

H. WADSWORTH.
SILO TRAP DOOR CONSTRUCTION.
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1,377,036.

Patented May 3, 1921.

Fig. 1.

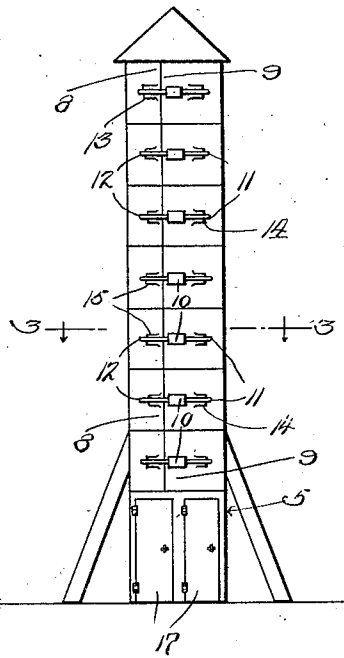


Fig. 2.

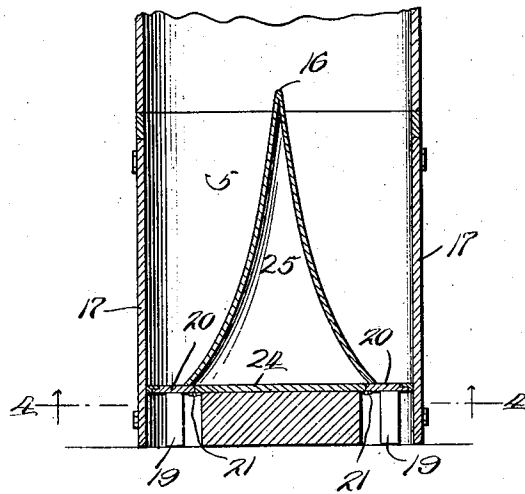


Fig. 3.

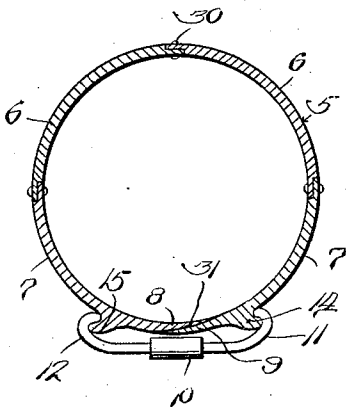


Fig. 4.

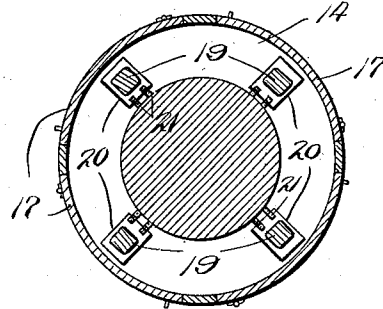
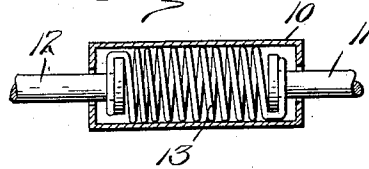


Fig. 5.



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UNITED STATES PATENT OFFICE.

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SILO-TRAP-DOOR CONSTRUCTION.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERBERT WADSWORTH, a citizen of the United States of America, residing at Avon, in the county of Livingston and State of New York, have invented certain new and useful Improvements in Silo-Trap-Door Construction, of which the following is a specification.

My invention has reference to improvements in silos and has for its principal object to provide a silo constructed in a manner as will insure preservation of ensilage stored therein and allow the removal of said ensilage as needed from the bottom portion of the structure without difficulty and the necessity of taking the ensilage from the upper portion of the silo.

Other and further objects will be in part obvious and in part pointed out hereinafter. In the accompanying drawings forming a part of this specification:

Figure 1 is a side elevation of my improved silo;

Fig. 2 is a vertical sectional view partly broken away through the base of the silo;

Fig. 3 is a section on the line 3—3 of Fig. 1;

Fig. 4 is a section on the line 4—4 of Fig. 2; and

Fig. 5 is a detail view partly broken away of one of the dumps.

Referring more particularly to the drawings wherein one embodiment of my invention is illustrated the numeral 5 denotes the silo body which in the present instance is of tubular sheet metal construction, comprising vertically disposed sections 6 and 7 suitably connected together as at 30. In order to compensate for expansion and contraction of the ensilage in the silo due to variations in atmospherical temperature, the sections 7 are not secured together, but the opening or slit 31 thus formed is closed by the overlapping beveled edges 8 and 9 of the adjacent sections 7. These edges 8 and 9 are resiliently maintained in overlapped position by a series of spring clamps 10, comprising hooked-shaped members 11 and 12 connected by means of coil springs 13, the members 11 and 12 being adapted to hook over ribs or lugs 14 and 15 formed on the outer surface of the silo. The tend-

ency of the coil springs is to resist expansion of the ensilage and silo body and consequently the overlapping edges of the latter will be constantly drawn together to effect a tight joint.

It is well known that ensilage has a tendency to pack into a solid mass, particularly at the base of the column and that in consequence difficulty is often experienced in removing the ensilage from the container or silo. According to my construction this condition is obviated or at least relieved in the following manner. The base of the silo is provided with a floor 24 mounted upon which is a cone-shaped member 25, the apex 16 of which is coincident with the longitudinal axis of the silo. This cone penetrates into and spreads or disintegrates the descending mass of ensilage, directing the same outwardly through the doors 17, when the latter are opened for this purpose. Even with the construction just described it has been found that the mass of ensilage will frequently be firmly supported on the flooring by the circular rim of ensilage surrounding the base of the cone 15 and can only be dislodged with considerable difficulty. I therefore provide the floor 14 with a series of circumferentially arranged trap doors 20, hinged as at 21 to the floor 14 and extending about the base of the cone. The free or outer ends of these doors 20 are normally supported in closed or Fig. 2 position by props or trigger blocks 19.

When the props 19 are removed by knocking them down as by means of a sledge or the like and the doors 17 are opened the ensilage can be readily caused to move downwardly and outwardly over the face of the cone 15, by removing the rim portion of the ensilage previously mentioned with a pick or other implement. Due to the provision of the clamps 10, it will be understood that the binding action of the ensilage by reason of the expansion of the same can be avoided by merely removing certain of the clamps. Furthermore the expansibility of the silo due to its construction and the extensibility of the clamps to a great extent overcome this tendency on the part of the ensilage to bind, but the main feature of my invention resides in the provision of

trap doors about the base or rim of the mass of ensilage, as previously set forth.

Having thus described my invention:

What I claim is:

- 5 A silo comprising a container having a bottom wall and side walls, doors in said side walls surrounding said bottom wall,

a cone-shaped member on said bottom with its apex extending upwardly into the interior of said container, and doors in said 10 bottom wall disposed about the base of said cone-shaped member.

In testimony whereof I affix my signature.

HERBERT WADSWORTH.