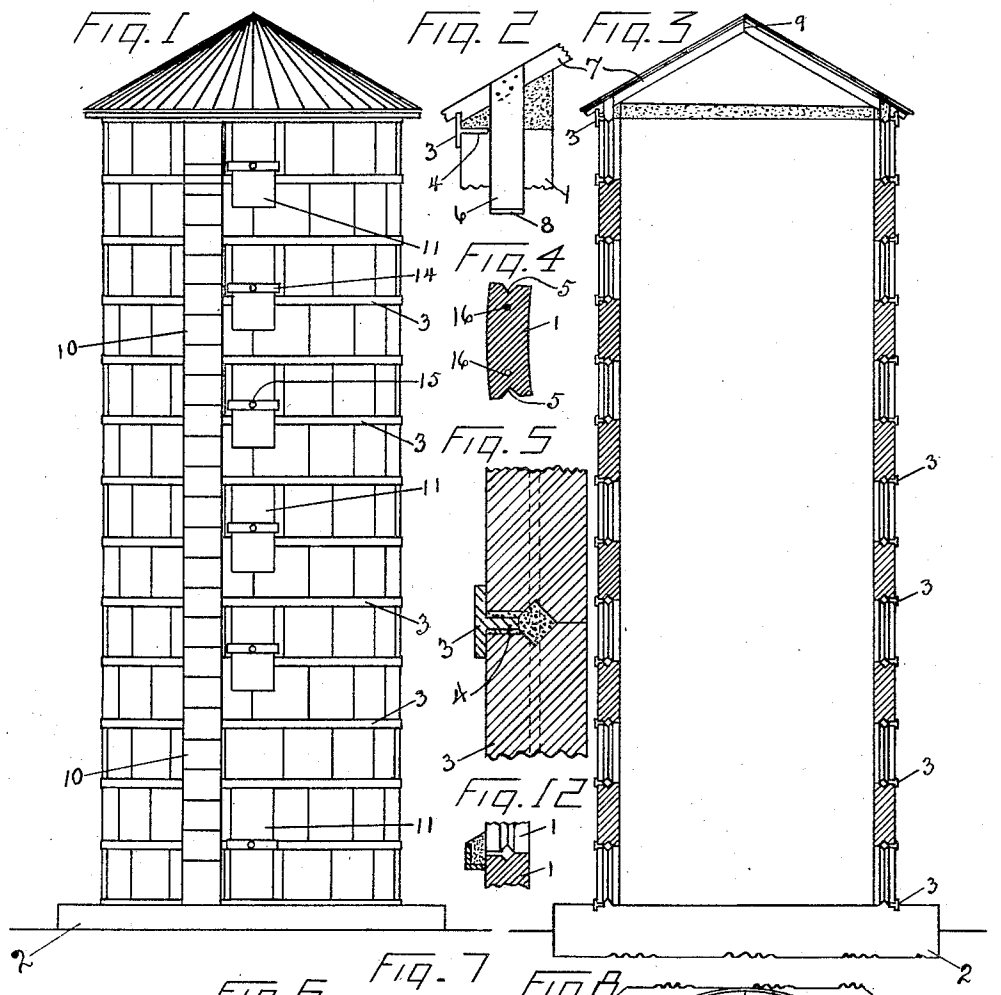
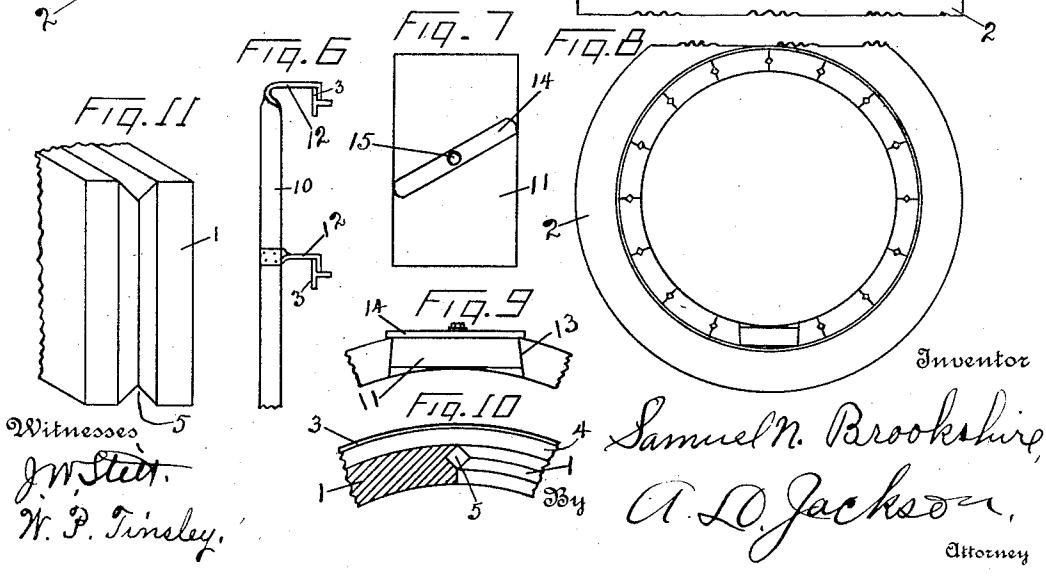
S. N. BROOKSHIRE.

SILO.

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1,109,566. Patented Sept. 1, 1914.





Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL N. BROOKSHIRE, OF FORT WORTH, TEXAS.

SILO.

1,109,566. Specification of Letters Patent. Patented Sept. 1, 1914.

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To all whom it may concern:

Be it known that I, SAMUEL N. BROOKSHIRE, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Silos, of which the following is a specification.

