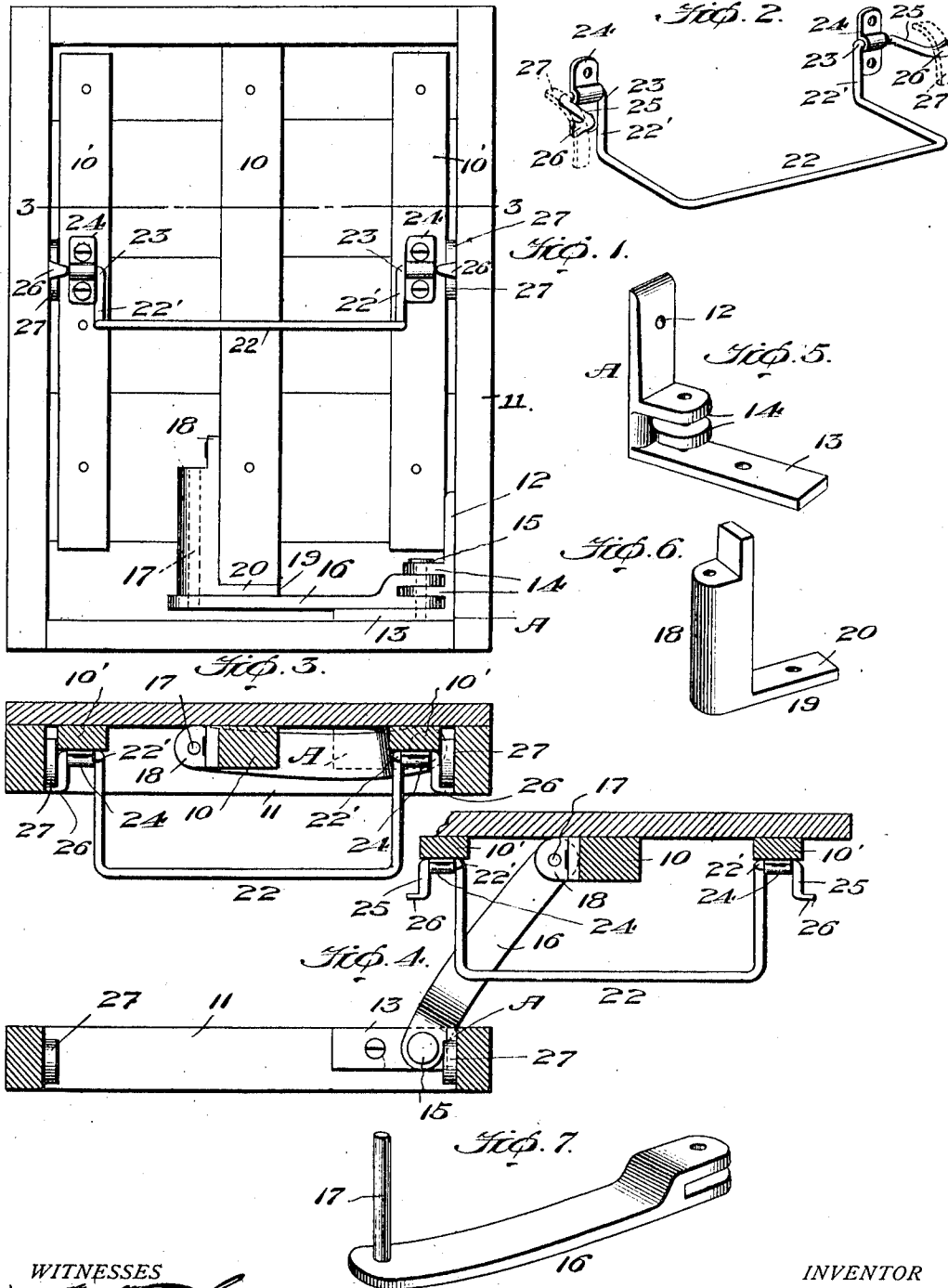


F. E. PARRISH.
SILO DOOR.
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1,035,726.

Patented Aug. 13, 1912.



WITNESSES

[Signature]
B. F. Fowler

INVENTOR

Frederick E. Parrish.
By *J. Walter Fowler*, Attorney

UNITED STATES PATENT OFFICE.

FREDERICK E. PARRISH, OF LINCOLN, NEBRASKA.

SILO-DOOR.

