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W. C. MYERS
SECTIONAL GRAIN SPOUT
Filed Dec. 26, 1922

Fig. 1

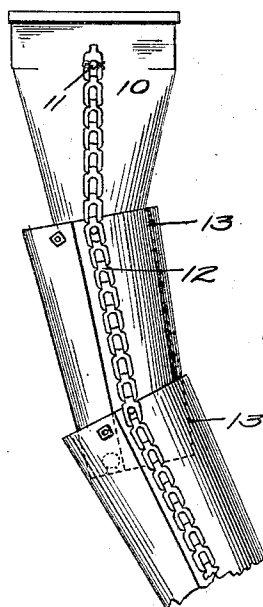


Fig. 2

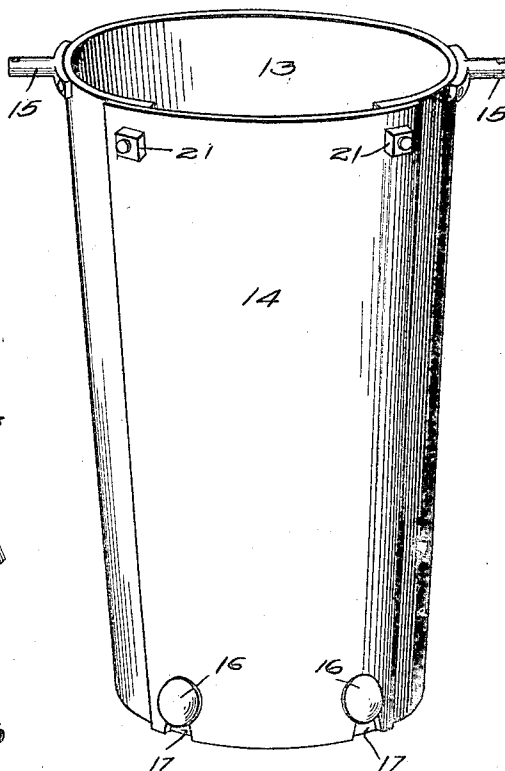


Fig. 3

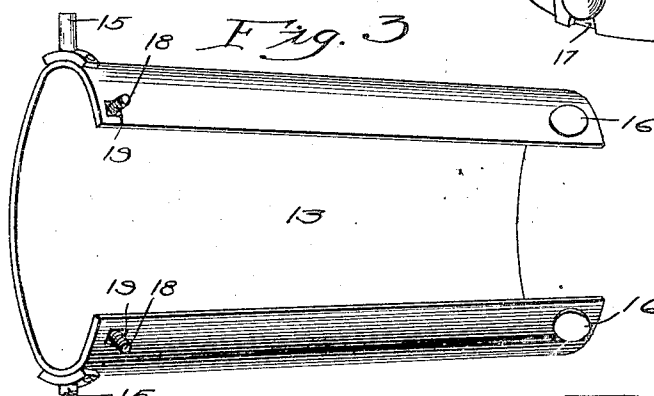
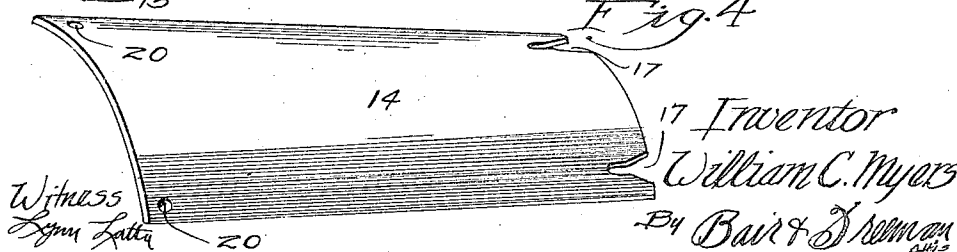


Fig. 4



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SECTIONAL GRAIN SPOUT.

Application filed December 26, 1922. Serial No. 609,084.

To all whom it may concern:

Be it known that I, WILLIAM C. MYERS, a citizen of the United States, and a resident of Des Moines, in the county of Polk and State of Iowa, have invented a certain new and useful Sectional Grain Spout, of which the following is a specification.

The object of my invention is to provide a sectional grain spout of simple, durable and comparatively inexpensive construction.

More particularly, my invention relates to a spout made of two sections and arranged when locked together to form a tapered tube, the parts being so positioned that one of the sections serves as a bottom for the spout when used.

In this connection, it may be mentioned that in the handling of grain, spouts are used for delivering the grain from the elevator to the cars, and due to the passing of the grain over the spouts, they become worn out, and it is necessary to replace them, and one of the objects of my invention is to place a new bottom in the spout with a very small amount of inconvenience.

Still another object is to provide two sections, which are curved, so that when they are fitted together a complete tapered, tubular-shaped member will be formed.

Still a further object is to provide novel means for connecting the two sections together.

With these and other objects in view, my invention consists in the construction and arrangement of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of a portion of a grain spout.

Figure 2 is an enlarged, perspective view of one complete tubular-shaped member of the spout.

Figure 3 is a perspective view of one section of the spout; and

Figure 4 is a perspective view of the removable section of the spout.

In the accompanying drawings, I have used the reference numeral 10 to indicate generally the upper end of a grain spout. Secured to trunnions 11 on the section 10 and extending downwardly therefrom are the chains 12. The purpose of the chains

will be hereinafter more fully set forth. The section 10 is tapered toward its lower

end and is provided with a removable bottom section as will be more fully explained in connection with the remainder of grain spout sections.

The grain spout includes a main section 13 and a removable section 14. The main section 13 is formed of a substantially rectangular sheet of metal curved so as to form an incomplete but major arc of a circle and the section 14 is also curved so as to form a lesser arc of a circle, the straight margins of said section 13 being spaced apart throughout the entire length of the section.

