J. D. OVERHOLT.

CRIB AND BIN STRUCTURE.

APPLICATION FILED MAR. 13, 1915.

1,189,729. Patented July 4, 1916.

Fig. 1.

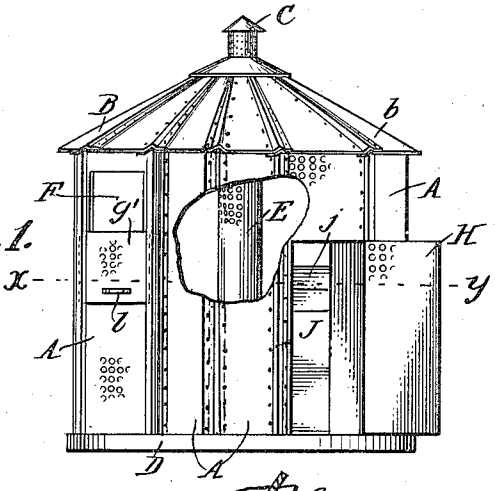



Fig. 2.

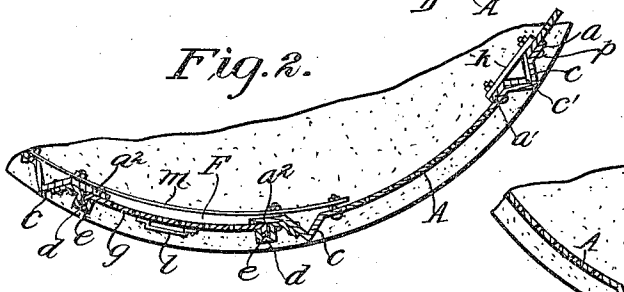



Fig. 3.

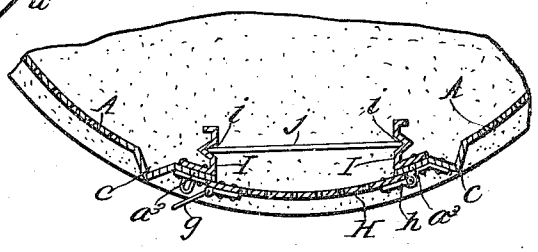



Fig. 5.

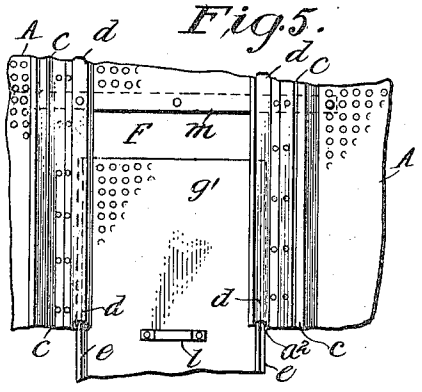



Fig. 6.

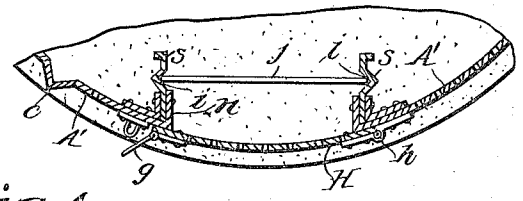
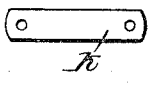



Fig. 4




Witnesses:

W. E. Freeman.

D. D. Conkle

Inventor:

John D. Overholt

By Hiram B. Swank

Atty.

# UNITED STATES PATENT OFFICE.

JOHN D. OVERHOLT, OF WOOSTER, OHIO, ASSIGNOR TO IRON CRIB AND BIN COMPANY, OF WOOSTER, OHIO, A CORPORATION.

## CRIB AND BIN STRUCTURE.

1,189,729. Specification of Letters Patent. Patented July 4, 1916.

Application filed March 13, 1915. Serial No. 14,235.

*To all whom it may concern:*

Be it known that I, JOHN D. OVERHOLT, a citizen of the United States, residing at Wooster, in the county of Wayne and State of Ohio, have invented a new and useful Crib and Bin Structure, of which the following is a specification.

My invention relates to improvements in crib structures for housing corn and other grains, and preserving their contents from dampness and the invasion of rodents, and especially to that form of construction shown in Patent Number 926,707, issued to Jesse B. Marshall, in which I have an interest by assignment from him.

The main objects of my invention are, first, to provide better means for constructing the joints which unite the adjacent edges of the sheet metal sections; second, to provide improved means for constructing and securing the several doors which cover the openings to the crib; and, third, to provide improved means for strengthening the walls against lateral pressure, and, at the same time, to stiffen the sections vertically.

My invention is illustrated by the accompanying drawings, in which similar letters of reference indicate like parts.

Referring to the drawings, Figure 1 is an elevation of a corn crib embodying my invention, partly cut away to show a portion of the interior thereof. Fig. 2 is a part of a horizontal cross section of the crib on the dotted line X Y of Fig. 1, illustrating my improved way of constructing a vertically slidable door for the crib, and, in connection, my improved method of securing the vertical sections of the crib together, and to support said door. Fig. 3 is a part of a horizontal cross section of Fig. 1 on the dotted line X Y, illustrating my improved way of constructing a laterally hinged door to the crib, and in connection with the adjacent edges of the crib sections. Fig. 4 is a view of one of my metal straps for reinforcing the joints of the crib against lateral pressure. Fig. 5 is a detail view of a portion of my vertically slidable door and connections, and Fig. 6 is a vertical cross section of a part of the crib body on the line X Y of Fig. 1, showing, in connection, my improved jointure means, with a modification of the door jamb construction when the adjacent edges of the sections are bent inwardly.

