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SNOW FENCE

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Fig. 1.

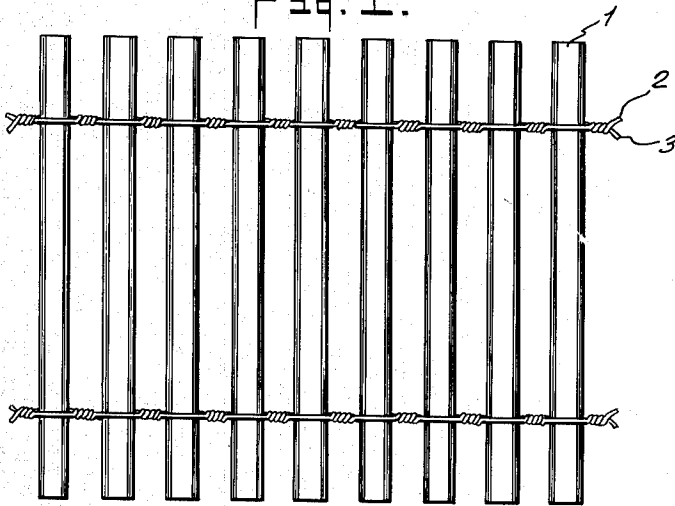


Fig. 2.

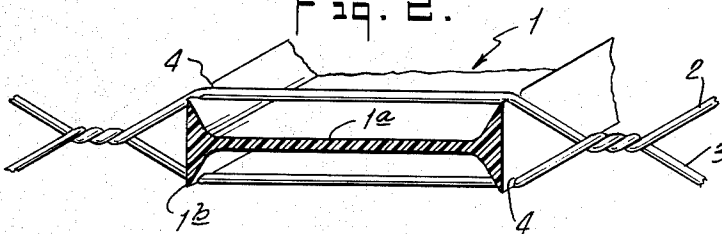


Fig. 3.

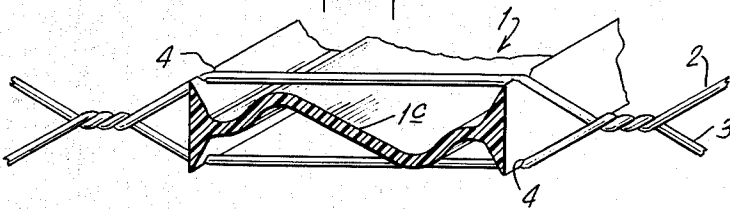
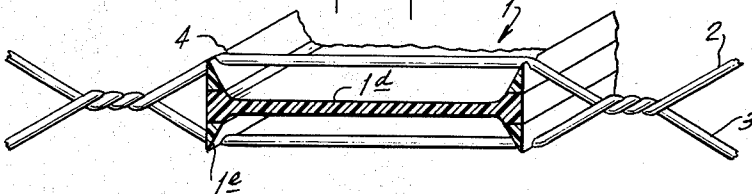


Fig. 4.



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SNOW FENCE

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3 Claims. (Cl. 256-12.5)

This invention relates to snow fences used to form a barrier stretched along the windward side of a building, road, track, etc., to deflect drifting snow. Such fences are used not only for snow but also for sand, particularly along seashores.

It is conventional to make a snow fence by automatic machinery from wood slats joined together in interspaced relationship at two or more vertically interspaced locations, in each instance by means of two wires which straddle each slat and are intertwined together between the slats. This is done in such a fashion that the two wires press on and self-indent the wood slats so as to lock them against sliding from between the two wires.

These fences are rolled up and handled, usually rather roughly, both during installation and because it is customary to move them from one location to another as required by the vagaries of the drifting snow or sand. Therefore, the slats must be locked firmly against displacement.

Heretofore, there has been no satisfactory substitute for the wood slats. Metal and plastic slats are too hard to permit the automatic machinery to cause the wires to self-indent these materials as required to lock the slats against displacement. Pre-notching of the slats is impractical both because of cost and the absence of any means for registering exactly the wires with notches during fabrication of the fences by the automatic machinery. At the same time wood is increasing in cost, rots when stored carelessly, breaks rather easily, and has other undesirable characteristics.

With the foregoing in mind, the object of the present invention is to provide a snow fence construction embodying the use of plastic slats in a manner that is practical in the commercial sense. That is to say, the usual machinery must be usable, the slats must be locked in position without the use of notches and the form of the slats must permit their extrusion by a plastic extrusion press so as to make the manufacturing cost of the slats low enough to permit them to replace the usual wood slats without increasing the cost of the fence to a degree offsetting the advantages of plastic over wood. These advantages are well known today.

Examples of snow fences constructed in accordance with the present invention are illustrated by the accompanying drawings, in which:

FIG. 1 is an elevation of a short length of the fence;

FIG. 2 shows partly in cross section and partly in perspective a segment of one of the slats with the two wires used to connect the various slats together;

FIG. 3 shows a modification of the FIG. 2 construction, and;

FIG. 4 shows another modification.

