March 26, 1963 C. J. SCHLOEMER 3,082,739

FEED TROUGHS

Filed Aug. 16, 1960 2 Sheets-Sheet 1

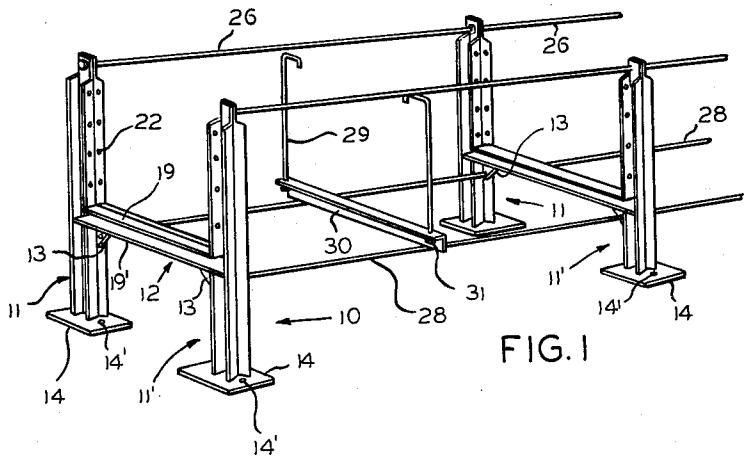


FIG. 1

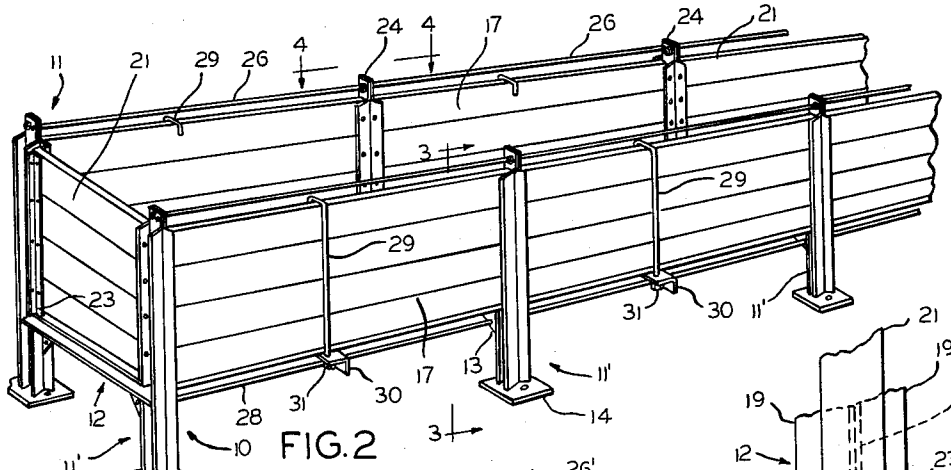
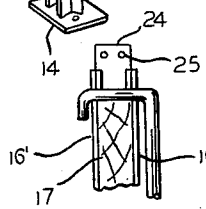


FIG. 2



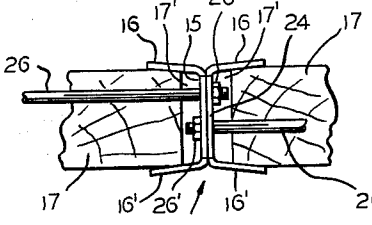


FIG. 4

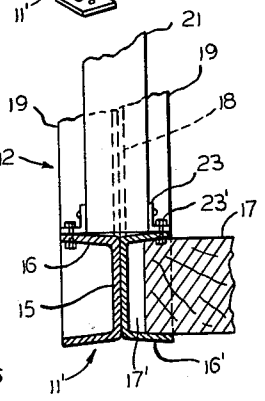


FIG. 5

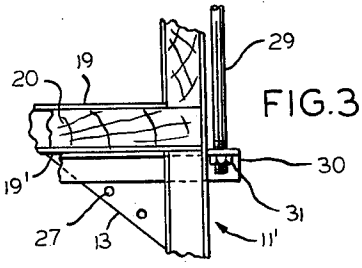


FIG. 3

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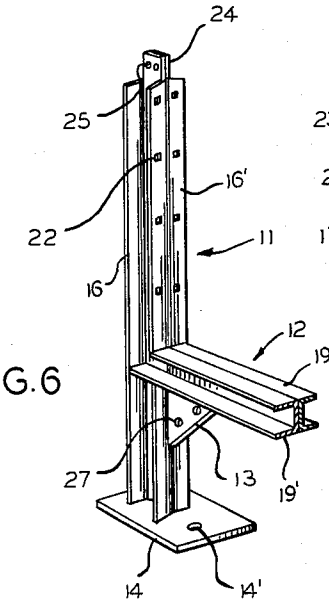


