June 4, 1929. E. F. CHAFFEE 1,715,990

CLAMPING DEVICE

Filed April 18, 1924

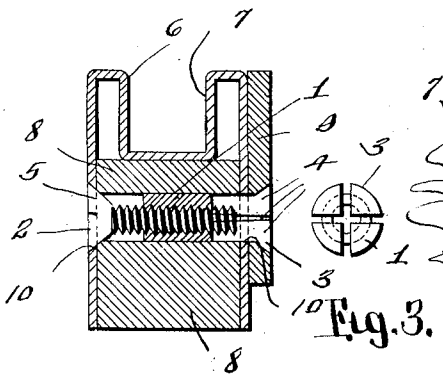


Fig. 3.

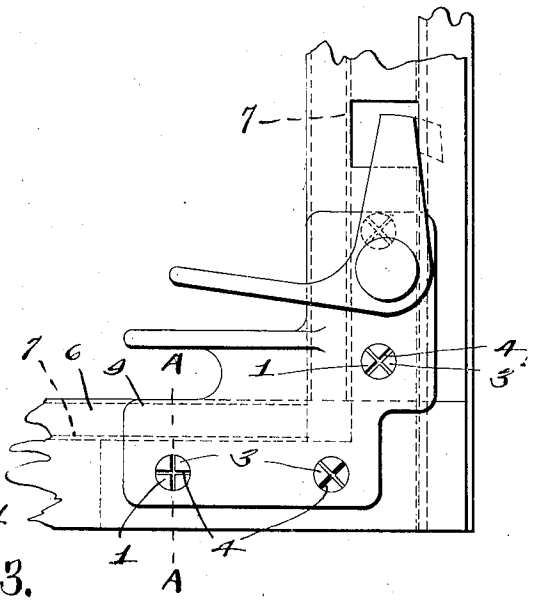


Fig. 2.

Fig. 1.

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UNITED STATES PATENT OFFICE.

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CLAMPING DEVICE.

Application filed April 18, 1924. Serial No. 707,528.

This invention has for its object a clamping device which is self locking, and which is particularly simple in construction and highly efficient in use.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a vertical sectional view of this clamping device, showing the same, as applied to a metal window sash construction having opposing walls which are clamped toward each other, said section being taken on line A—A, Fig. 2.

Figure 2 is a fragmentary elevation of a sash provided with my invention.

Figure 3 is an end view of the sleeve screw.

This clamping means comprises a sleeve screw and a male screw threaded into the sleeve screw, the sleeve screw having a head which is usually conical and being provided with one or more slots extending inwardly through the head and into the bore of the sleeve screw, whereby when the screw is tightened by being turned onto the male screw or upon turning of the male screw into the sleeve screw, the slotted end thereof contracted or clamped on the male screw by the conical walls of the head engaging the wall of the opening in which the head is located.

1 designates the sleeve screw, and 2 the male screw, which threads into the sleeve screw, the sleeve screw having a conical head 3, and being formed with slots 4, usually two arranged at a right angle to each other and to its head, the slots extending into or intersecting the threaded bore of the sleeve screw. The male screw 2 is also usually formed with a conical head 5 for entering the countersink in one of the parts to be clamped together.

In window sashes such as are used in railway cars, motor busses, etc., the screws which clamp the sash lock plate to the sash and which clamp the opposite sides of the sheet metal sash toward each other or on to a reinforcing or filler strip becomes loose, and this clamping device is particularly adapted for such sashes.

6 designates the sash which is here shown as in the general form of a U-shaped channel, formed up out of a strip of sheet metal, and having its bottom wall formed with an external groove 7 for receiving the pane. 8 is a filler block usually of wood located between the front and rear walls of the sheet metal channel of the sash.

9 is the base plate of a sash lock, which base plate is usually mounted on the corner of the sash, the opposite walls of the metal channel having openings 10 for receiving the screws 1, 2, and the filler block 8 is also formed with a passage in which the sleeve screw 3 slidably fits.

The base plate 9 of the sash lock is also formed with an opening for the head 3 of the screw 1. This opening being countersunk or conical to conform to the conical head 3 of the sleeve screw head 1, also the opening in which the conical head of the male screw 2 is located is also bevelled.

In operation the male screw is turned into the sleeve screw by means of a screw driver, the sleeve screw being held from turning by a screw driver inserted in one of the slots 4 until the heads of the screws are located in the countersinks. The screw driver is then removed from the head of the sleeve screw 1. During further turning of the male screw 2, the sleeve screw is held from turning by means of the friction between the heads 3 of the screw and the wall of the opening, in which it is located, and the slotted portion thereof contracts inwardly and clamps onto the ends of the male screw 2, and thus locks both screws from turning movement.

What I claim is:

The combination with two parts to be clamped together and formed with aligned bevelled openings, of a clamping device comprising two parts each including a bevelled head and a shank, the heads being located in said openings respectively and the shank of one being a cylindrical sleeve a major portion of which is solid and the remaining, headed portion being slotted longitudinally to form fingers contractible when the bev-

elled heads are drawn into the aligned openings, the other shank comprising a screw threading into said sleeve and being gripped by the contractible fingers when the clamping device is fully positioned with both heads engaging the bevelled openings, the slots in said sleeve extending through said head and part way into the threaded portion of the sleeve and said threaded portion of said sleeve terminating short of the head of the sleeve.

In testimony whereof, I have hereunto signed by name, at Syracuse, in the county of Onondaga and in the State of New York, this 22d day of March, 1924.

EDWARD F. CHAFFEE.