Sept. 10, 1940. J. W. MEACHAM 2,214,426

VENTILATOR AND DRIER FOR SMALL GRAIN BINS

Filed Jan. 6, 1939

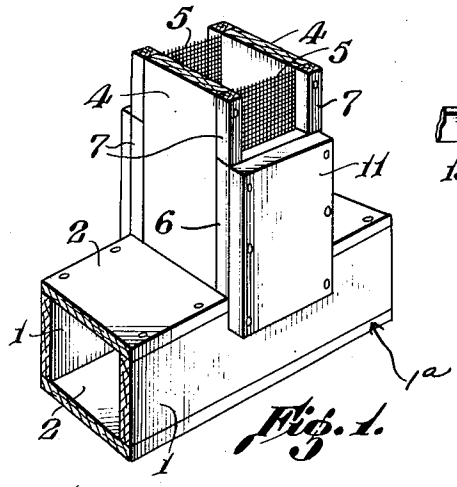


Fig. 1.

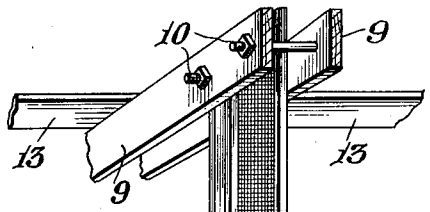
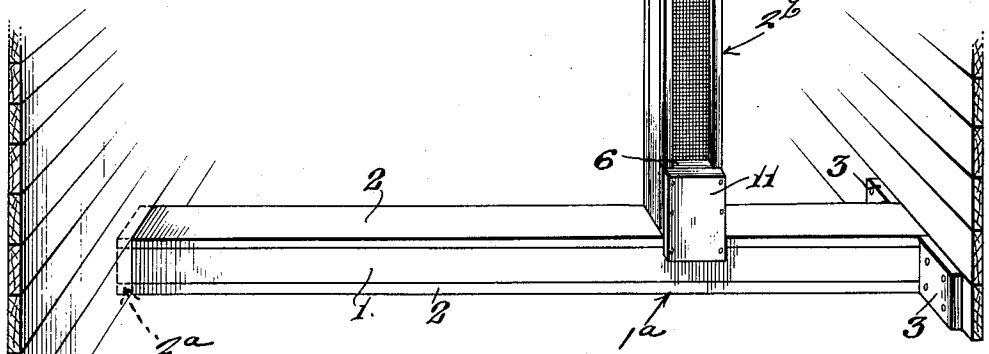


Fig. 2.



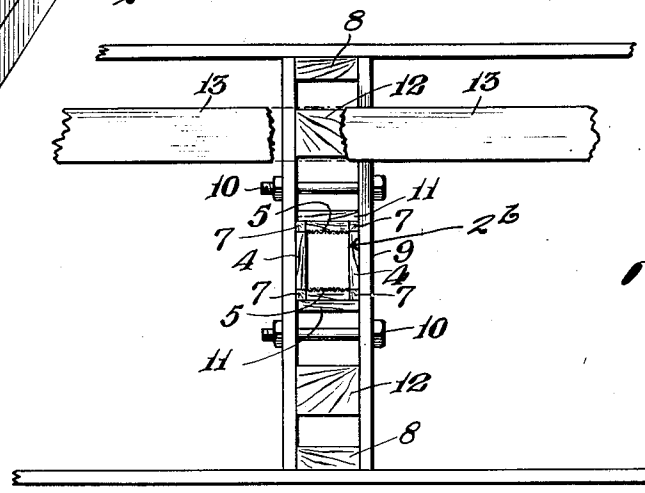


Fig. 3.

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VENTILATOR AND DRIER FOR SMALL GRAIN BINS

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Application January 6, 1939, Serial No. 249,651

1 Claim. (Cl. 98—55)

The present invention relates to improvements in ventilators, and more particularly to a ventilating and drying unit for grain bins.

An object of the invention is to provide a device of the aforementioned character wherein air passages are formed in the bin through which air may circulate to dry and preserve grain stored therein.

