

July 26, 1927.

I. C. LARSON ET AL

1,636,697

CLIP DOOR CATCH

Filed April 4, 1925

Fig. 1

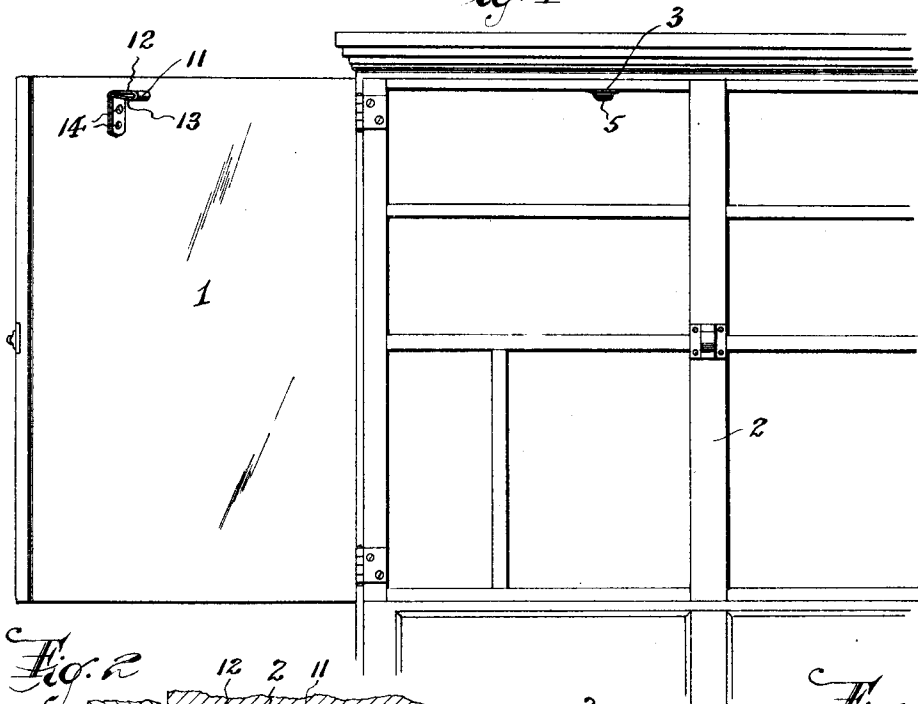


Fig. 2

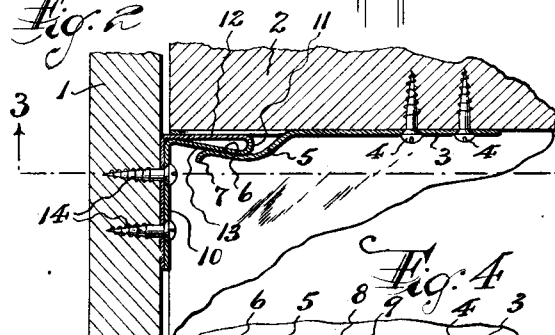
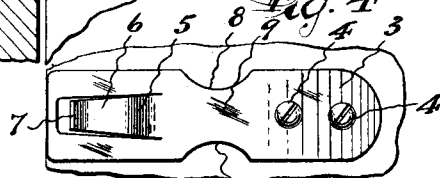
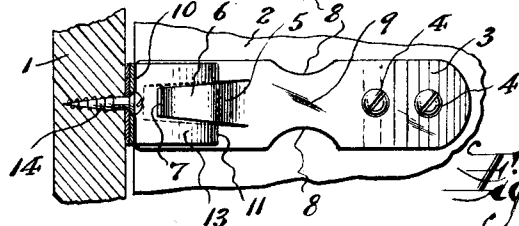
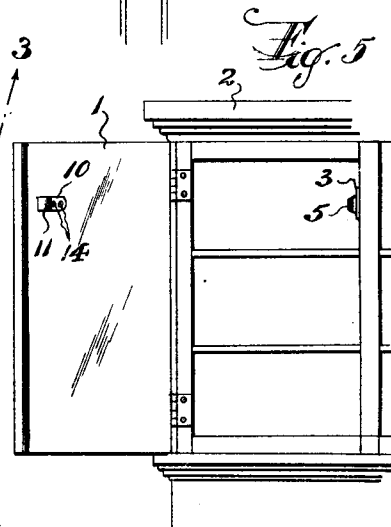


Fig. 4



INVENTORS:

George S. Cooper:

BY *Ira C. Larson*

Trantze and Richard
ATTORNEYS.

