March 7, 1950 A. N. DEDRICKS 2,499,818

LATCH CONSTRUCTION

Filed April 14, 1947

Fig. 1

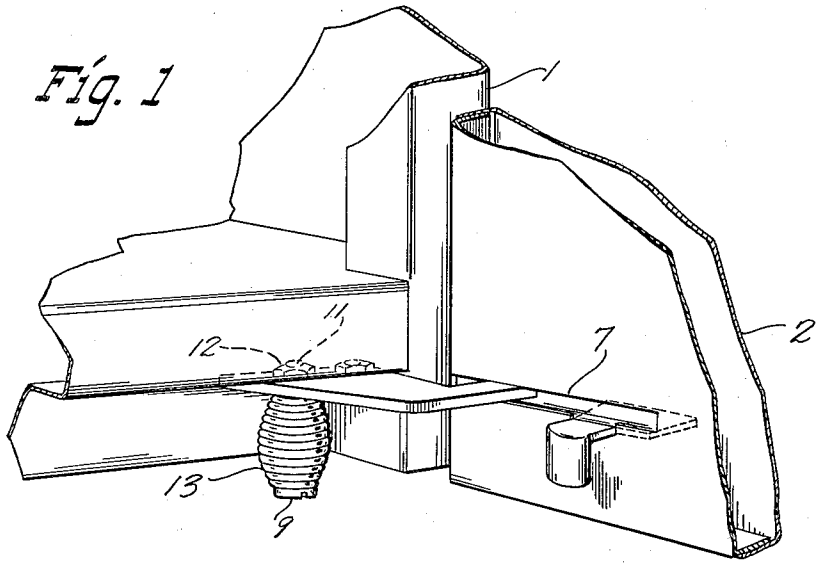


Fig. 2

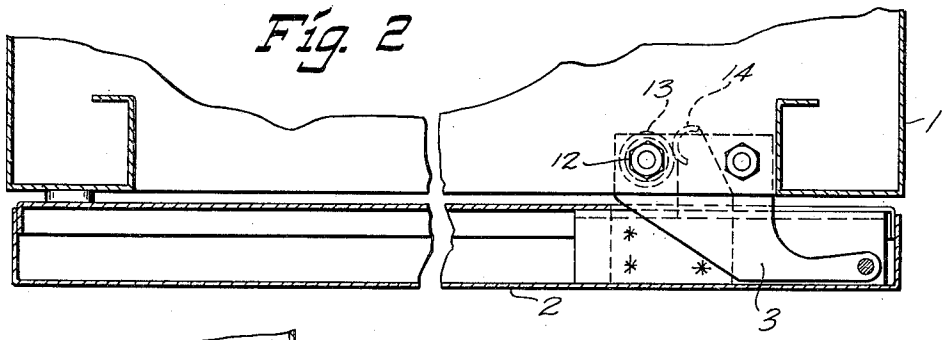


Fig. 3

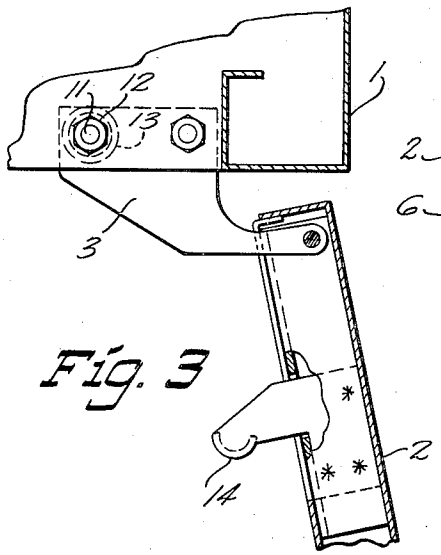


Fig. 4

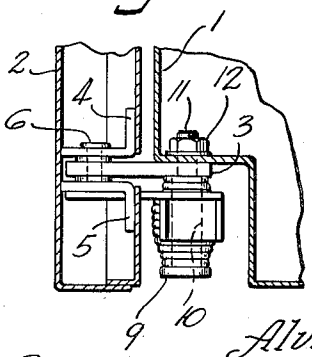
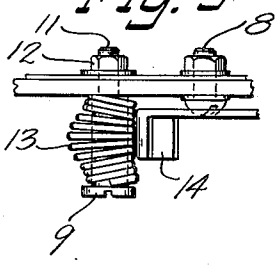


Fig. 5



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2,499,818

LATCH CONSTRUCTION

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3 Claims. (Cl. 292—70)

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This invention relates to a latch construction for cabinets.

Objects of this invention are to provide a latch construction for the hinged door of a cabinet, which is so made that it may be located adjacent the hinge, and in which a novel form of strike is employed which is yielding and which aids in conjunction with the catch in the final closing of the cabinet door and which also is so made that there is no danger of crystallization of the spring.

Further objects are to provide a construction which is easy to apply to cabinets, which is inexpensive to manufacture, and which is neat in appearance.

An embodiment of the invention is shown in the accompanying drawings, in which:

Figure 1 is a perspective fragmentary view of the hinged portion of the cabinet showing the door in open position.

Figure 2 is a sectional view looking down and showing the door in closed position, such view being broken away.

Figure 3 is a fragmentary detail corresponding to Figure 2 showing the door open.

Figure 4 is a sectional view showing the door closed.

Figure 5 is a fragmentary view at right angles to that of Figure 4.

