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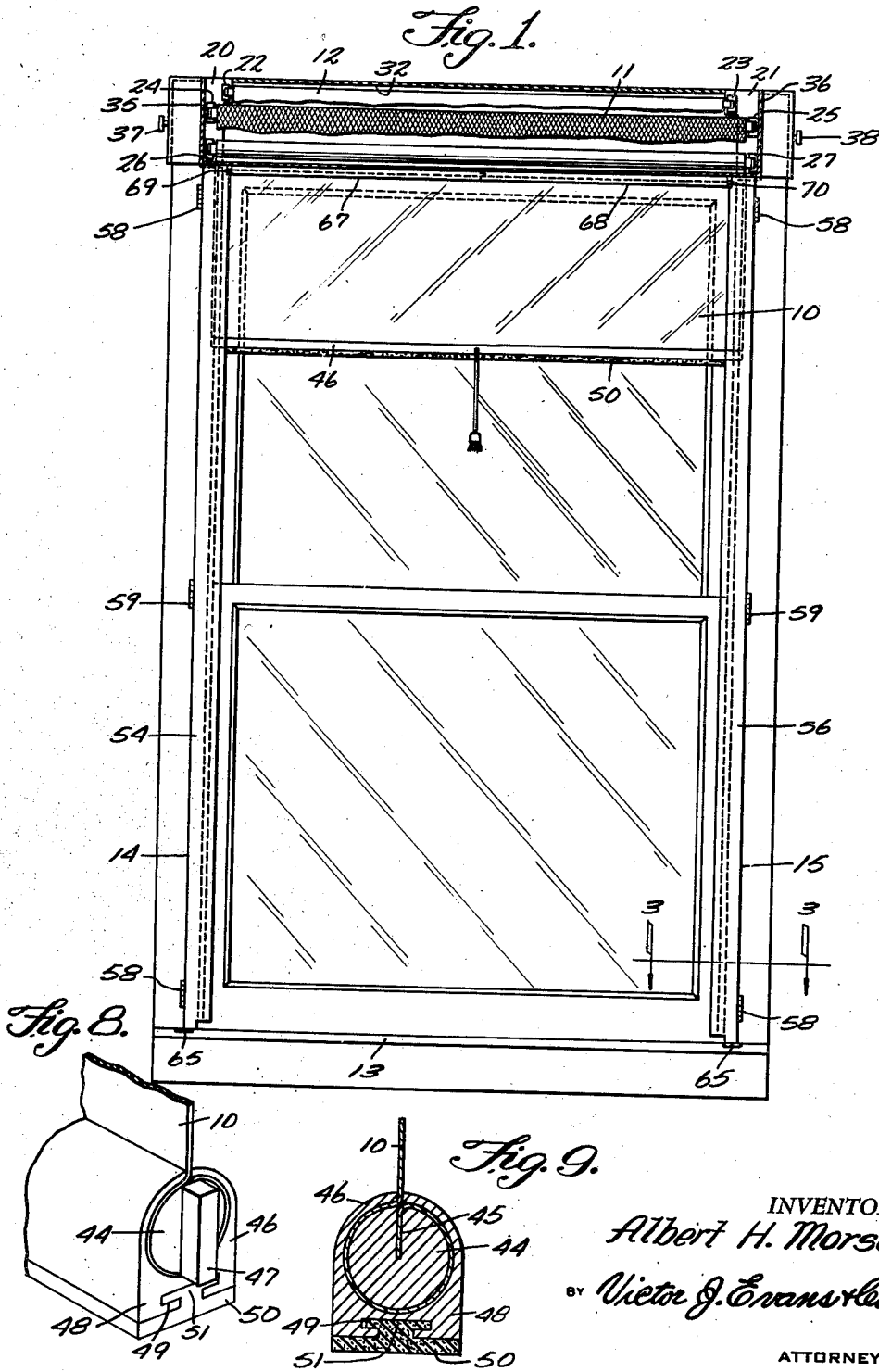
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2,548,040

