Oct. 18, 1927. 1,645,568

J. H. WOODWARD

GRAIN DRIER AND CLEANER

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Fig. 1.

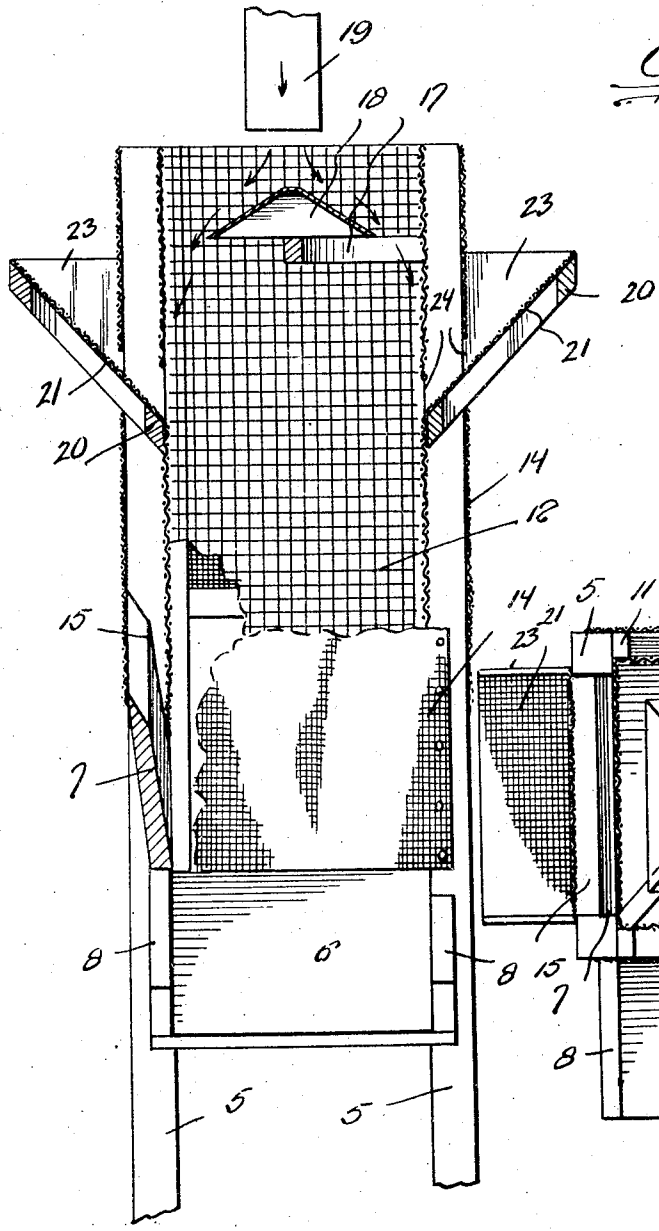
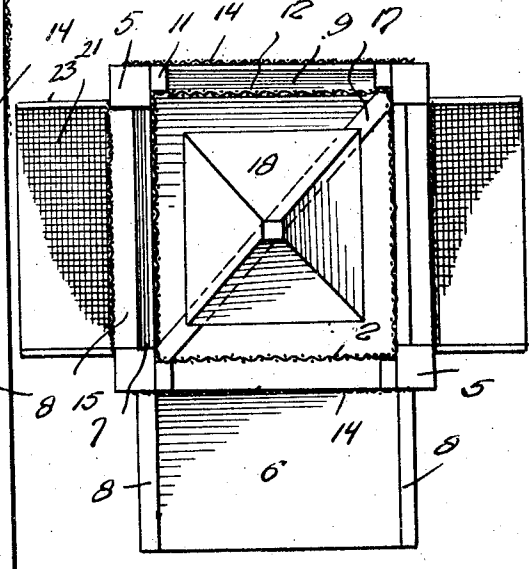


Fig. 3.



