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SCREEN FRAME

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3 Claims. (Cl. 160—380)

This invention relates to an improved screen sash and the principal object is to provide a base frame arrangement that presents a screen edge mounting pocket and that has integral webs to receive snap on molding strips that mask the screen edge mounting pocket for improving the appearance of the screen frame and for facilitating the anchorage and retention of the screen edge in its mounting pocket.

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

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

FIG. 1 is a front view of a typical screen frame constructed in accordance with this invention;

FIG. 2 is a greatly enlarged fragmentary sectional view through the frame as indicated by the lines 2—2 of FIG. 1; and

FIG. 3 is a view corresponding to that of FIG. 2 and illustrating an alternative construction.

Referring now to the drawings a completed screen sash is illustrated for purposes of disclosure in FIG. 1 as comprising a generally rectangular framework 10 defining a generally rectangular periphery that encompasses a central opening spanned by a screen 11. The framework 10 includes a base frame comprised of right angularly end to end connected rails 12 that preferably have adjoining ends thereof mitered and interconnected by means of internal L shaped corner brackets 13.

Each of the rails 12 is shaped to provide a mounting pocket P having a full length entrance E along the inner periphery thereof. The screen 11 which spans the framework has corresponding marginal edge portions 11E for anchorage in the rails and for this purpose each screen edge portion extends through the entrance E and lines the mounting pocket P to substantially follow the outline configuration thereof.

In accordance with this invention each of the rails 12 receives a molding strip 14 in snap fit engagement thereon with each molding strip 14 extending substantially co-extensively with its corresponding rail so as to span the open side of the screen edge mounting pocket for presenting a neat finished appearance for the sash when viewed from either direction and for facilitating the securement and retention of the screen edge in its mounting pocket.

In the preferred practice of the invention each of the rails 12 is an extruded section preferably of a metal such as aluminum and has a main wall portion 12M disposed to extend in the plane of the sash, with the inner edge portion of this main wall 12M constituting one boundary wall of the screen edge mounting pocket. The rail 12 has integral inner edge web structure 12I, integral medial web structure 12C and integral outer edge web structure 12O extending full length along a common face 12F thereof to project generally normal from this face. The inner web structure 12I and the medial web structure 12C cooperate in defining the screen edge mounting pocket P. In the preferred form illustrated herein mating interior retainer ribs 12R project integrally from the common face of each rail and define an endwise opening channel to receive the corner brackets 13 which may be screw anchored if desired.

Each of the molding strips 14 is an extruded section

preferably of a metal such as aluminum and has a main wall portion 14M extending substantially full length with the main wall portion 12M of the corresponding rail, with the inner margin of the molding strip projecting across and substantially closing the mounting pocket. Each of the molding strips 14 has integral medial web structure 14C and integral outer edge web structure 14O extending lengthwise along a common face 14F thereof to project generally normal therefrom for complementary interlocking engagement with corresponding surfaces on the medial and outer web structures of the rail to enable snap on attachment and retention of each molding strip 14 on its rail 12.

The outer web structure 12O of each rail terminates in a hook-like hinge and socket portion and correspondingly the outer web structure 14O of each molding strip terminates in a hook-like hinge and socket portion that is complementary to and engageable with the hinge and socket portion of the corresponding rail to establish a line of interlock L between the strip and rail. The medial web structure 12C of each rail has a shoulder and cam portion extending therealong to present a shoulder surface S and a cam surface C and correspondingly the medial web structure 14C of the molding strip terminates in a complementarily shaped portion presenting a shoulder surface and a cam surface to engage the corresponding surfaces of the rail.

With the described construction, the screen sash is assembled by first completing the base frame comprised of the rails 12 and corner brackets 13. Each screen edge is positioned along its mounting pocket and the molding strip 14 is applied by interlocking its web 14O to the rail web 12O and thereafter snapping its web 14C into interlocking engagement with web 12C.

In the arrangement illustrated in FIG. 2 the screen edge 11E is anchored in the rail mounting pocket by means of a spline in the form of an integral web 14W carried on the molding strip 14 and projecting therefrom to terminate in a splined head 14H that is configured to interlock with the screen material and prevent accidental release thereof. The spline head 14H moves with the strip as it snaps in and thus draws the screen edge 11E into lining relation in the pocket P. In FIG. 3 on the other hand a conventional plastic or rubber-like spline 15 is illustrated retained in compressed engagement with the screen edge liner within the pocket P. The construction in FIG. 3 is otherwise similar to that of FIG. 2 and corresponding reference numbers are employed. The spline 15 is inserted prior to snapping the strip 14 into place.