COMBINATION DRAFT WINDOW AND SCREEN

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2 Sheets-Sheet 1



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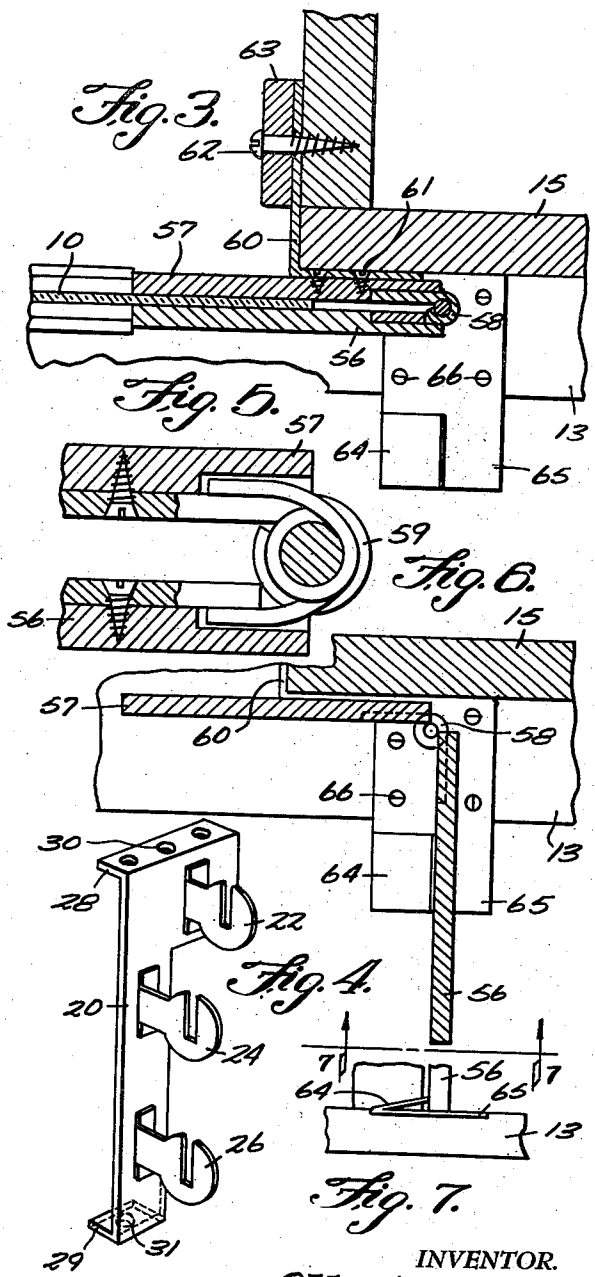
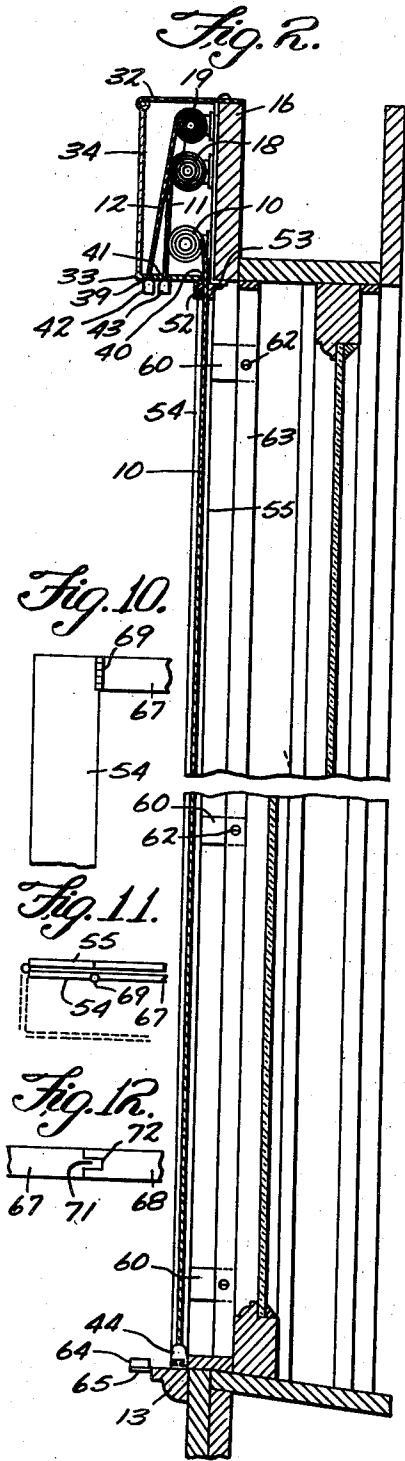
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COMBINATION DRAFT WINDOW AND SCREEN

Albert Howard Morse, Beverly, Mass.

