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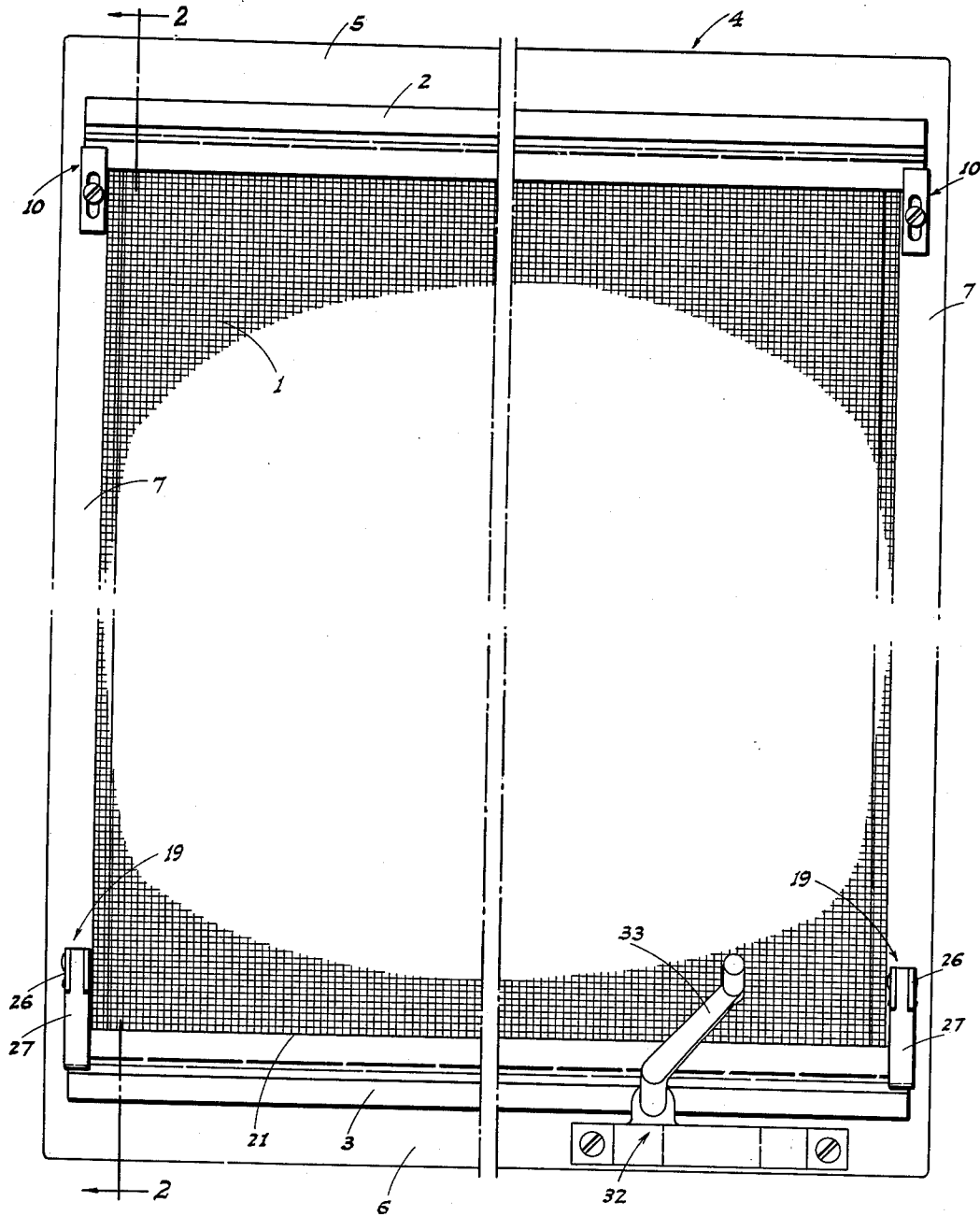
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MOUNTING BRACKET FOR TENSION TYPE SCREEN UNITS

