J. MERLEY.

SILO AND TILE THEREFOR.

APPLICATION FILED NOV. 15, 1912.

1,091,946. Patented Mar. 31, 1914.

Fig. 1.

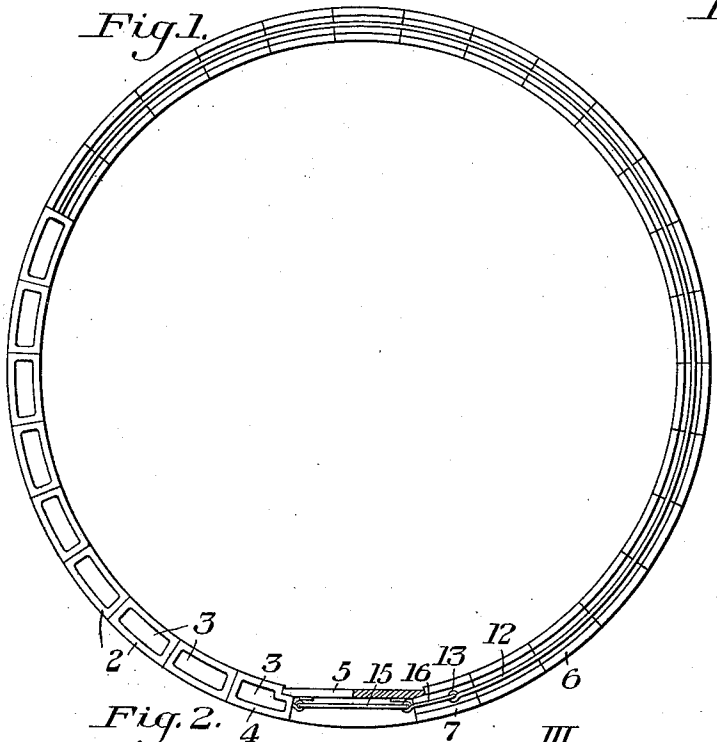


Fig. 3.

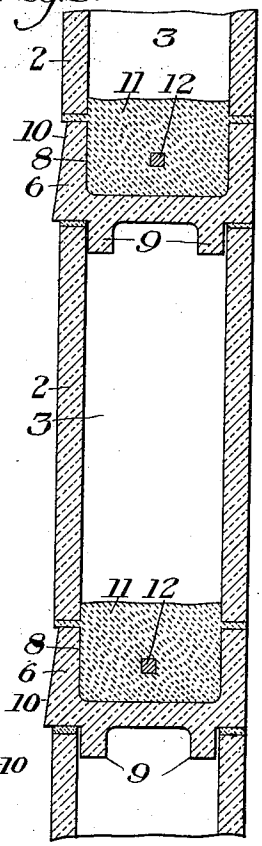


Fig. 2.

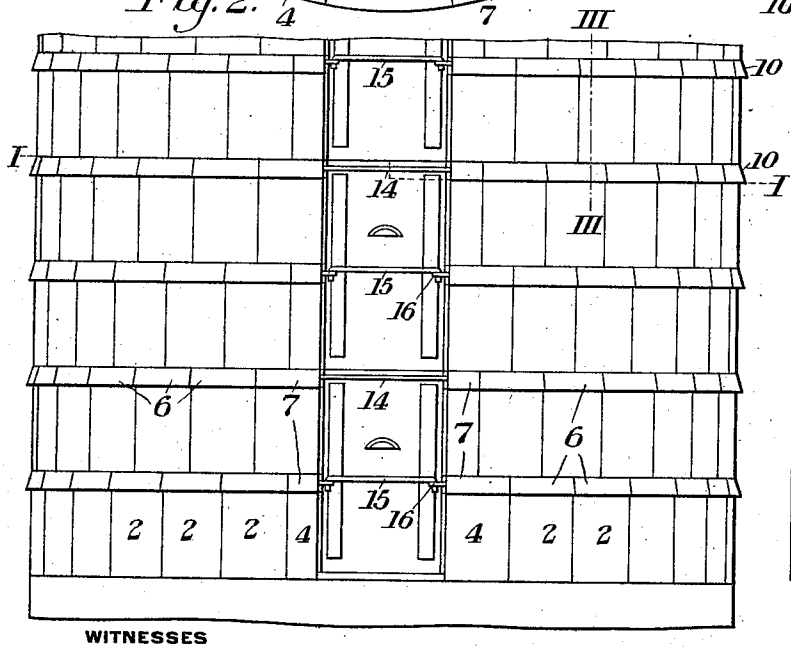
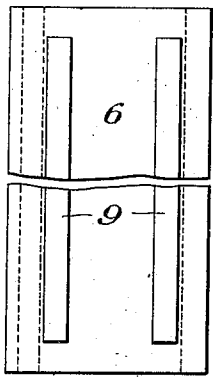


Fig. 4.



WITNESSES

R. A. Balderson

H. P. McCormick

INVENTOR

Jno. Merley,

by Baldwin, Seymour, Pannell,

Attys.

UNITED STATES PATENT OFFICE.

JOHN MERLEY, OF CANTON, OHIO, ASSIGNOR TO NATIONAL FIRE PROOFING COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SILO AND TILE THEREFOR.

1,091,946. Specification of Letters Patent. **Patented Mar. 31, 1914.**

Application filed November 15, 1912. Serial No. 731,641.

