June 7, 1955 M. J. KUNERT 2,710,079

VENTILATED WALL STRUCTURE FOR BUILDINGS

Filed July 28, 1950

Fig. 1.

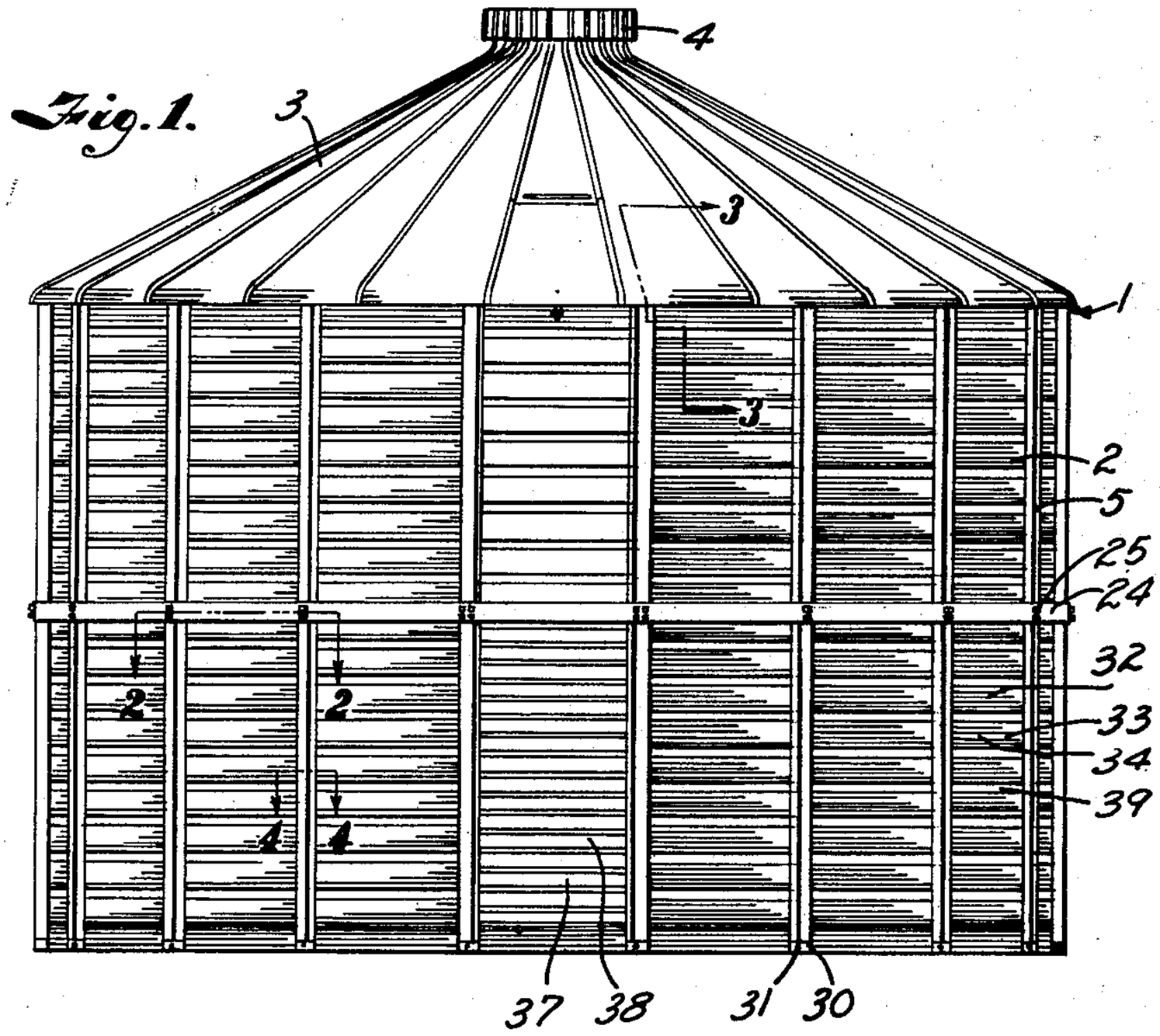


Fig. 2.

