Jan. 23, 1951 H. W. FALK 2,539,066

WINDOW FASTENER

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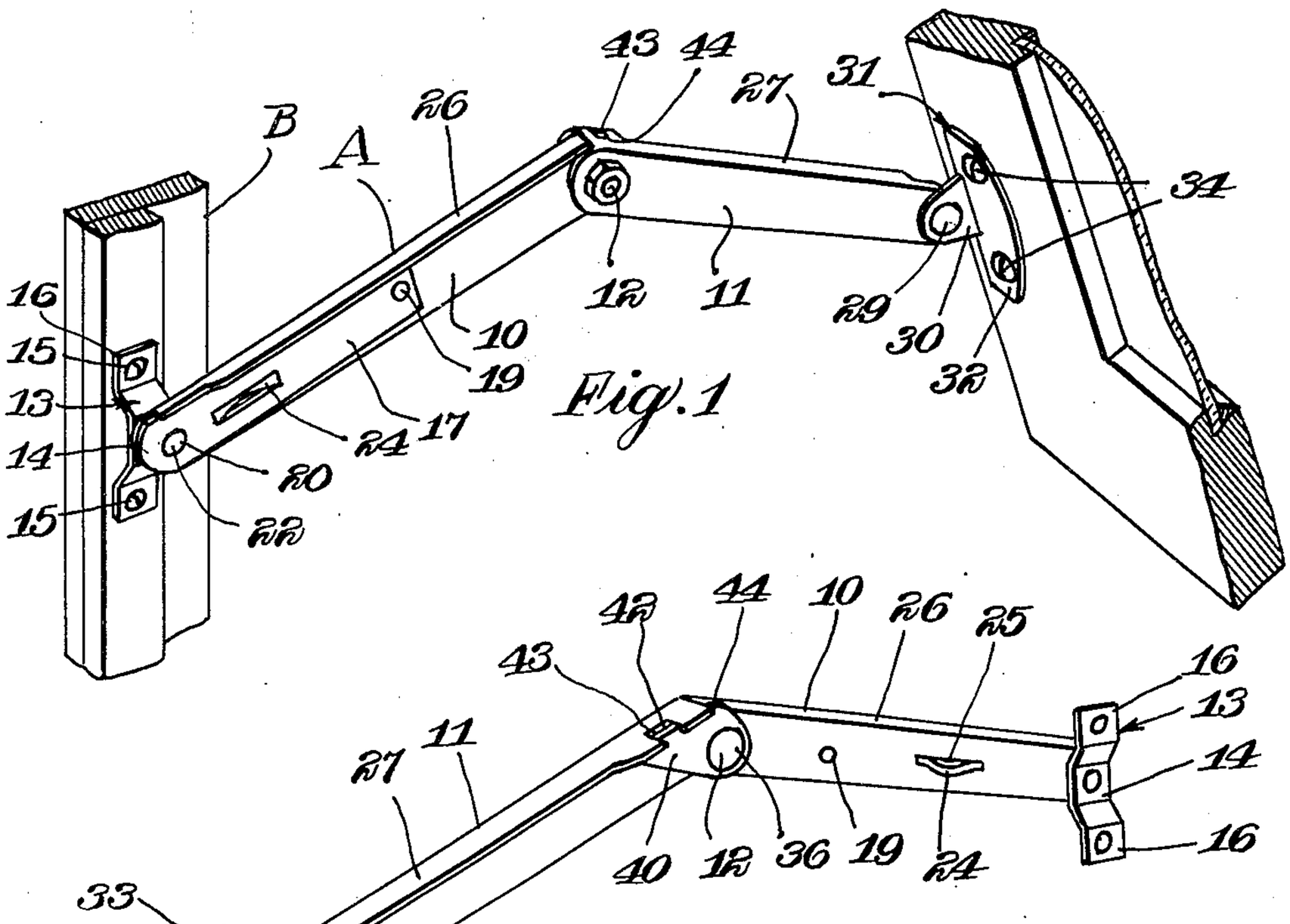

