

E. M. WILSON.

SIL0.

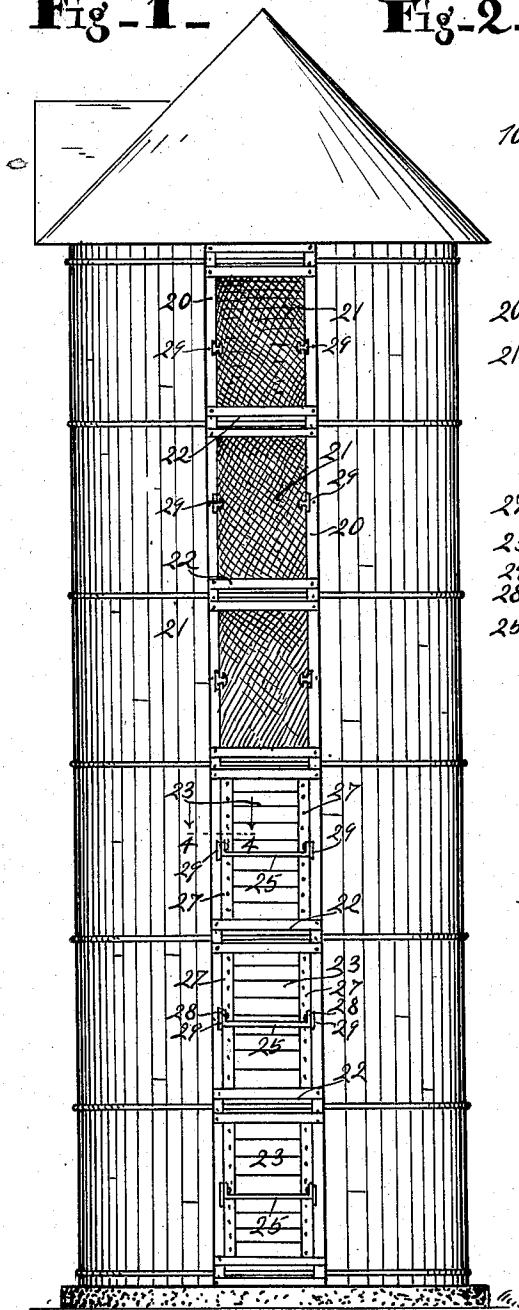
APPLICATION FILED AUG. 8, 1908.

932,737.

Patented Aug. 31, 1909.

2 SHEETS—SHEET 1.

Fig-1-



WITNESSES:

W. M. Gentle.
O. M. Greener

Fig-2-

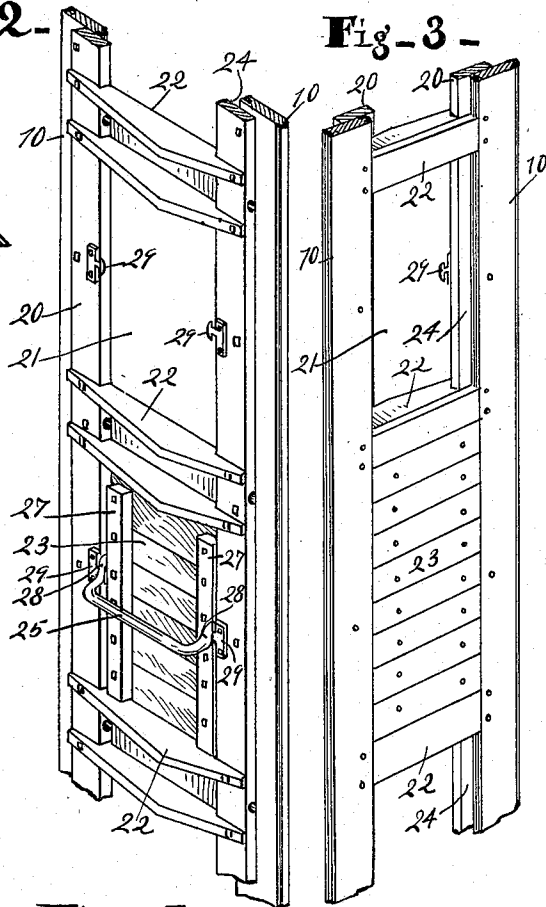


Fig-3-

Fig-4-

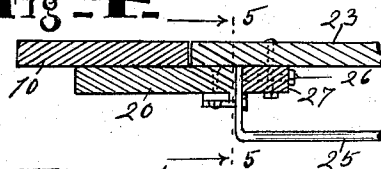
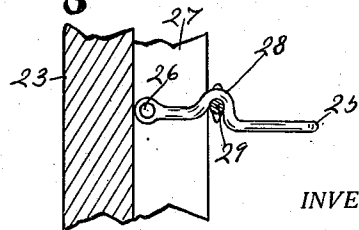


Fig-5-



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SILO.