My invention relates to silos, and particularly to silos that are constructed with concrete staves, and the object is to provide a construction which can be easily put together without skilled labor and to provide a simple construction which will be strong and durable and water tight, so that no liquids can pass through. The advantage is that a silo can be set up anywhere, without any special machinery and by farm hands.

Other objects and advantages will be fully explained in the following description, and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawings, which form a part of this application.

Figure 1 is a side elevation of a silo constructed in accordance with my invention, and showing a ladder attached thereto. Fig. 2 is a broken detailed section of the roof construction, illustrating the manner of connecting the roof to the body of the silo. Fig. 3 is a vertical section of a silo constructed in accordance with this invention. Fig. 4 is a detail view, illustrating the manner of reinforcing the concrete blocks. Fig. 5 is a detail view, being a vertical section of one block or stave and a broken section of another, illustrating the manner of securing the band in the joints of the blocks. Fig. 6 is a detail view of the ladder. Fig. 7 is a detail view of a door. Fig. 8 is a horizontal section near the base of the silo. Fig. 9 is a detail view of the door. Fig. 10 is a plan view, illustrating the band and the joint between the meeting faces of two blocks. Fig. 11 is a perspective view of the end of one of the blocks. Fig. 12 is a detail view, being a vertical section illustrating a variation in the band about the joints of the blocks.

Similar characters of reference are used to indicate the same parts throughout the several views.

This invention contemplates the construction of silos of concrete blocks which are rectangular, the length being considerably greater than the width. Each block 1 has an angular groove extending entirely around the edge, or on the four edges of the stave. The silo is provided with a base 2 and the blocks 1 make up the wall of the silo. The blocks are held rigidly in position by circular bands 3. These bands 3 have flanges 4 projecting radially inward at right angles to the body of the band, being in fact a band T-shaped in cross section. The first layer of blocks or first tier of staves 1 are made rigid with the base 2 by means of a band 3. The manner of putting the staves and the bands together is to put a layer of mortar or some suitable plastic around the outer edges of the blocks when the blocks have been arranged as shown in Fig. 8, and then place the band 3 with the flange 4 of the band resting on the mortar; then put another layer of mortar or plastic on top of the flange 4, and fill the angular grooves 5 with the mortar or plastic; another tier of blocks is then placed on the wall of the silo, binding the flange 4 rigidly in place. The mortar or plastic above and below the flange 4 will harden on the flange 4 and hold the same securely in place between the outer edges of two sets of blocks. The band 3 may be made in sections and riveted together; the object in making the band 3 in sections is for convenience in shipping; the band may be taken apart and shipped, and then riveted together or bolted together when it is to be used or set up in a silo.

When the blocks come together, a groove 5 is formed between the meeting faces of the blocks, which groove is diamond-shaped in cross section. Enough mortar is put in between the meeting faces of the staves to fill the grooves 5 entirely, so that all joints will be absolutely water-tight. The manner of placing the bands 3 on the silo with the plastic above and below the horizontal flange 4 insures a perfect seal, which will be liquid proof. The silo may be built to any desired height or size with the style of blocks herein described. The roof of the silo is secured by anchoring bars 6 which are attached to rafters 7 and by a band 3 with its flange 4. On the top tier of staves 1 a band 3 is mounted with the flange 4 resting on the top blocks 1. The anchoring bars 6 have ribs 8 turned thereon at the bottom, which ribs project horizontally from the portions 6 of the anchoring bars. The anchoring bars 6 are inserted in the diamond-shaped grooves,

which extend vertically, and are then riveted or bolted to the rafters 7. The rafters 7 may have any suitable joints 9 at the top, the lower ends of the bars or rafters 7 resting on a band 3. A plastic of some kind, or mortar, is mounted on or placed on the top tier of the blocks 1. The plastic or mortar thus placed on top of the blocks 1 will bind a flange 4 of the band 3 securely on the top tier of blocks, and will thus make the top tier of blocks rigid and make the band 3 also rigid for holding the rafters or other structures securely in place. A ladder 10 is provided for mounting the silo, for use for feeding purposes. The ladder 10 has hooks 12 which may be made to engage the bands 3 at the top, and preferably on each alternate band 3 of the silo. The ladder will thus be held rigidly in place on the silo. Doors 11 are provided, and these doors have beveled edges 13 to conform to the beveled edges of the openings of the wall of the silo, so that a perfect seal may be made between the edges of the door and the wall of the silo. The doors are held in place by bars 14, which may be provided with a suitable bolt 15, pivotally connecting the bar 14 to the door 11. The bar 14 when turned across the door or horizontally will wedge the door against the beveled edges 13. There will never be any danger of the blocks leaking between the tiers, because the band 3 with the horizontal flange 4 and plastic material above and below each flange 4 will make the joints absolutely water proof or liquid proof. The doors may be easily removed by turning the bars 14 from the edges of the side wall. There will be a net-work of plastic material in the silo after it is set up. The diamond-shaped grooves running horizontally and vertically and the plastic material put in these grooves and filling the same throughout will make a rigid construction, which will be liquid proof. When the silo is completed, the plastic material will form a complete integral frame embedded within the blocks.

What I claim, is,—

1. A silo constructed of concrete blocks laid in tiers and exterior horizontal bands or angle irons binding the blocks together, each band having a flange projecting radially inward between two tiers of blocks, and a sealing material binding the bands and the blocks together.

2. A silo constructed of tiers of blocks, formed of concrete material, each block having an angular groove on each edge thereof, an exterior horizontal band having a flange integral therewith and projecting between the horizontal meeting faces of two tiers of blocks, and a plastic material poured into the groove to bind said tiers and said flange together.

In testimony whereof, I set my hand in the presence of two witnesses.

SAMUEL N. BROOKSHIRE.

Witnesses:
J. W. SLITT.
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