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1 Claim. (Cl. 160—25)

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This invention relates to sealing devices for windows which are adapted to be installed in operative positions on the inside of the window frame, and in particular a plastic film on a shade roller on the inside of a window frame in combination with the usual window shade and a plastic screen also mounted on a shade roller between the film and shade.

The purpose of this invention is to provide means for sealing and screening windows from the inside of the window frame in combination with the usual shade roller.

Various types of curtains, screens, shields and the like have been used in combination with the usual window shade to seal the window against draughts and save heating fuel, and whereas these devices prevent considerable heat loss, it is desired to improve devices for this use and combine the same with the usual window shade and a screen. With this thought in mind this invention contemplates a unique housing adapted to hold rollers for a shade, screen and shield which may be positioned on the upper panel of a window frame and provided with hinged side channels for holding the edges of the shield, and also means for sealing the upper and lower ends of the frame.

The object of this invention is, therefore, to provide means for mounting a roller for a shield and also a roller for a screen in combination with the usual shade roller at the upper end and on the inside of a window frame wherein each of the devices may be used independently.

Another object of the invention is to provide a plastic shield for covering the complete inner surface of a window frame wherein the side edges are frictionally held between hinged slats and the upper and lower ends are sealed with strips of resilient material.

Another object of the invention is to provide a combination window appliance including a shade, screen, and sealing shield, in which all of the elements are hidden when not in use.

A further object of the invention is to provide a combination window shade, screen and shield, which is of a simple and economical construction.

With these and other objects and advantages in view the invention consists of the new and novel combination, construction and arrangement of parts as hereinafter more fully described, set forth in the claim appended hereto, and disclosed in the accompanying drawings forming part hereof, wherein:

Figure 1 is a view showing a front elevation of a window with a shade, screen, and shield

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mounted in a casing at the upper end thereof with the shield drawn partly downward and with the front of the casing omitted wherein the ends are shown in section.

Figure 2 is a vertical section through the window frame shown in Figure 1 showing the relative positions of the parts and with the shield drawn completely down covering the inner surface of the window.

Figure 3 is a sectional plan taken on line 3—3 of Figure 1 with the sash omitted and showing the construction of one corner of the frame.

Figure 4 is a detail showing a bracket for mounting the rollers at one end of the window frame.

Figure 5 is a detail showing a section through the intermediate spring actuated hinge that holds the slats at the sides in frictional engagement with the edges of the shield, with the parts shown on an enlarged scale and exaggerated for the purpose of illustration.

Figure 6 is a sectional plan similar to that shown in Figure 3 showing the outer slat in the open position.

Figure 7 is a detail taken on line 7—7 of Figure 6 showing the spring latch bar for holding the outer slat in the open position.

Figure 8 is a detail showing one end of a curtain stick used on the lower edge of the plastic shield, with parts broken away.

Figure 9 is a cross section through the curtain stick of the plastic shield.

Figure 10 is a detail showing a front elevation of an upper corner of one of the slats with a cross bar hinged thereto and with parts broken away.

Figure 11 is a plan view showing the connection at the upper end of the slat shown in Figure 10, also with parts broken away and with the slat shown in the open position in dotted lines.

Figure 12 is a plan view showing the dove-tail connection between the ends of the cross bar connecting the upper ends of the slats with parts broken away.

Referring now to the drawings wherein like reference characters denote corresponding parts the combination window shade, screen, and shield of this invention includes a plastic film or shield 10, a plastic screen 11, and a window shade 12, and the elements are mounted on a window frame having a sill 13, side panels 14 and 15, and an upper panel 16.

The plastic shield 10 is mounted on a shade roller 17, the screen 11 on a similar roller 18, and the shade 12 on a roller 19, and the rollers are

mounted on the upper panel 16 through L-shaped base plates 20 and 21 formed as illustrated in Figure 4 with brackets 22 and 23 for the shade roller 19, brackets 24 and 25 for the screen roller 18, and brackets 26 and 27 for the shield roller 17. The ends of the base plates are provided with flanges 28 and 29 with openings 30 and 31 therein, respectively, by which the plates are attached to the panel 16.

