Dec. 3, 1929. J. H. NIESSEN ET AL 1,738,387

DOUBLE ACTING CATCH

Filed May 26, 1927

FIG. 1.

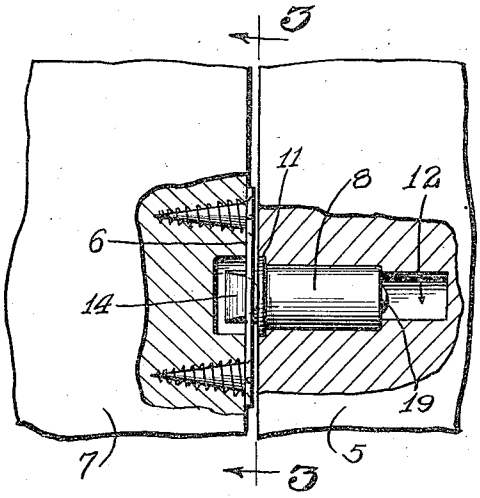


FIG. 4.

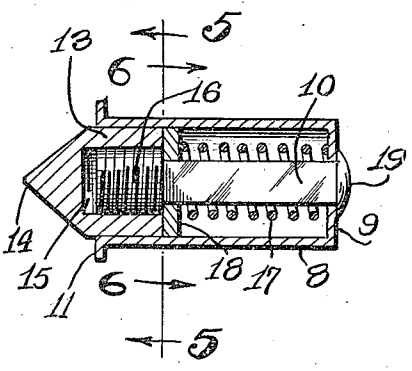


FIG. 5.

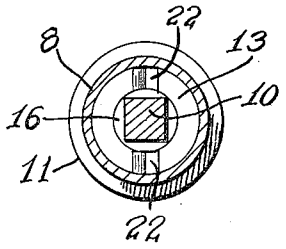


FIG. 2.

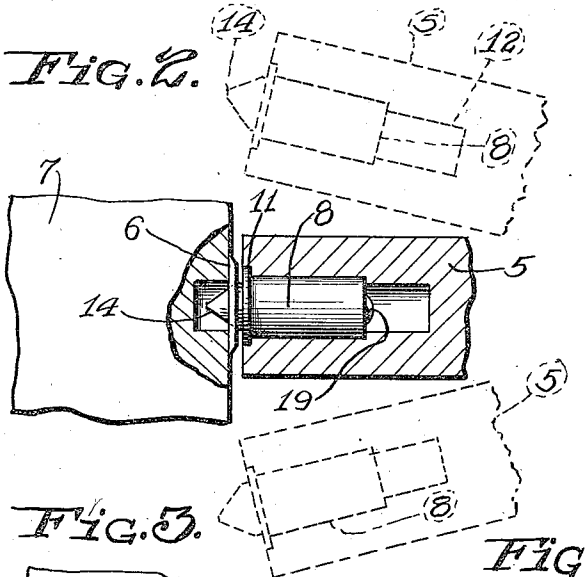


FIG. 6.

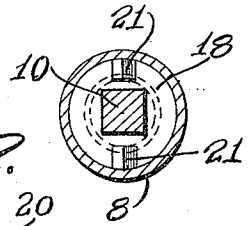


FIG. 3.

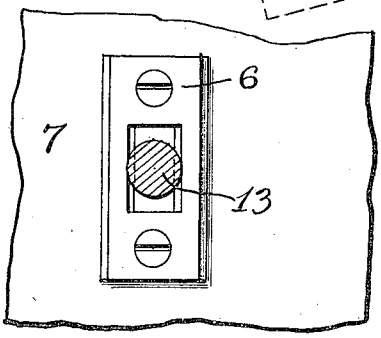
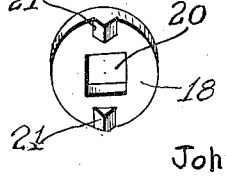


FIG 7.



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UNITED STATES PATENT OFFICE

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DOUBLE-ACTING CATCH

Application filed May 26, 1927. Serial No. 194,386.

This invention relates generally to closure fasteners, and has more particular reference to an improved form of sliding spring projected double-acting catch embodying a catch bolt of the bevel tapered or wedge nose type.

The primary object of the present invention is to provide a catch of the above kind embodying improved simple means for securing adjustments of the catch bolt so that it may project for proper cooperation with a keeper despite changes which take place in the relation between the parts or members to be fastened together.

Other objects will appear as the nature of the invention is better understood, and the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed.

In the drawing, wherein like reference characters indicate corresponding parts throughout the several views,

Figure 1 is a fragmentary view, partly in elevation, and partly in section, showing our improved catch operatively associated with a door adapted to open in either direction;

Figure 2 is a view of the device shown in Figure 1, partly in top plan and partly in horizontal section;

Figure 3 is a vertical section taken substantially upon line 3—3 of Figure 1;

Figure 4 is an enlarged central longitudinal sectional view of the catch removed from the door;

Figure 5 is a transverse section on line 5—5 of Figure 4;

Figure 6 is a section upon line 6—6 of Figure 4; and

Figure 7 is a perspective view of the washer forming part of the means for retaining the catch bolt head in adjusted position.