Heretofore the adjacent edges of the sheet metal sections A were constructed with a flanged margin, and the adjacent flanges were bound together by means of a superposed metal strip bent over them in the form of a U-shaped saddle, and secured thereon by bolts passed through said saddle and the flanges of said edges. This method is defective, especially when the metal sections are long; lacking the necessary stiffening, they become unwieldy and difficult to put together; moreover, when the cribs are large, they require better means to secure the sections from spreading apart. To overcome these defects, I construct a V-shaped groove *c* from end to end of each section A, and on each margin thereof, longitudinally, to give the sheet metal sections added stiffness by means of the longitudinal ridge or corrugation formed on the outer side of the same, and locate said longitudinal ridges at some distance from the adjacent edges of the section, so that when the adjacent sections overlap each other, the ridge of one section fits over the ridge of the other, and the marginal extensions *a a'* also overlap a portion of the body of the section on each side of the combined ridge, thereby doubling the vertical strength of the juncture; and to provide additional means for resistance of lateral pressure when the crib is filled, I place metal straps K K (Fig. 4) across the joint under the base of said ridge and said marginal extensions and secure the same thereto by bolts *o* passed through the adjacent parts on each side of said combined ridges *c c'*, as shown in Fig. 2.

I am aware it is not new to construct sheet metal joints by means of marginal corrugations secured together, and such I do not broadly claim. Heretofore such joints have been made without marginal extensions laterally from the corrugations and without the use of lateral binding straps *k*, such as I employ for the purpose; such marginal extensions are required to provide more efficient means for stiffening the joints of the crib sections vertically, and to afford better means for securing the crib doors; and said lateral straps are a simple and novel means for strengthening the crib walls laterally, instead of using large metal hoops, as heretofore, to prevent spreading apart of the sections, and are adapted to be mounted in quantity and location to suit the varying requirements of different portions

of the crib body, thereby making it cheaper and stronger than heretofore as well as easier to construct. The straps are also out of the way of the openings for the doors, and, by their use in connection with said marginal extensions which provide room for inserting the fastening bolts *b*, as shown, they serve to relieve the corrugations aforesaid of nearly all lateral strain, and simplify the means for attaching the crib doors, as hereafter stated.

In the drawings B is the roof or cover of the crib; C, the exposed top of the ventilator shaft E, which is perforated in the usual and well known way. The roof is also made up of several sheet metal sections *b b*, shaped to suit the form of roof desired, but the edges of the sections are preferably united in the same manner as the body sections above described.

The base D of the crib is made preferably of concrete, on which the several sections A are secured. An opening F is located near the top of the crib for dumping corn or other cereals therein. The marginal extensions $a^2$ (Figs. 2 and 5) serve as supports for a vertically slidable door G which is provided with upwardly flanged edges *e e;* the latter are adapted to fit loosely into grooved guide strips *d d*, mounted upon and secured to said marginal extensions and to the adjacent ridges *c c* of the metal sections adjacent said opening, substantially as shown in Figs. 2 and 5. The metal cross-bars *m m* connect the adjacent sections above and below the opening F, support the cut off sections at their ends, and prevent the parts from spreading at said opening; only one of said bars is shown in the drawing, the other being in all respects similar and located at the bottom of said opening. Said door is easily manipulated by means of a lift *l* secured thereto, and may be fastened shut by any suitable lock.

The combination of the guidestrips *d d* with the extensions $a^2$ to which they are secured, in connection with the flanged edges of said door G and the cross-bars *m m*, as aforesaid, simplifies the door construction without diminishing the lateral strength of the crib structure, the door jambs *a a* being reinforced longitudinally by the proximity of the ridges *c c* of the adjacent sections in connection with said guidestrips.

An entrance opening J is closed by a hinged door H, as shown in Figs. 1 and 3. For this purpose the marginal extensions $a^3$ (Fig. 3) are utilized as jambs to support the vertical edges of the door E and also as means for supporting the marginal vertical facings I; the latter have vertical grooves *i* therein adapted to receive the adjacent ends of a set of shiftable entry door slides *j j* for holding in the grain when said door is opened, as best shown in Fig. 3, where said door is shown in horizontal cross section with hinges *h* and hasp *g*. It will be noticed that by means of said marginal extensions in connection with the proximity of said ridges *c* and the attached vertical face strip I, efficient means are provided for supporting said hinged door and for strengthening and increasing the rigidity of its jambs and for removably securing the slides *j*. If preferred, the jambs for said hinged door may be made by turning inwardly the adjacent edges *n n* of the jamb sections A′, as shown in Fig. 6 and securing thereto a vertical angle strip *s*, and interposing between said bent edge and said angle strip a vertical guideway I′ adapted to receive and removably secure said inner set of slides J′, in like manner and for the same purpose above stated. In such case the longitudinal corrugations *c c* may be located farther away from said door. It will also be understood that said body sections A are perforated throughout the same as heretofore.

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

In a structure of the character described, the combination of a plurality of sheet metal sections, each section having a longitudinal ridge or corrugation, and a marginal extension between said ridge and the adjacent edge of the section, the ridge of one section fitted over the ridge of the next adjacent section, and a plurality of metal straps disposed laterally underneath and across the base of the two ridges combined, and bolts passed through said straps and marginal extensions, respectively, on both sides of said combined ridges, substantially as set forth, and for the purpose specified.

In witness whereof I hereunto set my hand this 4 day of Feby. 1915.

JOHN D. OVERHOLT.

In presence of—
W. G. PATTERSON,
HIRAM B. SWARTZ.