

Jan. 27, 1953

A. D. ROUSH ET AL

2,626,577

ROOF PANEL

Filed May 15, 1948

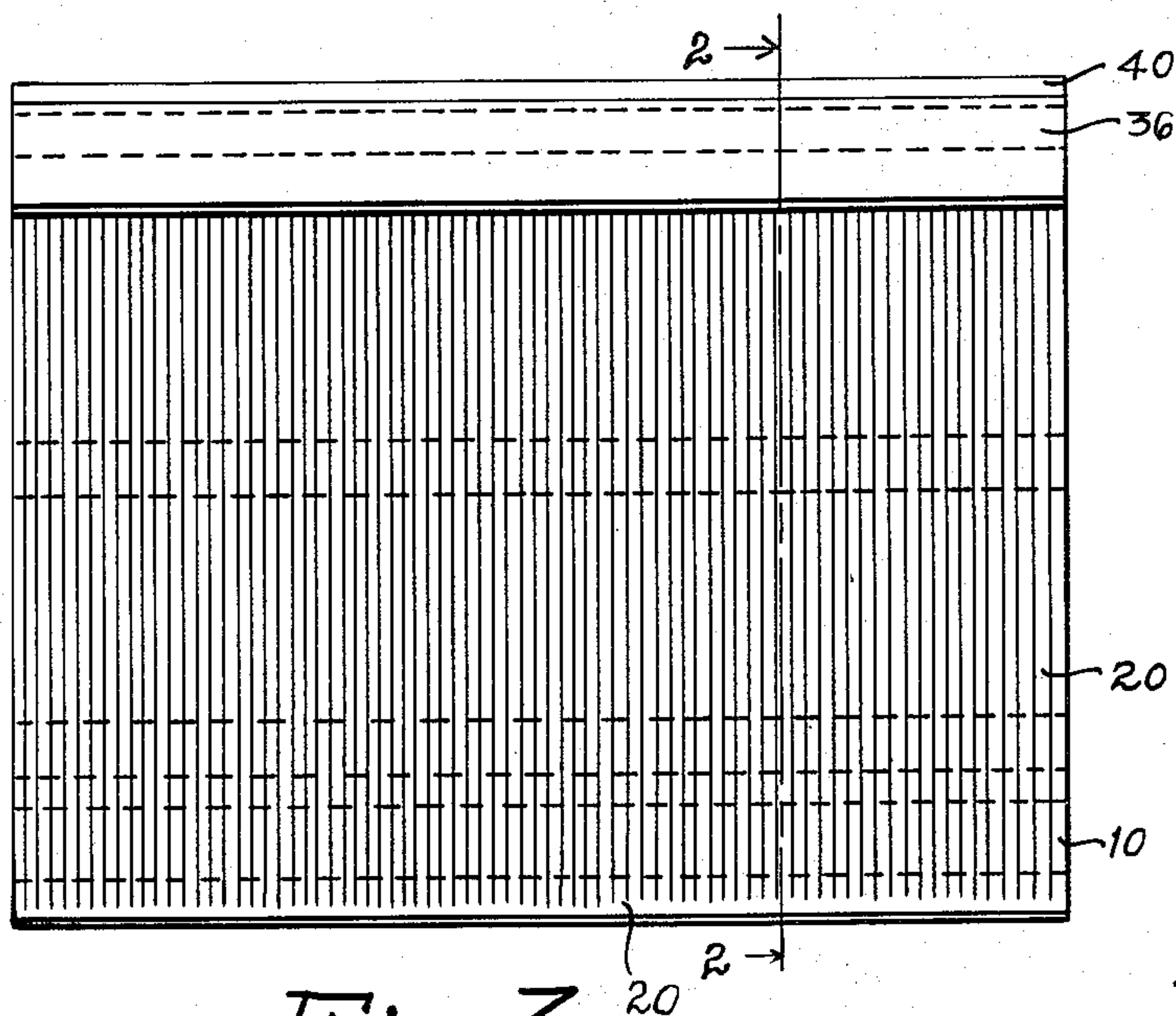


Fig. 3

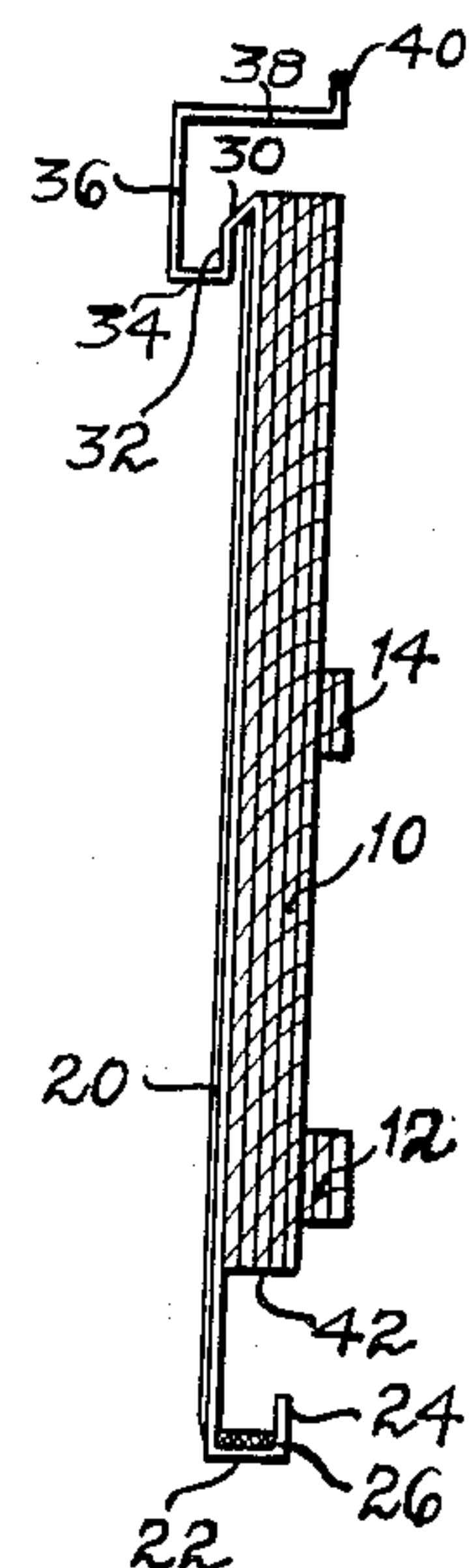


Fig. 2

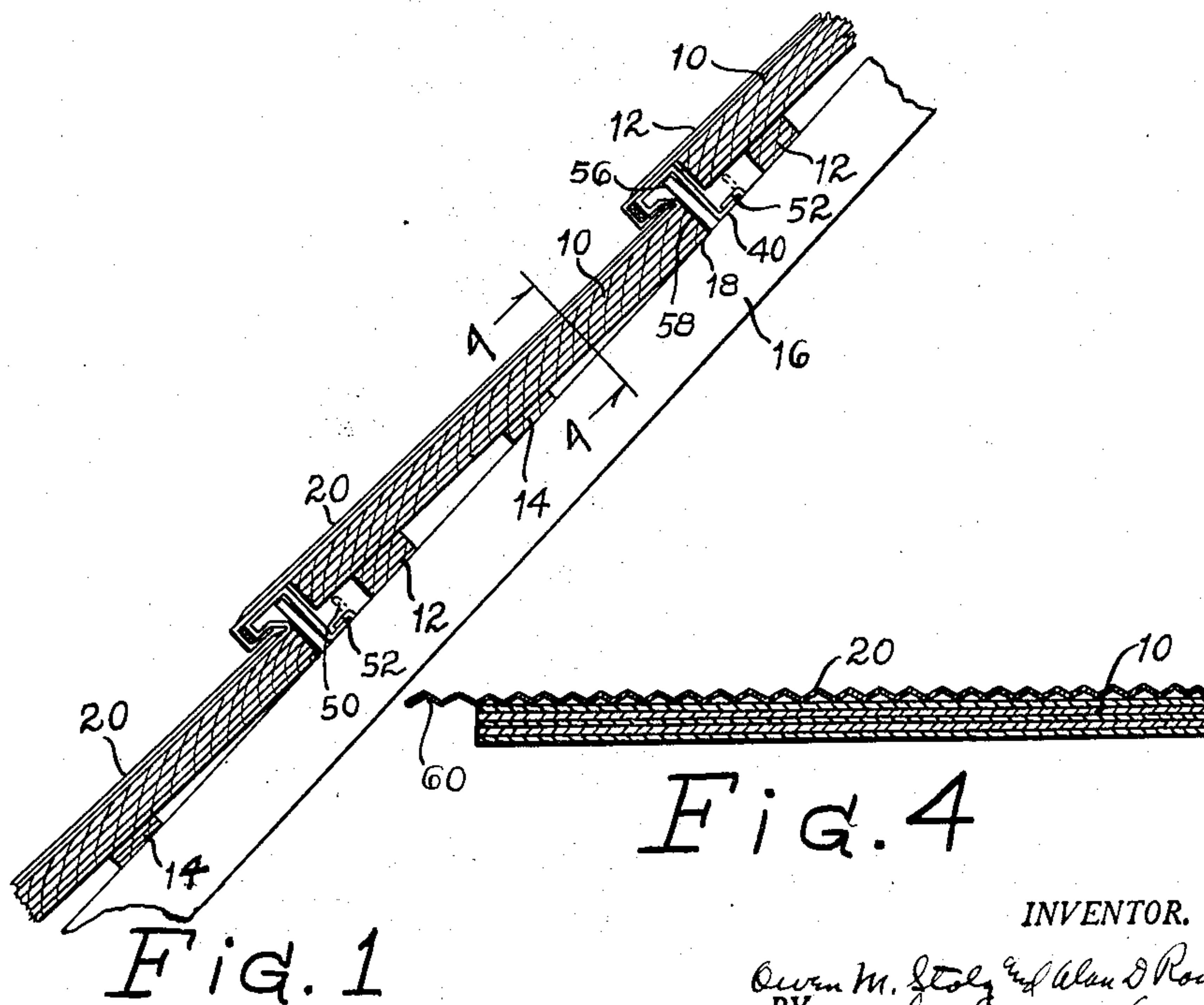


Fig. 1

Fig. 4

INVENTOR.

Owen M. Stolz and Alan D. Roush  
BY Dybvig and Dybvig  
Their Attorneys



## UNITED STATES PATENT OFFICE

2,626,577

## ROOF PANEL

Alan D. Roush and Owen M. Stolz, Dayton, Ohio,  
assignors to General Building Units, Inc., Day-  
ton, Ohio, a corporation of Ohio

Application May 15, 1948, Serial No. 27,273

12 Claims. (Cl. 108—17)

1

This invention relates to a roof panel and more particularly to a roof panel of the interlocking type, although not necessarily so limited.

An object of this invention is to provide a composite roof panel simulating in some respects conventional shingles; but so constructed and arranged that the parts may be laid and interlocked to provide a water-tight roof that is permanent, so interlocked that it is not effected by wind and storm and at the same time easily laid by the use of unskilled labor.