Referring to the drawings, it will be seen that the body of the cabinet is indicated by the reference character 1 and the door by the reference character 2. The cabinet chosen for illustration is a metal kitchen cabinet, though, of course any other type of cabinet could be used. The door 2 is hinged to the body portion 1 by means of an upper and a lower hinge plate 3, the lower hinge plate being shown. An upper and a lower bracket 4 and 5 are secured within the door 2 as shown most clearly in Figure 4 and a pintle pin 6 extends through such brackets and through the hinge plate 3, thereby providing the hinge point for the door.

The inner wall of the door 2 is slotted as indicated at 7 in Figure 1 and the hinge plate has its end projecting through the slot into the door, as shown in Figures 1, 2, 3, and 4. The hinge plate is secured to the body portion in any suitable manner, for example, as by means of a bolt 8 and a relatively long bolt 9. The relatively long bolt 9 has an enlarged cylindrical body portion 10 which forms with the reduced threaded portion 11 a shoulder so that when the nut 12 is tightened the bolt or pin 9 is held tightly in place.

A closely coiled spring 13 is revolubly mounted on the bolt 9 and is generally of barrel shape as

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shown most clearly in Figure 1. It constitutes the strike which coacts with the curved catch 14 when the door is closed as shown in Figures 2, 4, and 5. It will be noted that the catch 14 is a stamping and has a rounded or cylindrical portion which directly engages the spring or strike 13 as shown in Figure 5, and pushes the spring or strike 13 sidewise, thereby deforming it to the extent shown in Figure 5. Also the coaction between the barrel-shaped spring 13 and the cylindrical portion of the catch 14 is such as to draw the door inwardly in the final closing motion and hold the hinged door in closed position. The catch 14 extends through a slot in the bracket or reinforcing member 5 of the door and a notch in the lower edge of the slot 7 and is spot welded or otherwise secured thereto as shown in Figure 3.

It is to be noted particularly that in the opening and closing motion of the door the spring strike 13 is free to revolve on the bolt 9, thus minimizing friction, though in no way sacrificing the secure latching or holding action due to the coaction of the strike 13 and the catch 14. Instead, though friction is minimized, the snap action or final tendency to close the door is even more pronounced than it would be if there was a considerable amount of friction.

It is to be noted that in opening or closing the door the catch 14 does not slide on the spring strike 13 but instead the spring strike 13 rolls along the cylindrical catch 14 and rotates on the bolt 9.

It is to be noted that there is no necessity for a latch of any kind at the swinging or free end of the door and a very neat construction, therefore, results.

It is to be noted that there are a great many convolutions in the spring strike 13 and consequently there is a very small amount of flexing of any portion of the spring, thus guarding against crystallization.

Attention is called to the fact that, as shown in Figures 1 and 4, the spring strike 13 is preferably mounted below an overhanging portion of the cabinet so that it is out of the way and is somewhat protected, though this is not absolutely necessary it nevertheless adds to the appearance of the construction. It is, of course, apparent that if desired the strike could be carried by the door and the catch could be carried by the body portion, though this is not the preferred construction.

As stated hereinabove, the coaction between the coiled spring strike and the catch is such as to urge the door towards closed position during

the final closing motion of the door. These parts coact also to yieldingly hold the door closed so that the door may be pulled open against the yielding hold produced by the coaction of the strike and catch.

The spring strike has been described and shown as strictly barrel-shaped but although this is the preferred shape, it nevertheless could be shaped in any other generally cylindrical shape provided it was revolubly supported at its ends and had a portion thereof free to be deflected laterally by the catch. The expression "cylindrical" is, therefore, intended to include a truly cylindrical shaped spring or a barrel-shaped spring or any other spring coiled and approximating a cylinder.

It is to be noted further in connection with the barrel-shaped spring strike that this member is revolubly supported only at its ends and its intermediate portion is freely distortable or deflectable laterally by the catch when the door is closed. The rounded or curved portion of the catch engages an intermediate portion of the coiled spring strike and deflects or distorts this portion laterally as it passes by. It passes to the rear of the strike though still engaging it and thus coacting with the strike produces a force yieldingly holding the door closed.

It is to be noted also that the device is very simple and is cheap to construct.

Although this invention has been described in considerable detail, it is to be understood that such description is intended as illustrative rather than limiting, as the invention may be variously embodied and is to be interpreted as claimed.

I claim:

1. In a cabinet having two main portions constituting a body portion and a door hinged adjacent one end, a latch construction mounted adjacent the hinged end of the door and comprising a cylindrical coiled spring strike revolubly supported from one of said portions of said cabinet and a catch supported from the other of said portions and having a curved portion

arranged to coact with the coiled spring strike to yieldingly hold the door closed and to produce a force tending to close the door during the final closing motion of the door.

2. In a cabinet having two main portions constituting a body portion and a hinged door, a latch construction for holding the door closed and for assisting in the final closing motion of the door comprising a cylindrical coiled spring strike revolubly supported from one of said portions of said cabinet and a catch supported from the other of said portions and having a rounded part arranged to engage the side of said spring strike when the door is closed to thereby revolve and laterally distort the spring strike and pass beyond the center line of said spring strike when said door is closed, said spring strike and said catch coacting to yieldingly hold the door closed.

3. In a cabinet having two main portions constituting a body portion and a door hinged adjacent one end, a latch construction mounted adjacent the hinged end of the door and comprising a barrel-shaped coiled spring strike revolubly supported adjacent its ends on a fixed member carried by one of said portions of said cabinet and a catch supported from the other of said portions and having a rounded part arranged to engage and laterally distort said coiled spring strike intermediate its ends when said door is closed, said strike and catch coacting to yieldingly hold said door closed.

ALVIN N. DEDRICKS.

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