Fig. 1

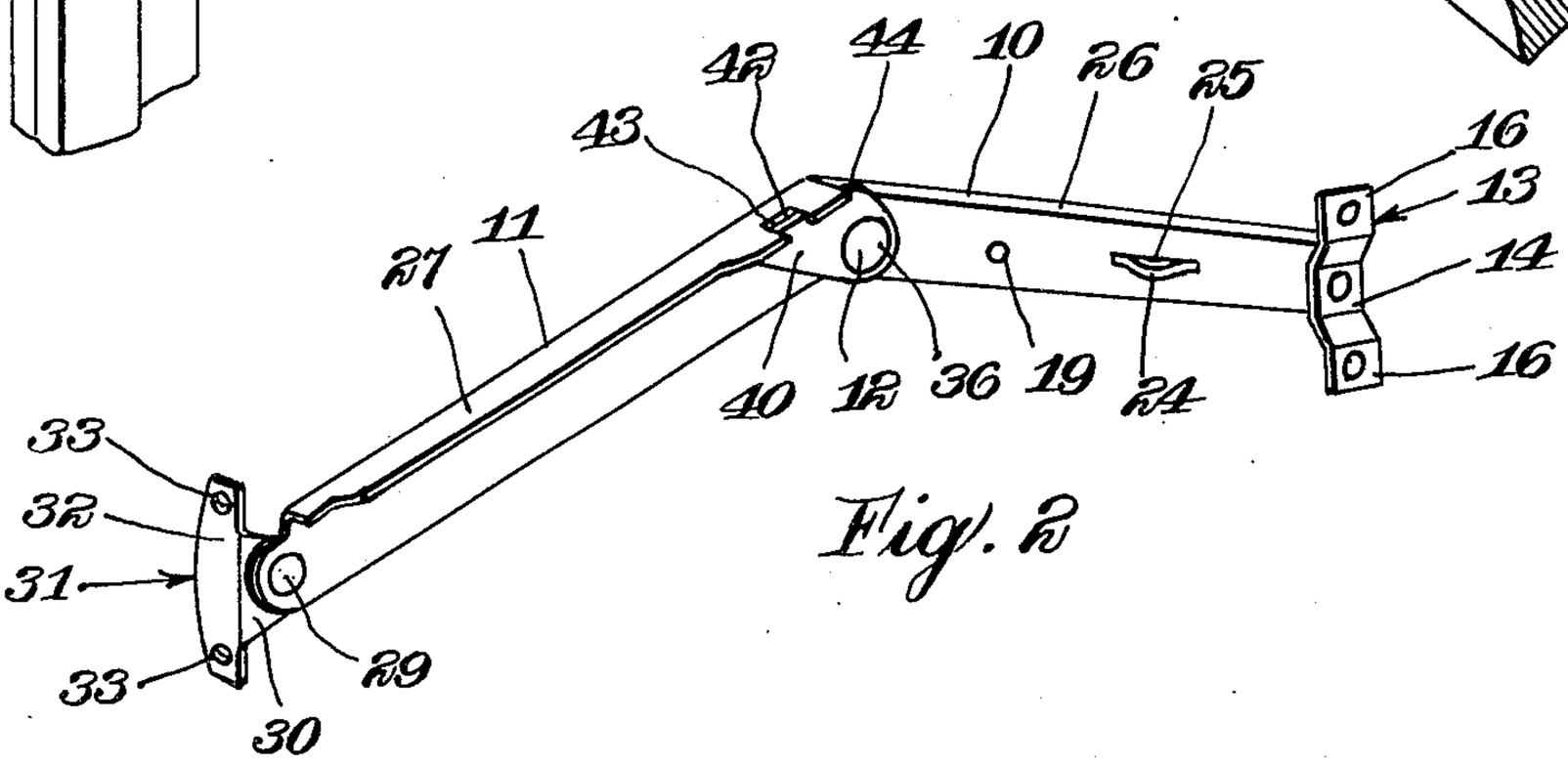

Fig. 2

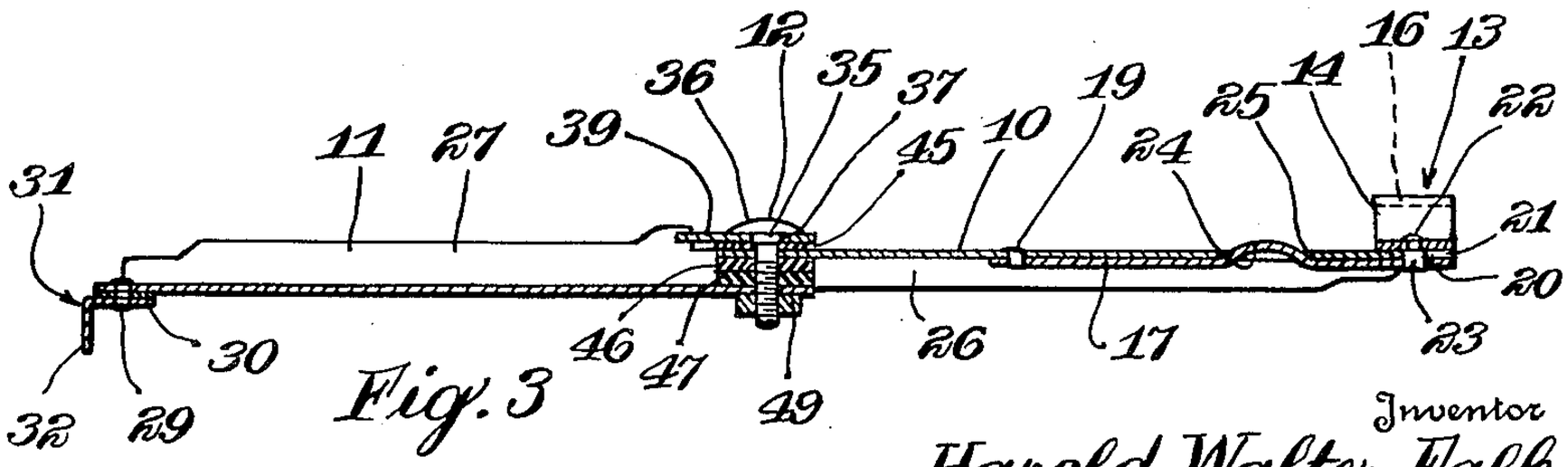

Fig. 3

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WINDOW FASTENER

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4 Claims. (Cl. 292—263)

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My invention relates to an improvement in window fasteners wherein it is desired to provide an apparatus for holding a pivoted sash in adjusted relation to its frame.

It is the object of the present invention to provide a fastener useful in ho ding a pivoted sash in desired adjusted relationship relative to its frame. While many such fasteners have been previously constructed the present device is believed advantageous because of its simplicity of construction and effectiveness of operation.

A feature of the present invention lies in the provision of a window fastener having a pair of pivotally connected links secured together at a knee joint. Friction washers are provided in the knee joint to hold the arms in proper adjusted relationship. The knee joint is simply constructed and inexpensive to manufacture.

A feature of the present invention resides in the provision of a window fastener having a pair of arms formed of angle shaped cross section and which are pivotally connected in opposed relation. The angular flange extending along the end of one arm is arranged to abut the angular flange on the other arm to prevent the arms from pivoting into alignment. When thus engaged the angular flanges on the two arms form a sturdy brace between the arms and provide a maximum of strength.

An added feature of the present invention lies in the provision of a detachable plate having a flat side engageable with the angular flange of one arm. Friction washers are interposed between this plate and the other arm, as well as between the said other arm and the arm to which the plate is adhered. Thus the arms may be connected together by means of a bolt without danger of the bolt loosening during continued operation of the fastener.

These and other objects and novel features of my invention will be more clearly and fully set forth in the following specificat'on and claims.

In the drawings forming a part of my specification:

Figure 1 is a perspective view of my fastener showing the construction thereof.

Figure 2 is a perspective view of the opposite side of the fastener.

Figure 3 is a longitudinal sectional view through the arms showing the construction of the fastener.