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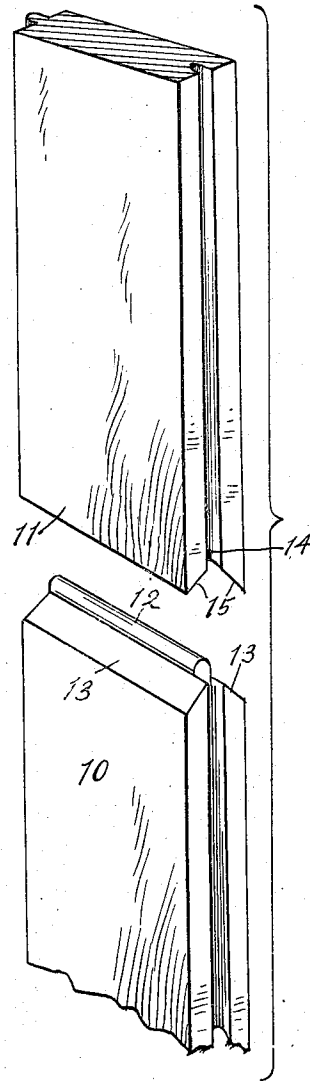
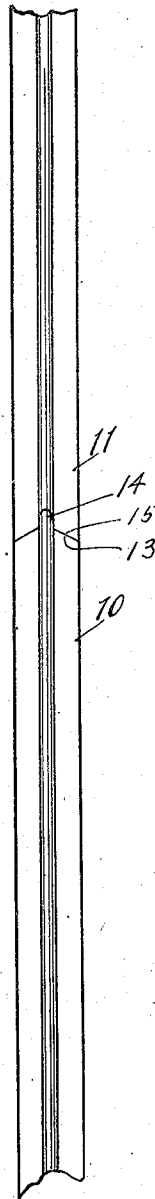
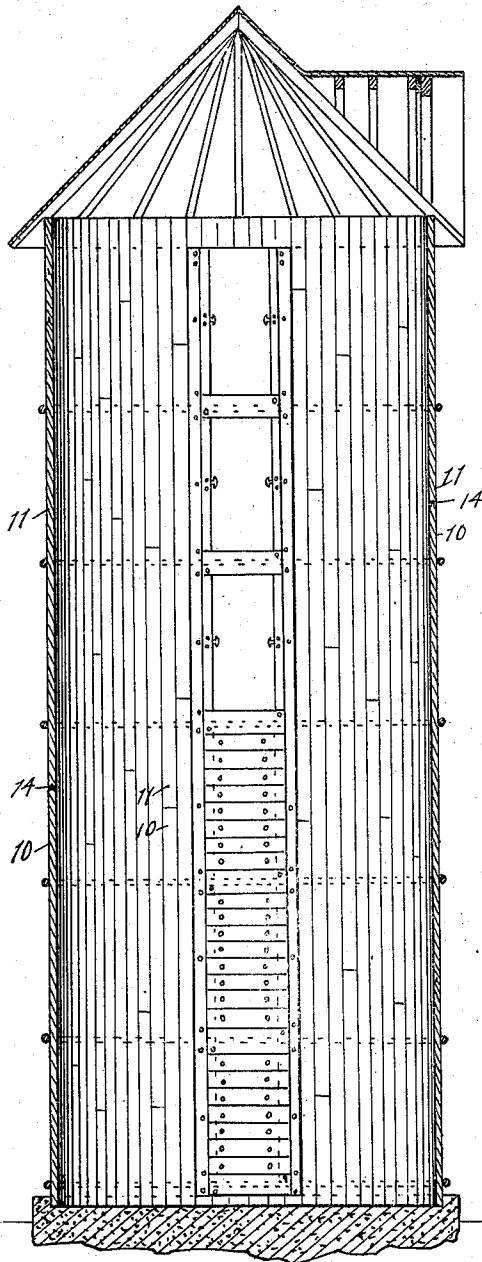
Patented Aug. 31, 1909.

2 SHEETS—SHEET 2.

Fig - 6 -

Fig - 7 -

Fig - 8 -



WITNESSES:

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UNITED STATES PATENT OFFICE.

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SILO.

932,737.

Specification of Letters Patent.

Patented Aug. 31, 1909.

Application filed August 8, 1908. Serial No. 447,535

To all whom it may concern:

Be it known that I, ELIAS MORTIMER WILSON, of Anderson, county of Madison, and State of Indiana, have invented a certain new and useful Silo; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

The object of this invention is to improve the construction of silos.

One feature of the invention consists in forming the silo of vertically disposed planks, boards or pieces of timber which are in sections and the sections are jointed so that water from the material in the silo and otherwise will not enter the joint but will flow down the wall of the silo past the joint.

The purpose of this improvement is to preserve and prolong the life of the timbers at the joints, which is a matter of very great importance in the construction of silos. To that end said joint consists of a rounded bead centrally located on the upper end of the board or plank with a surface sloping downwardly from each side thereof, and the provision on the adjacent end of the plank above of a groove to receive said bead snugly and with a surface sloping downwardly from each side thereof so that the upper end of the lower plank will fit tightly within the recess formed in the lower end of the plank above it. Since all the surfaces at the upper end of the upper plank slope downwardly, water will not enter the joint because to do so it will have to flow upwardly, whereas, with horizontal surfaces or the like on the upper end of the lower plank the water would flow into the joint and remain there and soon cause the decay of the timber. Since there are so many such joints in a silo and the material in a silo contains much moisture, the life of the silo will be very much prolonged by this improvement.