FIG.6

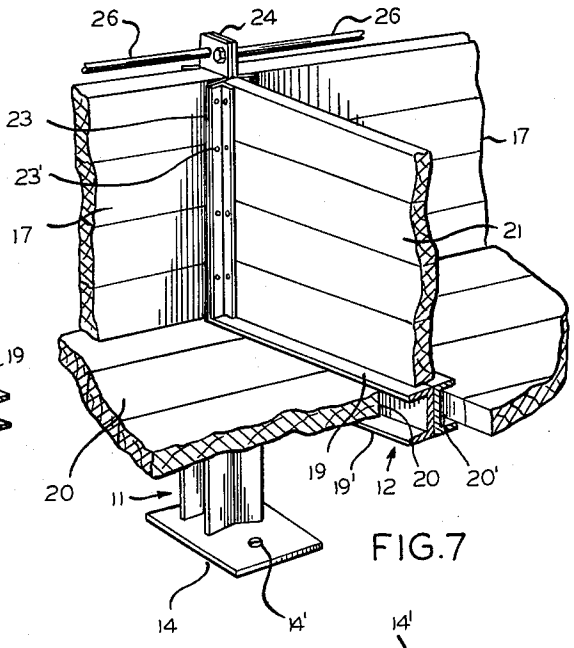


FIG.7

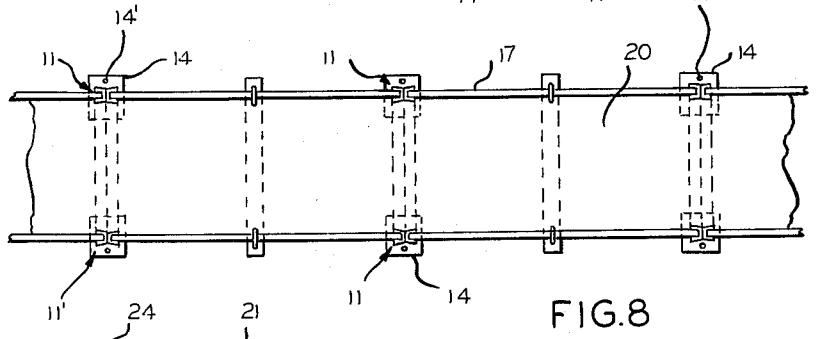


FIG.8

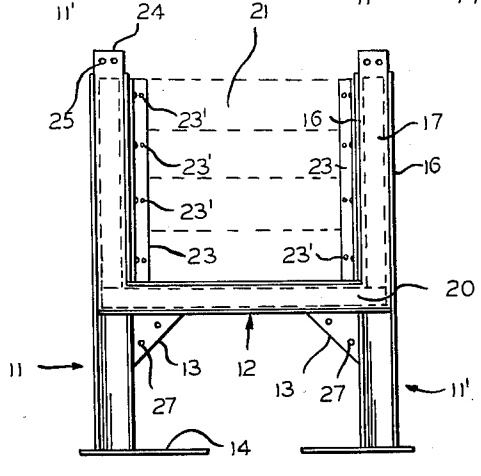


FIG.9

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3,082,739

FEED TROUGHS

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Filed Aug. 16, 1960, Ser. No. 49,885
6 Claims. (Cl. 119—61)

This invention relates to feed troughs.

It is a principal object of this invention to provide a portable feeding trough which may be readily assembled and disassembled for placing in any convenient location.

Another object is to provide a structure formed of modular sections that may be combined readily according to a desired capacity.

Yet another object is to provide a trough formed of standard modular units that are completely interchangeable.

