May 12, 1953 J. C. CORN 2,638,188

WINDBREAK AND LIVESTOCK SHADE

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Fig. 1.

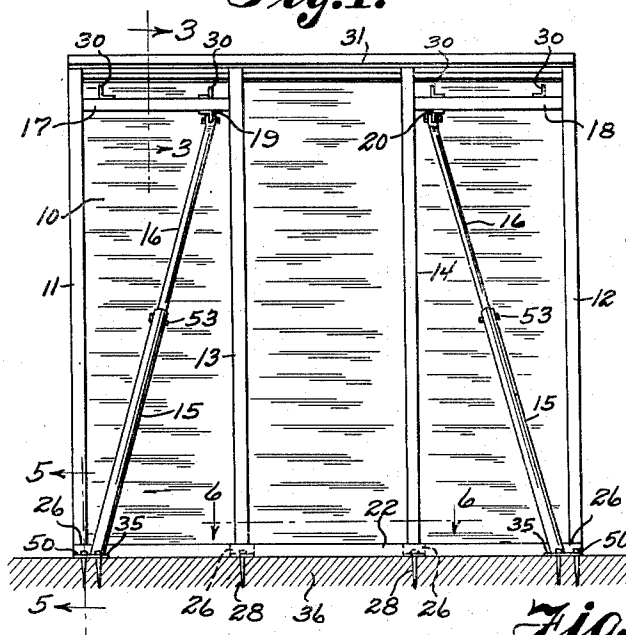


Fig. 4.

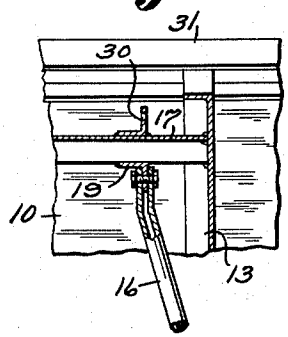


Fig. 5.

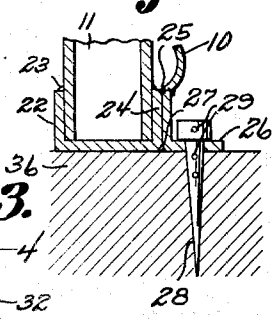


Fig. 3.

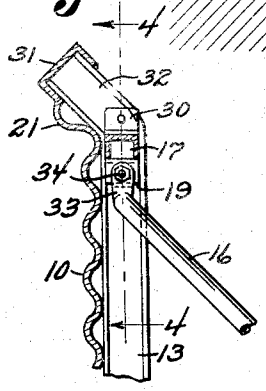


Fig. 2.

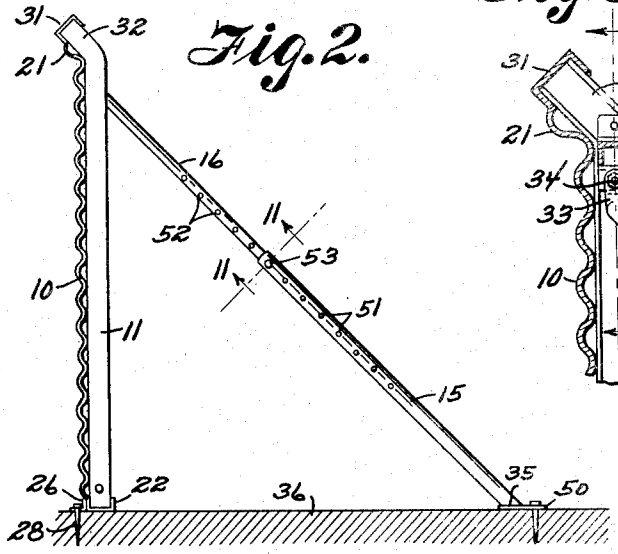
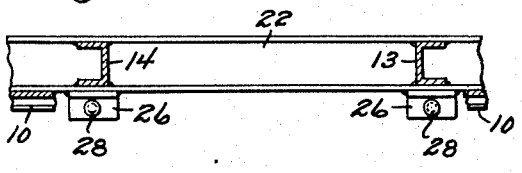


Fig. 6.



