

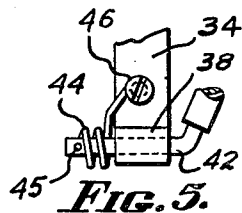
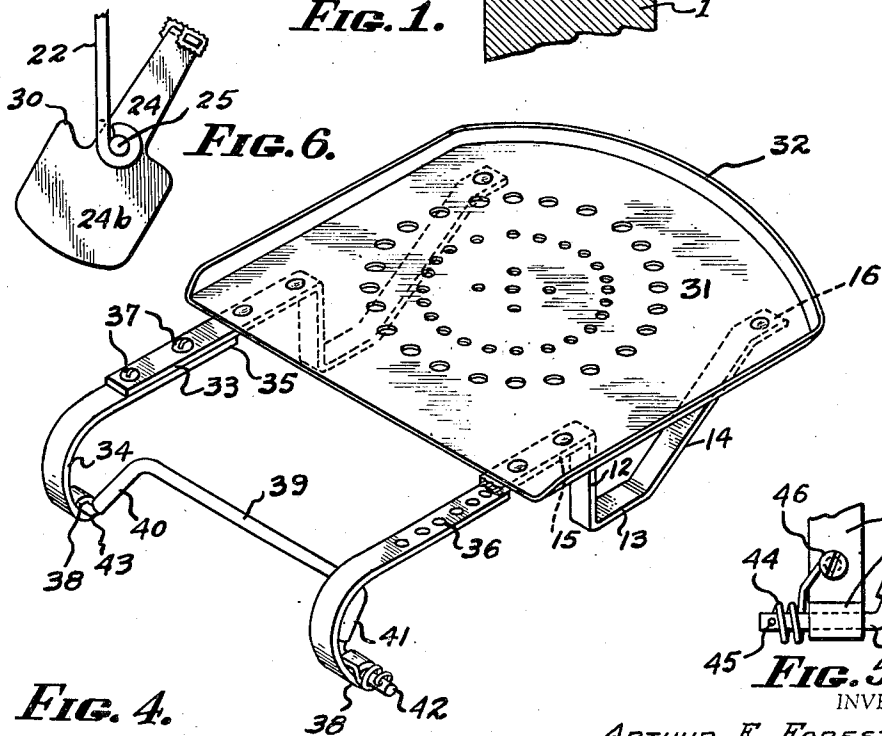
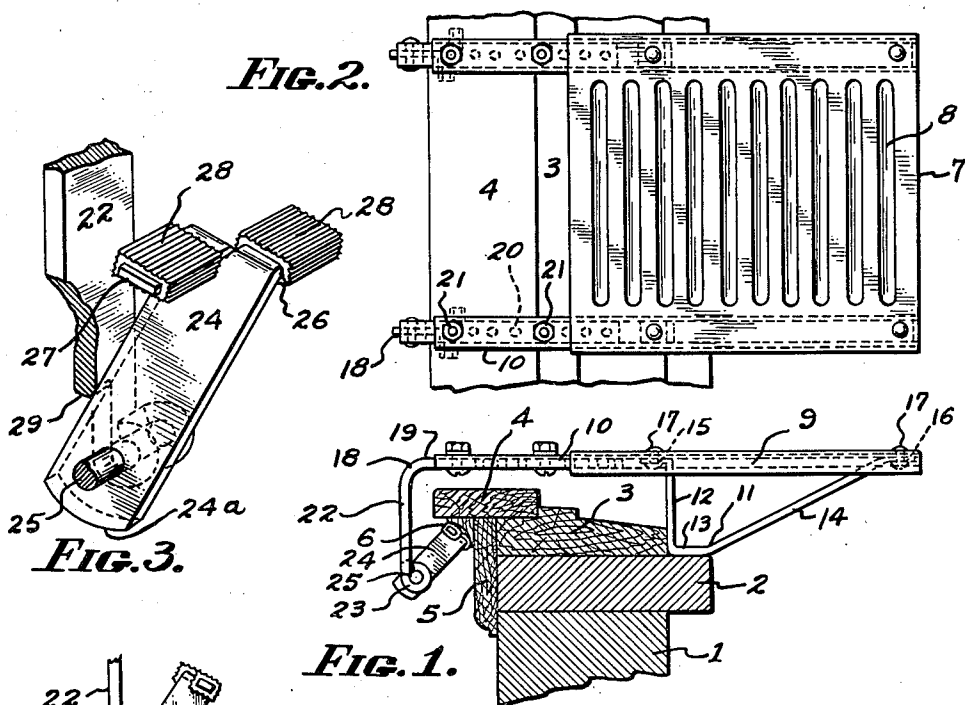
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2,104,982

