June 10, 1941. P. RUTTEN 2,244,728

PRESSED SILO LUG

Filed Sept. 15, 1938

Fig. 1

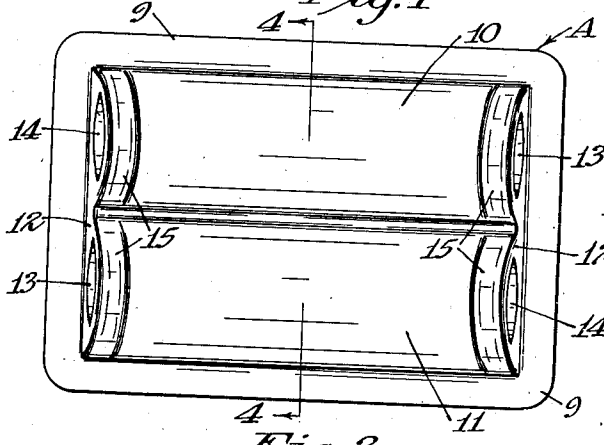


Fig. 3

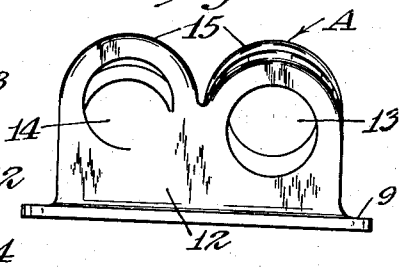


Fig. 2

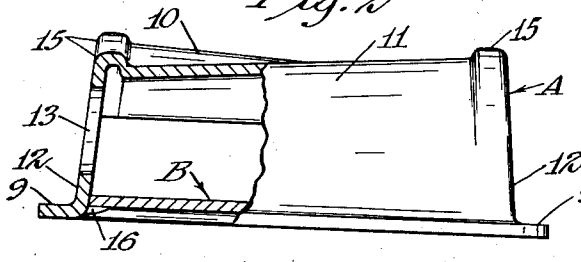


Fig. 4

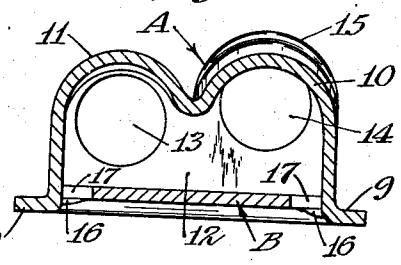


Fig. 5

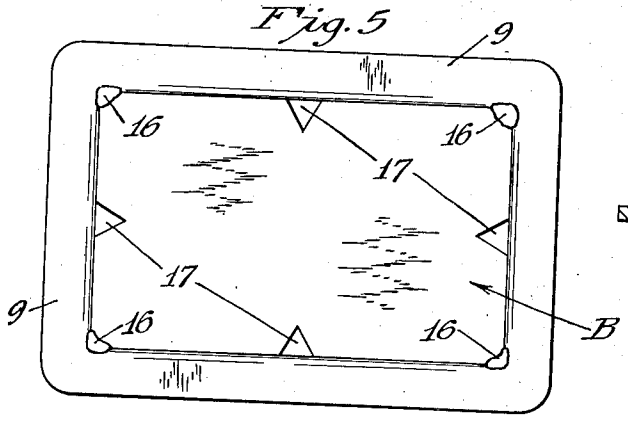


Fig. 6

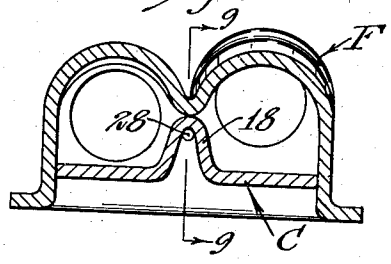


Fig. 7

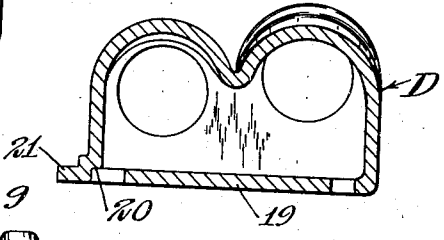


Fig. 8

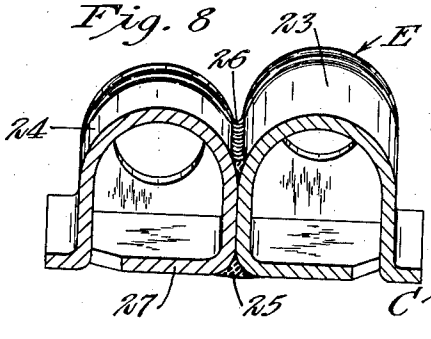
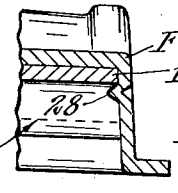


Fig. 9



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PRESSED SILO LUG

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Application September 15, 1938, Serial No. 230,043

3 Claims. (Cl. 217—95)

This invention relates to what are commonly known as silo lugs for taking the screw threaded ends of the encircling rods or hoops used on silos or tanks and forming bearings against which the nuts threaded on such screw threaded ends may be drawn up to tighten the rods or hoops.

At the present time these silo lugs are cast from malleable iron and thereafter galvanized. The lugs must withstand heavy pressure and in galvanizing the cast malleable lugs there is danger of weakening the lugs through crystallization during the heating of the lug in the melted galvanizing material. Also the casting of these lugs is quite an expensive process as compared to what would be the case if the lugs could be pressed cold from sheet material.