Another object of this invention is to provide a composite shingle that is made of a combination of materials such that it will have some of the characteristics of a metallic roof and other characteristics of a wood shingle roof, in that the exposed surface is metallic, this metallic surface being underlaid with a material that has insulating properties and that deadens or eliminates the usual metallic and rumbling sound usually found in conventional metallic roofs.

Another object of this invention is to provide a composite shingle wherein the inclination of the shingle when laid differs from the inclination of the roof, so that the shingles simulate conventional lap shingles without overlapping the shingles proper excepting the interlocking portions thereof.

Another object of this invention is to provide a composite shingle wherein the inclination of the exposed surface of the shingle differs from the inclination of the roof taken as a whole and wherein the shingle is of a substantially uniform thickness, but at the same time rigidly supported at spaced intervals, so as to provide a rigid shingle having the characteristics of overlapping shingles without the shingles being overlapped and without the shingles being tapered from butt to tip, as is the case with conventional shingles.

Another object of this invention is to provide a composite shingle having a fluted or roughened surface simulating corrugations.

Other objects and advantages reside in the construction of parts, the combination thereof and the mode of operation, as will become more apparent from the following description.

Referring to the drawings,

Figure 1 is a fragmentary cross sectional view of a series of panels simulating shingles as they would appear if laid on the roof.

Figure 2 is a longitudinal cross sectional view of a panel, taken substantially on the line 2—2 of Figure 3.

Figure 3 is a top plan view of a panel.

Figure 4 is a cross sectional view taken substantially on the line 4—4 of Figure 1.

