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COMBINATION HATCH AND VENTILATOR

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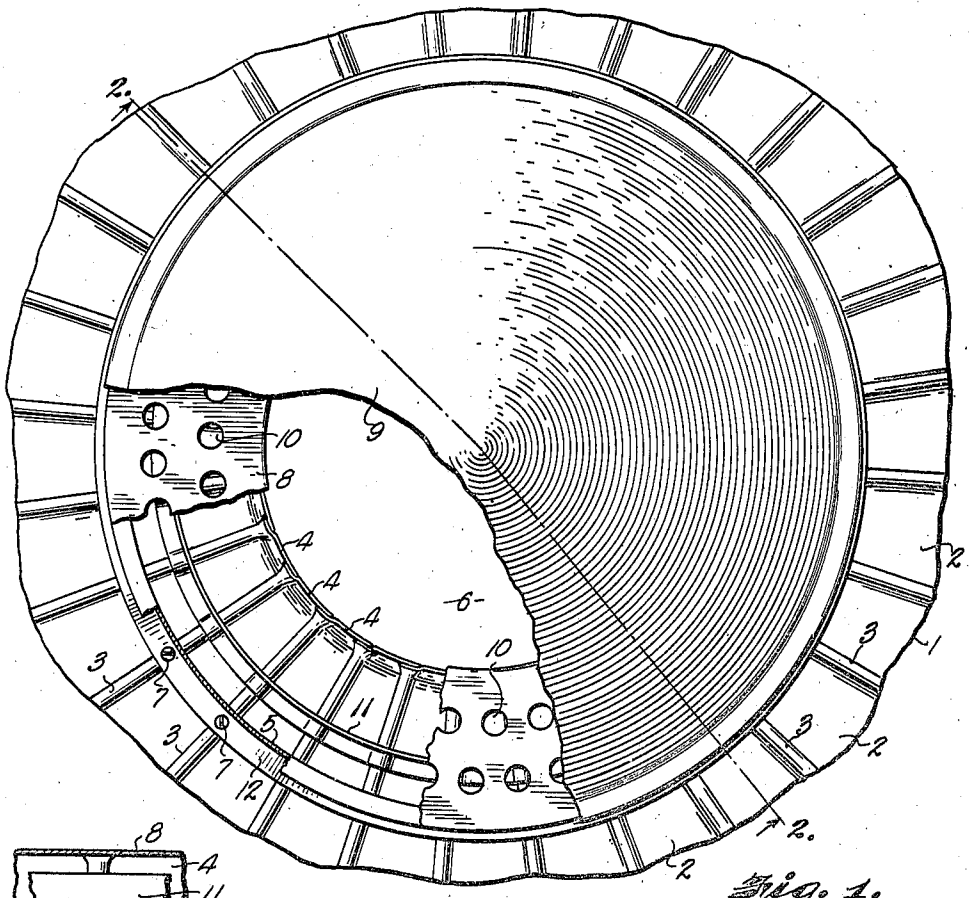


Fig. 1.

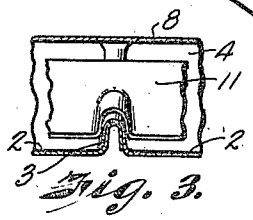


Fig. 3.

Fig. 2.

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COMBINATION HATCH AND VENTILATOR

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7 Claims. (Cl. 98—42)

Our invention relates to a combination hatch and ventilator for grain bins and the like.

In grain bins and other containers in which various commodities are stored, provision must be made for filling the bin and for ventilating the bin while the commodity is stored therein.

One object of our invention is to provide a hatch through which the bin may be conveniently loaded, which hatch acts as a ventilator after the commodity has been stored.

Another object of our invention is to provide a loading hatch and loading platform which, when covered, will act as a ventilator.

Other and further objects of our invention will appear from the following description.

In the accompanying drawing which forms part of the instant specification and is to be read in conjunction therewith and in which like reference numerals are used to indicate like parts in the various views:

Figure 1 is a top plan view of our combination hatch and ventilator with parts broken away, showing the construction.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a fragmentary sectional view on an enlarged scale, taken along the line 3—3 of Figure 2.