The window fastener A includes a pair of pivotally connected arms 10 and 11 which are pivotally connected by a pivot bolt 12. The arm 10 is detachably and pivotally connected to a

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stile plate 13 having an off-set center portion 14 and being terminally connected by screws or other suitable means 15 to the window frame B. The screws 15 extend through co-planar bracket ends 16.

The detachable connection between the stile plate 13 and the arm 10 is similar to that described in my previous application Serial No. 717,874 filed December 23, 1946, issued as Patent No. 2,498,535 on Feb. 21, 1950. A spring arm 17 is riveted or otherwise affixed at 19 to the arm 10 and is provided with an aperture 20 near one end thereof. The end of the arm 10 is bifurcated as indicated at 21. The bifurcated end 21 of the arm 10 and the aperture 20 of the spring arm 17 are designed to accommodate a pivot 22 mounted upon the off-set center 17 of the stile plate 13. This pivot 22 is provided with a head 23 spaced from the off-set center portion 14 a distance slightly greater than the thickness of the arm 10. The head 23 is too large in diameter to pass through the s'ot of the bifurcated end 21. However, when the spring arm 17 is in parallel relation to the arm 10, the head 23 engages in the aperture 20 in the spring arm and is held from longitudinal movement relative to the arm 10. However, when the spring arm 17 is sprung away from the surface of the arm 10, the pivot 22 may be disengaged from the slotted end 21 of the arm 10. A projecting finger 24 on the spring arm 17 extends through a slot 25 in the arm 10 for simplifying the operation of the spring arm.

The arm 10 is provided with an integral flange 26 which extends along one edge thereof to a point slightly beyond the center point of the connecting pivot bolt 12. This flange 26 engages in end abutting relation to a corresponding flange 27 on the arm 11 as will be later described. The arm 11 is pivotally connected by a rivet 29 or other suitable means to the flange 30 of the angularly shaped bracket 31. The bracket 31 comprises a base plate 32 and the flange 30 arranged at right angles. Apertures 33 are provided in the base plate 32 for accommodation of screws or bolts 34 by means of which the bracket 31 may be attached to the pivoted window sash C.

The arm 11 is provided with a flange 27 extending longitudinally thereof and in right angular relationship therewith. The end of the flange 27 projects slightly beyond the center of the pivot bolt 12 so that the flanges 27 and 26 engage in end abutting relation as the arms are pivoted toward aligned position.