1,035,726.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK E. PARRISH, citizen of the United States, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented certain new and useful Improvements in Silo-Doors, of which the following is a specification.

This invention relates to certain new and useful improvements in doors and fastenings therefor and is intended primarily for use in connection with silos for the storage of fodder for cattle, and for like purposes; and the invention consists of the parts, and the constructions, arrangements and combinations of parts which I will hereinafter fully describe and claim.

In the accompanying drawings forming part of this specification and in which similar reference numerals indicate like parts in the several views; Figure 1 is a front elevation of a silo door embodying my invention. Fig. 2 is a perspective view of the parts detached, showing the means for securing the door in its closed position. Fig. 3 is a cross sectional view of the door on the line 3-3 of Fig. 1, showing the door closed. Fig. 4 is a similar view showing the door in its open position. Fig. 5 is a detail in perspective of the hinge bracket which is secured to the door-frame. Fig. 6 is a perspective view of the angle-bracket which is secured to the door. Fig. 7 is a perspective view of the bar which forms the connection between the brackets.

In carrying out my invention, I may use the improved door and its parts in connection with any appropriately constructed silo in which is to be stored green fodder or like material, said door being of suitable size and construction, and being so mounted that it may be swung away from and to one side of the door frame or casing, as shown in Fig. 4, said casing comprising side stiles and connecting horizontal rails, and said door being provided with means for securely locking it in closed position within the door-frame opening, as illustrated in Fig. 3. The door is preferably provided with cleats, 10, fixed to its outer surface and it is designed to enter and occupy an opening suitably formed in the door-frame or casing, 11.

The door is hinged within the casing and the means I prefer to employ for this purpose comprise a bracket, A, of right-angled form, adapted to fit the angle formed in one

of the lower inner corners of the door-frame, said bracket comprising a vertical flange, 12, secured to one of the stiles of the door casing, and a horizontal flange, 13, secured to one of the rails of the casing, the vertical flange having lugs, 14, extending horizontally from it parallel with each other and with the bottom flange, 13, and spaced apart and from said bottom flange, as shown in Figs. 1 and 5, said bottom flange and the parallel lugs, 14, being perforated and having the perforations arranged vertically in line and adapted to receive the pin, 15, which forms a pintle about which the door is turnable. The bracket, A, forms one member of a hinge, the other member being composed of a bar, 16, one end of which is forked and having the forked members entering the space between the parallel lugs, 14, and bottom flange, 13, of the corner bracket, A, said forks having perforations adapted to be brought into register with those in the lugs and bottom flange of the bracket so that the pin, 15, may pass through the perforations and thus hingedly connect the bar to the bracket. The other end of the bar, 16, is provided with a vertically extending pin, 17, which is adapted to enter a barrel, 18, of a bracket or casting, 19, of right-angled form, secured to the lower inner side of one of the door-cleats, 10, before mentioned, the said casting having its horizontal flange, 20, extending under the bottom of the cleat and its vertical flange extending up along the side edge of said cleat and being appropriately fastened to the cleat, said barrel and the pin, 18, on the bar, C, forming a hinge-connection for this side of the door, whereby in opening the door said door will first swing upon the hinged pin or pintle, 15, and may then be turned about the other pin or pintle, 17, so that when in its open position the door will assume the position shown in Fig. 4, leaving the door opening fully exposed and placing the door in a position where it will not interfere with the handling of the contents of the silo. In order that this position of the door may be best obtained, I prefer to impart to the bar, 16, a slight curvature in the direction of its length; in other words, the bar, 16, may be slightly curved, say at its forked-end, thus allowing the door to swing farther to the right when opened.

Referring to Fig. 5 it will be seen that

the lower of the two lugs, 14, and a portion of one edge of the vertical flange, 12, of the bracket, A, are cut away, which is for the purpose of allowing the bar, 16, to swing around to the right at an angle sufficient to permit the door to clear the opening formed in the door frame.

