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FASTENER FOR STORM SASH AND THE LIKE

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FIG. 1

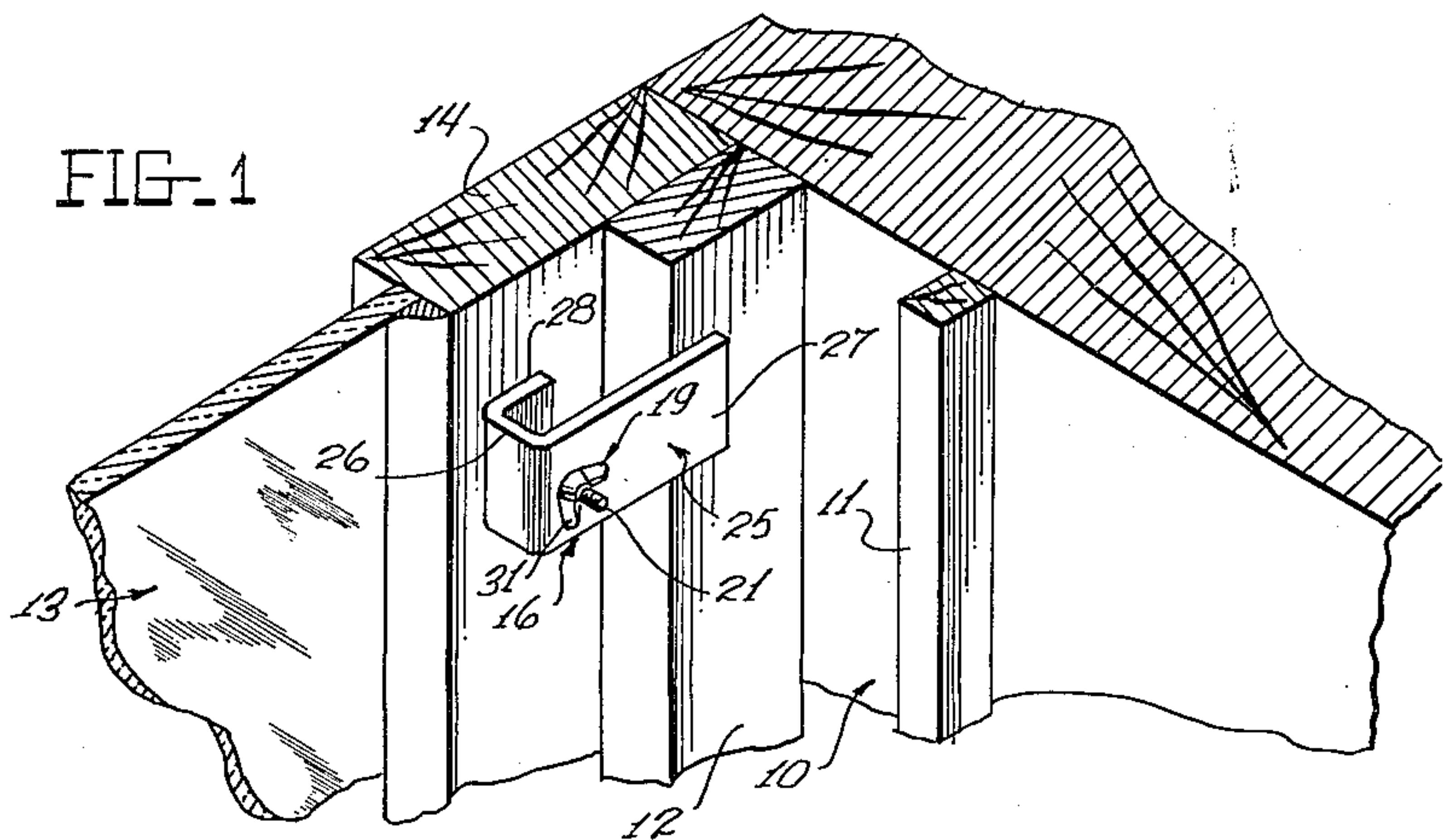


FIG. 2

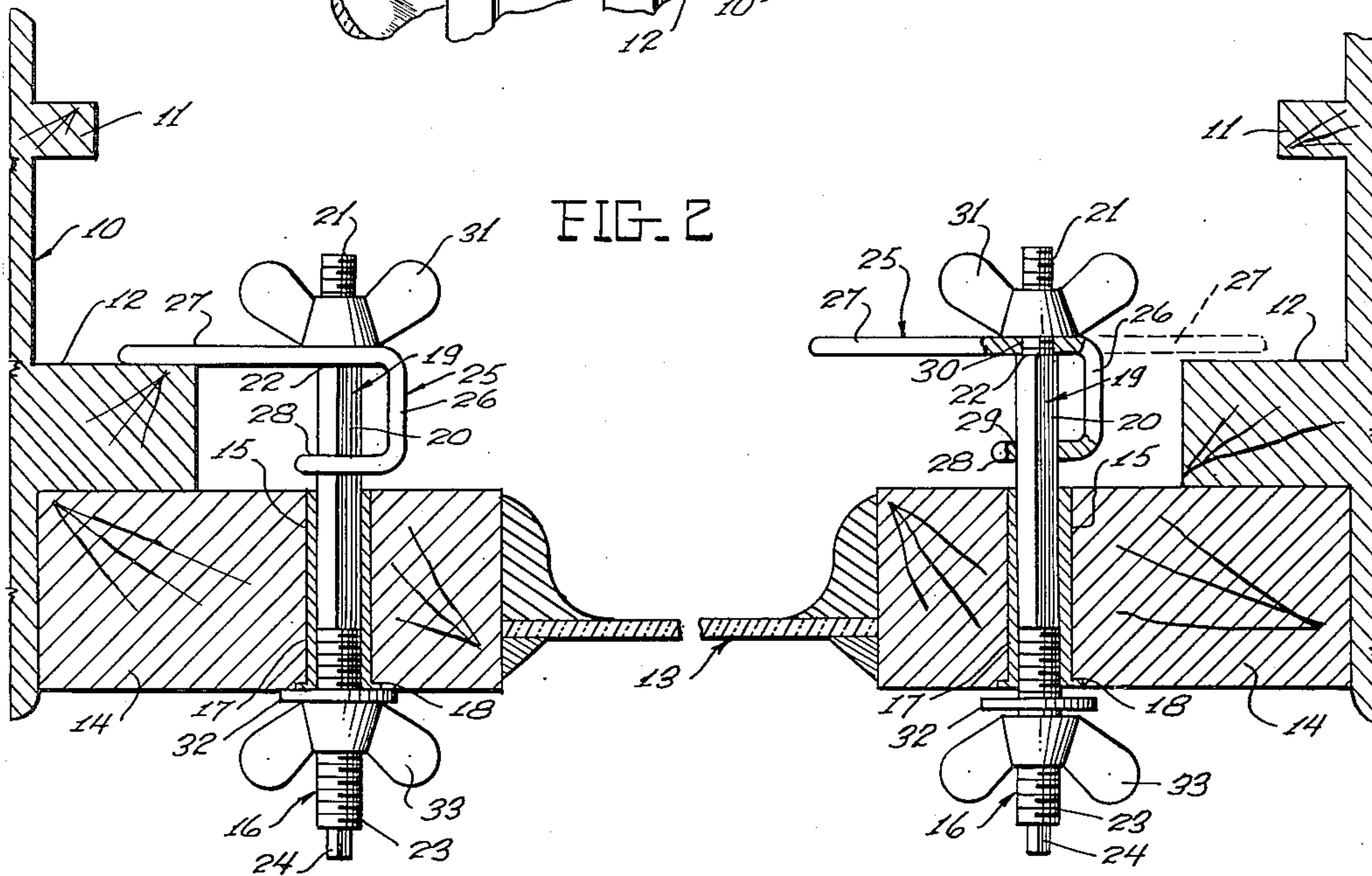
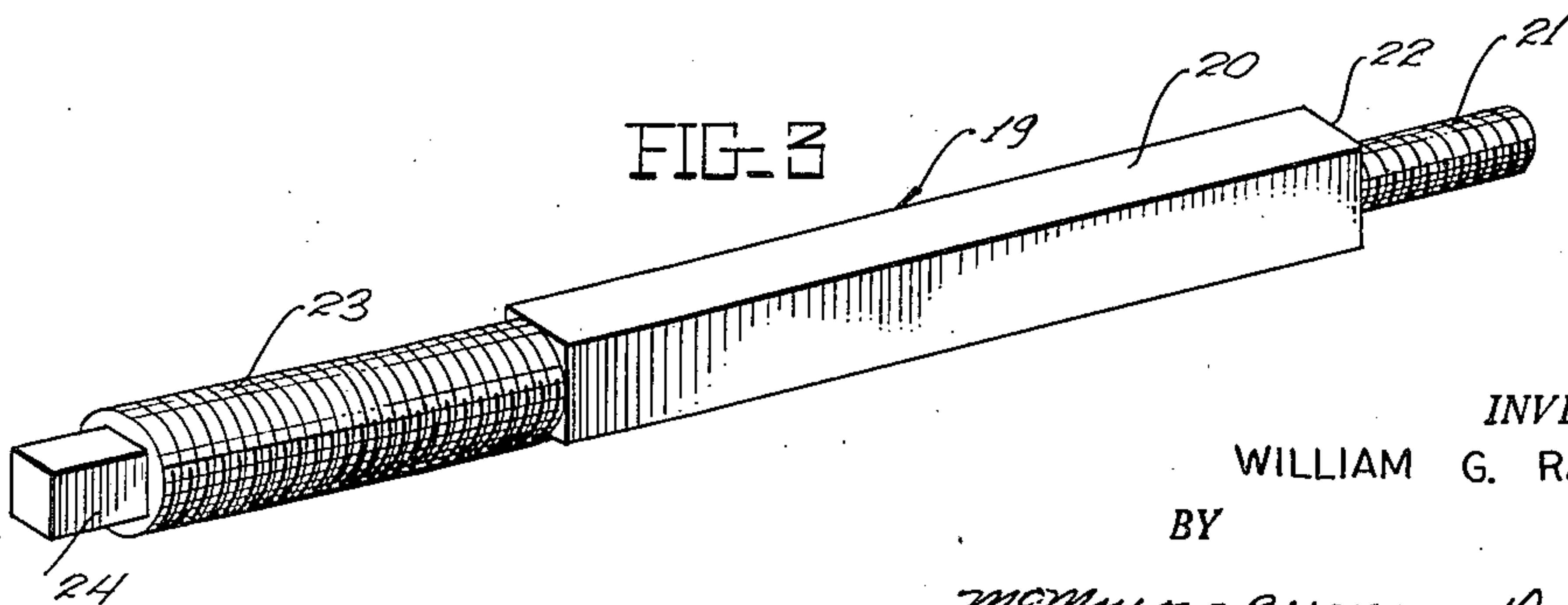


