

W. BLAKE.
NON-FREEZING SILO.
APPLICATION FILED MAR. 23, 1912.

1,051,068.

Patented Jan. 21, 1913.

FIG. 1.

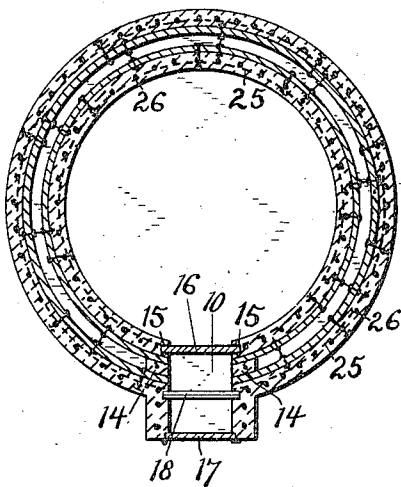


FIG. 2.

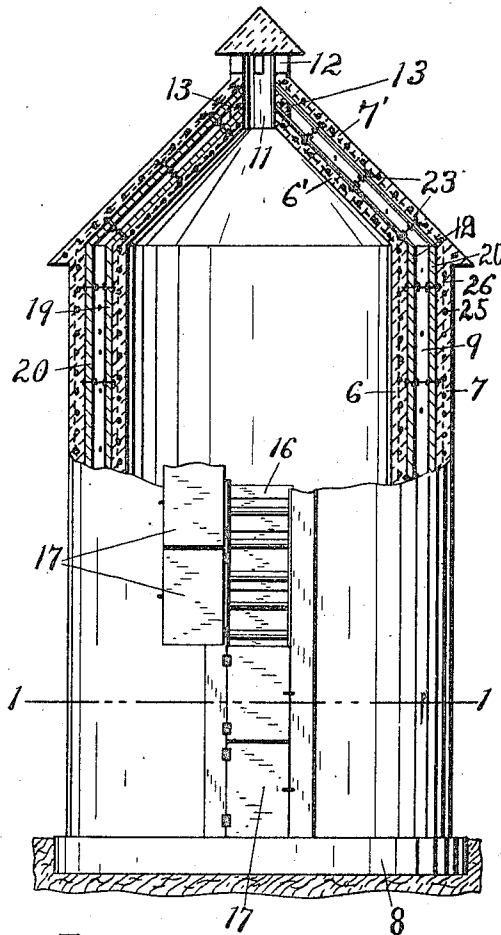


FIG. 3.

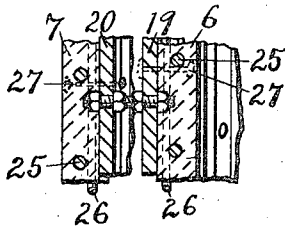


FIG. 4.

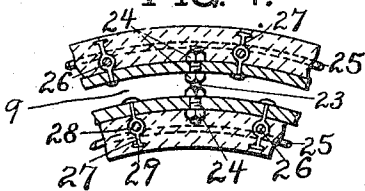
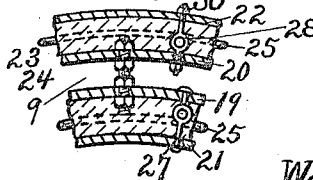


FIG. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WALTER BLAKE, OF APPLETON, WISCONSIN.

NON-FREEZING SILO.

1,051,068.

Specification of Letters Patent.

Patented Jan. 21, 1913.

Application filed March 23, 1912. Serial No. 685,772.

To all whom it may concern:

Be it known that I, WALTER BLAKE, a citizen of the United States, and a resident of the city of Appleton, county of Outagamie, and State of Wisconsin, have invented certain new and useful Improvements in Non-Freezing Silos, of which the following is a specification.

My invention relates to silos, and the object of my improvement is to provide a frost-proof silo of the construction hereinafter described.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing forming a part of this specification, and in which—

Figure 1 is a sectional view of a silo built in accordance with my invention, taken on line 1—1 in Fig. 2, Fig. 2 is a part sectional elevation of the same, Fig. 3 is a fragmental vertical section showing the method of spacing the walls apart, Fig. 4 is a fragmental cross section of the wall showing the rod reinforcements, and Fig. 5 is a similar view showing a modification of my invention.

Similar numerals of reference indicate similar parts throughout the several figures.

The preferred form of construction, as illustrated in the drawing, comprises an inner wall 6 and an outer wall 7 supported on a base 8. Both said inner wall and outer wall are extended to form roof portions 6' and 7' of the building and are spaced apart to form a free air space 9 therebetween. Said walls are provided with a door-opening 10 and said roof portions are provided with a ventilator opening 11. In said ventilator opening is formed a ventilator 12. The edges of said walls are joined at said ventilator opening by means of a filler 13 and at said door-opening by fillers 14 to completely inclose said air space 9. The door-opening 10 is provided with perpendicularly extending rabbets 15 to receive the end portions of sections 16 of the removable inner door-opening closure. Said door-opening is also provided with doors 17 to form its outer removable closure. A plurality of horizontal rods or pipes 18, having their end portions secured in said walls, as shown in Fig. 1, are spaced apart in a vertical plane across said door-opening to provide a ladder by which the upper portion

of said door-opening may be reached. Said walls are preferably constructed of concrete and the inner wall 6 and roof portion 6' are provided with a metallic sheet covering 19 on their outsides and the outer wall 7 and roof portion 7' are provided on their insides with a metallic sheet covering 20. When it is so desired, metallic coverings 21 and 22, as indicated in Fig. 3, may also be provided on the inner side of the inner wall and the outside of the outer wall. The metallic coverings 19 and 20 are rigidly spaced apart by means of a plurality of tie rods 23, which are threaded and fitted with clamping nuts 24 to form a rigid connection.

Inclosed in the walls 6 and 7 and the roof portions 6' and 7' are a plurality of rods 25 spaced apart to reinforce said walls and roof portions. Also inclosed in such walls and roof portions are the rod reinforcements 26 placed in vertical position. Supporting members 27 are preferably provided with eyes 28 through which the rods 26 are placed. Such supports 27 may be made, as indicated in Fig. 4, with the eyes 28 in their central portions and provided with irregular ends 29 on one end and their other end portions extended through the metallic linings on the walls 6 and 7, or the end portions of such supports may be provided with screw-threads and nuts threaded on, as indicated at 30 in Fig. 5.

With this construction a frost-proof building is constructed of very rigid and durable construction.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the exact details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claim.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

A building comprising an inner wall and an outer wall; a metallic covering on the inner side of said outer wall; a metallic covering on the outer side of said inner wall; threaded bolts extending between and through the coverings on said inner wall and said outer wall; nuts threaded on said bolts spacing said walls apart; vertical re-

reinforcing rods in said walls; transverse rods in said walls, each transverse rod having one of its ends secured in one of said coverings and an eye in its intermediate portion and secured on one of said vertical reinforcing rods; and horizontal reinforcing rods in said walls and resting on said transverse rods, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 10 two subscribing witnesses.

WALTER BLAKE.

Witnesses:

THEO. BERG,
A. C. SIEKMAN.