With either arrangement, the strip and rail assembly presents a neat finished appearance and is not subject to accumulation of dirt in exposed regions. Moreover, the screen edge retaining spline is not subject to accidental dislodgment.

Thus, while a preferred embodiment of the invention has been illustrated herein, it is to be understood that changes and variations may be made by those skilled in the art without departing from the spirit and scope of the appending claims.

What is claimed is:

1. In a screen sash, a base frame comprised of right angularly end to end connected rails defining a generally rectangular periphery encompassing a central opening, each said rail being an extruded section having a main wall portion disposed to extend in the plane of the frame and having integral medial web structure and integral inner and outer edge web structures extending lengthwise along a common face thereof and projecting generally normal from said face, said inner web structure and said medial web structure cooperatively defining a lengthwise elongated mounting pocket having a full length entrance

along the inner periphery of said frame rail, a screen spanning said opening and having corresponding marginal edge portions for engagement in said rails, with each screen edge portion extending through said entrance and lining said pocket to substantially follow the outline configuration thereof, and means for fastening said screen edge portions in said rail pockets and including a separate molding strip for each rail and each comprising an extruded section having a main wall portion extending substantially full length with the rail main wall portion and having integral medial web structure and integral outer edge web structure extending lengthwise along a common face thereof and projecting generally normal therefrom, with the outer web structures of said rail and strip having complementary interengageable surfaces wherein the last-named strip surface faces generally outwardly and the last-named rail surface is outwardly of such last-named strip surface and faces generally inwardly thereagainst, and with the medial web structures of said rail and strip having complementary interengageable surfaces wherein the finally-named rail surface faces generally outwardly and the finally-named strip surface is outwardly of such finally-named rail surface and faces generally inwardly thereagainst, with the said last-named rail and strip surfaces and the said finally-named rail and strip surfaces engageable in directly contacting relation to enable snap on attachment and mechanical interlock of each strip to each rail to complete said screen frame, with each strip substantially masking the entire common face of the corresponding rail and substantially closing said pocket, the last-named means including spline means disposed within each said pocket to extend substantially full length therealong and engage the screen edge to hold the same against escape from said pocket, said spline means in turn being retained in each pocket by the corresponding strip which substantially closes the same.

2. In a screen sash that includes a base frame comprised of right angularly end to end connected rails defining a generally rectangular periphery encompassing a central opening, each said rail having a lengthwise elongated mounting pocket having a full length entrance along the inner periphery thereof, a screen spanning said opening and having corresponding marginal edge portions for engagement in said rails, with each screen edge portion extending through said entrance and lining said pocket to substantially follow the outline configuration thereof, and spline means disposed within each said pocket to extend substantially full length therealong and engage the screen edge to hold the same against escape from said pocket, the improvement wherein each said rail comprises an extruded metal section having a main wall portion disposed to extend in the plane of the base frame and define one boundary wall of said pocket and having integral medial

web structure and integral outer edge web structure extending lengthwise along a face thereof common to said pocket and projecting generally normal therefrom, and a separate molding strip mounted on each rail, each molding strip comprising an extruded metal section having a main wall portion extending substantially full length with said rail main wall portion and having integral medial web structure and integral outer edge web structure extending lengthwise along a common face thereof and projecting generally normal therefrom, with the outer web structures of said rail and strip having complementary interengageable surfaces wherein the last-named strip surface faces generally outwardly and the last-named rail surface is outwardly of such last-named strip surface and faces generally inwardly thereagainst, and with the medial web structures of said rail and strip having complementary interengageable surfaces wherein the finally-named rail surface faces generally outwardly and the finally-named strip surface is outwardly of such finally-named rail surface and faces generally inwardly thereagainst, with the said last-named rail and strip surfaces and the said finally-named rail and strip surfaces engageable in directly contacting relation to enable snap on attachment and mechanical interlock of each strip to each rail to complete said screen frame, with each strip substantially masking the entire common face of the corresponding rail and substantially closing said pocket to retain the spline means and hence the screen edge against accidental escape.

3. The arrangement of claim 2 wherein said outer web structures of each strip and rail each have the said last-named surfaces configured to present cooperating interlocking hinge and socket portions that are initially brought together to establish a lengthwise hinge line accommodating swingable closure movement of each strip towards the corresponding rail and wherein said medial web structures have the said finally-named surfaces configured to present cooperating interlocking shoulder and cam portions that are relatively laterally deflectable during such swingable closure movement to establish reverse abutment between said medial web structures and between said outer web structures for locking each strip and rail together.

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