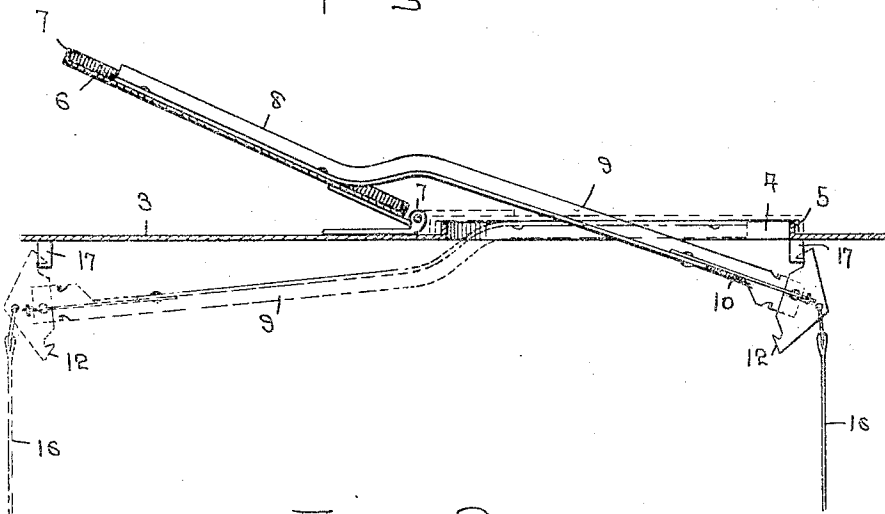


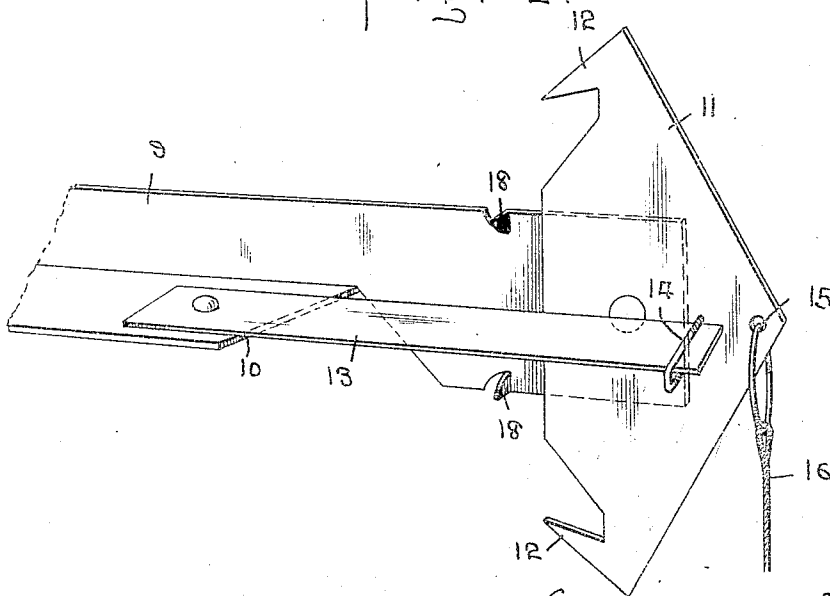
1,056,168.

Patented Mar. 18, 1913.

7579. 7



77. 2



Thos W. Riley
M. Newcomb

W. J. M. Inventor
Gray

By W. F. Fitzgerald & Co.
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM M. GRAY, OF ORD, NEBRASKA.

DOOR AND SECURING MEANS THEREFOR.

1,056,163.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed August 7, 1912. Serial No. 713,616.

To all whom it may concern:

Be it known that I, WILLIAM M. GRAY, a citizen of the United States, residing at Ord, in the county of Valley and State of Nebraska, have invented certain new and useful Improvements in Doors and Securing Means Therefor; 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 new and useful improvements in securing means for doors or other closures.

The prime object of my invention is to provide a device which will effectually lock a door or other closure in either open or closed positions.

A further object of the invention is to so construct the locking device that the same may be disengaged from either position by a single cable or rope and the door or other closure be moved by said cable or rope to its other position.

Other objects and advantages will be hereinafter made clearly apparent in the following specifications and pointed out in the claims.

In the accompanying drawings I have shown the preferred form which my invention may take.

In said drawings, Figure 1 is a detail sectional view showing the preferred form of my invention and showing the door in open position, the position of the door and locking means therefor, when closed, being indicated by dotted lines, and, Fig. 2 is a perspective view of a portion of the locking means employed by me.

