 5 where their ends engage the inner face of the wall 8 and hold the body against withdrawal from the opening. An intermediate position of the parts during the mounting of the catch is shown in Fig. 6, from

which it will be apparent that the only labor involved in the mounting is that required to insert the body through the wall opening until such movement is limited by the flanges 15 and 16, in which position the body will be automatically locked against displacement by the tangs 18 and 19. The walls themselves diverge toward their outer end to snugly engage the sides of the wall opening and thereby prevent rattling of the catch in the opening.

A pintle 21 extends between the side walls 13 and 14 of the body and upon this pintle there is pivotally mounted a pair of clamping and holding jaws indicated generally by reference characters 22 and 23. Each of these jaws is struck from sheet metal shaped to provide a U-shaped holding portion, the curved base 24 of jaw 22 being adapted to perform the holding function and the end portions of the inner leg being bent inwardly to provide a pair of disc-like arms 25 journaled upon the pintle 21. There is one of these bearing portions at each end of the jaw, and these portions are arranged upon the pintle in the manner disclosed in Figs. 5 and 6. The other jaw 23 is similarly shaped and mounted through the disc-like arms 26 upon the pintle 21 in opposed relation to the jaw 22. A spring 27 mounted upon the pintle has its ends engaged with the respective jaws 22 and 23, as best illustrated in Fig. 3, to bias the clamping portions of the jaws toward each other into clamping and holding relation with the strike 11 when interposed between them.

When the strike is withdrawn upon opening of the door, the jaws are brought by the spring 27 into engagement with each other, as shown in Figs. 1 and 2, and they are substantially centered for the reception of the strike between them by engagement of the shoulders 38 and 39' with the base 12 of the frame.

For the purpose of substantially closing the opening 17 in the cabinet wall the outer leg of the U of each jaw is of sufficient length to extend slightly beyond the sides of the opening 17 when the jaws are in closed position, as illustrated in Figs. 1 and 2. The outer leg 28 of jaw 22 and the corresponding leg 29 of jaw 23, therefore, serve to form a closure for the wall opening and prevent the entrance of dirt and foreign particles into the cabinet and at the same time, since they lie inside the plane of the outer face of the wall, no projecting ends are visible, the smooth contour thus presented contributing substantially to the smooth and finished appearance of the catch presented to the eye when in mounted position.

It should be apparent from the foregoing that I have provided a catch in which the portions of the clamping jaws engaged by the spring are disposed outwardly from rather than inwardly with respect to the pintle upon which the jaws are pivoted, thus decreasing the depth of the catch over those constructions in which the jaws project a substantial distance inwardly beyond the pintle. The catch is, therefore, of minimum length and is capable of use in constructions wherein the space available for such a catch is very limited.

It will also be apparent that the holding jaws of my improved catch are so constructed that they do not project outwardly beyond the body of the catch or outwardly beyond the wall in which the catch is mounted. Furthermore, these jaws are proportioned to substantially close the opening in the wall and prevent the entrance of

foreign matter into the cabinet, as well as presenting a smooth and attractive appearance on the face of the cabinet. The catch is of simple construction, consisting merely of a body, a pintle, a spring and a pair of jaws, and the whole assembly may be economically manufactured and very quickly mounted in a cabinet wall by simply inserting it in an opening of suitable size formed therein.

The structural details illustrated and described may obviously be varied within considerable limits without exceeding the scope of my invention as described in the following claims.

I claim:

1. In a catch adapted to be mounted in an opening in a sheet metal wall and including a body having a pair of oppositely disposed and spaced side walls and a bottom wall joining and spacing the side walls adjacent to one end of each, the other end of each side wall being unconnected to the other thereat, and said body having oppositely directed flanges at the free edges of the said other ends of the side walls to limit the projection of said body through a wall opening, a pintle secured in and extending between said side walls near the bottom wall of said body, and a pair of cooperative clamping jaw members in said body and each having a U-shaped part provided with rearwardly projecting and laterally spaced arms pivotally mounted adjacent one end upon said pintle and a U-shaped part at the other end, said last mentioned part of each member forming a pair of clamping jaws disposed adjacent to and across said wall opening and terminating in substantially oppositely projecting portions adapted to lie substantially in the plane of said wall opening when in contacting engagement and form a closure for the opening, the pivotal mounting of each of said projecting portions and the clamping jaws thereof being of such length they pivot inwardly in the body when spread apart and that when in such contacting engagement they enter the wall opening and form a closure therefor preventing the entrance of dirt, dust or other foreign particles.
2. In a catch adapted to be mounted in an opening in a sheet metal wall and including a body having a pair of oppositely disposed and spaced side walls and a bottom wall joining and spacing the side walls adjacent to one end of each, the other end of each side wall being unconnected to the other thereat, and said body having oppositely directed flanges at the free edges of the said other ends of the side walls to limit the projection of said body through a wall opening and means integral with the side walls for locking the body to the wall, a pintle secured in and extending between said side walls near the bottom wall of said body, a pair of cooperative clamping jaw members each having spaced rearwardly projecting arms with the arms pivotally mounted adjacent one end upon said pintle and having their opposite ends terminating in a clamping jaw and a projecting flange disposed adjacent to said wall opening and adapted to pivot from within the body to a position in the plane of said wall opening, the flanges of said members being oppositely disposed and of such dimensions in two directions at 90° to one another and measured in the plane of said wall opening as to provide a closure for said wall opening, and a coil spring about said pintle and having its opposite ends projecting forwardly of and engaged with said clamping jaws between the axis of the pintle and said oppositely projecting

5

flanges and normally tending to urge said jaws into cooperative clamping relationship with one another and force said flanges outwardly into the wall opening to form a closure thereat.

3. In a catch adapted to be mounted in an opening in a sheet metal wall and including a pair of oppositely disposed and spaced side walls and a bottom wall joining and spacing the side walls adjacent to one end of each to provide a U-shaped body, the other end of each side wall being unconnected to the other thereat, and said body having oppositely directed flanges at the free edges of said other ends of the side walls to limit the projection of such body through a wall opening, a single pintle secured in and extending between said side walls near the bottom of the U-shaped body, a pair of cooperative clamping and holding jaws pivotally mounted adjacent to one end of each upon said pintle and having their opposite ends disposed adjacent to said wall opening and terminating in generally oppositely directed portions, the pivotal mounting and the length of said jaws being such as to permit said jaws to pivot inwardly in the body to open position or lie approximately in the plane of said wall opening, each of said opposite ends being of such dimensions in two directions at 90° to one another and measured in the plane of said wall opening as to provide a closure for said

6

wall opening when the jaws are moved into their closed position, and coil spring means fulcrumed on said pintle and having end portions projecting forwardly and engaging said jaws at a point between the pintle and the outer extremities of the jaws whereby said jaws are normally biased into holding and clamping position, with the oppositely directed portions tending to enter the opening and forming a closure therefor.

EDWIN W. NORTH.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

	Number	Name	Date
	528,327	Hauser	Oct. 30, 1894
20	1,612,480	Wells	Dec. 28, 1926
	2,244,344	North et al.	June 3, 1941
	2,414,662	Ostrom	Jan. 21, 1947
	2,451,798	Borchers	Oct. 19, 1948
25	2,472,498	Stone	June 7, 1949

FOREIGN PATENTS

	Number	Country	Date
	123,180	Austria	Jan. 15, 1931
	419,365	Great Britain	Nov. 12, 1934