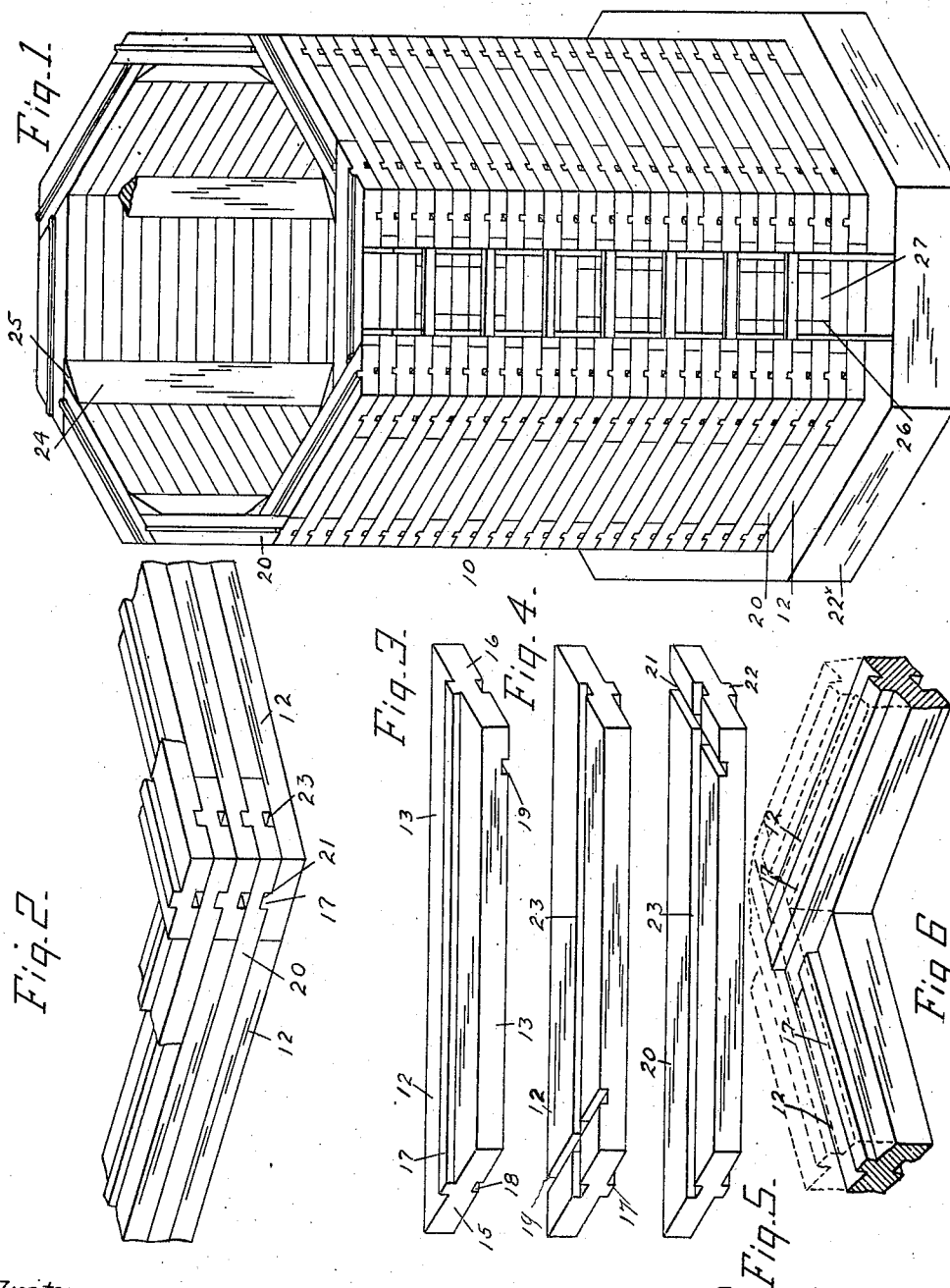


1,109,348.

Patented Sept. 1, 1914.



Witnesses.

C. L. Brown

R. J. Holmden

By

Inventor
Edward C. McNERNEY
Richard Manning
Attorney.

UNITED STATES PATENT OFFICE.

EDWARD C. McNERNEY, OF TONGANOXIE, KANSAS, ASSIGNOR TO TUNG-LOK SILO COMPANY, OF KANSAS CITY, MISSOURI, A CORPORATION OF MISSOURI.

SILO.

1,109,348.

Specification of Letters Patent.

Patented Sept. 1, 1914.

Application filed September 18, 1913. Serial No. 790,113.

