April 22, 1924. 1,491,328

J. S. ALBIN

SILO

Filed April 12, 1922 2 Sheets-Sheet 1

Fig. 1.

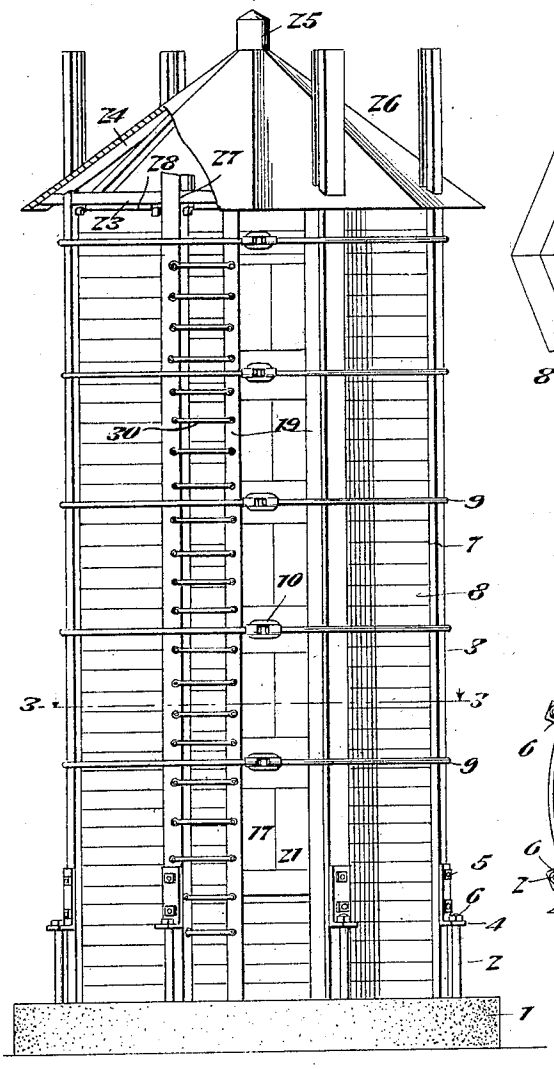


Fig. 2.

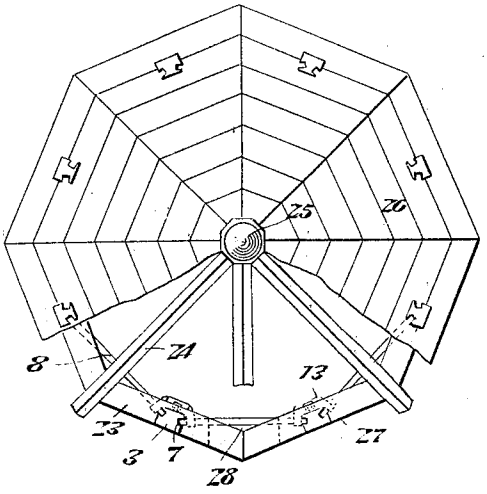
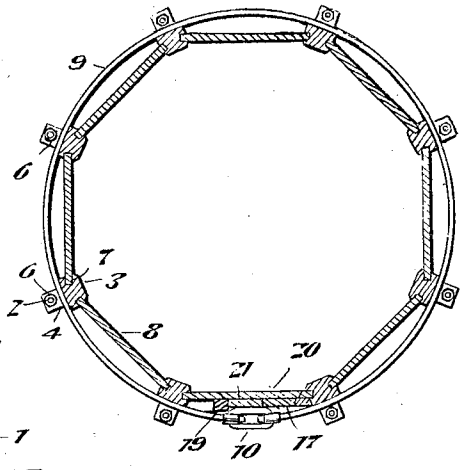


Fig. 3.



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Witnesses

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Fig. 4.

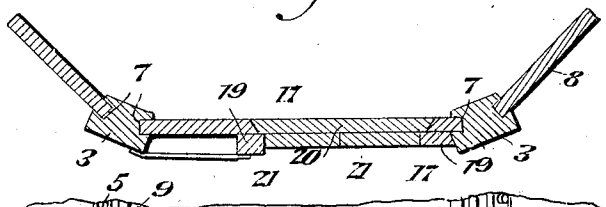


Fig. 5.