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3 Sheets-Sheet 1

Fig. 1



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3 Sheets-Sheet 2

Fig. 2

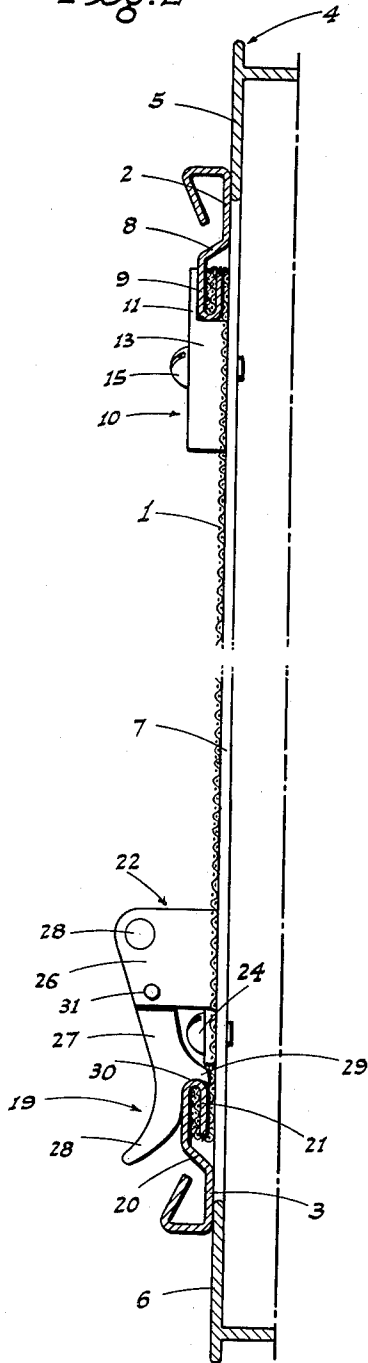


Fig. 3

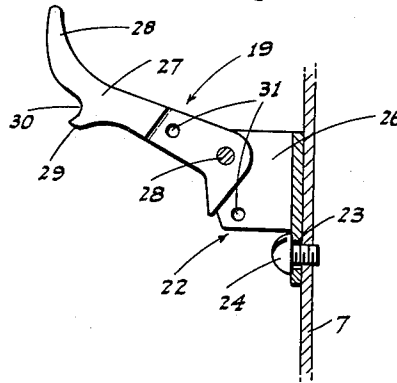
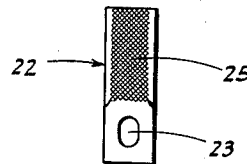