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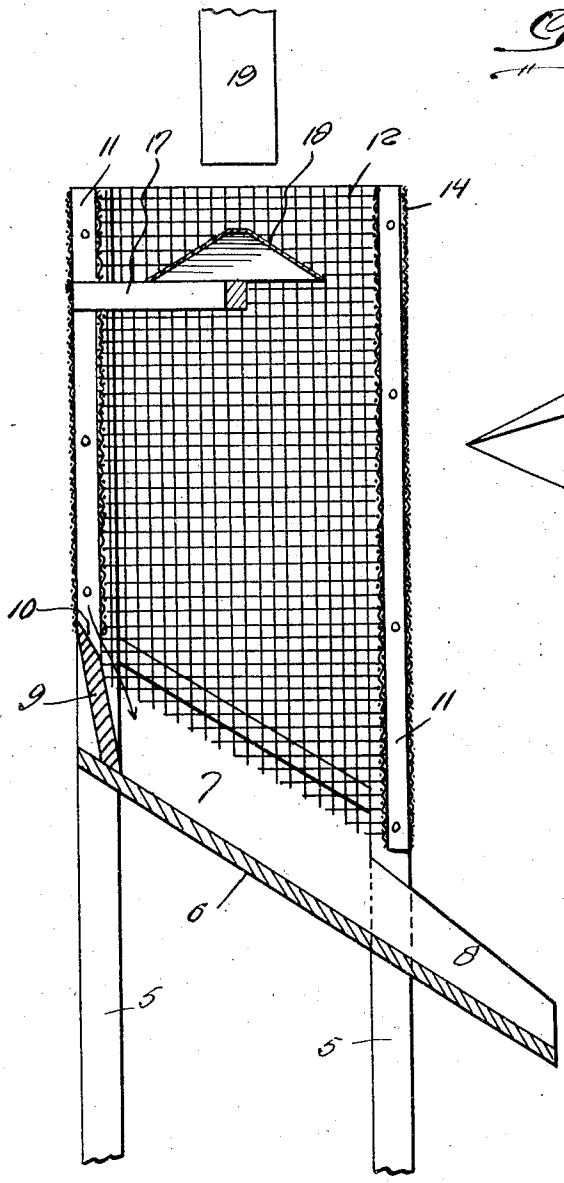
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Filed Feb. 16, 1927 2 Sheets-Sheet 2

Fig. 3.



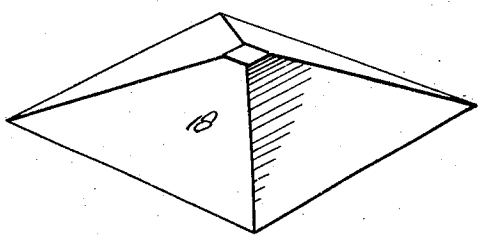


Fig. 4

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UNITED STATES PATENT OFFICE.

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GRAIN DRIER AND CLEANER.

Application filed February 16, 1927. Serial No. 168,694.

The present invention relates to a device designed for drying and cleaning grain and has for its principal object to provide a structure which may be used in conjunction with grain elevators so that the sunshine and wind may pass through the same for drying the grain.

Another very important object of the invention lies in the provision of a device of this nature which is comparatively simple in its construction, inexpensive to manufacture, thoroughly reliable and efficient in use, one which requires little or no attention and is otherwise well adapted to the purpose for which it is designed.

With the above and numerous other objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

Figure 1 is a vertical section through the device embodying the features of my invention,

Fig. 2 is another vertical section therethrough, taken at right angles to that shown in Fig. 1,

Fig. 3 is a top plan view thereof,

Fig. 4 is a perspective view of the baffle.

Referring to the drawing in detail it will be seen that four vertical posts are denoted by numerals 5 and are arranged at the corners of a square. The length of these posts is determined by the height of the grain elevators. A bottom 6 is disposed intermediately of the legs 5 and slants downwardly to one side beyond the legs, the portion disposed between the legs being a hopper and that portion beyond the legs functioning as a spout. The hopper portion of the bottom 6 has sides 7 rising therefrom and the spout portion of the bottom has sides 8 rising therefrom, preferably integral with sides 7. A backboard 9 is disposed between the legs 5 at the rear ends of the sides 7, that is, the upper ends thereof. This backboard 9 has its upper edge beveled inwardly as at 10 and the backboard itself is slanted downwardly and inwardly at a slight angle. Above the hopper and spout on the posts 5 there are nailed or otherwise secured cleats 11. Inner sheets of foraminous material 12 are secured to the cleats and to the posts while outer foraminous sheets 14 are secured to the posts and cleats in spaced relation to the sheets 12. The inner foraminous sheets 12 are of coarser mesh wire than the outer sheets 14. The sides 7 incline downwardly and inwardly as does the backboard 9 and are also beveled at their upper edges as is indicated at 15. The outer sheet 14 extends down to the sides 7 and to the backboard 9. The inner sheets 12 extend down a little farther as is shown to advantage in Fig. 2.