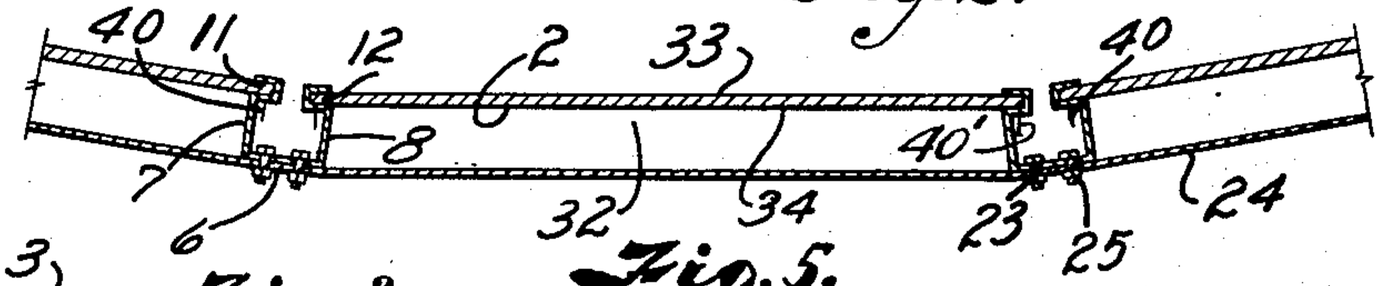


Fig. 3.

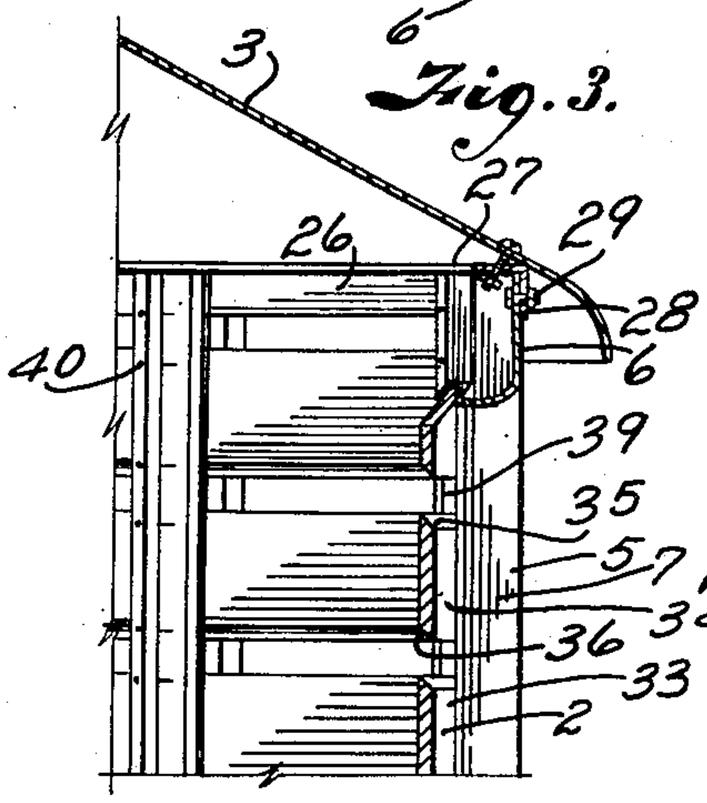


Fig. 5.

