

1,049,989.

Patented Jan. 7, 1913.

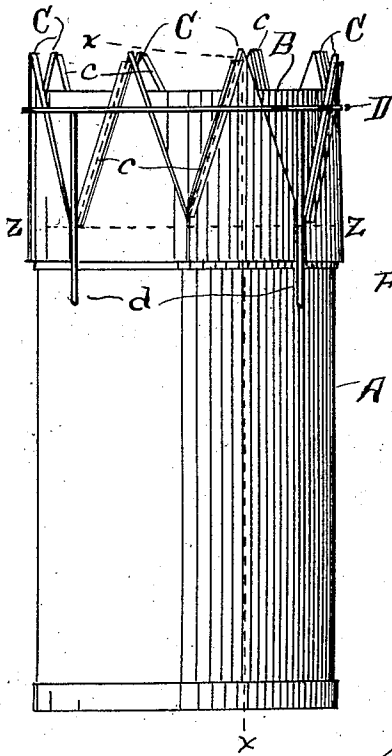


Fig. 1.

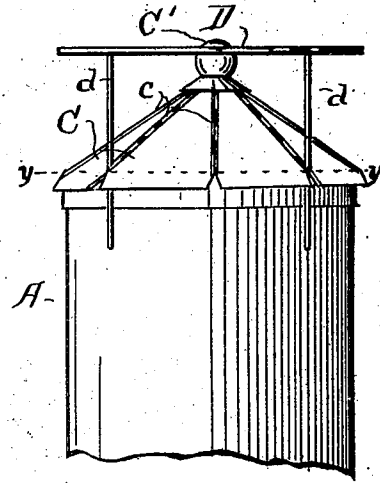


Fig. 2.

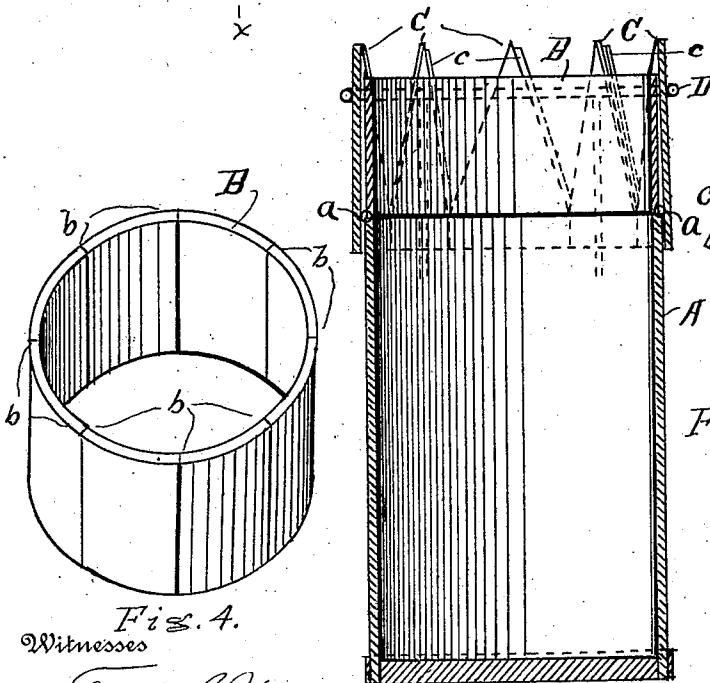


Fig. 3.

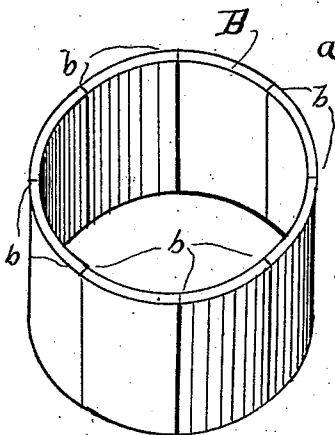


Fig. 4.

Witnesses

Fred C. Haynes
 F. L. Stewart

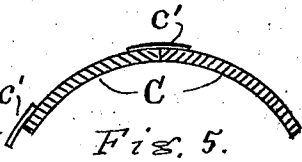


Fig. 5.

Inventor

John Brink,

John J. Cillee
 Attorney

UNITED STATES PATENT OFFICE.

JOHN BRINK, OF HAMILTON, MICHIGAN.

SILO.

1,049,989.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed December 26, 1911. Serial No. 668,011.

To all whom it may concern:

Be it known that I, JOHN BRINK, a citizen of the United States, residing at Hamilton, in the county of Allegan and State of Michigan, have invented certain new and useful Improvements in Silos, of which the following is a specification.