INVENTOR.

Jack C. Corn

BY Victor J. Evans & Co.

ATTORNEYS

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Fig. 7.

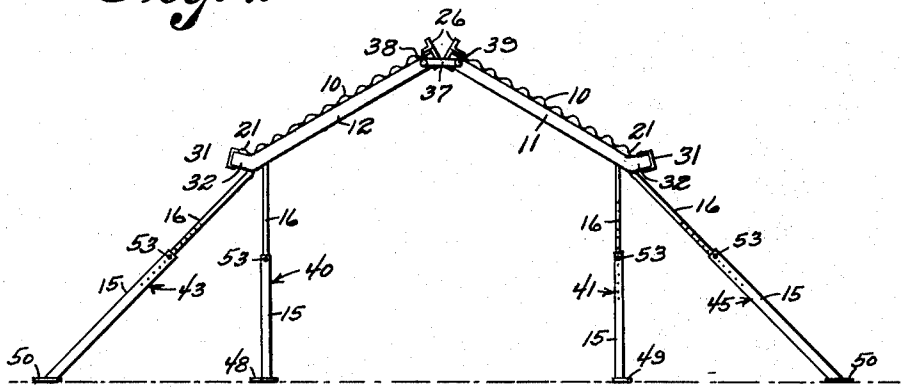


Fig. 8.

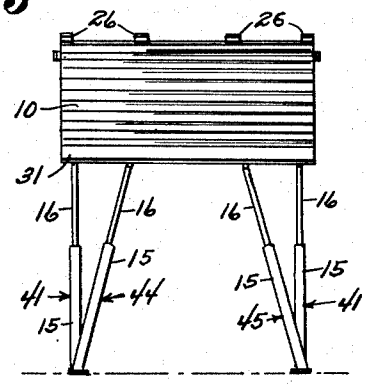


Fig. 10.

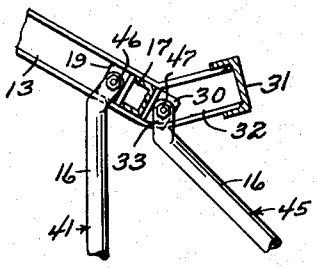


Fig. 9.

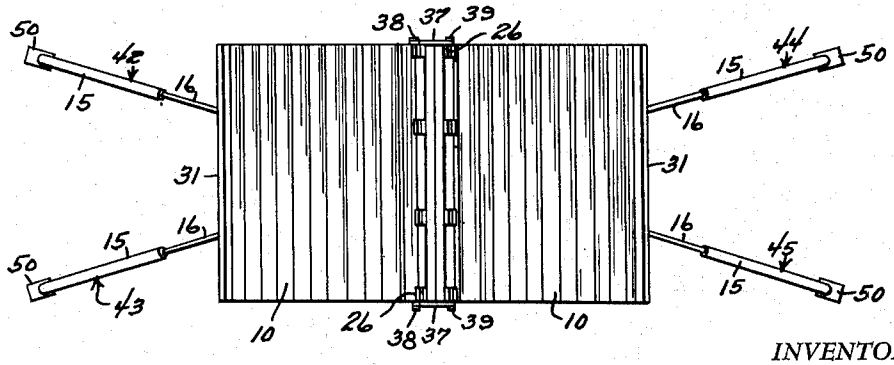
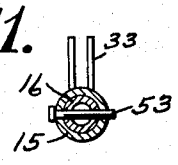


Fig. 11.



INVENTOR.

Jack C. Corn

BY Victor J. Evans & Co.

ATTORNEYS

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WINDBREAK AND LIVESTOCK SHADE

Jack C. Corn, Friend, Kans.

Application May 17, 1951, Serial No. 226,897

1 Claim. (Cl. 189—34)

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This invention relates to preformed panels or wall sections particularly adapted for use on farms, and in particular a corrugated sheet reinforced by spaced studding with adjustable braces for holding the panel in a vertical position or whereby a pair of panels may be supported in the form of a roof to provide a shelter or loafing shed for animals and the like.