Other objects and advantages of the invention will become apparent from a study of the following detail description, taken in connection with the accompanying drawing, wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is an enlarged detail perspective view of my invention with parts broken away and shown in section.

Figure 2 is a perspective view of the invention, and

Figure 3 is a fragmentary top plan view of the invention.

Referring now to the drawing, in detail, it will be seen that the reference numeral 1*a* designates a floor-pipe constructed of two boards 1 nailed or otherwise secured between two boards 2 so as to form a square shaped pipe or air-duct. The two sides of the pipe 1*a* are formed by the boards 1, and the top and bottom sides of the pipe 1*a* are formed by the two boards 2. This pipe or duct 1*a* is designed to lay on the bottom or floor of the grain bin with one end extending through an opening in the wall of said bin, as at 2*a*. The other end of the pipe 1*a* rests snugly against the inside of the opposite wall of the bin and is held in place by two wooden blocks 3 which are nailed to the wall of the bin.

A ventilator pipe 1*b* constructed of two boards 4 extending parallel and spaced apart and are secured together by blocks 6 which are nailed to the edges of the board 4 so that the blocks 6 with the assistance of the strips 7 will serve as means for holding in place the sections of bronze or galvanized screen wire 5 which is provided to cover the side openings between the edges of the parallel boards 4, as shown in Fig. 2. While Fig. 2 shows only one ventilator pipe 2*b* joined to the floor pipe 1*a*, any number of the same may be used to provide adequate ventilation in the bin.

Two clamp boards 9 which extend horizontally across the top of the grain bin are nailed at each end thereof to wooden blocks 8 and serve as braces for holding the ventilator pipe 2*b* in upright position. The clamp boards 9 are drawn tightly against the sides of the ventilator pipe 2*b* by means of two bolts 10 which are placed one on each side of the ventilator pipe 2*b*.

The joint of the floor pipe 1*a* and ventilator pipe 2*b* is made by sawing away and removing a portion of the top of the floor pipe 1*a* to provide an opening in said floor pipe 1*a*. The end of the ventilator pipe 2*b* is then inserted in the opening so that the ends of the blocks 6 which are fastened to the edges of the boards 4 will rest upon the edges of the boards 1. Since the lower ends of the boards 4 extend below the top of the opening made in the pipe 1*a*, no moving or slipping of the ventilator pipe 2*b* lengthwise of the floor 1*a* is possible. Transverse motion of the pipe 2*b* is eliminated by the securing of the blocks 11 over blocks 6. The blocks 11 extend below the top edge of the boards 1 thus providing a tight yet breakable joint which permits quick installation or removal of the pipes 1*a* and 2*b*.

Figure 3 of the drawing shows a top plan view of a single vent with the top ends of the boards 4 and the strips 7 clamped between the boards 9 which clamp the ventilator 2*b* by tightening the nuts on the bolts 10.

Figure 3 also shows a brace board 13 cutaway to expose the blocks 12 which function to reinforce the boards 9. The blocks 12 are nailed to the boards 9 with the top side of the blocks 12 flush with the top edge of the boards 9 and the board 13 is nailed to the top side of the block 12. Also shown in Fig. 3 is the top edge of the two blocks 8 which are nailed to the walls of the bin and to which are nailed the ends of the boards 9. While the screen wire 5 which covers all openings between the boards 4 except at the bottom end of the pipe 2*b* it should also cover the top of the pipe.

Although I have shown and described herein a preferred embodiment of my invention, it is to be definitely understood that I do not desire to limit the application of the invention thereto, and any change or changes may be made in the materials and in the structure and arrangement of the parts, within the spirit of the invention as claimed.

What is claimed is:

In a device of the character described, a bin ventilator comprising a horizontal conduit and a vertical conduit mounted on and communicating with said horizontal conduit, said vertical conduit including spaced solid side wall members, means for spacedly securing the solid side wall members together, screen members secured to and between the edges of said spaced solid side wall members, strip members secured to the edges of said spaced solid wall members with portions of the screen members therebetween, and block-like members secured to and projecting below the bottom end portion of said vertical conduit for releasably holding said vertical conduit in communication with said horizontal conduit.

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