In order that the door may be securely locked in its closed position I prefer to employ the following agencies: Across the middle portion of the door extends a substantially U-shaped pivoted bail, 22, which is herein shown as being bent to form the vertical side arms, 22', which latter rest against the outside cleats, 10', and are in turn bent outwardly across said cleats to form journals, 23, mounted to turn in bearings, 24, fixed to said cleats; the ends of the bail are again bent to form arms, 25, which extend outwardly or away from the door and have bent extremities, 26, adapted to ride in contact with suitable cam-plates, 27, fixed on the inner walls of the opening in the door frame, to draw the door tightly against the frame and to thereby provide a tight closure. The U-shape given the bail, 22 adapts this bail as a ladder-rung as well as a lever for positively locking and unlocking the door. From this description it will be understood that when the door is closed by swinging about the hinged connections described, the extremities, 26, of the bail will lie over the upper ends of the cam-plates, 27, and when the bail is now moved downwardly by turning about the journal portions, 23, said extremities will be caused to ride downwardly over the cam faces of the plates, 27, thereby drawing the door tightly against the frame or casing and placing the middle portion of the bail substantially horizontal and at such distance from the door that it will readily serve its purpose as a ladder-rung.

As the hinged connections consist of but three parts, namely, the angle bracket, A, the casting or bracket, 19, and connecting bar, 16, connected by the pin, 15, to the bracket, A, it will be apparent that the door can be easily removed from its fastening by lifting the door vertically, the pin or pintle, 17, slipping readily from its seat in the barrel of the casting, 19. The hinged connections described can also be used on any thickness of door frame without changing its construction as the right-angled bracket, A, is set flush against the door and in the angle formed in the inner corner of the door frame; and with the form of fastening described, the door can always be pulled up tight against the frame no matter how much the wood of either part may shrink or swell.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a door of the character described, the combination with a door frame or casing

comprising stiles and connecting rails, and a door fitting said frame or casing, of means hingedly connecting the door to the frame, said means including an angle-bracket fixed in a lower corner portion of the frame or casing and having a vertical flange fixed to the stile thereof and a horizontal flange fixed to the adjacent rail, a bracket fixed to the lower portion of the door, and a horizontal bar having one end pivotally connected to the horizontal flange of the angle-bracket and supported thereon, and having a vertical pin at its opposite end upon which the second-named bracket is turnably mounted.

2. In a door of the character described, the combination with a door casing comprising stiles and connecting rails, and a door adapted to close the opening in said casing, of means hingedly connecting the door to the casing, said means including an angle bracket fixed in a lower corner portion of the casing having a vertical flange fixed to said stiles and having a horizontal flange fixed to the adjacent rail, said bracket having a flange parallel with and spaced from its horizontal flange, a bar horizontally disposed having one end pivoted between the last-named flanges and the horizontal flange of the bracket and supported upon the latter when the door is closed, and means between the outer end of the bar and said door forming a pivotal mounting for the latter.

3. In a door of the character described, the combination with a casing comprising stiles and connecting rails, and a door adapted as a closure for the casing said door having vertical cleats fixed to its surface, of means hingedly connecting the door to the casing, said means including a horizontal bar having one end pivoted to the casing adjacent a lower corner of the door, and having a vertical pin on its outer end, and a bracket fixed to the vertical edge of one of the cleats on the door, and having a horizontal flange to extend under and be secured to the bottom of said cleat, said bracket having, also, a barrel to detachably receive the vertical pin on said bar, and said pin forming a pivot about which the door turns.

4. In a door of the character described, the combination with a frame or casing and a door adapted as a closure therefor, of means for securing the door in its closed position, said means comprising a bail horizontally journaled across the door and having a central U-shaped portion standing away from the door and having vertical arms bent to form horizontal journals, said door having bearings for the journals, and the ends of the bail being bent outwardly away from the door and the extremities of said ends bent in opposite directions, and arc-shaped plates fixed to the sides of the

door casing over which the bent extremities of the bail ride during the opening and closing movement of the bail.

5 In a door of the character described, the combination with a frame or casing comprising stiles and connecting rails of a door adapted as a closure therefor, and means for securing the door in its closed position, said last-named means comprising a bail
10 horizontally journaled on the cleats and extending across the door and having oppositely bent ends, and arc-shaped plates fixed to the under walls of the stiles of the casing and over which the bent extremities of the
15 bail ride to lock and unlock the door when

the bail is turned in a vertical direction, the central portion of the bail adapted to stand away from the surface of the door and to serve as a ladder-rung, and the portion of the bail between the last-mentioned portion 20 and the journaled portions being bent to form vertical arms which extend along and bear against the door when the latter is closed.

In testimony whereof I affix my signature 25 in presence of two witnesses.

FREDERICK E. PARRISH.

Witnesses:

E. P. McLAUGHLIN,

JOHN J. McLAUGHLIN.

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