When the sections 13 and 14 are placed together, they form a complete tubular-shaped member.

Trunnions 15 are secured near the upper end of the main section 13 and are connected to the chains 12, so that each of the complete tubular-shaped members will be supported from the chain 12.

Near the lower end of the main section 14 are secured a pair of rivets 16, which are provided with large heads. The heads of the rivets are spaced slightly away from the main section 13 a sufficient distance, so as to permit the thickness of the removable section 14 to be received between the head and the main section 13. The removable section 14 is provided with a pair of notches 17 in its lower edge, which are designed to receive a portion of the rivets 16, while the heads of the rivets 16 rest against the outer surface of the removable section 14.

The edges of the notches 17 are tapered downwardly and outwardly, so as to enlarge the notches 17 near their lower ends for permitting them to easily engage the rivets 16.

Near the upper end of the main section 13 and near the side edges thereof are secured a pair of bolts 18. The bolts 18 are provided with squared shanks 19, which are received in square openings formed in the main section 13. The square shank 19 prevents any rotation of the bolt 18.

The removable section 14 is provided with a pair of openings 20, which are designed to receive the bolts 18. Nuts 21 are secured to the bolts 18, for securely holding the removable section 14 in position.

From the construction of the parts just described, it will be seen that only two bolts are necessary to hold the removable section in position.

When the removable section and main section are secured together a complete tubular-

shaped member will be formed, and the removable section 14 will prevent any possible movement of the main section, thus retaining it always in its desired form.

5 The lower end of one of the tubular-shaped members is placed into the upper enlarged end of the next adjacent tubular-shaped member and so on for forming the complete spout.

10 The rivets 16 are hidden by the upper end of the next adjacent spout member, as shown in Figure 1 of the drawings, while the bolts 18 and nuts 21 are easily accessible.

When it is desired to remove one of the 15 removable sections 14 for making repairs, all that is necessary is to release the two nuts 21 and slide the section 14 to position where it will no longer engage the rivets 16.

It will be seen that a new section 14 may 20 be inserted without in any way disassembling the entire spout structure.

By forming the sections 13 and 14 of flat plates, I am able to save a great deal of expense in making the spouts. Heretofore the 25 main section 13 was provided with an opening in its bottom, but with some connecting band or other suitable means for holding the adjacent edges in proper spaced relation.

In my structure, the removable plate 14 30 serves as a reinforcing or sustaining member for holding the main section 13 against any possible movement.

Too much emphasis can not be laid upon the benefits derived from a sectional grain 35 spout, as shown in my drawings, in view of the fact that there is no waste of material on the main section and that the opening between the two adjacent edges of the main section 13 extends from end to end and is 40 completely closed by the removable section 14.

It will be seen that as soon as one of the removable sections 14 is worn out, it can 45 be removed and a new one substituted therefor, without detaching the tubular member from the spout. This operation is facilitated considerably by reason of the fact that the removable section 14 is located outside of rather than within the main section.

50 The removable section 14 is slightly curved from side to side, so that it forms with the main section 13 a complete tapered tube.

Some changes may be made in the arrangement and construction of the various 55 parts of my device, without departing from the essential features and purposes of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents, which 60 may be reasonably included within their scope.

I claim as my invention:

1. A grain spout including a main section 65 bent to form an incomplete tapered

tube, a removable section arranged to fit snugly against the outside and overlap edges of the main section for forming with the main section a complete tube, means for 70 fastening said main and removable sections together, said means including a pair of studs fixed on said main section near two of its corners, a pair of bolts on the other two 75 corners of said main section, the removable section having notches in one of its edges adapted to receive said studs and openings formed near its opposite edge for receiving said bolts, the parts being so arranged that the removable section may be slid into position by engagement with the studs and 80 locked against accidental removal by the securing of said bolts, as specified.

2. A grain spout including a main section formed of a substantially rectangular sheet curved to form a major arc and having its straight margins spaced apart 85 throughout the entire length of the section, a removable section curved on a lesser arc and arranged to fit snugly against the outside and overlap the straight margins of 90 said main section whereby the two sections form a complete tubular member, and means for detachably securing said main and removable sections together, said means 95 comprising a pair of headed studs fixed on the outer face of said main section near the lower ends of its straight margins, bolts extending through the upper portion of said main section near its straight margins, the removable section being formed with downwardly opening notches adapted to engage 100 said studs and also being formed with holes near its upper end to receive said bolts, the parts being so arranged that the removable section may be slid into position by endwise 105 movement and held in such position by securing said bolts therethrough.

3. A grain spout including a plurality of grain spout sections, comprising main sections connected together by flexible elements 110 and arranged to partially fit one into another, said main sections being bent to form an incomplete tapered tube, a removable section arranged to fit snugly against the 115 outside and overlap the edges of the main section, studs formed on the main section near two of its corners, a pair of bolts on the other two corners of the main section, the removable section having notches therein in the portion overlapping said main section for receiving said studs, said removable 120 section being provided with openings for receiving said bolts, the parts being so arranged that the removable section may be slid into position by engagement with the studs and locked by the securing of said 125 bolts, whereby the removable section may be changed without removing any of the grain spouts from the flexible elements as specified. 130

4. A grain spout including a main section formed of a substantially rectangular sheet curved to form a major arc and having its straight margins spaced apart throughout the entire length of the section, a removable section curved on a lesser arc and arranged to overlap the straight margins of said main section whereby the two sections form a complete tubular member, and means for detachably securing said main and removable sections together. 10

Des Moines, Iowa, August 3, 1922.

WILLIAM C. MYERS.