To all whom it may concern:

Be it known that I, JOHN MERLEY, a resident of Canton, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Silos and Tiles Therefor, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional view on the irregular line I—I of Fig. 2, showing one form of my improved silo; Fig. 2 is a front view of a portion of a silo; Fig. 3 is a partial sectional view on the line III—III of Fig. 2, on a larger scale; and Fig. 4 is a bottom plan view of one of the channel tiles.

My invention relates to an improvement in silos and tiles therefor, and is designed to provide a cheap and efficient reinforced silo, the major portion of which can be built from the tiles now on the market, which tiles are provided with longitudinal openings therethrough.

A further object of my invention is to provide a tile which can be used in conjunction with the tiles now on the market, and which will interlock therewith and form a channel for the reinforced concrete to prevent bulging of the silo, which bulging is caused by the weight of the silage within the silo. These tiles are also provided with sloping faces on their outer sides, the upper edges of which are arranged to extend under the outer edges of the tiles above them, while the lower edges are arranged to extend beyond the tiles below them to prevent rain from washing out the cement from the horizontal joints between the tiles.

The precise nature of my invention will be best understood by reference to the accompanying drawings, which will now be described, it being premised, however, that changes may be made without departing from the spirit and scope of my invention as defined in the appended claims.

Referring to the accompanying drawings, the numeral 2 designates the body tiles, which tiles are provided with longitudinal openings 3.

4 designates the end or door tiles to be used in conjunction with the body tiles 2, which are also provided with longitudinal openings 3. These door tiles are also formed with recesses on their inner sides along one of the longitudinal edges for the reception of the closing doors 5, as indicated in Fig. 1.

6 designates the channel tiles for the body of the structure, and 7 the end or door tiles to be used in conjunction with the tiles 6. The channel tiles 6 and 7 are the same in all respects with the exception that the tiles 7 are provided with recesses along one of their inner edges for the reception of the doors 5, as indicated in Fig. 1. Each of these tiles 6 and 7 is provided with a longitudinally extending groove 8 in their upper faces, and longitudinally extending projections 9 on their lower faces, which are arranged to be seated in the longitudinal openings 3 through the tiles 2 and 4 to interlock the channel tiles 6 and 7 with the tiles 2 and 4 to prevent movement of the tiles with relation to each other. The outer faces of the tiles 6 and 7 are cut at an angle, as indicated at 10, so that the outer upper edges of the channel tiles are in back of the outer lower edges of the tiles above them, while the outer lower edges of said channel tiles extend beyond the outer upper edges of the tiles below them, so as to prevent the washing out of the cement along the horizontal joints between the several rows of tiles.

11 designates a body of cement or concrete within the recess or channel formed by the channels in the tiles 6 and 7, and embedded within this concrete are reinforcing rods 12. These reinforcing rods extend from a point within one of the door tiles 7 around the silo to a point within the other door tile 7 and the ends of the rod are provided with eyes 13. The ends of these rods 12 may be connected by means of a rod 14 connected to the eyes 13 and extending across the doorway formed between the end or door tiles; or they may be connected by means of removable rods 15 and connecting links 16.

After a suitable foundation has been provided, the first row of body tiles 2 and the end or door tiles 4 are placed in position as shown in Fig. 2. A row of channel tiles 6 and 7 is then placed above the first row of tiles 2 and 4, the channel tiles being interlocked with the tiles 2 and 4 by means of the projections 9 extending down from the channel tiles. The channels are then filled with concrete or cement and the reinforcing rods embedded therein, the ends of the rods being

connected by means of a rod 14 or by means of removable rods 15 and links 16. The next row of tiles 2 and 4 is then placed on the first row of channel tiles and the operation is repeated until the silo has been raised to the proper height.

The advantages of my invention result from the provision of a silo formed of tiles having vertical openings therethrough, together with channel tiles interlocking therewith, which are provided with channels for the reception of reinforced concrete; second, from the provision of a tile which is provided with a sloping outer face, which is arranged to extend in back of the outer edge of the tile above it and in front of the outer edge of the tile below it, thereby preventing rain from washing out the cement between adjacent horizontal rows of tiles.

I claim:

1. A silo having a plurality of superimposed rows of tiles, alternate rows having vertical openings extending therethrough, the tiles in the other rows having upwardly extending projections at the outer edges thereof extending the full length of the tile, and a projection on the lower face of each of said last-mentioned tiles, said projections extending into the vertical opening of the other tiles, and reinforcing material between the upwardly extending projections on the last-mentioned tiles; substantially as described.

2. A building tile having a flat body portion, upwardly extending longitudinal ribs along each of its longitudinal edges, the outer face of one of said ribs sloping downwardly and outwardly, and longitudinally extending ribs on the lower face of said tile, the outer faces of the last mentioned ribs being within the planes of the inner faces of the first mentioned ribs; substantially as described.

3. A silo having a plurality of superimposed rows of tiles, alternate rows having two vertical openings extending therethrough, the tiles in the other rows having downwardly extending projections extending into the openings into the other tiles, the tiles in one row having sloping faces, the upper edges of which are below the outer surface of the tiles in the row above them, while the lower edges thereof extend beyond the outer faces of the tiles in the row below them; substantially as described.

In testimony whereof, I have hereunto set my hand.

JOHN MERLEY.

Witnesses:
H. E. LINEAWEAVER,
W. H. FOSTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."