To all whom it may concern:

Be it known that I, EDWARD C. McNERNEY, a citizen of the United States of America, residing at Tonganoxie, in the county of Leavenworth and State of Kansas, have invented certain new and useful Improvements in Silos, and do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

In building structures or silos which are employed for the preservation of ensilage and in which the walls are formed of superposed boards or planks laid flatwise in position, it is highly important that the contacting surfaces of the boards should be such as to exclude air and moisture. Such is not the case, however, apertures being formed from the expansion and subsequent contraction of the material. In the type of silos of the aforesaid construction the walls are commonly polygonal in form and composed of a series of planks corresponding with each other in length and having their ends cut at acute angles. In the vertical direction of the wall the ends of alternate rows, these cut planks overlap the ends of those which they superpose, and hence form overlapping joints. It is found difficult in building these forms of silos to aline the planks or boards in each row in succession as the wall is built up so that the joints in each row are closely formed and no spaces left between them.

The object of the invention is to afford not only a perfectly sealed wall through which the passage of air and moisture is prevented, but to enable the individual plank sections in a silo wall to aline themselves and afford accurate, close-fitting joints in exact vertical alinement.

The invention will be first fully described and then specifically pointed out in the claim.

Figure 1 is an isometric view of a silo constructed in accordance with the invention. Fig. 2 is an enlarged, broken view of a portion of the wall of the silo, taken at one of the corners of the wall, portions of the individual members being broken away to show the tongue and groove connections. Fig. 3 is a detail isometric view of one of the individual wall members, showing a portion of an individual wall member with

which it is interlocked and alined. Fig. 4 is an isometric view of the individual wall member as seen in Fig. 3 in a reverse position. Fig. 5 is an isometric view of an individual wall member showing the transverse cut or groove upon an opposite end to that seen in Fig. 3. Fig. 6 is an isometric view from the inner side portions of the abutting end members of the wall, showing the interlocking member.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The vertical wall 10 of the silo, as shown, is composed of the requisite number of individual members or strips, as seen in Figs. 3 and 5, which are the same in length, but for the purposes of the invention are reverse in the cross-groove, which distinguishes one from the other. The member 12, as seen in Fig. 3, is a plank or board of the requisite width and thickness and having parallel outer surfaces 13. The ends of said plank or board are cut away at 15 and 16 at opposite angles to each other, the angles being, in the present illustration, the same. Upon the upper surface of the member 12 is a tongue 17 extending in the longitudinal direction of said member and located intermediate the lines of the longitudinal outer surfaces 13. In the lower surface of the member 12, in a vertical line with the tongue 17, is a longitudinal groove 18. In said lower surface of the member 12, having the groove 18 and at a point inwardly from the angular surface or end 16, is a transverse groove 19, parallel with said surface 16, and at a point inwardly from said surface corresponding to that of the tongue 17 from the lines of the outer surfaces 13 of said member. The member 20, as seen in a reversed position in Fig. 5, is precisely the same as the member 12 with the exception of the transverse groove 21, which is formed in the same lower surface of the member, but at the opposite end of the said member 20 to that of the transverse groove 19 in the member 12.

In the construction of the silo a base 22 is usually formed of concrete upon the upper surface, on which base the first row of the members 12 are laid. In this row seen in Fig. 2, in which the operations are clearly seen, the groove 18 is not employed. The lower surface of these members may, how-

ever, be grooved if desired. In the laying of the said members, the form as shown being octagonal, the members are laid in one direction, with the ends to the right extending outwardly and abut the end of an adjacent member until the row is completed. The next row is formed by the employment of the individual members 20, which are laid in a reverse direction, the longitudinal groove 23 receiving the tongue 17 of the member 12, the end having the reverse groove 21 being extended so as to come flush with the line of the outer surface 13 of the member 12, thus bringing the transverse groove 21 in position above the tongue 17, when these parts are forced together and forming an interlocking joint. The row is then completed of the members 20, after which a row of the members 12 are laid, and so on until the height of wall desired is attained. The members 12 and 20 may be further secured together by nails at suitable points, thus making the structure rigid and when completed, the rows of the members 12 and 20 are in exact alinement, thus saving time in construction and a wall afforded which will exclude air and moisture. Upon the inner surfaces of the walls of the silo at the angles formed by the members 12 and 20 are placed the vertical strips 24, the inner surfaces of which are beveled at 25 to fit said angular surfaces, the purpose of which is to break the acute angle of the corners. The usual door openings 26 are formed in

the wall 10, and the doors 27 fitted thereto in any well known manner. 35

The construction of the wall as described to the silo adds to its efficiency as well as affording protection to the ensilage which it is designed to receive. Furthermore, it is demonstrated in the practical application of the invention that a perfect alinement of the individual members or strips at their ends is obtained with ease and precision and with greater rapidity in construction of the wall than heretofore. 40 45

It is obvious that various materials may be employed in the structure of the silo, which such modifications of the invention as are within the scope of the appended claim. 50

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

A polygonal structure comprising superimposed rows of units having butt and lap ends, said units each having a tongue and grooves, the tongue and longitudinal grooves extending throughout the length of the units, transverse grooves at one end of each of said units, said transverse grooves being parallel with the adjacent end of said units and extending throughout the width of said units. 55 60

EDWARD C. McNERNEY.

Witnesses:

S. H. CHATTEN,
HARRIS HULEN.