Referring more in detail to the drawing, the present fastener is adapted for use in various ways to secure the members to be fastened, the same being herein illustrated as applied to a swinging door 5 and cooperating with a suitable keeper plate 6 fastened to an adjacent door jamb or frame 7. However, it is obvious that this type of catch is capable of other uses such as the fastening or adjusting of window sashes and the like.

The present catch consists of the usual cylindrical casing 8 of hollow tubular form and having an inner end wall 9 provided with a polygonal central aperture through which is freely slidable the similarly shaped reduced stem portion 10 of the catch bolt, whereby said stem portion is restrained against axial rotation relative to the casing. The casing 8 is open at its outer end and provided at this end with the usual annular flange 11 for engagement with the surface of the member 5 at the outer end of a socket or recess within which the casing 8 is fitted, which socket or recess is provided with a reduced portion 12 at the inner end of the casing to furnish clearance for the stem 10 in the operation of the catch. Slidably and rotatably fitted within the outer end portion of the casing 8 is the usual bolt head 13 having a cylindrical body portion and a wedge-shaped or tapered nose 14. The bolt head 13 is provided with an axial socket 15 which opens through its inner end and into which is adjustably threaded the enlarged adjacent end portion 16 of the stem 10, it being thus apparent that by turning the head 13 it may be threaded off of or onto the threaded part 16 of the stem 10 to the required extent whereby the effective length of the catch bolt is changed. Disposed within the casing 8 and surrounding the stem 10 is a helical compression spring 17 which bears at one end against the niner end wall 9 of the casing and at its other end against a washer 18 whereby the catch bolt is projected for a distance limited by the head 19 provided upon the inner end of the stem 10 and normally engaging the external face of the end wall 9.

In view of the above it will be seen that by rotating the head 13 it may be adjusted to normally projected desired distance beyond the open end of the casing 8 for properly bridging the space between the members 5 and 7 to be fastened for correct engagement with the keeper 6.

The present invention more particularly relates to the manner of or means for retaining the bolt head 13 in adjusted position or

against accidental rotation. As shown, the enlarged threaded portion 16 of the stem 10 forms a shoulder at the inner end of said portion 16 against which the washer 18 abuts, and said washer is provided with a polygonal central opening 20 fitting the stem 10 so that it cannot rotate on the latter. Provided diametrically opposite each other on the outer face of the washer 18 are a pair of double-acting or V-shaped ratchet teeth 21, and formed at similar points in the inner end of the head 13 are similarly shaped recesses 22 within which the teeth 21 are seated by the spring 17 which projects the bolt. Thus, the stem 10 and washer 18 being restrained against rotation relative to the casing 18, the head 13 will be prevented from accidental rotation when the teeth 21 are seated in the recesses 22, as is obvious. However, the head 13 may be forcibly or manually turned to the desired adjusted relation on the threaded portion 16 of the stem 10, the spring 17 yielding to permit the necessary inward displacement of the washer 18 during the operation, due to the teeth 21 successively passing out of and again into the recesses 22 of the head 13. In this way, the adjustment is obtained in an effective and simple manner or without unduly complicating the structure, the ratchet washer being urged to retaining position by the same spring which causes the projection of the catch bolt.

From the foregoing description it is believed that the construction and operation as well as the advantages of the present invention will be readily understood and appreciated by those skilled in the art.

What we claim as new is:—

1. A double-acting catch comprising a casing, a spring projected catch bolt including a stem slidable in and held from rotation relative to the casing and a tapered-nose head adjustably threaded on the stem and rotatably and slidably fitted in the casing, and double-acting ratchet means associated with the stem and head to hold the latter against accidental rotation.

2. A double-acting catch comprising a casing, a spring projected catch bolt including a stem slidable in and held from rotation relative to the casing and a tapered-nose head adjustably threaded on the stem and rotatably and slidably fitted in the casing, and double-acting ratchet means associated with the stem and head to hold the latter against accidental rotation, said last named means embodying a washer slidable but restrained from rotation on the stem and having ratchet teeth on its outer face, said head having ratchet notches in its inner end for co-operation with said teeth, the projecting spring for the catch bolt being engaged with the washer to urge it against the head.

3. A double-acting catch comprising a hollow cylindrical casing having an inner end wall formed with a central non-circular opening, a catch bolt including a tapered-nose head rotatable and slidable in the outer end of the casing and having an axial threaded socket in its inner end and V-shaped notches at opposite sides of the socket and a stem slidable through and fitted in the opening of the casing to be held from turning relative to the latter, said stem having a threaded end adjustably engaged in the socket of the head, a washer slidably engaged on the stem to be held from rotation on the latter and having ratchet teeth on its outer face for reception in the notches of the head, a spring interposed between the washer and the inner end of the casing for projecting the bolt and yieldingly urging the washer against the head with the teeth engaged in said notches, and means to limit projection of the bolt.

In testimony whereof we affix our signatures.

JOHN HUBERT NIESSEN.
HUBERT WALTER NIESSEN.