Patented July 26, 1927.

1,636,697

UNITED STATES PATENT OFFICE.

IVAR C. LARSON, OF EAST PROVIDENCE, AND GEORGE S. COOPER, OF PROVIDENCE, RHODE ISLAND, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO KISCO WORKS, INC., OF PROVIDENCE, RHODE ISLAND, A CORPORATION OF RHODE ISLAND.

CLIP-DOOR CATCH.

Application filed April 4, 1925. Serial No. 20,773.

This invention relates to improvements in means for retaining doors, blinds or shutters and similar hinged structures in closed position; and, the invention has reference, more particularly, to a simple, easily applied and efficient door catch for general use.

The invention has for its principal object to provide a simple, cheap and easily manufactured and applied retaining device for holding a door, shutter or other hinged structure in closed relation to its frame; and to this end the retaining device consists of a male member for attachment to the door or the like, and a yieldable gripping member for attachment to the door frame, said male and female members so cooperating, when mutually engaged, that the door or the like is held securely in closed position. Another advantage of the novel retaining device is, that the nature of the cooperation of its parts tends, under certain conditions, not only to hold the door or the like closed, but also firmly supported against sagging or warping, thus providing a retaining device peculiarly advantageous for use in connection with kitchen cabinets, book-cases, and similar articles of furniture, as well as for general use in ordinary applications to building doors, etc.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a fragmentary front elevation of a cabinet provided with a hinged door shown in open position, and said cabinet and door being provided with the novel door retaining device, made according to and embodying the principles of this invention; Figure 2 is a vertical longitudinal section, on a larger scale, showing the door in closed position and retained and supported in such position by the cooperating members of our novel retaining device; Figure 3 is a horizontal section, taken on line 3—3 in Figure 2; Figure 4 is a plan view of the female member of the retaining device; and Figure 5 is a view, on a similar scale, similar to that shown in Figure 1, but illustrating a somewhat different mode of applying the members of the novel retaining device to the door and cabinet.

Similar characters of reference are employed in all of the hereinabove described views, to indicate corresponding parts.

Referring now to said drawings, the ref-

erence character 1 indicates the hinged door of a cabinet 2, or any other structure, to which the members of the novel retaining device have been applied.

The novel retaining device comprises separable cooperative members, which may be designated as a male member and a female member. Said female member consists of a flat main body 3, preferably made of sheet steel or other tampered or springy metal, said body 3 being perforated adjacent to its rearward end to permit the passage of fastening screws 4 therethrough. Struck outwardly and downwardly from the forward free end of said body 3 is a spring tongue 5, which is forwardly projecting. Said spring tongue 5 is provided adjacent to its free end with an upwardly inclined portion 6, the extremity of which is turned or bent downwardly to provide a guide lip 7 at the extremity of said spring tongue. It is preferable, although not essential in all cases, to reduce the width of said main body 3 at a point intermediate the position of the fastening screws 4 and the spring tongue 5, so as to render that portion of said main body 3 which bears the spring tongue 5 of itself resilient or springy. This may be accomplished by producing in the opposite longitudinal margins of said body 3, cutaway or indented portions 8 to provide the reduced neck-portion 9 which thus establishes a point of flexion.

