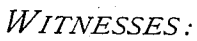


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1,015,612.

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UNITED STATES PATENT OFFICE.

OLIVER BRUMBAUGH, OF LOUISVILLE, OHIO.

SILO.

1,015,612.

Specification of Letters Patent.

Patented Jan. 23, 1912.

Application filed August 23, 1910. Serial No. 578,531.

To all whom it may concern:

Be it known that I, OLIVER BRUMBAUGH, a citizen of the United States, residing at Louisville, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Silos; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in silos and similar constructions, the walls of which are formed of plastic blocks or similar substances and my object is to provide means for attaching door sections in position in the opening in the wall of the silo.

A further object is to so construct the meeting ends of the door sections as to cause the same to interlock with each other.

A further object is to provide recesses or seats in the blocks forming the door jamb, in which the door sections are adapted to fit, and, a further object is to provide brace rods and extend the same across the door way or opening in the wall of the silo, whereby the structure will be securely braced.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the specification hereunto annexed.

In the accompanying drawings which are made a part of this application, Figure 1 is a fragmentary elevation of a silo partly in section showing the manner of applying the door sections and brace rods. Fig. 2 is a vertical sectional view thereof. Fig. 3 is a transverse sectional view.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the wall of the silo, which is preferably formed of blocks 2, said blocks being so arranged that when assembled, they will form preferably a circular structure in cross section and as structures of this kind are built to a considerable height, it is necessary to provide a door way 3, which, in the present instance, extends from the bottom to the top of the structure.

The inner exposed corners of the blocks 2 forming the door jamb are provided with angular recesses 4, into which are adapted to fit the edges of door sections 5, the upper ends of each door section having a substan-

tially V-shaped projection 6, while the lower end of each door section is provided with a substantially V-shaped groove 7, into which the projection 6 extends, thereby forming a close connection between the door sections. Each door section is preferably provided on its outer face with reinforcing strips 8, which extend vertically of the door sections and in order to readily position the door sections within the door way or remove the same therefrom, handle bars 9 are extended transversely across the door sections and substantially at the longitudinal center thereof, the ends of the handle bars being extended at right angles to the trend of the bars and through the door sections, nuts 10 being attached to the inner ends thereof to hold the handle bars in position. By seating the edges of the door sections in the recesses and providing the projections and grooves to receive the same at the ends of the sections, the closure will be substantially water and air tight, thereby preventing leakage of the contents of the silo and by applying the door sections in this manner, the pressure of the contents of the silo will securely hold the door sections in position. As the omission of the blocks to form the door way will necessarily weaken the wall at this point, I provide brace rods 11, which are extended transversely across the door way at intervals and are projected through the ends of the blocks forming the door jamb, strips of wood 12 or other material being extended vertically through the hollow blocks to receive the ends of the brace rods and by placing nuts 13 on the ends of the rods after they are introduced through the wall of the blocks and the strips will securely hold the rods in position. Instead, however, of extending the brace rods through the wall of the first block and through the strips adjacent the same, that form of rod 14, shown in Fig. 4, may be used, which projects entirely through the first block and through the adjacent wall of the next succeeding block, a nut 15 and washer 16 being engaged with the ends of the rod and a cushion 17, preferably of plastic material is placed between the washer and the wall of the block, thereby preventing injury to the block by the washer coming in contact therewith. The brace rods are placed in position at the time of building the structure, while the door sections are placed in the door way, as the structure is being filled.

It will further be seen that by spacing the
brace rods and the handle bars the proper
distance apart, they will serve as a ladder
to gain access to the upper portion of the
structure. It will likewise be seen that in
5 view of the simplicity of this device, the
structure may be very cheaply constructed
and at the same time rendered extremely
strong and durable. It will further be un-
10 derstood that although this construction is
adapted primarily to be used as a silo, yet
grain and other substances may be stored
therein, if desired.

What I claim is:—

15 In a structure of the class described, the
combination with a wall formed of hollow
sections and having a portion of said sec-
tions omitted to form a doorway, the jambs
of the doorway being formed solely by the
20 hollow sections, the sections forming the
door jambs having recesses in the inner ex-
posed corners thereof, of brace rods extend-
ing transversely of the doorway and through
the ends of the sections forming the door

jambs, said rods intersecting said sections 25
substantially at their transverse centers,
strips placed end to end within the sections
to either side of the doorway and extending
the full height of said wall, the lowermost
strips projecting below the doorway, the 30
ends of said brace rods extending through
the strips, means to hold the brace rods in
engagement with the strips, a binding rod
extending through the hollow sections form-
ing the sill of the doorway and through the 35
depending ends of the strips, door sections
having their edges entered in the recesses in
the sections forming the jambs and means to
interlock the meeting ends of the door sec-
40 tions.

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

OLIVER BRUMBAUGH.

Witnesses:

GEORGE E. VIOLAND,
DAVID A. JAMISON.