My invention relates to improvements in silos, and its objects are, first, to provide a means whereby a sufficient amount of fodder may be placed into a silo at the first filling so that it will not be necessary to refill the silo after ensilage has fully matured, or in other words, after the fodder has become fully compressed in the silo. Second, to provide a means whereby ensilage may be filled into the silo above the body thereof without coming in contact with, or pressing heavily upon the surface of the roof sections. Third, to provide a means for holding the roof sections in vertical position without the necessity of using a central standard and pivotally mounted braces therefrom to the roof sections. Fourth, to so construct the surplus receptacle and the roof sections that there will be no possible danger of closing the roof by throwing the ensilage pivotal supporting braces and forcing them downward when filling a silo, and, fifth, to avert the necessity of covering the inside surfaces of the roof sections, and the spaces between them, with a flexible, easily destructible lining to prevent the escape of ensilage between the said sections when open. I attain these objects by the construction shown in the accompanying drawing, in which—

Figure 1 is an elevation of a silo with the auxiliary storage extension in place. Fig. 2 is the same with the cover or roof of the silo closed. Fig. 3 is a vertical section of Fig. 1 on the line *x x* of Fig. 1. Fig. 4 is a perspective of the extension detached from the silo, and Fig. 5 is a sectional end view of two sections from the roof, on the line *y y* of Fig. 2 showing a metal batten over the cracks between the several staves that make up the roof of the silo.

Similar letters refer to similar parts throughout the several views.

A represents the body of an ordinary elevated silo such as is in common use by farmers for storing ensilage.

My invention consists of providing an auxiliary storage room, as B, which I make up of several staves or sections, *b b*, so that

it may be readily assembled and placed in position on top of the silo proper, as shown in Figs. 1 and 3. It is a well known fact, and one that causes great additional trouble and expense to farmers, that in the silos in the ordinary form, the ensilage packs and shrinks until several feet at the top of the silo is left vacant and must be refilled after all appliances for filling have been removed, and to farmers who have to hire regular silo fillers to do the work for them the expense is sometimes very oppressive, besides, fresh fodder placed in the silo after the original ensilage has become fermented is not likely to cure as perfectly as if placed in the silo in the first instance and renders the first feeding from the silo much less nutritive than that placed in the silo at an earlier date, hence the great advantage of filling the silo sufficiently in the first instance to provide for all shrinkage during the process of fermentation. With my auxiliary storage chamber, ample room is provided in which to store sufficient fodder to fill the silo proper, full to the top when the ensilage has become fully packed.

After the ensilage has fully settled or packed, the auxiliary storage chamber, B, is removed and the roof of the silo, C, is closed so that no rain, snow or moisture of any kind can pass through to the ensilage, and for this purpose I form the roof in several sections or staves and hinge each one to the top of the silo, as at *a a* in Fig. 3, so that the staves may be opened or closed for placing the auxiliary storage chamber in position or for closing the roof when this chamber has been removed. I find it necessary, also, to make some provision to hold the staves that form the roof in their vertical position in such a manner as not to endanger breaking or straining the hinges *a a*, and for this purpose I place a supporting hoop D above the silo and support it by means of standards *d* that are in turn, permanently fastened to the wall of the silo. I place battens, as *c* in Fig. 2, and *c'* in Fig. 5, over the cracks between the staves of sections of the roof to avert any possible danger of water leaking through onto the ensilage after the roof has been closed. I make these battens or cleats broad enough to project from one staff or section of the roof well over the adjacent edge of the adjoining staff or section, as shown in Fig. 5, so that one staff cannot be closed or opened

without closing or opening all of the staves or sections in the roof, thus averting the danger of the roof sections becoming unmanageable when removing the extension B or when opening and closing the roof sections.

While there is small danger of the roof being opened by the force of the wind, after it has been properly closed, I find it advisable to place a heavy cap over the upper ends of the staves, or the peak of the roof, as indicated at C' in Fig. 2, preferably made of cast iron. While this weight or cap is not necessary to the perfect working of the silo, I find it very desirable for the reason that it holds the roof against any possibility of becoming displaced, and further averts the danger of any moisture passing through at the peak of the roof.

What I claim as new, and desire to secure by Letters Patent of the United States, is:

1. In combination with a silo and triangular sections hinged to the top of the silo to form a conical roof that may be opened and closed; wide battens secured to one edge of each section and extending well over the adjacent edge of the next adjoining section, an auxiliary storage section to the

silo adapted to be placed above the silo proper within the walls formed by the open roof sections to support the roof sections in vertical position and receive the surplus ensilage without allowing it to come in direct contact with the surface of the roof sections.

2. In combination with a silo having triangular sections hinged to its upper end to form a conical roof that may be opened and closed, wide battens secured to one edge of each section and extending well over the adjacent edge of the next adjoining section, an auxiliary storage section adapted to be placed above the silo proper within the walls of the open roof sections to support the roof sections in vertical position and receive the surplus ensilage without allowing it to come in direct contact with the surfaces of the roof sections, and a hoop supported above the silo to hold the triangular sections in vertical position around the auxiliary extension.

Signed at Grand Rapids, Michigan, December 22, 1911.

JOHN BRINK.

In presence of—

I. J. CILLEY,
F. L. STEWART.

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