The purpose of this invention is to provide a panel of the preformed type of construction wherein the panel with supporting elements may be manufactured in a shop or plant, shipped as a complete unit, and readily set up for use as a windbreak or shelter by the average mechanic.

Various methods have been used, particularly by farmers for setting up temporary windbreaks or shelters for animals, but with the modern, substantially clean farm it is difficult to pick up boards or other elements that may be used for a windbreak, temporary shelter, or the like. With this thought in mind this invention contemplates a preformed unit that is self contained and that may be supplied, shipped, and stored as a complete unit whereby a farmer may readily set up a windbreak or shelter.

The object of this invention is, therefore, to provide a preformed panel unit that is of comparatively light weight material and that is sufficiently reinforced and braced to form a windbreak and that may also be used as a roof of a temporary shelter, or the like.

Another object of the invention is to provide a preformed universal panel that is self contained and that is adapted for use as a windbreak or shelter roof, in which the entire structure is of metal or other fireproof material.

A further object of the invention is to provide a complete self contained panel for use on farms as a windbreak, shelter or the like which is of a simple economical construction.

With these and other objects and advantages in view the invention embodies a sheet of corrugated material having an offset upper edge with spaced studding at the ends and intermediate of the ends and with telescoping or adjustable braces pivotally connected to the offset end and adapted to support the panel in a vertically disposed position or where in a sloping position two of said panels are connected together and used as a lean-to or roof.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings wherein:

Figure 1 is a rear elevational view looking toward the inner surface of the panel.

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Figure 2 is an end elevational view showing the panel set up for use as a windbreak.

Figure 3 is a section on an enlarged scale taken on line 3—3 of Figure 1 showing the construction of the angularly disposed upper edge of the panel.

Figure 4 is a longitudinal section taken on line 4—4 of Figure 3 showing the connection of the braces to the panel.

Figure 5 is a detail taken on line 5—5 of Figure 1 also on an enlarged scale showing the lower edge of the panel.

Figure 6 is a sectional plan taken on line 6—6 of Figure 1 showing clips on the rear edge of the lower end of the panel for receiving spikes.

Figure 7 is an end elevational view similar to that shown in Figure 2 illustrating the use of the panel in combination with a similar panel to form the roof of a temporary shelter.

Figure 8 is a side elevational view of the shelter shown in Figure 7.

Figure 9 is a plan view of the shelter illustrated in Figure 7.

Figure 10 is a detail showing a section through the edge of the panel with the parts as shown in Figures 7 and 8 illustrating the connections of the posts and braces to the panel.

Figure 11 is a detail showing a section through one of the supporting braces, taken on line 11—11 of Figure 2.

Referring now to the drawings wherein like reference characters denote corresponding parts the self contained universal panel of this invention includes a corrugated sheet 10 reinforced with end studdings 11 and 12 and intermediate studdings 13 and 14, braces formed with lower tubular members 15 and upper telescoping members 16, and struts 17 and 18 through which the telescoping sections 16 of the braces are pivotally connected by clip angles 19 and 20.

The corrugated panel 10 may be formed of any suitable size and as illustrated in Figures 2 and 3 the panel is provided with a sloping upper edge 21.

The panel is formed with a channel iron 22 in which the lower ends of the studs 11, 12, 13 and 14 are secured, by welding as indicated at the point 23 and, as shown in Figure 5 the lower edge of the panel 10 may be secured to the flange 24 of the channel iron 22, also by welding, as indicated at the point 25. The lower edge of the panel is also provided with clip angles 26 that are secured, preferably by welding at the point 27 and to the flange 24 of the channel iron 22 and the horizontally disposed flanges of the clip angles are positioned to receive spikes 28, as

shown in Figure 5. The heads and upper portions of the spikes are provided with transversely disposed openings 29 through which tools may be inserted to withdraw the spikes.