SEAT STRUCTURE

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SEAT STRUCTURE

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6 Claims. (Cl. 304-24)

My invention relates to removable and portable seats to be affixed to abutments; and I shall describe my invention in an exemplary embodiment which is a seat for washing windows, it being understood, of course, that no particular circumstance of use constitutes a limitation upon my invention.

Window washing seats which hook on or clamp on to the sill of a window and which extend outwardly through the window opening so as to support the body of a worker to a large extent beyond the outside line of the wall of the building, have hitherto been suggested in the art; but prior structures have been subject to a number of disadvantages which it constitutes an object of my invention to overcome.

Another object of my invention is to provide a type of seat structure which, while adjustable to meet various situations, is positive in its engagement and cannot possibly become dislodged during use.

It is still another object of my invention to provide a seat of the character described in which the only engagement of the structure with the window sill or the like inside the building is an engagement which occurs beneath the sill proper, and therefore, is not effective in marring or scratching the sill. It is still another object of my invention to provide a type of structure which is readily installed by what amounts to a single movement on the part of the operator, but which when in position is securely locked and rigidly maintained by the weight of the operator and otherwise, so as to give to the operator a feeling of complete security.

It is still another object of my invention to provide various safety factors which insure the installation of the seat, when desired, in the proper and safe way.

It is still another object of my invention to provide a structure which is simple and economical to manufacture and assemble, so that the structure, with the various advantages noted hereinabove, can be made available at very low cost.

These and other objects of my invention which will be set forth hereinafter or will be apparent to one skilled in the art upon reading these specifications, I accomplish by that certain structure and arrangement of parts of which I shall now describe two preferred embodiments.

In the drawing:

Figure 1 is a sectional view of the lower part of a window opening showing my device in place.

Fig. 2 is a plan view of the device of Fig. 1 in place in a window opening.

Fig. 3 is a perspective view showing the construction and operation of one type of toggle mechanism.

Fig. 4 is a perspective view of another form of my seat.

Fig. 5 is a plan view showing an arrangement whereby the toggle member is resiliently held in approximately correct locking position during installation of the device.

Fig. 6 is a partial plan view showing another form of toggle arrangement.

The general features and operation of my structure will be most clearly understood by a consideration of Fig. 1. Here the wall of a building is represented diagrammatically at 1, and 2 is the usual coping or sill of the window opening, frequently of stone, and projecting beyond the face of the wall 1 exteriorly of the building. 3 is the usual wooden base member of the window frame. 4 is the inside ledge or sill of the window, most frequently of wood. The average window is finished off below on the inside by a facing 5 and there is usually a molding 6 located beneath the inside sill 4. This represents a standard construction of window and will serve for the purpose of an explanation of the operation of my device in the particular embodiments shown.

In the embodiment of Figs. 1 and 2, my device comprises a pressed metal seat 7 provided, if desired, with corrugations or strengthening ribs 8 and bent downwardly at the sides, as shown at 9. In this embodiment a pair of channel members 10 are fastened to the seat adjacent its edges. Legs for the seat are indicated generally at 11, and comprise a vertical portion 12, a horizontal portion 13, and a sloping portion 14. The tops of the leg members, as at 15 and 16, are bent so as to turn them into a single plane, and these in turn are fastened to the seat member 7 and/or the channels 10. A pair of rivets 17 may hold the seat, the channel and a leg member together, as indicated; or the members could be spot-welded together or otherwise fastened.