2

In the drawings, the reference character 10 indicates a suitable base member, as for example, a sheet of plywood, or a composition board made from any suitable insulating material and sound deadening material. A pair of strips 12 and 14 underlie member 10, so as to provide a support such that when the panel is laid on the rafters 16 without sheeting, the panels will be supported along three areas, namely, under the strip 12, under the strip 14 and under the top edge 18.

This base member 10 is preferably covered with a metallic sheet 20 that may be fluted or corrugated, as best seen in Figure 4, although not necessarily so fluted or corrugated. The top sheet may be flat or contoured. The lower margin is provided with a flange portion 22 merging into a reentrant flange 24. A suitable piece of packing or insulating material 26 is positioned in the channel-like portion formed between the metallic sheet 20, the flange 22 and the reentrant flange 24. This packing strip 26 may consist of felt, rubber or other yieldable material, or it may consist of a suitable caulking compound, providing a seal, as will appear more fully later.

The upper edge of the metallic sheet 20 is provided with an angularly disposed portion 30 merging into a reentrant portion 32 arranged in spaced relation from the metallic sheet or main body 20 and terminating in a flange portion 34 extending at right angles to the main body portion 20. The flange portion 34 is integral with a strip 36 merging into a flange 38 extending at right angles to the strip 36 and at right angles to the terminal flange 40. The distance between the flange 34 and the flange 38 is substantially equal to the distance from the packing strip 26 to the lower edge 42 of the base member 10.

As may best be seen by referring to Figure 1, the reentrant flange 24 of an upper panel hooks under the reentrant portion 32 of a lower panel, so as to cause the flange portion 34 to abut the packing or insulating material 26. A tongue 50, initially extending directly upwardly from the rafters 16 and integral therewith, is bent into the position 52 shown in Figure 1 after a panel has been laid, so as to overlie or engage the terminal flange 40, to lock the upper edge of the panel in position.

Tongues 56 are struck out from the top portion of the rafters and project upwardly from the rafters. These tongues 56 are used to prevent the panels from sagging. This has been accomplished by locating the tongues 56 between the upper edge 58 of a lower panel and the flange 38 of the same panel. By this arrangement, it may readily be seen that both the upper and



3

lower edges of the panels are so interlocked with respect to the rafters and with respect to each other that the panels cannot be dislodged. Furthermore, these panels have been so constructed and arranged that they may be laid upon the roof without the use of sheeting. For some purposes the width of the panel may be equal to the length of the roof. For other installations, it may be necessary to provide a series of panels along each tier or row. In order to prevent leakage, the metallic sheet 20 may have one side 60 extend beyond the base member 10, so as to overlap the adjacent panel. Caulking compound may be used, if found necessary, to seal the joints between adjacent panels in the same row.

Although the preferred embodiment of the device has been described, it will be understood that within the purview of this invention various changes may be made in the form, details, proportion and arrangement of parts, the combination thereof and mode of operation, which generally stated consist in a device capable of carrying out the objects set forth, as disclosed and defined in the appended claims.

Having thus described our invention, we claim:

1. A roof panel adapted to be laid on rafters at an inclined angle with respect to the length of the longitudinal axis of the rafters, said rafters having interlocking means arranged at spaced intervals, said panel including a base member of insulating and sound-deadening material, a pair of strips underlying said base member and resting upon said rafters, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a reentrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel terminating in downwardly directed portions engaging the interlocking means of the rafters, said raised portion being adapted to engage the reentrant hook portion of a succeeding panel.

2. A roof panel adapted to be laid on rafters at an inclined angle with respect to the length of the longitudinal axis of the rafters, each of said rafters having interlocking means arranged at spaced intervals, said panel including a base member of insulating and sound-deadening material, a pair of strips underlying said base member and resting upon said rafters, one of the strips being thinner than the other, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a reentrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel, said raised portion terminating in a downwardly directed portion engaging the interlocking means of the rafters, said raised portion being adapted to engage the reentrant hook portion of a succeeding panel.

3. A roof panel adapted to be laid on rafters at an inclined angle with respect to the length of the longitudinal axis of the rafters, each of said rafters including interlocking means arranged at spaced intervals, said panel including a base member of insulating and sound-deadening material, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a reentrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel, said raised portion terminating in a downwardly directed portion en-

4

gaging the interlocking means of the rafters, said raised portion being adapted to engage the reentrant hook portion of a succeeding panel.