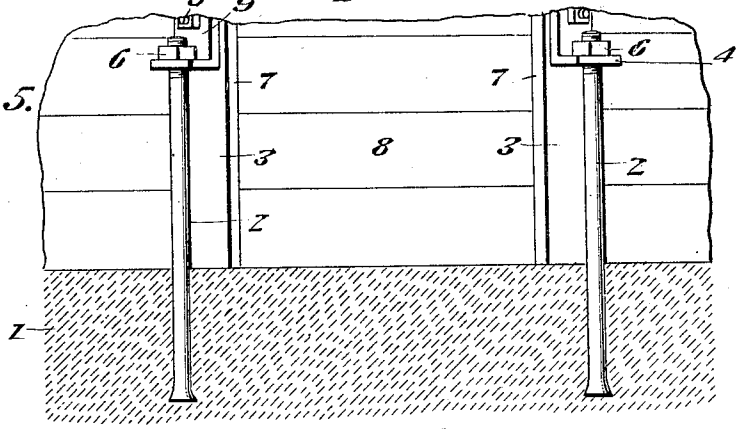
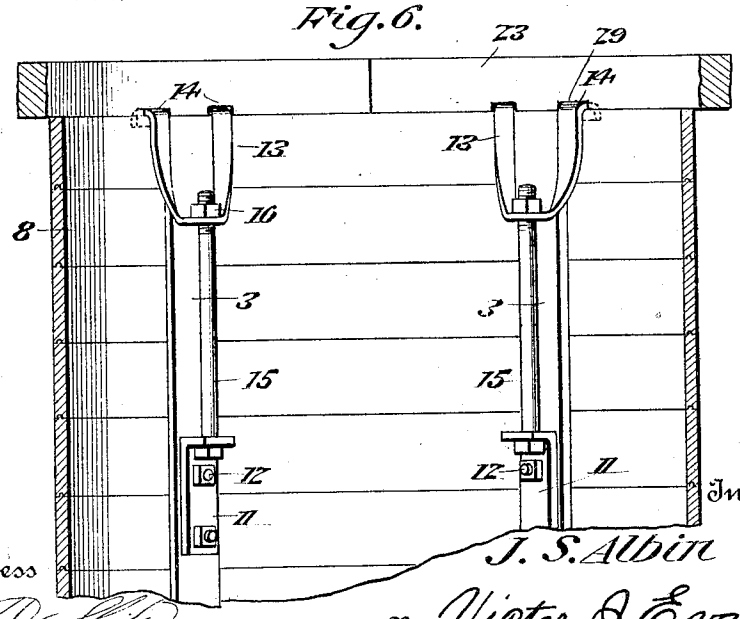


Fig. 6.



Witness

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Patented Apr. 22, 1924. 1,491,328

UNITED STATES PATENT OFFICE.

JOSEPH S. ALBIN, OF PROSSER, WASHINGTON.

SILO.

Application filed April 12, 1922. Serial No. 552,017.

To all whom it may concern:

Be it known that I, JOSEPH S. ALBIN, a citizen of the United States, residing at Prosser, in the county of Benton and State of Washington, have invented new and useful Improvements in Silos, of which the following is a specification.

My invention relates to silos and has for its primary object to provide a silo structure which may be easily assembled, and which, when assembled, does not require guy ropes to withstand high winds.

A further object of my invention is to provide a roof for a silo which is simple in construction and which engages the upstanding posts of the silo structure by means of slots formed in the base timbers of the roof.

With these and other objects in view which will be hereinafter fully described and particularly pointed out in the claims, the invention consists in the novel construction and arrangement of parts illustrated in the accompanying drawings forming a part of this specification, in which:—

Figure 1 is a side elevation of a silo embodying my invention, part of the roof being broken away to show the structure thereof.

Figure 2 is a top plan view of the same, parts of the roof being broken away to show the structure thereof.

Figure 3 is a horizontal section on the line 3—3 of Figure 1.

Figure 4 is an enlarged partial horizontal section showing one of the doors of the structure.

Figure 5 is an enlarged partial section in side elevation taken at the base of the structure.

Figure 6 is an enlarged partial internal view in side elevation taken at the top of the structure.

Like characters of reference indicate like parts in the various views.

In the drawings 1 designates a foundation which is substantially circular in form. Arranged in spaced relation about the foundation are a series of vertical bolts 2 having their lower ends anchored in the foundation. A vertical post 3 is provided for each bolt 2, and has the lower end thereof resting upon the foundation, and is secured to the respective bolt by means of an L-shaped bracket 4 having one member thereof secured to its respective post by means of bolts 5 and having the other member thereof apertured and engaging the upper end of the respective bolt, and a nut 6 screw threaded upon the upper end of said bolt above the bracket. Each post 3 has a pair of oppositely disposed longitudinal grooves 7 formed thereon which extend the entire length of the post. Side boards 8 engage respective grooves 7 with their ends and are arranged one above the other in each space between the adjacent posts, and form the side walls of the structure. Hoops 9 are disposed at intervals along the length of the posts 3 and encircle the same to hold said posts in proper engagement with the side boards. The hoops 9 are adjustable by turn buckles 10 engaging screw threads of the ends of the respective hoops, the screw threads at the ends of each hoop being left and right, so that the turn buckles may be turned in one direction to contract the hoop and turned in the other direction to loosen the same.