Fig. 4



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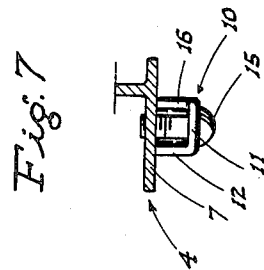
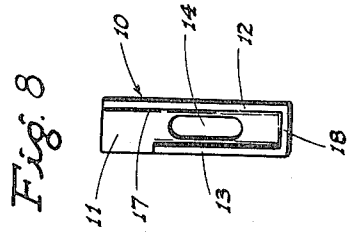
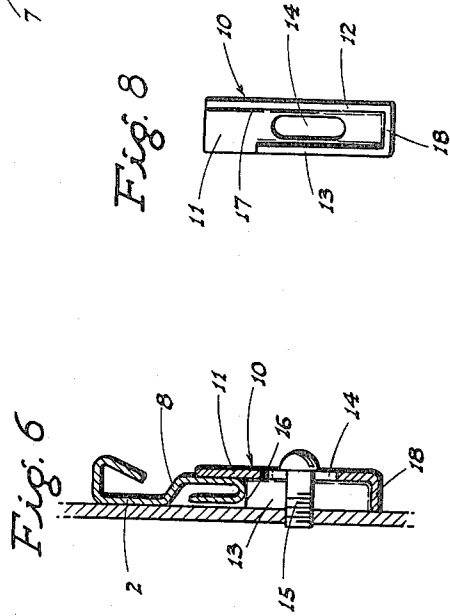
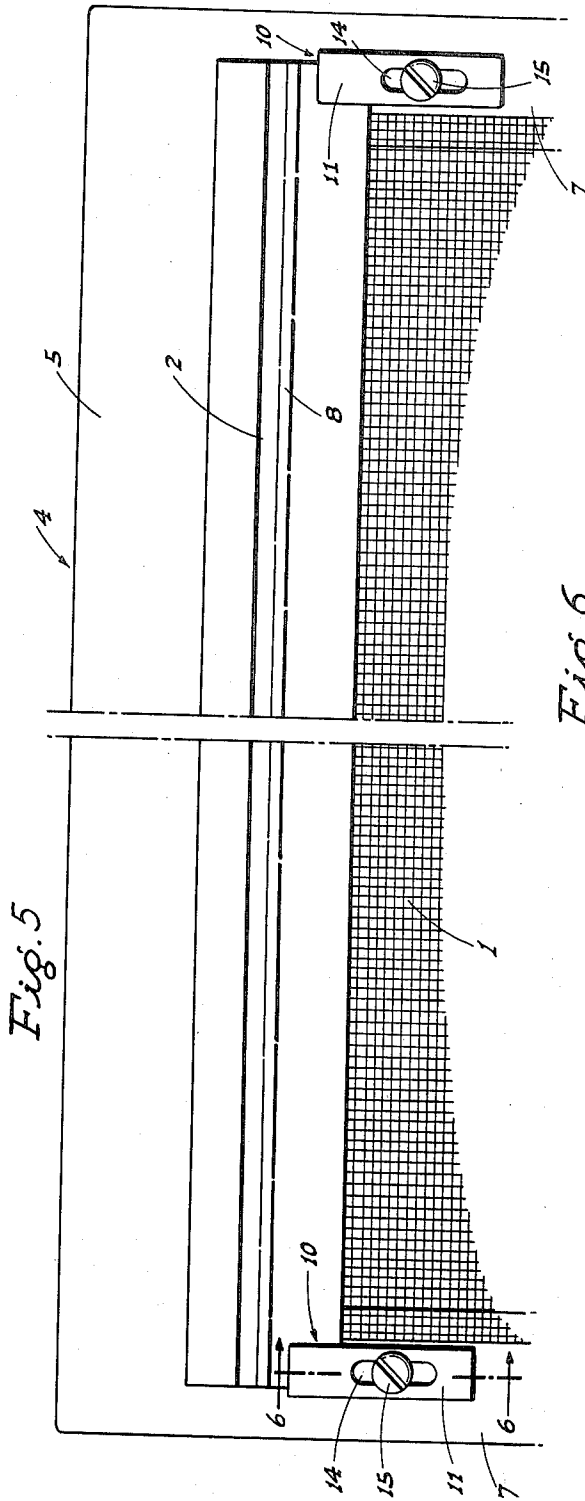
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MOUNTING BRACKET FOR TENSION TYPE SCREEN UNITS

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3 Sheets-Sheet 3



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1

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MOUNTING BRACKET FOR TENSION TYPE SCREEN UNITS

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3 Claims. (Cl. 160—328)

This invention relates in general to improvements in frameless or tension type window screen units, and in particular to a screen unit of such type especially designed, but not limited, for use on metallic casement windows.

The major object of the present invention is to provide a novel mounting assembly for effectively and positively securing a tension type screen unit on a window frame, with the screen held under tension, or taut over the window opening.

Another important object of this invention is to provide a mounting assembly, for tension type screen units, which embodies—of improved construction—cradle brackets for the reception and support of the top cross bar of the screen unit, and tension lever devices for cooperatively engaging and depressing the bottom cross bar of said screen unit; both whereby the screen is properly positioned and effectively tensioned.

An additional object of the invention is to provide a mounting assembly, for tension type screen units, which permits the latter to be readily installed, and thereafter removed—as for cleaning—in a quick and convenient manner; removal and replacement of the screen, after initial installation, being accomplished wholly manually.

It is also an object of the invention to provide a mounting assembly, for tension type screen units, which is designed for ease and economy of manufacture.

Still another object of the invention is to provide a practical and reliable mounting assembly for tension type screen units, and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings:

Fig. 1 is an elevation of a tension type screen unit as mounted on the inside of a casement type window frame by the novel mounting assembly.

