

No. 706,189.

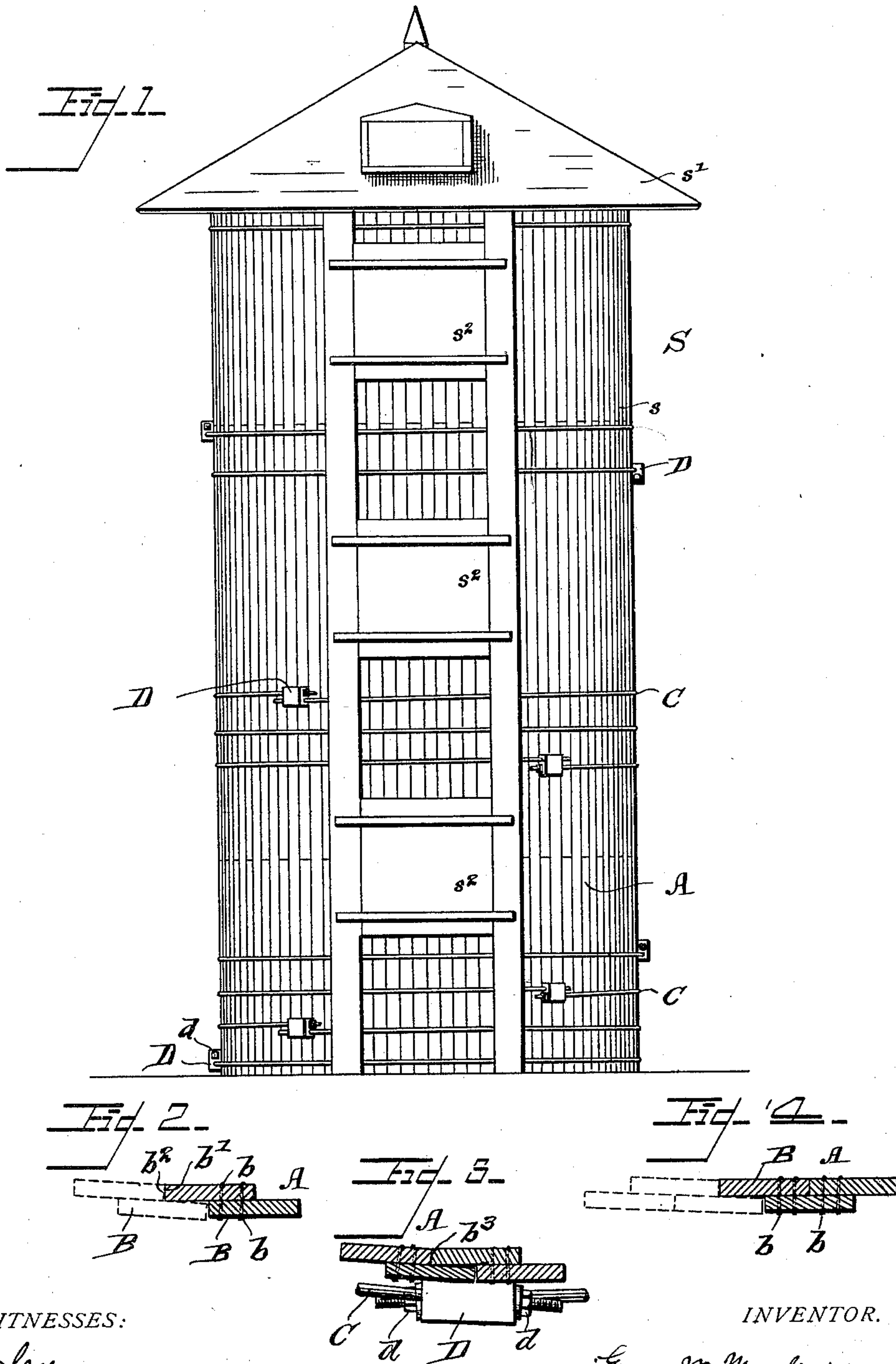
Patented Aug. 5, 1902.

G. W. MANLOVE.

SIL0.

(Application filed Oct. 28, 1901.)

(No Model.)



WITNESSES:

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SILO.

SPECIFICATION forming part of Letters Patent No. 706,189, dated August 5, 1902.

Application filed October 28, 1901. Serial No. 80,219. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. MANLOVE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Silos, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to those large receptacles known as "silos" which are used upon farms for preserving their produce as ensilage.

