C. P. VERNIER.

DOOR FRAME.

APPLICATION FILED APR. 1, 1912.

1,038,994. Patented Sept. 17, 1912.

Fig. 1

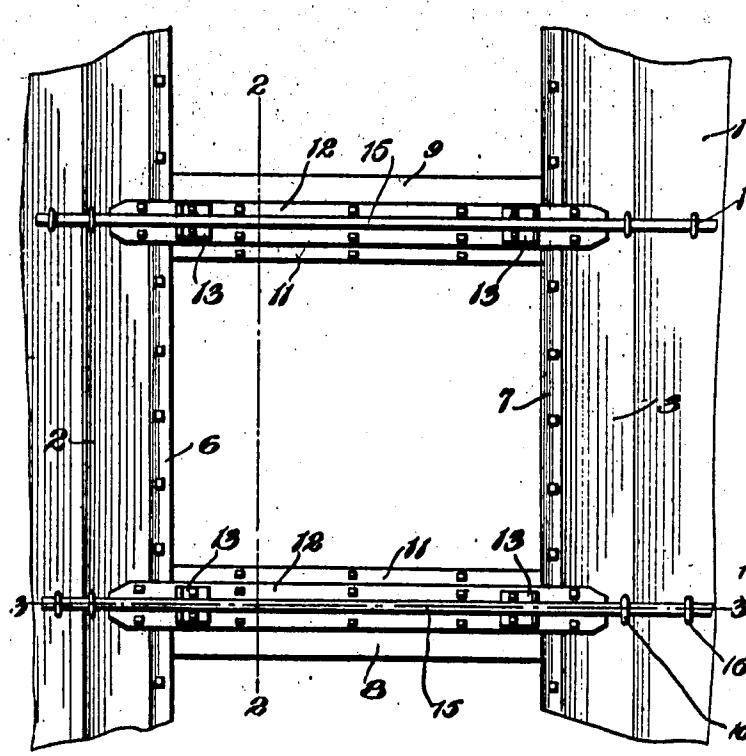


Fig. 2

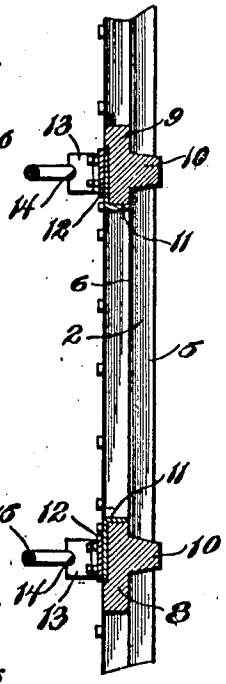


Fig. 3

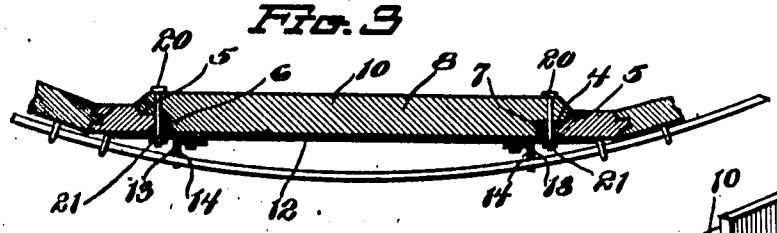


Fig. 5

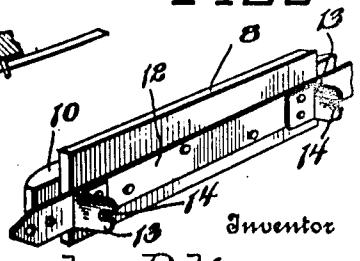
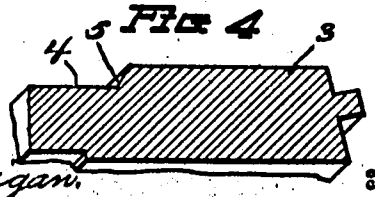


Fig. 4



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UNITED STATES PATENT OFFICE.

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DOOR-FRAME.

1,038,994. Specification of Letters Patent. Patented Sept. 17, 1912.

Application filed April 1, 1912. Serial No. 687,874.

To all whom it may concern:

Be it known that I, CHARLES P. VERNIER, a citizen of the United States, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented new and useful Improvements in Door-Frames, of which the following is a specification.

The present invention relates to the construction of door frames for silos.

In carrying out my invention it is my purpose to provide a door frame for this purpose whose vertical stiles shall be rabbeted and shall have the inner wall provided by the said rabbets inclined or beveled, the stiles shall extend the entire height of the silo and the rabbets shall serve as pockets for the reception of tongues provided upon the cross or sill members of the door frame, the said sills being also vertically adjustable to accommodate doors of different heights.

I further aim to provide a door frame for silos that shall be simple, strong and durable to effectively resist the pressure of the door thereon when the contents of the silo contact with the door to force the said door against the frame.

It is also my purpose to provide novel and effective means for sustaining the adjustable cross sills upon the vertical stiles as well as to connect the vertical stiles with the body of the silo.

With the above recited objects in view and others, the nature of which will be more apparent as the description is developed, the improvement resides in the construction, combination and novel arrangement of parts set forth in the specification and falling within the scope of the claims.