The struts 17 and 18, which are also formed of channel irons, as shown in Figure 3 are positioned between the upper ends of the studs 11 and 13, and 14 and 12 and the clip angles 19 and 20 are secured to the under surfaces of the struts as shown in Figure 3. Additional clip angles 30 are also positioned on the upper surfaces of the struts 17 and 18 and the sloping upper edge 21 of the panel 10 is also provided with a channel iron 31 that is secured, preferably by welding, to the upper inclined end 32 of the struts 11, 12, 13 and 14. The struts 17 and 18 are framed into the vertically disposed struts, as illustrated in Figure 4 wherein the strut 19 is framed into the stud 13.

The upper ends of the telescoping rods 16 of the braces are offset as shown at the point 33 and the offset upper ends of the braces are secured to the clip angles 19 and 20 by pins 34. The lower ends of the tubular sections 15 of the braces are provided with flanges 35 through which the spikes 28 are driven to secure the lower ends of the braces in position on the ground or upon a base 36.

With the device formed as illustrated in Figures 1 to 6 inclusive the device may readily be set up and supported to provide a windbreak and it will be understood that as many of the devices as may be desired may be used together with the devices end to end or side to side.

In the arrangement illustrated in Figures 7 to 10 inclusive, the ends of the panels on which the channel irons 22 are positioned are secured together by links 37, the ends of which are pivotally connected to the end studs 11 and 12 of the sections by pins 38 and 39.

In this design pairs of the telescoping braces are used to form vertical posts for supporting the lower edge of one of the panels and a similar pair, as indicated by the numeral 41, is used to support the lower edge of the other panel. This structure is supported by diagonal braces, formed of the telescoping members and braces 42 and 43 on one side and 44 and 45 on the other. It will be understood that the braces may be used in different positions to rigidly support the roof of the shelter.

With the panels positioned as illustrated in Figure 7 the vertically disposed posts 40 and 41 are connected to the clip angles 19 and 20 by bolts 46 at the upper ends and the diagonally disposed braces are connected to the clip angles 30 by bolts 47, as illustrated in Figure 10.

It will also be noted that the lower ends of the tubular sections 15 of the braces are provided with flanges and the flanges on the sections of the posts 40 and 41 are positioned at a right angle when the flanges are indicated by the numerals 48 and 49 whereas on the diagonally positioned braces the flanges are positioned at an angle, such as an angle of 45 degrees. These

flanges, which are carried on the lower ends of the sections 15, are indicated by the numeral 50.

The lower tubular section 15 of each of the braces is provided with spaced openings 51 and similar openings 52 are provided in the upper or telescoping sections 16 whereby the sections are secured in adjusted positions by bolts 53, as illustrated in Figure 11. The panels may therefore be set up and anchored in vertical positions or the panels may be supported to form a roof for a shelter and it will be understood that as many of the units as may be desired may be used in combination to extend the length of the windbreak or shelter as may be desired.

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 convertible building structure for use as a windbreak and animal shelter the combination which comprises a plurality of units adapted to be assembled to form a windbreak or shelter, each of said units comprising a bottom channel member, a top channel member parallel to the bottom channel member, end studs connecting the ends of the top and bottom channel members, spaced intermediate studs extended between said top and bottom channel members, said channel members and studs providing a rectangular-shaped frame and said frame having a top portion in a plane at an obtuse angle to a plane extended through the lower portion, a sheet metal cover mounted on one side of said frame, channel irons parallel to said top and bottom members positioned at the meeting point of the top and lower portions of the frame and extended from the end studs of the frame to intermediate studs spaced from said end studs, clip angles positioned on opposite sides of the channel irons and spaced from the ends thereof, telescoping braces bolted to the clip angles of the channel irons and extended to a surface upon which said frame is positioned, said telescoping braces having offset sections in the ends bolted to the clip angles of the channel irons, and clip angles on said bottom member for, selectively, connecting one of said frames to another frame, or for securing said bottom member to a surface upon which the device is positioned.

JACK C. CORN.

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