In more detail, first referring to FIG. 1, the slats 1 are shown interfastened in rather closely interspaced relationship, parallel to each other, near their tops and bottoms in each instance by the two intertwined wires 2 and 3. In this view, the fence looks pretty much like the usual snow fence. However, the slats 1 are made of plastic.

Reference to FIG. 2 shows that each of the slats 1 is a plastic extrusion in the form of a miniaturized I-beam section having a web 1a and short flanges 1b, the latter terminating with sharp edges. These edges are pointed in

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cross section. The plastic used may be any capable of extrusion and having, at least at the sharp flange tips, a softness permitting the wires 2 and 3 to self-indent these tips so that the wires themselves through their normal pressure on these tips, during the manufacture of the fence by the usual automatic machinery, form notches 4 which serve to lock the slats against slipping from between the wires.

An example of a suitable plastic is plasticized polyvinylchloride. Wood snow fences are customarily stained a red color and the plastic may be compounded to provide a corresponding color. Of course, any color may be imparted to the plastic by appropriate compounding.

Insofar as is known, there is no plastic available that can be extruded in the form of slats having the conventional shape, of wood slats, which will provide adequate longitudinal slat stiffness and still be capable of self-indentation by the wires to provide good slat locking when using the conventional automatic fence making machinery. Without the flanges, the stiffness requirement would necessitate plastic slats of relatively great thickness which would correspondingly increase the materials cost. Also, pre-notching with its attendant excessive cost and difficulties would be required.

The use of flanges alone to provide greater stiffness would not solve the problem because the normal I-beam section has blunt flange edges which could not be indented by the wires under normal fence making operating conditions. The use of the flanges plus making their edges pointed or sharpened or otherwise shaped combined with the use at these edge portions at least of a plastic having an adequately soft, yielding characteristic, is required to provide for the self-indentation by the wires when they are intertwined with the ordinary degree of tightness. These considerations have not been obvious to persons of ordinary skill in the snow fence manufacturing art. Hence, the use of wood with its disadvantages.

The same concept is illustrated by FIG. 3, excepting that in this instance the web 1c is extruded through a die contoured to make the web laterally corrugated, meaning the web is formed with corrugations extending longitudinally with respect to the slat. This corrugated form provides the web with greater rigidity and stiffness longitudinally with respect to the slat.

Another way to provide greater slot stiffness is shown by FIG. 4 wherein the web 1d and the flange tips 1e are formed from plastics of different compoundings. This permits the web to be extruded from a hard and therefore rigid and stiff plastic, such as for example rigid polyvinylchloride which is either completely or relatively free form a plasticizer, while the flange tips at least, or perhaps the entire flanges, are extruded from the plasticized plastic previously mentioned. Thus, the web is hard and stiff and rigid while the flange tips have the necessary softness to permit the two wires to form the indentations or notches 4 at each flange. In the case of this example, the two different plastics may be compounded to give them different colors so as to increase the visibility of the snow fence.

Note that in all instances the slats are of a shape which permits them to be extruded by a conventional plastic extrusion machine. With the extrusion coming continuously from the machine, it may be automatically cut by known techniques into the length required. There is no need to pre-notch since the soft flange tips permit the indentation by the wires simply by making the snow fence in the manner conventionally used in the case of wood slats.

The drawings are not necessarily representative of the dimensions and proportions to be used. For example,

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the flanges may be made shorter than shown, particularly in the case of the modification shown by FIG. 4. In this instance, the stiffness is provided by the hard plastic web. It is considered necessary in the drawings to exaggerate the proportions between the parts of the I-beam section, since this highlights the new concept.

Persons familiar with plastic extruders know a technique called co-extrusion. This involves the use of a plurality of extruders simultaneously extruding plastics of any desired compounding or composition and which are caused to join together prior to setting. It is by such a technique that the modification of FIG. 4 may be made commercially.

Plainly, the foregoing concept permits attainment of the previously stated object. Snow fences may now be made with plastic slats instead of wood without requiring pre-notching of the slats or fence making machinery requiring extensive redesigning. Any possible greater cost involved by the use of plastic instead of wood as a basic material is offset by the obvious advantages possessed by plastic over wood.

What is claimed is:

1. In a fence of the kind including a plurality of slats interfastened in interspaced relationship by at least two wires which straddle the slats and are intertwined between the slats by automatic machinery so that the wires press on each slat therebetween to self-indent the slat's corners and lock the slat against slipping longitudinally from the wires; the improvement wherein said slats are plastic extrusions free from pre-notching and in the form of miniaturized I-beam sections, each having a web and short

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flanges with at least said web made of plastic too hard to be self-indented by said wires and with said flanges having edges against which the wires press and which are sharp to a degree causing the wires to self-indent these edges so as to lock the slats against slipping longitudinally with respect to the wires.

2. The fence of claim 1 in which said web is formed with longitudinally extending corrugations.

3. The fence of claim 1 in which said flanges are formed of different and relatively softer plastic than that of said web.

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