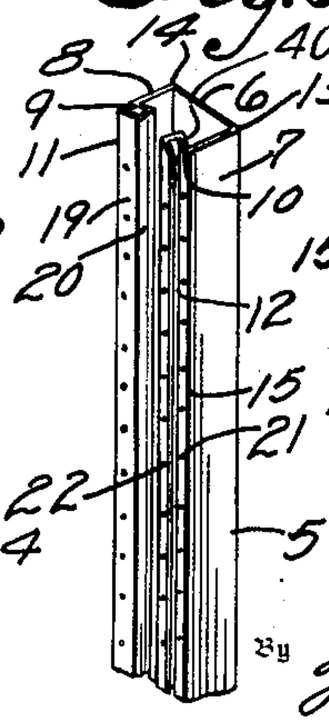
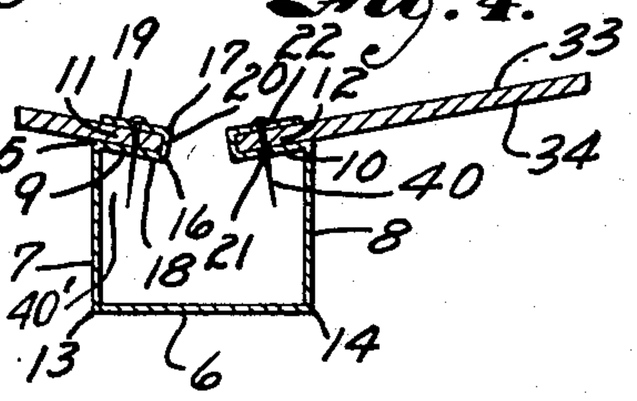


Fig. 4.



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VENTILATED WALL STRUCTURE FOR BUILDINGS

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2 Claims. (Cl. 189—34)

This invention relates to a building construction particularly suitable for portable buildings such as used in storing corn and like crops where ventilation is required.

The principal object of the invention is to provide a building structure of this character that is easily and inexpensively fabricated in quantity production so that it may be supplied at relatively low cost.

Other objects of the invention are to provide a crib that is easily and quickly erected; to provide a ventilated wall structure that is extremely rigid; to provide a wall structure including uprights having side grooves for receiving ends of slats; and to provide spacing of the slats and retention thereof by means of nails or the like driven through apertures in the uprights and through ends of the slats.

In accomplishing these and other objects of the invention I have provided improved structure, the preferred form of which is illustrated in the accompanying drawings, wherein:

Fig. 1 is a side elevational view of a building such as a corn crib having the wall thereof constructed in accordance with the present invention.

Fig. 2 is a fragmentary horizontal section through the wall of the building on a line 2—2 of Fig. 1.

Fig. 3 is a fragmentary vertical section through the upper portion of the wall and roof on the line 3—3 of Fig. 1.

Fig. 4 is an enlarged section through one of the uprights to better illustrate attachment of the wall slats, the section being taken on the line 4—4 of Fig. 1.

Fig. 5 is a perspective view of one of the uprights.

Referring more in detail to the drawings:

1 designates a building structure, for example, a corn crib embodying the features of the present invention. The building includes a substantially annular side wall 2 and a cone shaped roof 3 having a ventilator 4 at the apex thereof. The wall 2 includes a series of uprights or studs 5 that are spaced apart about the periphery of the building and which are fabricated of sheet metal to provide members of sumstantially channel shaped cross sections as shown in Fig. 4. Each upright includes an outer web or face portion 6 having inwardly extending sides or flanges 7 and 8 that terminate in inwardly extending wings 9 and 10 to provide oppositely directed side grooves 11 and 12.

The uprights are each formed of a strip of sheet metal having spaced longitudinal bends 13 and 14 forming the face portion 6 and the side flanges 7 and 8. The wings 9 and 10 are formed by providing longitudinal bends 15, 16, and 17 to provide sides 18, 19 and bottoms 20 of the grooves 11 and 12. The sides 18 and 19 are provided with a longitudinal series of apertures 21 and 22. The ends and inside portions of the webs 6 are provided with apertures 23 for passing fastening devices as later described. The uprights are adapted to be connected together by one or more girths or bands 24, however in the present illustration only one band is provided and it is located substantially midway of the height of the uprights where it is connected with the face portions 6 of the

respective uprights by fastening devices such as bolts 25 as best shown in Fig. 2. The upper ends of the uprights are connected by an angle member 26 arranged with one flange 27 extending across the top of the respective uprights and the other flange 28 overlapping the faces 6 as shown in Fig. 3. The flange 28 is secured to the faces 6 by fastening devices 29 that extend through the openings in the end of the web 6 and registering openings in the flange 28 as best shown in Fig. 3.