Secured upon the inner surface of each post near the top thereof is an L-shaped bracket 11 secured by means of bolts 12 engaging one of the members thereof, the other member being disposed horizontally. U-shaped hooks 13 are provided for each post and have the free ends of the side members thereof extending upwardly, and having hooks 14 formed at their upper ends which engage the upper surface of the top side boards 8 which engage the respective post with their ends. The transverse portion of each U-shaped hook 13 is disposed adjacent the inner surface of the respective post and lies directly above the horizontal member of the respective L-shaped bracket 11. A headed bolt 15 engages apertures in the horizontal member of the respective bracket 11 and the transverse member of the respective U-shaped hook, and a nut 16 is screw threaded upon said bolt and serves to move the respective hook downwardly. As before described the posts are secured upon the foundation 1, and when the nuts 16 are screwed downwardly upon their respective bolts 15 the respective side boards are clamped down upon the foundation 1.

Doors 17 are formed in the structure at various intervals in the following manner. The middle portions of a number of side boards 8 are cut out, and the respective ends of said side boards 8 are secured in position by means of vertical reach mem-

bers 19, to which each end is secured, extending upwardly and downwardly from the cut side boards and being secured to the side boards 8 lying above and below the cut side boards 8. A door 17 is formed by means of horizontal members 20 secured together by means of vertical reach members 21, and the door is held in the opening between the members 19 by pressure from the inside when the silo is filled.

The roof has a series of base timbers 23 arranged in the shape of a polygon and having the ends thereof secured to the respective ends of the adjacent timbers, and roof rafters 24 having their lower ends secured to respective base timbers and extending upwardly toward the center and having their upper ends secured to a vertical roof plate 25, and shingle boards 26 secured upon the roof rafters 24, the number of base timbers 23 corresponding with the number of vertical posts 3, and each base timber has a vertical slot 27 formed therein at a point intermediate the ends thereof, which is adapted to closely engage the respective vertical posts 3, the respective lower shingle boards 26 being also slotted to accommodate the respective post.

As will be seen in Figure 2 the angles of the polygon formed by the base timbers of the roof lie intermediate the respective posts 3, and that a small triangular opening is formed between the ends of the base timbers and the respective side boards. Roof seat blocks 28 are secured upon the under side of the base timbers at the angles thereof, and serve not only to secure the base timbers together, but fill up these triangular openings. Depressions 29 are cut in the under surfaces of the base timbers directly above the hooks 14 and allow said base timbers to seat firmly upon the upper side boards 8. Ladder rungs 30 are mounted on one of the posts 3 and the adjacent member 19 and may be used for ascending the structure.

It will be noted that by the above described construction the roof may be lifted away from the sides of the structure so that the silo may be easily filled, and the feed therein firmly tramped down so that a maximum amount of feed may be placed therein.

Having thus fully described my invention, I claim:—

1. In a device of the character described, the combination with a foundation, of a series of vertical posts, means embedded in the foundation for securing the posts on said foundation, with their lower ends resting on the upper surface, said posts being formed with oppositely disposed longitudinal grooves, side boards arranged one above the other between adjacent posts and engaging respective grooves thereof, means for holding said posts and said side boards in proper relation, brackets at the upper ends of said posts, hooks engaging respective upper boards, and adjustable connections between said hooks and said brackets whereby said side boards are firmly clamped down against said foundation.

2. In a device of the character described, the combination with a foundation, of a series of securing bolts anchored in said foundation and arranged in a circle, a series of upright posts resting on the foundation and formed with oppositely disposed longitudinal grooves, brackets on the posts engaging said bolts, retaining devices adjustable on said bolts and engaging respective brackets for tying them to said foundation, side boards arranged one above the other between said posts and engaging respective grooves thereof, means for maintaining said posts and said side boards in proper relation, brackets at the upper ends of said posts, hooks engaging respective upper boards, and adjustable connections between said hooks and said second mentioned brackets whereby said side boards are clamped down against said foundation.

3. In a device of the character described, the combination with a polygonal shaped building having vertical posts at the angles thereof and extending upwardly therefrom, of a roof having the base timbers thereof arranged in the shape of a polygon, said base timbers having slots formed therein at points intermediate the ends thereof, and wall-engaging and retaining devices passing through the slots, and adapted to engage respective posts.

In testimony whereof I affix my signature.

JOSEPH S. ALBIN.