FIG. 3



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FASTENER FOR STORM SASH AND THE LIKE

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1 Claim. (Cl. 292—212)

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My invention relates to a fastener for storm sash, screens and the like.

A primary object of the invention is to provide a storm sash fastener, the use of which makes it possible to lock and unlock the sash from either the inside or outside of the house.

A further object of the invention is to provide a storm sash fastener which will greatly facilitate the installation and removal of the storm sash from the outside of the house, it being unnecessary to secure the assistance of any one within the house.

A further object is to provide a fastener of the above-mentioned character which is highly simplified, compact, sturdy and durable in construction, easy to manipulate and relatively inexpensive to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application, and in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a fragmentary perspective view of a storm sash fastener embodying my invention and illustrating the use of the same;

Figure 2 is a fragmentary, horizontal, sectional view through a storm sash equipped with my fasteners, one fastener being shown in a clamping or locking position, the other fastener being shown in a loosened or unlocked position; and

Figure 3 is an enlarged perspective view of a fastener rod or shank removed.

In the drawings, where, for the purpose of illustration, is shown a preferred embodiment of my invention, the numeral 10 designates a portion of a window frame or casing having the usual sash guide or rails 11 and outer, vertical blind stops or rails 12. A storm sash 13 is shown positioned within the window frame 10 with its frame sides or stiles 14 engaging the outer sides of blind stops 12. The frame sides or stiles 14 are provided near and above the bottom of the storm sash, and laterally inwardly of the blind stops 12 with horizontal, transverse openings or bores 15 for receiving my sash fasteners which are designated generally by the numeral 16. The storm sash 13 is equipped at its top with any conventional type of hangers and the fasteners 16 serve to releasably secure the storm sash in place against the blind stops 12.

Each sash fastener 16 comprises a horizontal, cylindrical sleeve or bushing 17 rigidly secured within the opening 15 and provided at its outer

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end with an integral, flat, annular flange 18, preferably arranged flush with the outer face of the stile 14. The opposite end of each sleeve 17 is flush with the inner face of the stile 14, and the length of the sleeve is equal to the thickness of the stile 14, Figure 2.

Freely rotatably mounted within each of the sleeves 17 is an elongated, straight, horizontal fastener bolt 19. Each bolt 19 comprises a central, elongated body portion 20, which is square in transverse cross-section and slightly narrower across corners than the inside diameter of the sleeve 17. As shown clearly in the drawings, the fastener bolts 19 extend beyond the inner and outer faces of the stiles 14, and when in use, the square body portions 20 extend inwardly beyond the sash stiles 14 and adjacent to the blind stops 12. At their inner ends, the bolts 19 include reduced, longitudinal, screw-threaded extensions 21 forming flat, lateral shoulders 22 at the inner ends of the square body portions 20. On the outer ends of the square body portions 20 are screw-threaded extensions 23, preferably having the same diameter as the width of the square body portions 20 across flats. The extensions 23 are somewhat longer than the inner, screw-threaded extensions 21, as shown. The outer ends of the extensions 23 are further provided with short, reduced, square extensions 24 for a purpose to be described.