A bar 17 is attached to two of the posts 5 adjacent their upper ends to extend diagonally of the apparatus and supports a pyramidally shaped baffle 18 for deflecting the grain flowing downwardly from the spout 19 of the grain elevator. Wings project outwardly and upwardly from the sides of the device and include bottom frames 20 having foraminous sheets 21 stretched thereover and sides 23. Openings 24 are provided in the sheets 12 and 14 to the sides of the device immediately above the frames 20 of the wings.

The wings are provided for the purpose of allowing the white caps and straw to escape through the openings 24 provided in the sheets 12 and 14 adjacent the wings. As stated above the inside screens are made of heavy hail screen wire which prevents the wheat or other grain from striking the more delicate screen on the outside in quantities enough to wear it. The outside screen may be made of ordinary fly screening which will pass any grain that might get through the hail screen. This cleaner and drier sets on the outside of the elevator, about four feet distant preferably, and the sunshine and wind pass through the screens thus drying the grain. The grain reaches this drier and cleaner by means of the spout 19 at the top of the elevator, the grain striking the baffle or deflector 18 in the top of the drier causing it to spread and dry more quickly. The important feature in this device is that the drier allows the sunshine and wind to strike the grain at any and all times and prevents the loss of any grain.

The numerous advantages of this grain drier and cleaner constructed in accordance with the foregoing invention will be perfectly clear without further explanation or description and it will also be obvious that

my invention provides a simple, useful, and very efficient device for the purpose hereinbefore specified.

While I have shown and described a preferred embodiment of my invention, it will be obvious that the same is susceptible of minor changes and modifications without departing from the principle and scope of the invention and for the foregoing reasons I wish it hereby clearly understood that I do not limit myself to the precise arrangement and formation of the several parts shown but consider myself at liberty to make such detailed changes and variations therein as fairly lie within the scope of the invention as hereinafter claimed.

Having thus described our invention what I claim as new is:

1. A grain drier and cleaner of the class described including, in combination, a plurality of vertically disposed posts arranged in spaced relation, screens of a relatively coarse mesh disposed between the posts and screens of a relatively fine mesh disposed between the posts in spaced relation to the first mentioned screens and to the outside thereof, and a hopper and spout structure between the posts at the bottom of the screen, a baffle, and means for supporting the baffle between the posts and between the inner screen.

2. A grain drier and cleaner of the class described including, in combination, a plurality of vertically disposed posts arranged in spaced relation, screens of a relatively coarse mesh disposed between the posts and screens of a relatively fine mesh disposed between the posts in spaced relation to the first mentioned screens and to the outside thereof, and a hopper and spout structure between the posts at the bottom of the screen, a baffle, and means for supporting the baffle between the posts and between the inner screens, some of said sheets having openings and wings extending from below the openings and inclining upwardly and outwardly and having foraminous sheets incorporated therein.

3. A grain drier and cleaner of the class described including a frame supporting structure, foraminous inner wall and a foraminous outer wall on the frame supporting structure, said walls being disposed in spaced relation, the inner wall having a coarser mesh than the outer wall, a hopper and spout structure mounted in the supporting structure below the walls, said hopper and spout structure comprising an inclined bottom the lower end of which extends beyond one side of the supporting structure, and sides and a back wall inclining upwardly and outwardly and having bevelled upper edges communicating with an opening between the foraminous walls.

4. A grain drier and cleaner of the class described, including, in combination, a frame supporting structure, a foraminous inner wall and a foraminous outer wall on the frame supporting structure, said walls being disposed in spaced relation, the inner wall having a coarser mesh than the outer wall, and a hopper and spout structure mounted in the supporting structure at the bottom of the walls, a baffle, and means for supporting the baffle in the supporting structure within the confines of the inner walls.

In testimony whereof I affix my signature.

JESSE HARPER WOODWARD.