

P. J. HINDMARSH.

SILQ.

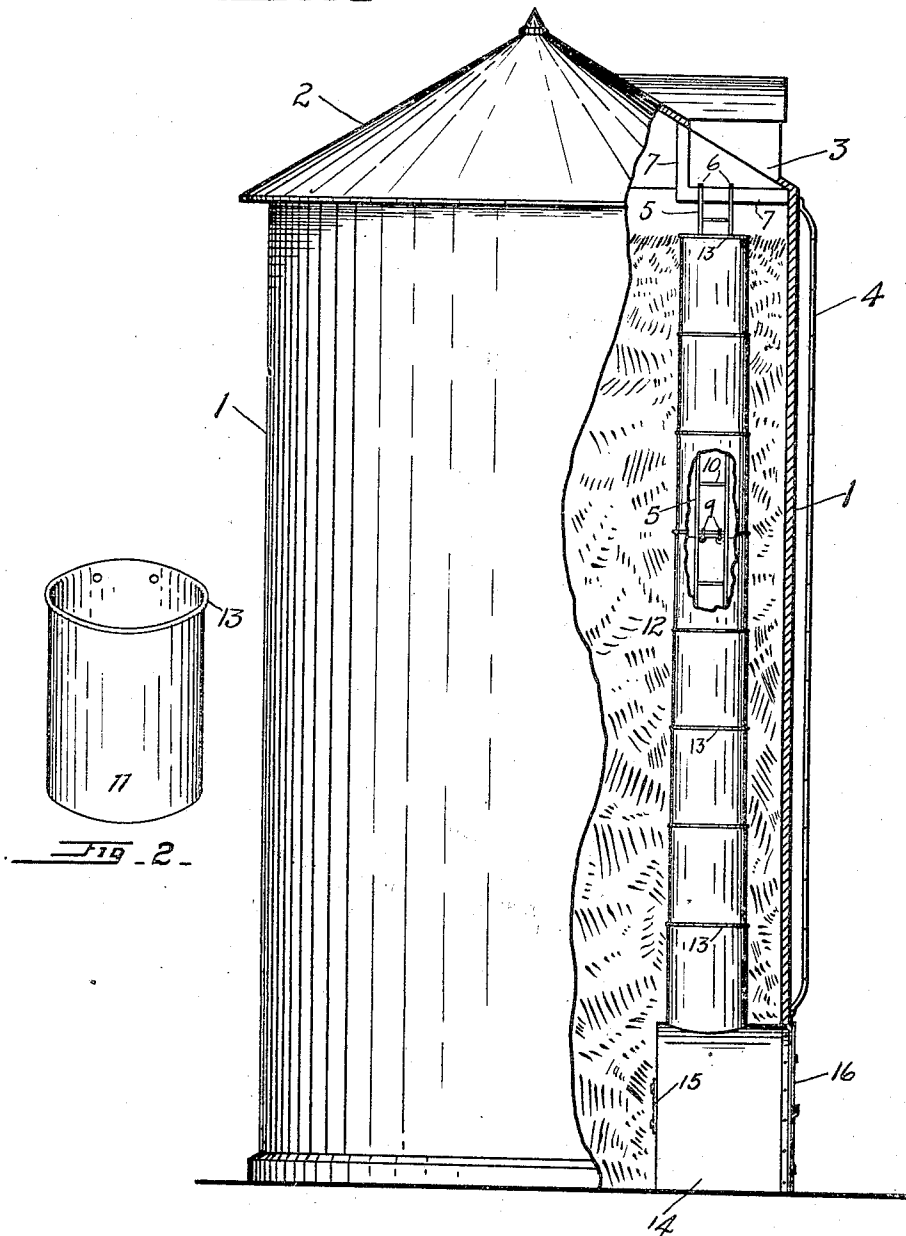
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1,050,022.

Patented Jan. 7, 1913.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses

A. R. Mitchell
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2 SHEETS—SHEET 2.

Fig. 3.

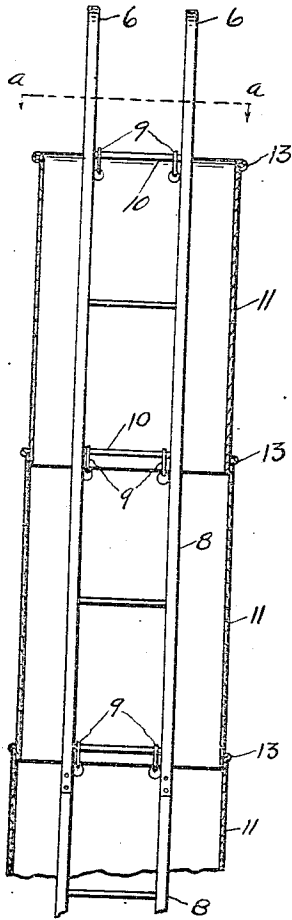


Fig. 4.

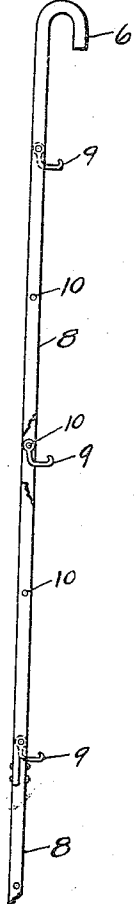


Fig. 6.

