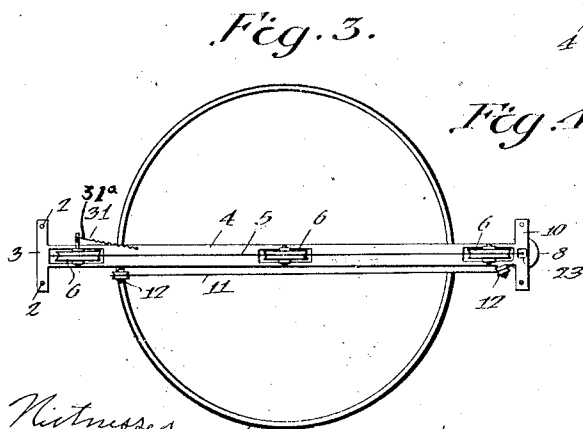
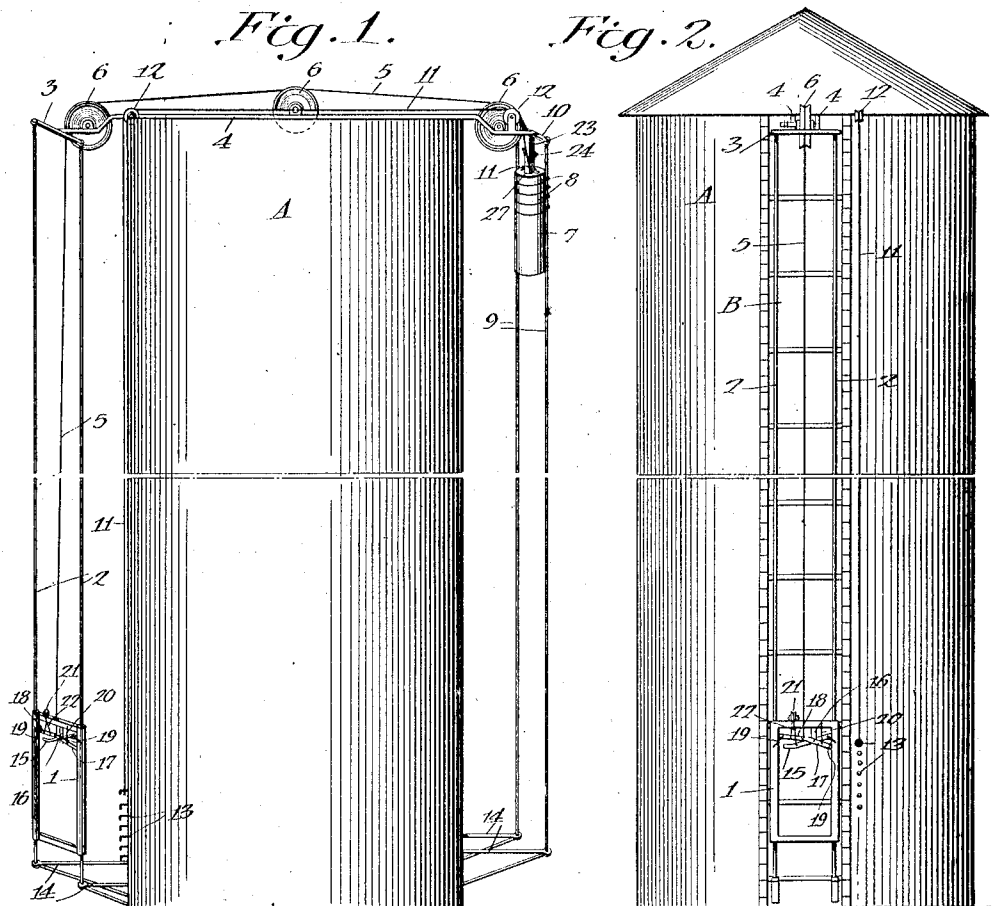


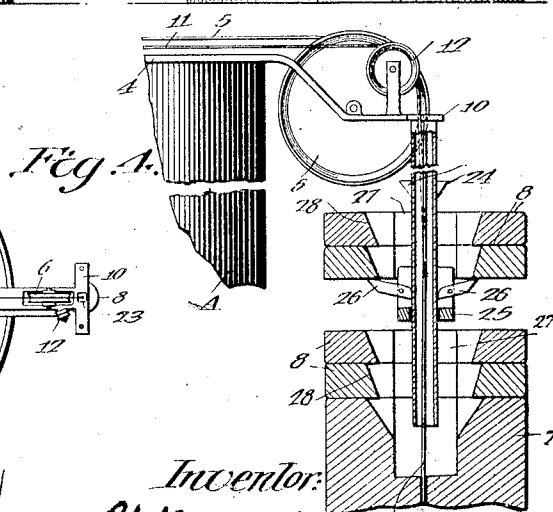
S. O. BUMGARNER.
ELEVATOR FOR SILOS.
APPLICATION FILED AUG. 26, 1918.

