To all whom it may concern:

Be it known that I, EARL H. SINGERS, a citizen of the United States of America, residing at Worthington, in the county of Greene and State of Indiana, have invented certain new and useful Improvements in Silo-Door Mountings, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to certain new and useful improvements in silo door mountings and more particularly to door mountings for plastic silos; the object being to provide novel means for supporting the door, wherein rungs will be formed to provide a ladder by means of which, a person can ascend the wall of the silo.

Another object of the invention is to provide novel means for mounting the pintles within the silo and doors whereby they will be securely held in position; said means constituting reinforcing elements for the silo and doors.

Another and further object of the invention is to provide novel means for mounting the pintles carried by the silo in such a manner that they can be readily detached so that when they become worn, new ones can be inserted, said pintles being located in position within sockets carried by reinforcing members.

Another and still further object of the invention is to provide angular hanger arms for the doors, by means of which, doors can be swung inwardly to one side of the door opening against the inner wall thereof, so as to allow the doors to be out of the way, said doors when closed forming a smooth surface within the silo.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings—Figure 1, is a front view of a portion of a silo showing the application of my improved door mounting; Fig. 2, is a horizontal section taken on the line 2—2 of Fig. 1; Fig. 3, is a similar section showing the door in open position; Fig. 4, is a front view of the reinforcing member provided with the sockets to receive the pintle members; Fig. 5, is a detail vertical section through the reinforcing member and socket showing the pintle member locked in position therein; and Fig. 6, is a detail perspective of the door reinforcing member provided with the integral pintles.

Like numerals of reference refer to like parts in the several figures of the drawings.

In the drawing, 1 indicates the wall of the silo which is preferably formed of any suitable plastic material, and while the silo may be a continuous plastic wall, it is of course understood, that plastic staves can be employed for forming the silo; said silo having a vertical door opening extending throughout the length thereof across which are arranged at intervals, cross bars 3 of the usual form.

The edges of the door opening and cross bars are rabbed as shown, into which is adapted to fit, the rabbed edges 4 of a plastic door 5, it of course being understood, that one of these door sections is arranged between each pair of doors, said doors being so constructed that when in position as shown in Figs. 2 and 3, the inner face is flush with the inner wall of the silo.

Embedded within the door 5 when the same is being formed, is a vertically arranged metal bar 6 which is provided with an integral threaded bolt 7 on which is mounted a locking bar 8 adapted to be clamped across the door opening by a bending nut 9 mounted upon the bolt 7 so as to securely draw the door into position within its jamb to form a practically air-tight joint.

The metal bar 6 is provided adjacent each end with an angular pintle member 10, the pintle portion 11 of which, extends downwardly and on which are mounted the eyes 13 of angular hanger arms 12, two of these hanger arms being employed for each door section and it will be seen that by mounting the doors on the hanger in this manner, they are free to be detached by raising the same vertically, so as to draw the pintles out of the eyes.

Embedded within the wall of the silo to each side of the door opening opposite the door sections, is a reinforcing bar 14 which is provided with enlarged portions 15 having sockets 16 preferably formed integral therewith, said sockets being cylindrical in form having contracted portions 17 to form 105 slots 18 for the purpose hereinafter fully described. It is, of course, understood that in constructing a silo, instead of providing
the same with spaced bars 14 a continuous bar could be employed provided with spaced sockets without departing from the spirit of my invention.

5 Pintle members 19 are adapted to cooperate with the sockets 16, said pintle members comprising head portions 20 provided with flattened shanks 21 terminating in enlarged portions 22 which are adapted to be forced through the slots 13 and by oscillating the head, until the enlarged portion 22 is brought into engagement with a stop 23 formed within the socket, the enlarged portion will be thrown at right angles to the slot formed by the contracted portion so as to securely lock the pintle members 19 within the sockets. The heads of the pintle members are provided with pintle pins 24 on which are mounted the eyes 25 formed at the opposite ends of the hanger arms 13.

It will be seen by this construction, each hanger arm forms a rung in order to provide a ladder by means of which a person can ascend or descend the silo and by forming the hanger arms 13 of the shape shown when the door is swung into open position, the same is free to move inwardly and to one side until it engages the inner wall of the silo.

From the foregoing description, it will be seen that I have provided a door mounting for silos especially constructed to be used in connection with a plastic silo, but it is of course understood that the same could be used in connection with a wooden silo without departing from my invention.

I claim:

1. The combination with a plastic silo having a door opening and a plastic door therefor, of a reinforcing element embedded within said door and silo, pintles carried by the reinforcing element of said door having depending pin portions, the reinforcing element of said silo being provided with sockets having contracted portions forming slots in the faces of said element, interlocking pintle members mounted within said sockets, means for holding said pintle members in vertical position in said sockets, and hanger arms mounted upon said pintles for supporting said door.

2. The combination with a bar having laterally projecting cylindrical sockets, said sockets being provided with contracted outer portions forming horizontally disposed slots in the face of the bar and intermediate shoulders within said sockets, of pintle members mounted in said sockets, projections formed on said pintle members adapted to be turned into engagement with the shoulders of the sockets, and a stop projecting from one shoulder of said sockets in the path of said projections for limiting the movement of said pintle therein.

3. The combination with a structure, of a reinforcing element embedded therein having a cylindrical socket provided with contracted portions forming a slot in the reinforcing element, and shoulders in the socket, a stop formed within said socket, a pintle member having a shank provided with an enlarged end adapted to extend through said slot of the socket and to be oscillated until engaged by said stop for locking the shank of the pintle in the socket with the pintle in vertical position.

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

EARL H. SINGERS.

Witnesses:

LOVELL T. FREEMAN,
IRVIN PRYOR.