Referring to the drawings by numerals of reference, similar numerals designating corresponding parts throughout the several views, 3 is the top of a silo or other tank, which as shown is preferably formed of metal and has an opening 4 therein, which may be circular, oblong, or other desired shape. The opening 4 is provided with a flange 5 therearound which will prevent leakage into the silo or tank. The door 6 is of the same general outline as the opening 4 and is provided with a flange 7 around its edge, which is adapted to fit closely around the flange 5.

The door 6 is preferably formed of metal and is hinged as shown at 7 to the top of the

silo or other tank, so that when closed it will fit over the opening 4. An angle iron 8 is secured to the under surface of the door 6 and is bent thereaway adjacent the hinge, and the extended end 9 of said angle iron is arranged substantially parallel to the portion thereof which is secured to the door. The end portion 9 is cut away, as shown at 10, and the extreme end of said portion 9 is bent so as to extend in a single plane arranged at right angles to the surface of the door.

In order that the door may be locked in open or in closed position, I provide a double latch 11, which is pivotally secured at its center to the end of the member 9 so that the holding notches 12 will be arranged one upon either side of the member 9. In order that the latch may be normally held in the position shown in Fig. 2, I secure a spring 12 to the horizontal portion of the member 9 and provide the latch with a U-shaped member 14 beyond the pivotal point thereof and in line with said pivotal point and the horizontal portion of the member 9, through which the end of the spring is extended. The latch is preferably substantially triangular, as shown, and is provided at its apex with an aperture 15 preferably arranged in alignment with the loop 14 and the pivotal point of the latch, in which an operating rope 16 is secured. The under side of the top of the silo or other tank is provided with a pair of keepers 17, one arranged adjacent the opening and opposite the hinge 7 and the other upon the same side of the opening as the hinge 7 and a sufficient distance therefrom to allow the upper latch 12 to engage the same when the door is closed, as indicated by dotted lines in Fig. 1.

When the door is in open position, as shown in Fig. 1, a pull upon the rope 16 will disengage the upper latch from its keeper 17 and a farther pull upon the rope will swing the door so that the same will drop into position over the opening and the opposite latch 12 will engage its keeper when the rope is released and the door will be securely held in locked position.

In order that the latch, when moved out of normal position, when it is desired to open or close the door, will be prevented from being moved so far as to endanger the spring 12, I cut away portion of the members 9 adjacent the latch and bend the

same outwardly to form ears 18, which are arranged in the path of the latch, as clearly shown in Fig. 2.

From the foregoing description it will be seen that I have provided a door particularly adapted for use upon silos, which may be readily moved from open to closed position or vice versa, or be securely locked in either position.

10 While I have shown and described my invention as particularly useful in connection with the filling doors of silos or other tanks, I desire it to be understood that the same may be employed in connection with
15 the door adapted to close any opening, such as a trap door, ventilating door, etc. In connection with trap and ventilating doors my invention is also particularly adapted as said doors may be securely held in either
20 open or closed positions, and may be moved from either position by a single rope.

What I claim as new is:

1. The combination with a wall having an opening therein; of a closure pivotally
25 secured thereto, an operating member secured to one surface of said closure and extending beyond the hinged side thereof, a double latch pivotally secured to the end of said operating member, and a pair of keepers secured to one surface of said wall and
30 adapted to be engaged by said latch.

2. The combination with a wall having an opening therein; of a door pivotally secured to one side of said wall adjacent said
35 opening, an operating member secured to one side of said door and the other end extended through the opening, a double latch pivotally secured to the end of said operating member, a spring adapted to normally
40 hold said latch in operative position, and

keepers secured to the under surface of said wall adapted to be engaged by said latches.

3. The combination with a wall having an opening therein; of a closure for said opening pivotally secured to the outer surface of said wall, an operating member secured to the inner surface of said closure and extended through said opening, a double latch pivotally secured to the end of said operating member, a spring normally holding
50 said latch in operative position, keepers for said latch secured to the inner surface of said wall, and means whereby said latch may be disengaged from its keepers and the closure swung upon its pivot. 55

4. The combination with a wall having an opening therein; of a closure for said opening, an operating member secured to one surface of said closure and extended through said opening, a pair of latches pivotally secured to the end of said operating member, a spring normally holding said latches in operative position, keepers for said latches, one of said keepers being adapted to engage one of said latches when the
65 closure is in closed position and the other keeper being adapted to engage the other of said latches to hold the closure in open position, and an operating line secured to said latches whereby the same may be disengaged from their keepers and the closure moved to closed or open position. 70

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM M. GRAY.

Witnesses:

A. B. CAPRON,
J. H. CAPRON.