A pair of angularly shaped members indicated generally at 18 have a leg 19 which fits into the channel and is provided with a series of perforations 20 for adjustability. The channel and the leg 19 may be held in adjusted position by one or more bolts 21.

The member 18 also comprises an angularly bent leg 22 the bottom portion of which is bent to form a hinge member 23 and is preferably bifurcated as indicated in Figs. 1, 2 and 3. A toggle

gle member 24 may be pivoted at one end to the hinge portion 23 by means of a pintle 25.

A convenient form of toggle member is illustrated on a larger scale in Fig. 3. Here the top of the member 24 is split and portions 26 and 27 bent oppositely to each other to give a bearing surface. Pieces of rubber 28 may be placed on the reversely bent portions so as to prevent marring. In Fig. 3 the leg 22 is shown bifurcated to a point marked 29, while the end of the member 24 extends some little distance beyond the pintle of the hinge construction, as shown at 24a. By this arrangement of parts, the member 24 is prevented from swinging upwardly beyond the position it occupies in Fig. 3. It cannot swing downwardly beyond a position substantially at right angles to the leg 22 by reason of the engagement of the extension 24a with the shoulder 29.

The method of use of the device will be apparent from Fig. 1. The horizontal portions 13 of the legs of the seat rest upon the outer sill or coping 2, while if the structure is properly adjusted, the vertical portion 12 of the legs will abut against the outer edge of the lower frame member 3. The device does not otherwise touch the lower frame member 3 and the inner sill 4 of the window, and cannot mar or scratch these parts. The toggle member 24 engages the molding 6 beneath the inner sill 4 and holds the structure rigidly in place. If the parts are correctly adjusted, the toggle member 24 cannot swing downwardly at all. The seat is very securely fastened in position and in most instances there is sufficient resiliency in the arm 22 to keep the leg portion 12 snugly against the outer edge of the lower frame member 3.

In installing the device, the toggles (approximately in the position shown in Fig. 3) will be brought against the molding 6 with the seat held at a considerable angle to the horizontal. After the engagement of the pads 28 with the molding 6, the outer end of the seat will be swung downwardly, i. e. in a clockwise direction as illustrated in Fig. 1, until the leg portions 13 contact the coping 2 and the leg portions 12 contact the lower frame member 3. The device can be removed from the window by a reversal of the motion just described. Thus the device is very easy and simple to install, and cannot be installed wrong. The toggle arrangement not only provides a very secure lock, but is capable of self adjustment to accommodate for slight discrepancies in the dimensions of the structure of different windows in a building.

In Fig. 6, I have shown a different form of toggle arrangement. Here again a toggle body 24 is pivoted on the pintle 25 as hereinabove described, and bears the engagement structure referred to. However, the lower part of the toggle member is enlarged as at 24b, and bears a tooth or detent 30 which engages with the portion 22 to prevent the toggle from swinging past horizontal. The weight of the extension 24b holds the toggle at an acute angle to the member 22 during the installation of the device.

A modified form of my structure is illustrated in Fig. 4, where the seat member 31 is provided with an upturned lip on three sides, as shown at 32. This gives a strong construction and an additional sense of security. The channels hereinabove described have been eliminated in this embodiment, and the forward portion 15 has been carried outwardly as shown at 33. The members corresponding to the members 18 are shown in this