1,352,500.

Patented Sept. 14, 1920.



Witnesses
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ELEVATOR FOR SILOS.

1,352,500.

Specification of Letters Patent.

Patented Sept. 14, 1920.

Application filed August 26, 1918. Serial No. 251,566.

To all whom it may concern:

Be it known that I, STEPHEN O. BUMGARNER, a citizen of the United States, residing at Given, in the county of Pike and the State of Ohio, have invented certain new and useful Improvements in Elevators for Silos; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in elevators for silos in which a beam containing sheave wheels, is placed horizontally across the top of the silo, over which a hoisting cable passes, one end of which is attached to a carriage in which a person ascends or descends, and the other end of which is attached to a weight which counter-balances the combined weight of carriage and person; thereby making it possible for one to ascend or descend with little effort, by simply bringing one hand or foot in contact with a silo rung or ladder to slightly assist in going up or down; and the objects of my improvements are, first, to provide a novel type of elevator for association with silos, which will admit of a person being carried throughout the height of the silo, when it is desired to discharge ensilage from the silo; second to afford means by which the carriage is automatically locked and kept suspended at any desired height throughout the height of the silo.

Other objects will appear and be better understood from that embodiment of my invention of which the following is a specification, reference being had to the accompanying drawings forming a part thereof in which:

Figure 1. is a side-elevation of the silo.

Fig. 2. is a front view of the silo and elevator.

Fig. 3 is a top view of the silo showing crossbeam and sheave wheels.

Fig. 4. is a detail view showing the construction of the weights which can be changed to correspond to the weight of different sized persons.

Referring to the drawings more in detail similar numerals refer to similar parts throughout the several views.

The letter A designates a silo of ordinary construction; B Fig. 2. the doors through which the silo is entered.

Across the top of the silo just under the

roof is placed a beam 4, in which are mounted sheaves 6; at the end of the beam are crossarms or members 3 and 10. Secured to base of the silo are guide cables 60 or bars 2 and 9 which have their upper ends attached to crossarms 3 and 10.

Guiding cables or bars 2 and 9 are kept the desired distance from the silo by members 14.

Slidably mounted on guide cables 2 is a carriage 1 to which one end of a hoisting cable 5 is attached. The hoisting cable 5 extends from carriage 1 up over sheaves 6 to opposite side of the silo where it is secured to a counter-balancing weight 7 which is slidably mounted on the cables 9.

When it is desired to ascend or descend to any point throughout the height of the silo, the operator steps in the carriage 1 and a slight pull downward on the latch member 15 releases the lock after which the carriage is free to move up or down; when 15 is released the spring 19 automatically locks carriage.

The coil spring 31 (Fig. 3.) is for the purpose of counter-balancing the unequal amount of hoisting cable on either side of the silo while ascending or descending and has one terminal thereof secured to the beam 4 and the opposite terminal to a flexible cable 31^a, which is coiled around and secured to the shaft of the pulley 6, so that upon rotation of the pulley, the spring will be placed under tension.

The lower end of the cable 11 is adapted to be hooked to any one of a plurality of equidistantly spaced pins 13, and the same extends over the small sheaves 12 at top of the silo and is attached to member 25 (Fig. 4.) which is raised or lowered to attach or detach small weights 8. When it is desired to remove any of the small weights 8 from the terminal of the hoisting cable 5, the member 25 is lowered, and the terminals of the dogs 26 which are pivotally secured to the member 25 engage under the inclined walls of the same. When it is desired to attach the weights to the cable 5 and detach the same from the member 25, the cable 11 is pulled upwardly, until the members 25 come in engagement with triangular shaped lugs 24, the inclined surfaces of which engage the inner end of the dogs 26, inwardly of their pivotal points and force the dogs 26 to swing upon their pivots and carry the outer ends thereof

upwardly and inwardly and out of engagement with the weights which release the same.

I am aware that prior to my invention
5 elevators of nearly all descriptions have been made. I therefore do not claim such a combination broadly; but

I claim:

10 In a device of the class described, the combination with a silo including a cylindrical body, of an elevator attachment therefor including a beam extending diametrically across and supported by the body adjacent the upper end thereof and having

its terminals extended beyond the outer surface of the body, sheaves carried by the projecting terminals of the beam, depending guide rods carried by the projecting terminals of the beam and arranged on opposite sides of the sheaves, a carriage slidably
20 mounted on the guide rods carried by one terminal of the beam, a counter-weight mounted on the guide rods carried by the opposite terminal of the beam, and a suspending cable passing over said sheaves and
25 secured to the counter-weight and carriage, as and for the purpose specified.

STEPHEN O. BUMGARNER.