The lower ends of the uprights may be suitably supported on a foundation and attached by angle clips 30 that are connected with the lower ends of the uprights by bolts 31 as shown in Fig. 1.

Closing each of the bays or spaces 32 between the uprights 6 are slats 33 which may be of a standard corn crib siding stock in that each includes a board 34 having bevelled upper and lower edge 35 and 36 and of a width and length so that the ends thereof are snugly received within the channel-like grooves 11 and 12 of the adjacent uprights as shown in Figs. 2 and 4. The lower portion of one of the bays, for example, the bay designated 37 may be equipped with a suitable door structure 38 in the lower portion thereof which specifically forms no part of the present invention. The slats are retained in proper position to maintain the desired ventilating spaces 39 therebetween by fastening devices such as nails 40 that are driven through the apertures 21 and 22 and through the ends of the slats as shown in Fig. 4, the projecting ends of the nails being accommodated within nail spaces 40' within the hollows of the uprights.

In erecting the crib structure as just described, the uprights are raised to position on a suitable foundation and connected together by the band 24, the band being secured to the uprights by the bolts 25. The upper angle 26 is then connected with the upper ends of the uprights by the fastening devices 29. A suitable number of slats required to cover the bays and provide the desired spaces may be slid into the grooves 11 and 12 from the upper ends of the uprights or the slats may have been assembled in the grooves at the time of spacing and connecting the uprights with the band members. The slats are then arranged in desired spaced relation and secured by driving nails 40 through the apertures 21 and 22 of the uprights and the ends of the slats 33 as shown in Fig. 4. The roof may then be applied to complete the assembly. When thus assembled, the structure is extremely rigid since the ends of the slats fit snugly within the grooves and are securely retained by the fastening devices or nails 40.

From the foregoing it is obvious that I have provided a building construction and more particularly a wall structure which is adapted to corn cribs and like ventilated structures. It is also obvious that the building or crib is easily and quickly assembled and when assembled is well adapted for its intended purpose.

The sides of the panels may be made solid by removing nails 40 and allowing slats 33 to drop down and close the spaces. Slats may then be added at the top to complete the closure. It is obvious that the wing flanges of the studs are so formed and spaced apart from each other and from the web, that spaces are provided to give access to the fastening devices 25 and to accommodate the projecting ends of the nails 40. Therefore, nails of ample length may be used to give adequate support for the ends of the slats when the slats are spaced apart as shown in Fig. 3 of the drawing.

What I claim and desire to secure by Letters Patent is:

1. A grain bin, including spaced studs each having a web and inwardly extending flanges on sides of the web to form generally channel-like members with the flanges terminating in wings extending inwardly across the width of the channel-like members and spaced from the web

to provide nail spaces therebetween, said wings having inner and outer side and bottom portions forming laterally opening grooves along the height of the studs and the inner and outer side portions of the wings being each provided with a series of vertically spaced openings with the openings in the inner and outer portions in registry, means extending transversely of the webs of the studs and secured thereto for retaining the studs in said spaced apart relation, slats spanning the spaces between the studs and having ends engaging in said grooves of the adjacent studs, and nails extending through the apertures in the outer side portions and through the ends of the slats and through the inner side portions for projection into the nail spaces provided within the studs.

2. A grain bin, including spaced studs each having a web and inwardly extending flanges on sides of the web to form generally channel-like members with the flanges terminating in wings extending inwardly across the width of the channel-like members but spaced apart for providing access to interior of the channels and the wings being spaced from the web to provide a nail space therebetween, said wings having inner and outer side and bottom portions forming laterally opening grooves along the height of the studs and the inner and outer side portions of the wings being provided with a series of vertically spaced openings with the openings in the inner and outer side portions in registry, spacing means extending

transversely of the webs of the studs, fastening devices extending through the webs of the studs and spacing means to secure the studs in fixed spaced apart relation, access being had to the fastening devices through said space between the wings of the studs, slats spanning the spaces between the studs and having ends engaging in said grooves of the adjacent studs, and nails extending through the apertures in the outer side portions and through the ends of the slats and through the inner side portions for projection into the nail spaces provided within the studs.

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