The rollers are positioned in a casing having an upper plate 32, a lower plate 33, a cover 34, and end plates 35 and 36 which extend over the edges of the side panels 14 and 15, as shown in Figure 1. The casing is held in position on the window frame by thumb screws 37 and 38, and the lower plate 33 is provided with an outer slot 39 for the shade 12, an inner slot 40 for the shield 10, and an intermediate slot 41 for the screen. The ends of the elements are inserted in the slots and the end of the shade is held in the slot 39 by a curtain stick 42, the end of the screen by a similar curtain stick 43, and the lower end of the shield by a rod 44 having a slot 45 therein which the edge of the shield is inserted, as shown in Figure 9. The rod 44 is positioned in a tubular casing 46 and after the edge of the shield 10 is inserted in the slot 45 the rod is rotated to the position shown in Figure 9 by a key 47 at one end, wherein the edge of the shield is positively held in the rod. The tubular casing 46 is provided with a base 48 having a dove-tail slot 49 therein and a resilient strip 50 of rubber or the like having a tongue 51 by which it is held to the base 48 is carried by the casing to provide a positive seal between the lower edge of the shield and window sill 13, as shown in Figure 2.

The plastic shield 10 also passes between resilient strips 52 and 53 at the upper end of the window frame with the strip 52 on the lower surface of the plate 33, and the strip 53 on the lower edge of the panel 16. The edges of the plastic shield 10 are frictionally held between vertically disposed slats 54 and 55 at one side, and 56 and 57 at the other and the slats are hinged at the upper and lower ends by plain cabinet hinges 58 with spring actuated hinges 59 at the center which urge the slats together as shown in Figure 5. The inner slats 55 and 57 are secured to the window frame by clip angles 60, as shown in Figure 3, and the clip angles are held to the slats by screws 61 and to the window frame by screws 62 with binding strips 63 over the inner ends thereof. Spring latches 64 formed in the ends of plates 65, which are mounted on the window sill by screws 66, are provided below the slats and positioned so that the outer slats 54 and 56 will snap over the latches, as shown in Figures 6 and 7 when the slats are opened to insert or remove the shield.

The upper outer edges of the outer slats are connected to cross bars 67 and 68 by hinges 69 and 70, as shown in Figures 10 and 11, and the cross bars are joined at the center by a dovetail joint with a tongue 71 of the bar 67 fitting into a slot 72 of the bar 68, as shown in Figure 12, thereby holding the shield tight when the slats are closed.

The casing with the shield, screen, and shade rollers therein is positioned across the upper end of a window frame and normally the casing is completely concealed by the window curtains. The shade may be drawn down and used in the usual manner, and when it is desired to use the screen the screen may be drawn downward, or in cold or hot weather when it is desired to insulate a room from the outside temperature, the shield 10 is drawn all of the way down until the rod in the tubular casing 46 with the rubber strip 50 on the lower surface rests upon the window sill, as shown in Figure 2. The keys 47 may then be rotated through an angle of 90 degrees whereby they will engage the lower end of the tracks to lock the seal down in the position of completely sealing the window opening. With the edges of the shield held between the slats and the upper end of the shield between the rubber strips 52 and 53 a complete seal is provided. The shield may be of transparent material or any suitable material may be used.

It will be understood that modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

In a closure for the inner surfaces of window frames, the combination which comprises a sheet of substantially transparent material the width and length of which corresponds substantially with corresponding dimensions of the window frame, a roller on which the said sheet of material is carried, means rotatably mounting the said roller on the inner surface of the upper end of the window frame, continuous hinged track elements, mounted on the opposite sides of the window frame and extended from the lower to the upper end thereof, resilient means urging the said track elements together to frictionally grip the edges of the said sheet of material with the said edges of the sheet of material positioned in the track elements, a bar carried by the lower edge of the said sheet of material, sealing means on the lower surface of the bar carried by the lower edge of the said sheet of material, and keys at the ends of the bar carried by the lower end of the said sheet of material adapted to be rotated for locking engagement with the lower end of the track elements to retain the said sheet of transparent material in the position of sealing the window opening.

ALBERT HOWARD MORSE.

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