The male member of the retaining device is preferably made of sheet metal, such as steel, and comprises a strip doubled upon itself, with its doubled end turned at right angles to the main body 10 to provide a laterally projecting nosing 11. Said nosing 11 is preferably shaped to provide a flat upper surface, as at 12, the same lying in a plane at right angles to the plane of the main body 10, and the under side of said nosing being shaped to provide an upwardly and rearwardly inclined surface or plane 13. The main body portion 10 of said male member is perforated to permit the passage of fastening screws 14 therethrough.

In assembling the retaining device to a door and door-frame, or similar stationary part with which the device coacts, the female member of the device is preferably secured by the fastening screws 4 to the underside of the door frame, shelf or similar part, so as

to lie in horizontal plane, with its free end portion projecting toward the door, as shown in Figures 1, 2 and 3. The male member is attached to the inner surface of the door 1, with its main body 10 vertically disposed and flat against said door surface, and secured in place by the fastening screws 14; said main body is so disposed or positioned that the nosing 11 will project outwardly from the inner surface of the door in horizontal plane, and alined to pass intermediate the main body 3 and the spring tongue 5 of the female member, when the door is closed.

In operation, when the door is moved or swung to closed position, the nosing 11 first engages the guide lip 7, thus depressing the spring tongue 5, so that the nosing may pass intermediate the underside of said main body 3 and said spring tongue. After the free end or extremity of the nosing 11 passes the guide lip 7, its inclined under side 13 engages the similarly inclined upper side 6 of the spring tongue 5, and the tension of the spring tongue 5 tends to produce an inward longitudinal sliding movement of the inclined plane 13 on the inclined plane 6, whereby the door is drawn tightly inward to closed position, and once closed is thus retained against accidental opening movement.

One of the marked advantages of the novel retaining device, in addition to its primary function in retaining the door 1 in closed position against accidental opening movement, is that its arrangement is such that, when attached to the door and door frame in the manner above described, the upward tension of the spring tongue 5 as exerted on the nosing 11 produces a lifting pressure on the latter which is transmitted to the door, thereby holding the latter square to the frame or door opening, and therefore retained against sagging and warping. This last described function of the retaining device is of very great advantage particularly in connection with kitchen cabinet, book-case and similar furniture doors. The tendency of the device to support the door against sagging, etc., may be further enhanced where the forward free end of the main body 3, carrying the tongue 5, is in itself resilient or springy, since, when so characterized, increased tension is provided, as will be understood.

It will be understood, that we do not limit our invention to use in the above described relation to a door and door frame or the

like, since, as shown in Figure 5, the parts may be arranged relative to a vertical side of the door and door frame, and the advantages and functions thereof, as related to the retention of the door in closed position, will be equally well attained.

We are aware that some changes may be made in the detail construction of the co-operative male and female members making up our novel retaining device, without departing from the scope of this invention; hence, we do not limit our invention to the exact arrangements and combinations of the devices and parts thereof as set forth in the foregoing specification, nor do we confine ourselves to the exact details of the construction of said parts as illustrated in the accompanying drawings.

Having thus described our invention, we claim:—

1. A door retaining means, comprising co-operative members, one member for attachment to a door frame or the like consisting of a flat metallic body having a spring tongue struck therefrom and spaced from the external side of said body, said spring tongue having at its free end an upwardly and outwardly inclined portion, the other member for attachment to a door comprising a base and an outwardly projecting nosing having an enlarged free end portion receivable between said spring tongue and flat body of said first mentioned member.

2. A door retaining means, comprising cooperative members, one member for attachment to a door frame or the like consisting of a flat metallic body having a spring tongue struck therefrom and spaced from the external side of said body, said spring tongue having at its free end an upwardly and outwardly inclined portion, the other member for attachment to a door consisting of a flat metallic strip doubled upon itself to provide a nosing at its closed end, said doubled strip being bent intermediate its ends into right angled form whereby the registered ends thereof provide a base for attachment to a door from which said nosing projects toward the door opening to be receivable between said spring tongue and flat body of said first mentioned member.

In testimony, that we claim the invention set forth above we have hereunto set our hands this 3rd day of February, 1925.

GEORGE S. COOPER.
IVAR C. LARSON.