The object of the invention is to produce a silo the walls of which shall be absolutely airtight, attaining this end by means of a simple construction, which is at the same time inexpensive and durable. I provide units of a certain construction or form, which are well adapted for assembling in a complete silo and insure perfect tightness of the joints. These units are composed of planks, which are secured together overlapping, so that when arranged together to form a circular wall their free edges project outward from the wall. Without providing framing of any kind within the silo, which is objectionable, these units are bound together by hoops, which encircle the wall and rest against the projecting edges of the units. As considerable force is exerted by these hoops the abutting edges of the units are tightly held together. At the same time the free edges of the units, which project outwardly, are constrained inwardly and assist in forming a tight joint.

The invention consists in certain features of adaptation to be more fully described hereinafter, and definitely set forth in the claims.

In the accompanying drawings features of my invention are shown, in which—

Figure 1 represents a front elevation of a silo constructed in accordance with my invention. Fig. 2 represents in section and on a larger scale two units of a form I may use in approximately the relation which they assume in the completed silo. Fig. 3 represents a cross-section of a small fragment of the silo, showing two units in the relation they assume and a binding-hoop. Fig. 4 is a diagrammatic view of another form of construction.

Referring to the parts by letter, S represents the silo, which may consist of a body or vertical cylindrical wall *s*, erected upon a suitable cement or other foundation. When erected in

the open, as is often the case, it may be surmounted by a proper covering or roof *s'*. The silo may be provided with the customary removable doors *s*², properly secured, so as to insure air-tightness. As indicated, the wall of this silo may consist of vertical members or staves A. Each of these staves may be formed of two scantlings or boards B, which may be united longitudinally, so that one overlaps the other substantially one-half of its width, as shown, and they may be secured together by nails *b* or in any suitable manner.

In assembling the units they are arranged as indicated, so that a rear edge *b*² of one unit may abut the forward edge *b'* of the next, and so on. The silo having been constructed in this manner suitable hoops C operate to force the individual pieces together, and the edges *b'* and *b*² may be forced together with such pressure that they form a most intimate contact, as indicated in Fig. 3 at *b*³. In this manner a very tight joint is made and a rigid effect is produced among the inner members of the wall. As the units are set up to form a cylindrical wall the outer free edges of the units will project outwardly substantially tangentially therefrom, as indicated in the drawings, and the encircling hoops or bands C rest against these projecting free edges and constrain them inwardly. In this manner a certain flexibility is attained and the free edges are pressed in, so that considerable force is exerted between the outer and inner members of adjacent units. Where it becomes necessary to make a longitudinal joint, I prefer that the members should be cut and united on an inclined line forming a common scarfed joint, and to guard against weakness and to exclude air such joints should be isolated and no joint should pass through more than one of the members which compose a unit.

In the modified form shown in Fig. 4 the unit is formed of three members, two of them abutting each other and overlapping a third, to which they are secured. The dotted portion of that figure indicates the method of uniting the units when of this form.

The hoops C, which may be numerically disposed, as indicated, may have their extremities passed through suitable blocks D and may be tightened by nuts *d*.

It will appear that the arrangement set forth insures an intimate air-tight contact between the inner members of the wall, at the same time preventing by simple means any lateral or irregular displacement of the same, and it may be observed that the point b^3 is not the only point at which an air-tight joint is formed, but intimate contact between the inner and the outer members is effected, as will be readily understood.

What I claim is—

1. In a silo, a circular wall composed of units formed of overlapping vertical members the edges whereof project outwardly from said wall, combined with encircling hoops which constrain said projecting edges inwardly, substantially as set forth.

2. In a silo, a circular wall composed of units formed of overlapping vertical members, the outermost of said members projecting outwardly from said wall, said wall presenting an uninterrupted cylindrical surface upon its inner side, combined with encircling hoops adapted to constrain inwardly the said projecting members, substantially as set forth.

3. In a silo, a circular wall made of two layers of material, and composed of units formed of overlapping vertical members, the free portions of the members of the outermost of said layers projecting outwardly from said wall, combined with encircling hoops constraining said free portions inwardly, substantially as set forth.

4. In a silo, a circular wall made of two layers of material, and composed of units formed of overlapping vertical members, the free portions of the outermost of said members projecting substantially tangentially from said wall, said wall presenting an uninterrupted cylindrical surface on its inner side, combined with encircling hoops constraining inwardly the said free portions, and means for adjusting the tension of said hoops, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. MANLOVE.

Witnesses:

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