Removably mounted upon the inner end of each bolt 19 is a generally J-shaped, rigid clamp bracket 25, including a short foot portion parallel to and spaced from the bolt 19 on the laterally inward end of a relatively long integral standard portion 27 extending at right angles to the bolt 19. Each clamp bracket 25 further comprises a relatively short integral extension 28 on the free end of the foot portion 26 paralleling the standard portion 27 and spaced laterally therefrom as shown. The relatively short extensions 28 are provided with square openings 29 slidably receiving the square body portions 20 of the bolts 19, and each standard portion 27 is provided with a small circular opening 30 slidably receiving therein the inner, screw-threaded bolt extension 21. The openings 29 and 30 of each clamp bracket 25 are in axial alignment, and the clamp brackets are applied to the inner ends of the bolts 19, with the standard portions 27 of the brackets engaging adjacent the lateral shoulders 22, as shown. The clamp brackets 25 are positioned adjacent to the vertical blind stops 12, and the distance between the bracket portions 27 and 28 is somewhat less than the thickness of the blind

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stops 12, so that the short portions 28 are always spaced from the inner faces of the stiles 14. The standards 27 are adapted to engage behind the inner faces of the blind stops 12, Figure 2. The clamp brackets 25 cannot rotate relative to the rods 19, because of the coaction between the square openings 29 and the bolt body portions 20. Wing nuts 31 are mounted upon the inner, screw-threaded extensions 21 and engage against the bracket standard portions 27 for holding them against the shoulders 22.

Suitable flat washers 32 are mounted upon the outer, screw-threaded bolt extensions 23 and engage the outer faces of the stiles 14 and flanges 18. Wing nuts 33 are mounted upon the extensions 23 outwardly of the washers, so that the sash fasteners may be operated from the outer side of the storm window or sash 13.

In use, the sash fasteners are applied to the sash 13, as shown and described. As previously stated, the storm sash may be locked and unlocked from either the inside or outside of the house. Also, the storm sash may be installed from the outside of the house without the necessity of entering the house to make adjustments from the inside or disturbing any one within the house, in order to obtain their assistance.

When working from the inside, in order to lock and unlock the storm sash 13, it is merely necessary to manipulate the inner wing nuts 31. When these wing nuts 31 are loosened slightly, the bolts 19 may be turned bodily within the sleeves 17, and the brackets 25 may be swung to the unlocked positions, such as shown at the right-hand side of Figure 2. Whenever the bolts 19 are turned, the clamp brackets 25 must turn with them because of engagement of the squared portions 20 with the square openings 29. Likewise, when locking the storm sash from the inside, it is merely necessary to turn the bolts 19 and clamp brackets 25 to the position illustrated at the left-hand side of Figure 2, wherein the bracket standard portions 27 engage behind the vertical blind stops 12. The wing nuts 31 are then tightened to draw the sash 13 tightly against the outer faces of the blind stops 12.

When working from the outside, the storm sash may be locked and unlocked by manipulating the wing nuts 33 and turning the bolts 19. For unlocking the sash, the wing nuts 33 are loosened and the bolts 19 and clamp brackets 25 are turned to the unlocked positions. If desired, a wrench or pliers may be conveniently applied to the outer square extensions 24 to facilitate turning the bolts 19. Also, when tightening the outer wing nuts 33, if there is any tendency for the bolts 19 to turn, this tendency

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may be overcome by holding the extensions 24 with pliers or the like. When installing the storm sash from the outside of the house, the bolts 19 and clamp brackets 25 are first turned to their loosened or unlocked position, and the storm sash is applied to the hangers, not shown. The sash is then swung to the closed position against the stops 12, and the bolts 19 and clamp brackets 25 are turned to the locking position. It is then merely necessary to tighten the wing nuts 33, and the storm sash is completely installed and locked closed.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:

In a clamping device, a bolt having a squared intermediate portion, a screw threaded outer end, a screw threaded inner end, a lateral shoulder between said intermediate portion and said inner end, a first nut threaded on said outer end, a clamping bracket comprising a J-shaped form comprising a standard portion extending crosswise of the bolt, said standard having a free end and another end, a lateral foot portion on said other end terminating in a lateral extension paralleling said standard portion and spaced from the outer side of said standard portion, said standard portion being formed intermediate its ends with an opening freely passing said inner end of the bolt with the standard portion bearing against said shoulder, said lateral extension being formed with a squared opening non-rotatably receiving the squared intermediate portion of the bolt, and a second nut threaded on the said inner end of the bolt and bearing against the inner side of the standard portion of the clamping bracket.

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