Another feature of this invention consists in providing means for clamping the doors of the silo in place so as to be readily removable and to serve as steps for climbing up the side of the silo. These two functions result from pivoting to the door the ends of the loop-like rod or bar, the middle portion of which is adapted to project outwardly some distance from the door to form a ladder and said means being provided near

each end thereof with a curved cam-like surface adapted to engage stationary pins projecting from the sides of the door casing so that as said metal loops are turned from a vertical down to a horizontal position they will clamp the door partly in position and remain in a rigid horizontal position for ladder purposes. At the same time the ends of said metal loop do not extend beyond the sides of the door so that by turning the metal loop to its vertical position the door can be readily removed from its opening inwardly.

The full nature of this invention will be understood from the accompanying drawings and the following description and claims:

In the drawings Figure 1 is a side elevation of the silo, showing the upper doors removed, the lower doors being in place. Fig. 2 is a perspective view of a section of the door frame, one door being in place and one removed. Fig. 3 is an inside view of what is shown in Fig. 2. Fig. 4 is a section on the line 4—4 of Fig. 1. Fig. 5 is a section on the line 5—5 of Fig. 4. Fig. 6 is a central vertical section through the silo. Fig. 7 is an edge view of two planks, showing the joint. Fig. 8 is a perspective of what is shown in Fig. 7 with the joint drawn apart.

In detail the drawings herein show a cylindrical silo with the side wall thereof formed of a number of boards 10 and 11. The edges of these boards are vertically provided with tongues and grooves whereby they are tightly joined at their edges.

Since silos are high it is necessary that the boards 10 and 11 be connected by transverse joints, as shown in Figs. 6 and 7 and to prevent these joints from receiving and holding water whereby they will soon decay, I provide a bead 12 centrally on the upper end of the lower board 10, said bead being oval or curved in cross section so that water will flow off the same and from each side of said bead 12 there extends a downwardly inclined surface 13 so that the water will flow off said surfaces. The upper board 11 has a central transverse groove 14 adapted to snugly receive the bead 12 and a downwardly inclined surface 15 extending from each side of said groove 14 adapted to overlap the surfaces 13, as shown in Fig. 7.

With the timbers forming the silo connect-

ed at their ends by the joint described, water will not flow upwardly into the joint but the joint will be maintained substantially dry and thus greatly prolong the life of the silo because there are many joints and planks in one silo.

The silo herein shown is provided with vertically disposed door casing 20 forming a number of door openings 21 one above the other separated by stationary intervening wall portions 22. These openings are closed by doors 23 that are put in place from the inside and fit against the ledges 24 of the casing and are clamped against said ledges by the loop-like or U-shaped rod or bar 25, shown in Figs. 1 and 2. The ends of this bar 25 are pivoted on pins 26 that project laterally from the braces 27 of the door and therefore the door is wider than the length of the rod 25 so that said rod will not interfere in any wise with the insertion or removal of the door. The rod or bar 25 near each end has two bends forming between them an intermediate curved or cam-like surface 28, which as the rod or bar 25 is turned from a vertical to a horizontal position, engages pins 29 projecting inwardly from the ledges 24 of the door casing and, therefore, draw the door outwardly and clamp it against said ledges 24. When the door is thus clamped, the rod or bar 25 is supported by the pins in a horizontal position so that it serves as a step for use in climbing up the side of the silo to get into the silo for pitching out a portion of the contents when the same is desired to be used. It is thus observed that the bar 25 and associated parts not only succeed in clamping the door and holding it closed, but serves for ladder purposes.

What I claim as my invention and desire to secure by Letters Patent is:

1. A silo including a wall formed of ver-

tically disposed boards joined with each other at their ends, the upper end of the lower board at each joint having a central upwardly extending bead curved downwardly in cross section and a surface sloping downwardly from each side thereof, and the end of the upper board of each joint having a central groove to receive said bead, and side surfaces sloping downwardly from each side thereof so as to fit snugly upon the corresponding surfaces of the board below, substantially as set forth.

2. A silo including a vertical door casing having a series of door openings, doors for closing said openings, and means extending transversely of the door and connected at their ends to the sides of the door and the door casing for securing the doors in their closed positions and which project outwardly therefrom to form steps for climbing the silo.

3. A silo including a wall with a door casing and ledges thereon, a door fitting in said casing and against the ledges, pins extending inwardly from the ledges, and a bar with its ends turned at a right angle to the body thereof and pivoted to said door between the sides thereof and said end portions being bent to form a curved surface for engaging said pins and resting upon said pins whereby the door will be clamped in place when the bar is turned to a horizontal position and the bar will serve as a ladder and when turned in an upward position said bar will disengage the door from said pins and permit the ready removal of the door.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

ELIAS MORTIMER WILSON.

Witnesses:

O. M. GREENER,
W. M. GENTLE.