Fig. 2 is a transverse vertical section taken on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary transverse sectional elevation showing one of the tension lever devices, with the lever in released position.

Fig. 4 is a back view of one of the tension lever brackets, detached.

Fig. 5 is an enlarged fragmentary elevation of the top of the screen unit as supported by the cradle brackets.

Fig. 6 is an enlarged fragmentary vertical section on line 6—6 of Fig. 5.

Fig. 7 is a fragmentary view showing one of the cradle brackets in plan, and the adjacent portion of the window frame in section.

Fig. 8 is a rear elevation of one of the cradle brackets, detached.

Referring now more particularly to the characters of reference on the drawings, the mounting assembly as hereinafter described is adapted for use in connection with a tension type screen unit comprised of a rectangular section of wire cloth or screen 1 fitted, at the upper

2

end, with a top cross bar 2, and fitted, at the lower end, with a bottom cross bar 3.

The window frame, here of casement type, is indicated generally at 4, and includes a top 5, a bottom 6, and sides 7, all of which define the window opening.

The screen 1 overlies the window opening, with the top cross bar 2 in engagement with the top 5 of the frame, and with the bottom cross bar 3 in engagement with the bottom 6 of said frame.

The mounting assembly, which supports the screen 1 in position and under relatively high tension, comprises the following:

The top cross bar 2 is formed, intermediate its upper and lower edges, with an outward offset 8, and below such offset includes a full-length, upwardly opening channel 9 into which an adjacent portion of the screen 1 is folded and clamped, as shown.

The top cross bar 2 is of such length that the opposite end portions of the channel 9 project beyond corresponding side edges of the screen 1; such projecting portions of the channel 9 being received in cradle brackets, indicated generally at 10, secured to the sides 7 of the frame. The cradle brackets 10 are of identical construction, except for being right and left hand, so that a description of one will suffice for both.

Each cradle bracket 10 as a vertical, inwardly opening channel of U-shape in cross section, and includes a front plate 11, an outer side plate 12, and an inner side plate 13. The front plate 11 is formed, intermediate its ends, with a vertically elongated slot 14, and a headed screw 15 extends through such slot and is threaded into the adjacent side 7 of the window frame; the slot 14 permitting of vertical adjustment of the cradle bracket when the screw 15 is loosened.

The inner side plate 13 of each cradle bracket 10 terminates at its upper edge 16 some distance short of the upper edge of the front plate 11, whereby—when the bracket is in place—to form a cradle for the reception of the adjacent end portion of the channel 9. As the outer side plate 12 is of full height, it forms a stop, as at 17, which assures against lateral displacement of the channel 9 and top cross bar 2.

In addition to the cradle brackets 10 providing stops 17 for the above purpose, such brackets also maintain the top cross bar 2 snug against the window frame, and prevent the top bar from front to rear cocking thereof relative to the adjacent portions of said window frame.

Each cradle bracket 10 is closed at the bottom, as at 18, to provide a finger engaging surface for manipulation of the bracket upward to proper setting before tightening of the screw 15.

Because of the inwardly opening channel configuration of each cradle bracket 10, such bracket, when tightened against the side 7 of the frame by the screw 15, has effective footing, which footing is enhanced by the closed bottom 18. This footing assures that each cradle bracket 10, when tightened, is held against displacement.

With the top cross bar 2 supported by the cradle brackets 10, as above, the screen 1 may be placed under relatively high tension by releasable tensioning devices, indicated generally at 19, which are constructed and function as follows:

The bottom cross bar 3 is formed, intermediate its upper and lower edges, with an outward offset 20, and above such offset includes a full length, downwardly opening channel 21 into which an adjacent portion of the screen 1 is folded and clamped, as shown.