In the drawings, Figure 1 is a front elevation of a portion of a silo provided with my improved door frame. Fig. 2 is a sectional view upon the line 2—2 of Fig. 1. Fig. 3 is a sectional view upon the line 3—3 of Fig. 1. Fig. 4 is a detail sectional perspective view of one of the vertical stiles of the door frame. Fig. 5 is a detail perspective view of one of the cross sills for the doorway.

Referring now to the drawings in detail the numeral 1 designates a portion of a silo. The silo may be of any ordinary or desired construction, and the numerals 2 and 3 designate the vertical members or stiles for the door-frame of the silo. The stile 2 has its outer edge provided with a groove which is adapted to receive the tongue formed upon the member of the silo adjacent this end of the door frame, while the stile 3 is provided with a tongue upon its outer edge which is adapted to be received within a groove provided upon the member of the silo adjacent the said stile. Both of the stiles 2 and 3 have their inner faces rabbeted, adjacent their outer edges, the inner walls thus provided being beveled or inclined away from the outer edges of the said stiles as designated by the numerals 5. The outer faces of the stiles 2 and 3 at their inner edges are recessed to provide for the reception of one of the members of L-shaped plates which are designated by the numerals 6 and 7, respectively. These plates are provided with spaced openings which register with similar openings in the stiles, the purpose of which will be presently set forth.

The numerals 8 and 9 designate the cross sills for the door frame. These sills are centrally provided upon their inner faces with longitudinally extending tongues 10 which project a suitable distance beyond the sills proper or the outer faces thereof, and the projecting portions of the tongues have their extremities beveled or inclined to snugly engage within the rabbeted portions 4 as well as the inclined or beveled walls provided by the said rabbeted portions of the rabbeted stiles 2 and 3. The tongues 10, while preferably integrally formed with the sills 8 and 9 not only serve as an effective reinforcement for the sills 8 and 9, but also provide pockets or recesses which register with the recesses or rabbeted portions of the vertical stiles, and the continuous depressed portions thus provided are adapted for the reception of the doors for the frame. It will be also noted that the depressions are provided upon both the upper and lower edges of the cross sills, so that the upper depression serves for the reception of the lower edge of one door while the lower depression serves for the reception of the upper edge of the next door. The sills 8 and 9 may, and preferably have their outer faces and edges reinforced through the medium of angle plates 11.

The numerals 12 designates a flattened plate which is secured upon the outer faces of each of the cross sills 8 and 9. This plate extends a suitable distance beyond the vertical edges of the sills and the said extending portions are provided with openings which

register with the openings provided in the stiles 2 and 3, as well as the plates 6 and 7 therefor and also with the tongues 10 of the said cross sills. All of these registering openings are adapted to receive removable securing elements, such as bolts 20 and nuts 21.

Secured upon the plates 12, and at a suitable distance away from the opposite ends thereon are substantially U-shaped bracket members 13, the projecting arms of which being each centrally formed with a recess or depression 14, and the said depressions are adapted to receive bands 15 which surround the silo. These bands or hoops are sustained in proper positions upon both the silo and the vertical stiles of the doorway through the medium of suitable staples 16.

It should be here stated that the opposite longitudinal faces of the tongues 10, of the sill members 8 and 9 are beveled or inclined in opposite directions to correspond with the beveled walls 5, and by providing the doors for the silo with beveled edges the said doors may be tightly forced within the continuous recesses provided between the sills and the vertical stiles without additional fastenings.

From the above description taken in connection with the accompanying drawings, the simplicity of the structure, the strength of the same, as well as the adjustable features, will, it is thought commend themselves to those skilled in the art to which such inventions appertain.

Having thus described the invention, what I claim is:—

1. In combination with a silo, of a door frame for the same, the said door frame embodying vertical stiles having their inner faces adjacent their edges rabbeted and the inner wall thus provided beveled, cross sills for the vertical stiles, each of the said cross sills being centrally provided with a tongue which extends beyond the sill and which is adapted to be received within the rabbeted portions of the vertical stiles, the opposite longitudinal faces of the tongue being beveled and plates upon the outer face of the sills adapted to project beyond the sills and to be connected with the stiles and with the tongues of the sills.

2. A door frame for the purpose set forth embodying spaced vertical stiles having their inner faces adjacent their edges provided with rabbets, transversely arranged sills for the stiles, each of said sills being centrally provided with a longitudinally extending tongue which projects beyond the edges of the sills and which is adapted to be received in and secured within the rabbets of the vertical stiles, plates upon the outer faces of the sills and projecting from the faces of the stiles and means for connecting the plates with the stiles.

3. A door frame for silos comprising vertical stiles, having their inner faces rabbeted adjacent their opposite vertical edges, angle plates for the edges of the stiles, sills for the stiles, said sills being each provided with a centrally arranged longitudinally extending tongue which projects beyond the edges of the sills and is adapted to be received within the rabbets of the stiles and to be secured therein, plates upon the outer faces of the sills, each of said plates projecting beyond the faces of the oppositely arranged stiles, means for securing the plates to the stiles, L-shaped brackets upon the stiles, each of said brackets having its offset member centrally recessed and hoops arranged within the recesses and connected with the silo.

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

CHARLES P. VERNIER.

Witnesses:
MAGDALEN POPP,
J. R. WATSON.

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