The structure of the knee joint between the arms 10 and 11 is best illustrated in Figure 3

of the drawings. The bolt 12 is provided with a multi-sided shank portion 35 adjacent the bolt head 36. This multi-sided shank portion 35 extends through a similarly shaped aperture 37 in a bearing plate 39. The bearing plate 39 has an elongated flat side 40 which bears against the inner surface of the flange 27 and is held from rotation thereby. The flange 27 is increased in width at its end 41 so as to provide a firm bearing for the edge 40 of the plate 39. A transverse notch 42 is provided in the wide portion 41 of the flange 27 and an ear 43 on the plate 39 is engaged in this notch. Obviously the plate 39 is movable axially of the pivot bolt 12, but is held from rotation by the flange 27. An ear 44 is provided on the plate 39 which is engageable against the end of the flange 27. Thus the bearing plate is firmly supported, but is free to move toward or away from the arms 10 and 11.

A friction washer 45 is interposed between the bearing plate 39 and the arm 10 and a pair of friction washers 46 and 47 are provided between the arm 10 and the arm 11. A nut 49 is provided on the pivot bolt 12, which nut tightens against the arm 11. Thus the bolt 12 is held from rotation relative to the arm 11 and the bearing plate 39 and therefore the nut has no tendency to loosen during operation of the knee joint.

In accordance with the patent statutes, I have described the principles of construction and operation of my window fastener, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A storm window bracket for connecting a pivotally supported window and its frame, the fastener comprising a pair of pivotally connected arms, one of which is pivotally connected to the window and the other of which is pivotally connected to the frame, said arms being connected by means of a pivot bolt extending through both of said arms, friction washers encircling said pivot bolt between said arms, a flange on one of said arms along the longitudinal edge thereof and bent to extend past the other arm, a flange on said other arm along a longitudinal edge thereof and bent to extend over the end of said one arm, the ends of said flanges being engageable in end abutting relation as said arms move toward aligned position, a bearing plate extending parallel to said arms, an aperture in said bearing plate through which said pivot bolt extends, a friction washer on said pivot bolt between said bearing plate and the other of said arms, said bearing plate having an elongated edge designed to engage against the flange of said first named arm.

2. A storm window bracket for connecting a pivotally supported window and its frame, the fastener comprising a pair of pivotally connected arms, one of which is pivotally connected to the window and the other of which is pivotally connected to the frame, said arms being connected by means of a pivot bolt extending through both of said arms, friction washers encircling said pivot bolt between said arms, a flange on one

of said arms along the longitudinal edge thereof and bent to extend past the other arm, a flange on said other arm along a longitudinal edge thereof and bent to extend over the end of said one arm, the ends of said flanges being engageable in end abutting relation as said arms move toward aligned position, a bearing plate extending parallel to said arms, an aperture in said bearing plate through which said pivot bolt extends, a friction washer on said pivot bolt between said bearing plate and the other of said arms, said bearing plate having an elongated edge designed to engage against the flange of said first named arm, a transverse notch in the flange of said one arm, and a tongue on said bearing plate engageable in said notch.

3. A storm window bracket for connecting a pivotally supported window and its frame, the fastener comprising a pair of pivotally connected arms, one of which is pivotally connected to the window and the other of which is pivotally connected to the frame, said arms being connected by means of a pivot bolt extending through both of said arms, friction washers encircling said pivot bolt between said arms, a flange on one of said arms along the longitudinal edge thereof and bent to extend past the other arm, a flange on said other arm along a longitudinal edge thereof and bent to extend over the end of said one arm, the ends of said flanges being engageable in end abutting relation as said arms move toward aligned position, a bearing plate extending parallel to said arms, an aperture in said bearing plate through which said pivot bolt extends, a friction washer on said pivot bolt between said bearing plate and the other of said arms, said bearing plate having an elongated edge designed to engage against the flange of said first named arm, a transversed notch in the flange of said one arm, a tongue on said bearing plate engageable in said notch, and a second tongue on said bearing plate engaging the end of the flange on said first named arm.

4. A storm window bracket for connecting a pivotally supported window and its frame, the fastener including a pair of arms pivotally connected together, one of said arms being pivotally connected to the window and the other of said arms being pivotally connected to the frame, one of said arms having a longitudinally extending flange along an edge thereof to provide an arm of angular section, a bearing plate having an elongated edge designed to engage along a surface of said flange, said bearing plate extending parallel to said arms and having an aperture therethrough through which a pivot bolt connecting said arms may extend, a notch in said flange, and a projection on the elongated edge of said bearing plate engageable in said notch.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,288,540	Olson	June 30, 1942
2,361,056	Quinn	Oct. 24, 1944