The bottom cross bar 3 is of such length that it projects at opposite ends beyond the corresponding sides of the screens 1, and one of the screen tensioning devices 19 is mounted on the adjacent side 7 of the frame and cooperatively engages with each of said projecting end

3

portions of the bottom cross bar 3 from above. As both of the screen tensioning devices 19 are identical, a description of one will suffice for both:

Each of the screen tensioning devices 19 comprises a vertically elongated tension lever bracket 22 secured in an upstanding position flush against the adjacent side 7 of the window frame directly above the corresponding projecting end portion of the bottom cross bar 3. The bracket 22 includes a vertically elongated slot 23 in its lower end portion, and a headed screw 24 extends through such slot 23 and is threaded into the side 7 of the frame. Above the slot 23, and on the back side, the bracket 22 is roughened or knurled, as at 25.

A pair of transversely spaced ears 26 are formed integral with, and project outwardly from, opposite sides of the bracket 22 in a plane above the slot 23. A tension lever 27 is pivoted at its upper end, as at 28, between the ears 26, and thence normally depends to a lower end termination in front of the bottom cross bar 3; the lower end of the lever 27 being outturned as a finger piece 28.

Intermediate its ends, and on the back side, the tension lever 27 is formed with an integral rearwardly projecting spur 29 rounded on its under surface to form a downwardly opening notch 30.

The spur 29 is engaged over the adjacent projecting end portion of the channel 21 which is included in the bottom cross bar 3; the tension lever 27 of each of the screen tensioning devices 19 being swung inwardly to a beyond-dead-center position, as in Fig. 2. With proper setting of the cradle brackets 10, the tension levers 27—when so swung inwardly beyond dead-center—exert a very substantial downward force on the bottom cross bar 3, effectively tensioning the screen 1; the back edge of the finger piece 28 abutting the outer face of the channel 21. In addition to effectively tensioning the screen, as above, the tension levers 27 urge the bottom cross bar 3 into flush engagement with the adjacent portions of the window frame 4, holding said bottom bar against any front to rear cocking thereof.

When each screen tensioning device 19 is in operative position it may be locked against release by engaging a suitable pin (not shown) through then matching holes 31 in the lever 27 and the spaced ears 26.

As the headed screw 24 which secures each bracket 22 in place is below the ears 26 and rearwardly of the related lever 27, the latter being relatively wide, such screw is hidden, lending to the neat appearance of each device 19.

In order to remove the screen 1 for cleaning or replacement, it is only necessary to manually release the devices 19 by swinging the tension levers 27 outwardly beyond dead-center, whereupon the channel 21 can be easily disengaged from the spurs 29. Thereafter, the top cross bar 2 is merely lifted out of the cradle brackets 10.

With the described mounting assembly, the screen unit

4

is secured to the window frame 4 without in any way obstructing or interfering with the normal operation of the window actuating mechanism, indicated generally at 32, and which mechanism includes the usual operating crank 33.

From the foregoing description it will be readily seen that there has been produced such a device as will substantially fulfill the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such details may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

1. A mounting assembly for removably securing the top cross bar of a tension type window screen on a window frame, said cross bar having opposite end portions projecting beyond the sides of the screen; said assembly comprising a cradle bracket below each of the projecting end portions of the top cross bar, and means securing each cradle bracket on the corresponding side of the window frame in a position removably cradle supporting the related one of said end portions; each cradle bracket being of inwardly opening channel form, disposed vertically, and including a front plate, an outer side plate, and an inner side plate, the latter terminating at its upper edge below the corresponding edges of the remaining plates whereby a cradle is defined between the front plate and side of the window frame above said upper edge of the inner side plate, and the related one of said end portions of the top cross bar removably seating in said cradle.

2. A mounting assembly, as in claim 1, in which the securing means for each cradle bracket includes a headed screw extending through the front plate below said upper edge of the inner side plate, and thence into the side of the window frame.

3. A mounting assembly, as in claim 2, in which each channel form cradle bracket is closed at its lower end.

References Cited in the file of this patent

UNITED STATES PATENTS

884,222	Sherman	Apr. 7, 1908
1,267,197	Euler	May 21, 1918
2,570,128	Jensen	Oct. 2, 1951
2,573,223	Rust	Oct. 30, 1951
2,583,627	Burns	Jan. 29, 1952
2,593,539	Cohen	Apr. 22, 1952
2,605,827	Lang	Aug. 5, 1952
2,632,507	Ewing	Mar. 24, 1953