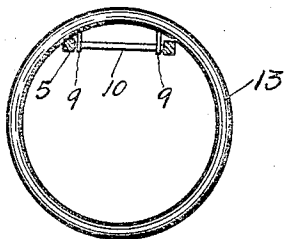
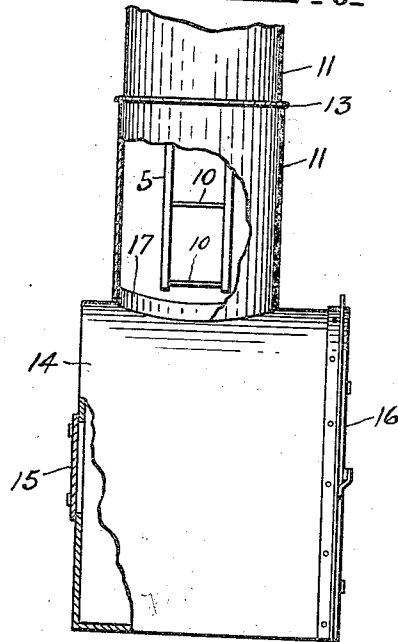
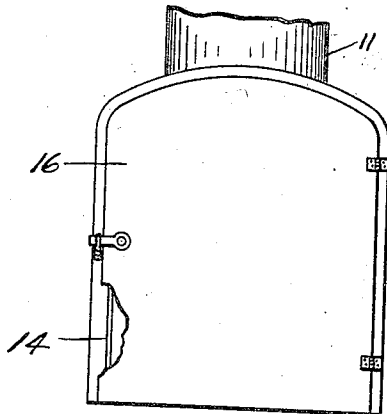


Fig. 5.

Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

PERCY J. HINDMARSH, OF LINCOLN, NEBRASKA.

SILLO.

1,050,022.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed March 7, 1912. Serial No. 632,187.

To all whom it may concern:

Be it known that I, PERCY J. HINDMARSH, of the city of Lincoln, county of Lancaster, and State of Nebraska, have invented certain new and useful Improvements in Silos, and have described the same in the following specification, illustrated by the accompanying drawings.

My improvements relate to that class of silos in which the discharge of ensilage is effected by the instrumentality of an internal vertical chute. To the same class belongs the silo shown in my copending patent application No. 645,758 filed August 24, 1911.

It is the object of the invention to render a silo of this class cheap and inexpensive to manufacture; to use the space within the silo economically; to facilitate supplying the chute with ensilage from different levels in the silo; and in general to produce a superior silo of the specified class. To this end I incorporate in my improved silo a tubular chute of adjustable length and a vertically suspended ladder dependent within the chute and detachably engaging the same for its support.

The best manner in which I have contemplated applying the principles of the invention is shown in the drawings; yet the invention itself is not restricted to any specific arrangement or construction of parts, excepting in so far as limitations of that kind are either expressed or necessarily implied in the subjoined claims.

Figure 1 of the drawings is a side elevation of a typical silo of the specified class, embodying these principles—parts of the structure being removed to show the internal arrangements. The remaining figures are enlarged details. Fig. 2 is a perspective view of one of the several cylinders or sections composing the chute. Fig. 3 is an axial section of several of those cylinders attached in operative positions to the supporting ladder shown in front elevation therein. Fig. 4 is a side elevation of the ladder. Fig. 5 is a horizontal section on the section line *a—*a** of Fig. 3. Fig. 6 is a side elevation of the delivery chamber at the base of the chute. Fig. 7 is a front elevation of the same.

The illustrative silo of these figures comprises the ordinary cylindrical shell 1, roof 2, roof entrance 3 and outside ladder 4. The inside ladder 5 having top hooks 6,

depends thereby from the supporting framework 7 near the roof. It consists of the detachable sections 8 bolted together in assembling, and has the hooks 9 pivoted on its alternate rungs 10. The chute 12 comprises the telescoping metallic cylinders 11 having the engagement holes 13 for the accommodation of these hooks. By these the cylinders are hung on the ladder and unhung by hand as occasion requires.

To keep the top of the chute continually within reach from the top of the ensilage in the silo, and thereby to facilitate supplying ensilage to the chute from successive changing levels, all the chute cylinders above the lowest are by hand unhooked from the ladder one at a time in succession, beginning at the top, and are dropped or pushed telescopically each into the next below, as required by reason of the falling level of the ensilage in the silo, and are stopped one within another by the mutual contact of the terminal flanges 13 of the concentric cylinders. The chute opens downward into the delivery chamber 14, and encircles the upstanding flange 17 on the top of that chamber. The latter, being within the silo, has an inside door 15 through which the fodder may be thrown by hand when the supply in the silo is low, and an outside door 16 through the shell 1, through which the fodder may be removed for consumption. Economy of space within the silo is effected by the eccentric location of this chamber and by using the chamber and the extended chute as a continuous receptacle for the storage of the ensilage when the silo is full. Economy and strength of construction are effected by dispensing with the usual outside chute and the usual series of outside doors, one above another, through the side of the silo.

I claim as my invention—

1. A silo comprising a vertically supported ladder, a tubular chute having telescoping sections encircling the ladder, and means for supporting the sections individually from the ladder.

2. A silo comprising a ladder support, a ladder dependent therefrom, a chute having telescoping sections surrounding the ladder, and means for attaching the sections individually to the ladder.

3. A silo, comprising a fixed ladder support in the top of the silo, a ladder dependent from the fixed support, and a chute

having a plurality of telescoping sections encircling the dependent ladder, in combination with means for supporting the telescoping sections severally from the encircled dependent ladder.

5 4. A silo, comprising a fixed ladder support in the top of the silo, a ladder dependent from the fixed support, a chute of adjustable length formed of telescoping
10 sections encircling the dependent ladder

and detachably suspended thereon, and a delivery chamber fitted to the bottom of the chute and opening through the external shell of the silo.

In testimony whereof I hereto subscribe 15 my name in the presence of two witnesses.

PERCY J. HINDMARSH.

Witnesses:

MILLARD EDDY,
EVA CAYLEY.

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