Referring now to the drawing, the roof 1 may be of any suitable construction having the form of a truncated cone. The roof shown in the drawing is made of overlapping segments 2, having nested curved side portions 3 forming the equivalent of a corrugated material. The flat portions 2 between the curved side portions 3 of each segment are bent upwardly at 4 to form a substantially vertical flange. It is understood, of course, that, if the roof is made of a single sheet of corrugated material, its upper periphery will be bent upwardly to form a flange similar to that formed by the upturned portions 4. A cylindrical member 5 is secured to the roof 1 adjacent the opening 6, forming a collar around the opening. The collar 5 is secured by bolts 7 to the nested curved portions 3 as can readily be seen by reference to Figures 1 and 2. The collar 5 strengthens the roof around the open portion 6. An annular plate 8 extends between the flange 4 and the cylindrical member 5 and forms a platform upon which men may work when loading the bin. A conical cover 9 fits over the assembly as can readily be seen by reference to Figure 2. The platform 8 is provided with openings 10. A removable cylindrical baffle or coaming 11 having a scalloped bottom shaped to fit closely around the curved portions 3, is positioned adjacent the hatch opening. When the hatch cover is in place, the interior of the bin is in communication with the outside through the openings 10 and through openings between curved portions 3 of each segment. The collar 5 it will be observed, has its lower flange 12 spaced from the flat portions 2 of each segment. Rain and snow are prevented from beating upwardly into the interior of the bin by the closely fitting coaming 11.

In use, when it is desired to load the bin, the cover 9 is removed, permitting ready access to the interior of the bin through opening 6. The platform 8 may be utilized by men during the loading. The cylindrical collar 5 stiffens the roof. The upturned collar 4 likewise stiffens the upper periphery of the roof. After the bin has been loaded, the cover is replaced and the structure is such that it will act as a weatherproof ventilator.

It will be seen that we have accomplished the objects of our invention. We have provided a novel loading hatch and ventilator of simple and rugged construction. The arrangement is such that the hatch assembly is strengthened and, when covered, is adapted to act as a ventilating assembly.

It will be understood that certain features and sub-combinations are of utility and may be employed without reference to other features and sub-combinations. This is contemplated by and is within the scope of our claims. It is further obvious that various changes may be made in details within the scope of our claims without departing from the spirit of our invention. It is, therefore, to be understood that our invention is not to be limited to the specific details shown and described.

Having thus described our invention, we claim:

1. A hatch and ventilator construction for roofs including in combination a roof formed with a hatch opening, a collar positioned around said opening and supported by said roof, a perforated platform extending from said collar to the roof and having a flange portion fitting within said hatch opening, a coaming surrounding the hatch opening located between the opening and said collar, openings between the collar and roof through which atmospheric air passes to the space between the coaming and the collar, and a cover for said hatch opening resting upon the platform and formed with a depending flange removably fitted to said collar.

2. A hatch and ventilator construction as in claim 1 for corrugated roofs, in which said collar

has a lower projecting flange resting upon the crest of the corrugations, means for securing said flange to said corrugations, and the coaming has a scalloped bottom which closely fits the corrugations of the roof.

3. A combination hatch and ventilator for roofs including in combination a conical roof formed with an apical hatch opening, a coaming adjacent said opening, a collar spaced outwardly from the coaming, a perforated platform between the collar and the hatch opening, means for admitting atmospheric air into the space between the collar and coaming at a level below the top of the coaming, and a conical cover for said apical opening removably fitted to said collar.

4. A combination hatch and ventilator assembly including in combination a conical roof formed with corrugations and an apical hatch opening, a vertical flange around said apical opening, a coaming mounted on the roof surrounding the opening, a collar spaced from said coaming and secured to the crest of said corrugations, a perforated annular member bridging said collar and flange, and a cover for the hatch opening supported by the collar, said cover extending over said apical opening and said annular member.

5. A combination hatch and ventilator assembly including in combination a roof formed with a hatch opening, a vertical flange about said opening, a collar spaced outwardly from the flange, means for admitting atmospheric air into the space surrounded by the collar, an annular member bridging said flange and collar, said annular member being formed with an orifice through which atmospheric air passes to the roof opening, a cover for said annular member and hatch opening, said cover being formed to provide communication between said opening and said orifice, and an annular coaming between the flange and collar.

6. A hatch and ventilator including in combination an inclined roof formed with a hatch opening, a collar supported by the roof surrounding the hatch opening, passages adjacent the lower edge of the collar through which atmospheric air passes to the space within said collar into the hatch opening, a coaming positioned within and spaced between said collar and hatch opening, said coaming sealed to the roof and surrounding said opening, the collar extending to a height above said passages, and a removable cover for the collar spaced above the hatch opening and coaming.

7. A hatch and ventilator including in combination an inclined roof formed with a hatch opening, a vertical flange around the hatch opening, a collar supported by the roof in circumferentially spaced relation with the flange, a vertical baffle surrounding the flange and spaced from the flange and collar, passages adjacent the lower edge of the collar at a level below the top of said flange through which atmospheric air passes to the space within said collar and into the hatch opening, and a removable cover for the collar spaced above the hatch opening and flange.

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