4. A roof panel adapted to be laid on rafters at an inclined angle with respect to the length of the longitudinal axis of the rafters, said rafters having equally spaced upwardly directed tongues, said panel including a base member of insulating and sound-deadening material, a pair of strips underlying said base member and resting upon said rafters, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a reentrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel adapted to engage the reentrant hook portion of a succeeding panel, said raised portion being provided with a flange-like portion engaging tongues on the rafters so as to cause the tongues to support the panel.

5. A roof assembly including the combination of rafters provided with tongues extending outwardly from the upper side of the rafters, with a plurality of panels, each of the panels including a base member of insulating and sound-deadening material, a pair of strips underlying said base member and resting upon said rafters, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a reentrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel adapted to engage the reentrant hook portion of a succeeding panel, said hook portion overlying tongues on adjacent rafters.

6. A roof assembly including the combination of rafters provided with tongues extending outwardly from the upper side of the rafters, with a plurality of panels, each of the panels including a base member of insulating and sound-deadening material, a pair of strips underlying said base member and resting upon said rafters, one of the strips being thinner than the other, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a reentrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel adapted to engage the reentrant hook portion of a succeeding panel, said hook portion overlying tongues on adjacent rafters.

7. A roof assembly including the combination of rafters provided with tongues extending outwardly from the upper side of the rafters, with a plurality of panels, each of the panels including a base member of insulating and sound-deadening material, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a reentrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel adapted to engage the reentrant hook portion of a succeeding panel, said hook portion overlying tongues on adjacent rafters.

8. A roof assembly including the combination of rafters provided with tongues extending outwardly from the upper side of the rafters, with a plurality of panels, each of the panels including a base member of insulating and sound-deadening material, a pair of strips underlying said base member and resting upon said rafters, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a re-



5

entrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel adapted to engage the reentrant hook portion of a succeeding panel, said raised portion being provided with a flange-like portion engaging the tongues on the rafters so as to cause the tongues to support the panels.

9. A roof assembly including the combination of a plurality of inclined rafters, each of the rafters being provided with a plurality of equally spaced tongues arranged in rows and tiers, and a plurality of tabs, said tabs being arranged in closed proximity to the tongues, with a plurality of panels, each of the panels including a base member of insulating and sound-deadening material, a pair of strips underlying said base member and resting upon said rafters, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a reentrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel adapted to engage the reentrant hook portion of a succeeding panel, said hook portion overlying tongues on adjacent rafters.

10. A roof assembly including the combination of a plurality of inclined rafters, each of the rafters being provided with a plurality of equally spaced tongues arranged in rows and tiers, and a plurality of tabs, said tabs being arranged in close proximity to the tongues, with a plurality of panels, each of the panels including a base member of insulating and sound-deadening material, a pair of strips underlying said base member and resting upon said rafters, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a reentrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel adapted to engage the reentrant hook portion of a succeeding panel, said hook portion overlying tongues on adjacent rafters.

11. A roof assembly including the combination of a plurality of inclined rafters, each of the rafters being provided with a plurality of equally

6

spaced tongues arranged in rows and tiers, and a plurality of tabs, said tabs being arranged in close proximity to the tongues, with a plurality of panels, each of the panels including a base member of insulating and sound-deadening material, a pair of strips underlying said base member and resting upon said rafters, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a reentrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel adapted to engage the reentrant hook portion of a succeeding panel, said hook portion overlying tongues on adjacent rafters.

12. A roof assembly including the combination of a plurality of inclined rafters, each of the rafters being provided with a plurality of equally spaced tongues arranged in rows and tiers, and a plurality of tabs, said tabs being arranged in close proximity to the tongues, with a plurality of panels, each of the panels including a base member of insulating and sound-deadening material, a pair of strips underlying said base member and resting upon said rafters, and a sheet metal member overlying the base member forming the exposed surface of the panel, said sheet metal member terminating in a reentrant hook portion along the lower edge of the panel and a raised portion along the upper edge of the panel adapted to engage the reentrant hook portion of a succeeding panel, said raised portion being provided with a flange-like portion engaging the tongues on the rafters so as to cause the tongues to support the panels.

ALAN D. ROUSH.  
OWEN M. STOLZ.

#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

Number	Name	Date
1,583,969	Greenstreet	May 11, 1926
2,450,562	Robinson	Oct. 5, 1948