embodiment as having arcuately shaped ends 34, and legs 35 which underlap the legs 33 and are perforated as at 36 for the acceptance of the adjusting bolts 37. The ends of the arcuate shaped portions are again bent to form a hinge member 38, but this member need not be bifurcated, as taught above. A toggle arrangement is provided, made of heavy rod or the like and having a long engagement portion 39 connected by angularly bent portions 40 and 41 to pintle portions 42 and 43. At least the portion 39 of the toggle structure will be encased in a piece of rubber tube or other desired cushioning material. In installing this type of device the toggle portion 39 may be grasped in one hand and the rear of the seat grasped in the other hand. The toggle portion is brought against the molding 6 and the seat swung downwardly into position, as above. In this way the operator is enabled to control the toggle position with his hand while installing the seat, but for added security so as to enforce the proper installation of the device, I may provide a spring arrangement for resiliently holding the toggle member in approximately the correct position. This may take a number of forms. One suitable form is illustrated in Fig. 5, where I have shown a coil spring 44 about the pintle 42. One end of this spring is passed, as at 45, through a hole in the pintle. The other end of the spring is fixed to the portion 34 by a screw 46, by a rivet, by spot-welding, or by some other form of engagement, as will be readily understood.

It will be evident that I have provided a very safe but simple and convenient means for the purpose described or for analogous purposes. The parts of my device, aside, of course, from such elements as rivets, bolts or springs, can be made by simple stamping, punching or bending operations, from materials readily available as standard stock, such as sheet iron, strap iron and the like. The structure therefore is cheap to manufacture and may be sold at a reasonable price. It will be understood that the windows in any given building are usually of standard construction and of the same general dimensions as respects the sill structure, so that in use one preliminary adjustment is likely to be the only adjustment ever made during the useful life of the device. The device, of course, can be finished in any way desired.

Modifications may be made in my invention without departing from the spirit thereof.

What I claim as new and desire to secure by Letters Patent is:

1. In a seat structure, a seat member, legs on said seat member, arms extending forwardly therefrom and having downwardly extending portions, and a toggle member connected with one at least of said arms, whereby said structure may be placed in position with the leg engaging an abutment to prevent movement in one direction and the toggle member engaging beneath an abutment and preventing movement of the device in the opposite direction, the said leg resting on an exterior horizontal abutment to support the seat and the said toggle also preventing tilting movement of said seat.

2. In a structure of the character described, a seat member, legs on said seat member, arms extending forwardly from said seat member, and a toggle structure attached to the end of at least one of said arms, wherein the ends of said arms are bifurcated and said toggle member positioned between the parts thereof.

3. In a structure of the character described, 75

a seat member, legs on said seat member, arms extending forwardly from said seat member, and a toggle structure attached to the end of at least one of said arms, wherein the ends of said arms are bifurcated and said toggle member positioned between the parts thereof, the said toggle member and parts being so shaped as to restrict the movement of said toggle member.

4. In a structure of the character described, a seat member, legs on said seat member, arms extending forwardly from said seat member, and a toggle structure attached to the end of at least one of said arms, wherein the ends of said arms are bifurcated and said toggle member positioned between the parts thereof, said toggle member having an enlarged lower end and a detent for striking said leg, whereby the arc of movement of said toggle member is restricted and the enlargement, by its weight, serves to keep the toggle approximately at a desired angular relation to said leg.

5. In combination, a seat, legs on said seat, forwardly and downwardly extending arms and

a toggle member pivoted to said arms, said toggle member comprising a rod angularly bent to provide a central toggle portion, and endwise disposed pintle portions, said pintle portions being pivoted to said arms, and spring means for resiliently holding said toggle means by a desired angularity to said arms.

6. In combination, a seat, angularly bent straps forming legs extending downwardly from said seat, and arms extending forwardly from said seat, additional arm portions having forwardly and downwardly extending parts, means for adjustably relating said additional arm portions to said first mentioned arm portions, and toggle means attached to the downwardly extending parts of said additional arm portions, said toggle means comprising an angularly bent rod having an engagement portion and opposite pintle portions, the ends of said additional arm portions being bent to surround said pintle portions.

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