It is an object therefore of the present invention to provide a silo lug pressed from sheet metal to secure great strength in the lug as well as to secure economy in manufacture.

Another object is to provide a pressed steel silo lug which is lighter and stronger than the cast silo lugs now in use.

The objects and advantages of the invention will more fully appear from the following description, made in connection with the accompanying drawing, wherein like reference characters refer to the same or similar parts throughout the various views and in which,

Fig. 1 is a plan view of one of the lugs;

Fig. 2 is a view in side elevation of the same, some parts being broken away and shown in section;

Fig. 3 is an end view of the lug;

Fig. 4 is a transverse vertical section taken on the line 4—4 of Fig. 1;

Fig. 5 is a bottom view of the lug;

Figs. 6, 7 and 8 are respectively transverse vertical sections taken centrally through different modified forms of the lug, Fig. 8 being shown in oblique perspective; and

Fig. 9 is a vertical section taken on the line 9—9 of Fig. 6, as indicated by the arrows.

Referring first to the embodiment of the invention shown in Figs. 1 to 5 inclusive, a silo lug is provided which is pressed either cold or hot from sheet steel or other analogous sheet metal. This lug includes an open sided housing A which is of substantially rectangular shape and of greater length than width and it also preferably includes a plate B fitting within the open side of the housing and closing it and forming a strut between the two end walls of the housing to give the housing great compressive strength.

The housing A includes joining side and end flanges 9 forming a frame-like base. Joining the inner edges of the sides and ends of this frame-like base formed by the flanges 9 are two rod receiving compartments 10 and 11. These compartments 10 and 11 are partially cylindrical as shown and extend generally longitudinally of the housing A, one of the compartments as 10 having its central longitudinal axis inclined or tipped upwardly relative to one end of the base of the housing A and the other compartment 11 having its central longitudinal axis similarly inclined or tipped upwardly relative to the other end of the base of the housing A. The inner longitudinal edges of the compartments 10 and 11 join in a valley formed on the outer side of the housing. End walls 12 close the ends of the two compartments 10 and 11 and join the end flanges 9 of the base. Within each end wall 12, a pair of rod receiving openings 13 and 14 respectively are formed, the opening 14 being located at a higher level than the opening 13 and each compartment 10 and 11 having an opening 13 leading thereto at one end of the compartment and an opening 14 leading thereto at the other end of the compartment. It will be noted that as viewed in the drawing Figs. 1 and 2, the right end wall 12 is set approximately normal to the central longitudinal axis of the compartment 11, while the left end wall 12 is set approximately normal to the central longitudinal axis of the compartment 10. Of course, the right hand end wall 12 adjacent the opening 14 therein forms an abutment for a nut that may be screwed on to the screw threaded end of a rod which may be carried first through the opening 13 in compartment 11 and then through the opening 14 therein. Similarly, the left end wall 12 adjacent the opening 14 therein forms an abutment for a nut that may be screwed on to the screw threaded end of a rod which may be carried first through the opening 13 in compartment 10 and thence through the opening 14 therein. To afford larger abutting surfaces for the nuts and to give the compartments somewhat greater strength, the upper sides of the compartments adjacent the ends thereof are provided with arcuate ribs 15 as indicated.

The plate B is of such a size as to fit closely within the bottom portion of the housing A preferably slightly above the base formed by the flanges 9, as shown in Fig. 4 and in Fig. 2, and this plate may be attached to the housing A as by welds 16 or in any other suitable manner. The function of the plate B is to extend between the

two end walls 12 and brace and strengthen them against compressive strains. Preferably the plate B is provided with a number of edge notches 17 to permit the drainage of water from the housing A.

In place of a flat plate B, such as is shown in Figs. 2, 4, and 5, a plate C may be substituted of the type shown in Fig. 6, this plate C being similar to the plate B with the exception that it is equipped with a longitudinal rib 18 to give the same greater strength. The top of rib 18 is brought into abutment with the under part of the valley of housing F used with plate B and the plate is held in the housing by such abutment and by inwardly projecting tits 28 formed in the end of housing F after the plate is inserted therein.

In Fig. 7, a slightly modified type of lug is shown designated by the letter D. The lug D is generally quite similar to the lug previously described with the exception that the lug D has a plate 19 integrally formed with the housing and projecting from the bottom part of one side thereof to the opposite side thereof, the free edge of the plate 19 being received within a rabbet 20 formed in a flange 21 at one side of the housing.

In Fig. 8 a slightly different modification of the invention is shown, the lug there illustrated being designated E. The lug E includes twin compartments 23 and 24 which are individually formed and later united along adjacent inner sides by welds 25 and 26. These compartments have integral base plates 27 turned outwardly from their inner edges to form struts between the end walls of the compartments.

In producing the housings A and F shown in Figs. 1 to 6 inclusive, the blank sheet metal is pressed either cold or hot to form by stamping operations, whereupon the openings 13 and 14 may be stamped out. The housing shown in Fig. 7 will be also formed by stamping operations as will be the compartments of the form of the invention shown in Fig. 8. It will thus be seen that the entire lug may be economically and quickly made. After the lug is formed it may be galvanized without danger of crystallization of the sheet steel during heating of the lug in the melted galvanizing material.

The lug being made from sheet steel or other analogous metal will have much greater strength than the ordinary cast malleable lugs now in use. Thus the lugs may be lighter than the cast malleable lugs now in use to give equal or greater strength.

It will be seen that an extremely simple, silo lug has been provided which has many advantages over the cast lugs now in use.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of the present invention which, generally stated, consists in the matter shown and described and set forth in the appended claims.

What is claimed is:

1. A pressed metal silo lug of elongated generally rectangular shape comprising an integral open sided housing formed of sheet metal and having a base and a pair of adjacent rod receiving compartments extending longitudinally thereof, the ends of said compartments being apertured and forming rod nut abutments and a base plate fitting within the housing and having ends in abutment with the ends of said housing to form a strut therebetween, and means for securing said plate to said housing.

2. The structure defined in claim 1, said base plate having passages therein through which water may drain.

3. The structure defined in claim 1, the end portions of said compartments being upwardly ribbed.

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