Still another object is to provide a troughing structure comprising side walls and a bottom which are securely held at their ends to provide a strong and rigid assembly.

Other and further objects of my invention will become more apparent as the description proceeds, when taken in conjunction with the drawings, in which:

FIG. 1 is a perspective view of a structural assembly forming part of the improved trough according to the present invention;

FIG. 2 is a perspective view of an assembled feed trough according to the present invention;

FIG. 3 is a vertical section to an enlarged scale taken along the line 3—3 of FIG. 2, looking in the direction of the arrows;

FIG. 4 is a detailed plan view of one of the vertical support standards looking in the direction of the arrows 4—4 of FIG. 2;

FIG. 5 is a plan view, a certain part being shown in section, showing the manner of supporting the vertical partitions;

FIG. 6 is a perspective view of a vertical standard, base plate and horizontal cross member integral therewith;

FIG. 7 is a view similar to FIG. 1, but showing the floor sections and vertical side plates in position;

FIG. 8 is a top or plan view of a plurality of sections assembled to form a multiple unit; and

FIG. 9 is an end view of one of the sections.

Referring now to the drawings, the improved feed trough according to the present invention is referred to generally by reference numeral **10** and consists of paired longitudinally spaced vertical supports **11** and **11'**. These are maintained in spaced apart relationship by a horizontal member **12** welded thereto. Gusset plates **13** act to stiffen the joints between member **12** and supports **11** and **11'**.

Vertical supports **11** and **11'** are provided with feet **14** in the form of a flat plate as shown, and each foot has an aperture **14'** so that the feet **14** can be staked into the ground.

As seen in FIG. 4, the vertical supports **11** and **11'** consist of two channels in back to back relationship with their web portions **15** welded together. Flanges **16** and **16'** extend from the webs **15**, and the flanges **16** and **16'** support the outwardly projecting vertical side walls **17** therebetween. Side walls **17** may be constructed of wooden boards or the like.

As seen in FIG. 5, the horizontal cross members **12** are similarly constructed of channel members in back to back relationship and the webs are welded together with oppositely facing projecting flanges **19** and **19'**. Floor boards **20** are adapted to be supported between the flanges **19** and **19'** as seen more clearly in FIG. 3.

End boards **21** which may also be employed as partitions to divide the trough **10** into sections or compartments as seen in FIG. 7, are constructed of wood boards or the like. Partitions **21** rest on top of the flanges **19** and **19'** of the cross member **12**, and ends of the partitions **21** are guided by the flanges **16** and **16'** of supports **11** and **11'**.

The partitions **21** are additionally guided between angles **23**, see FIG. 5, which are held to flanges **16** by bolts **23'** extending through apertures **22** in flanges **16**.

The upper ends **24** of the vertical supports **11** and **11'** have apertures **25** therein through which tie-rods **26** are placed. Tension in the rods **26** is maintained by fastening nuts **26'**. There are a pair of apertures **25** in each standard **11** and **11'** to permit staggering of the rods **26**, when assembling a plurality of sections as seen in FIGS. 1 and 2. In this manner the vertical side walls **17** are held in engagement within the channels formed by the members **16** and **16'** of the vertical standards **11** and **11'**.

As seen more clearly in FIGS. 4 and 5, both the channels forming the vertical supports **11** and the channels forming the cross member **12** have the flanges **16**, **16'** and **19**, **19'** slightly divergent. By reason of this divergence and the dimension of side walls **17** and the tension in the rods **26**, the side walls **17** are fit snugly between the flanges **16** and **16'**, there being a slight amount of clearance **17'** between the end of the walls **17** and the web **15**. Any shrinkage of the side walls **17** can be thus readily accommodated by taking up the rods **26**.

Likewise, any swelling of the boards **17** can readily be accommodated by the end clearance **17'**.

The same is also true of the floor boards **20** where end clearances **20'** are provided within the channel flanges **19** and **19'**, as seen more clearly in FIG. 7.

It will be seen that there is no necessity for chamfering the ends of the boards forming the side walls **17** and the floor **20** since the channels are formed with the slightly divergent flanges.

The gusset plates **13** stiffening the connection between the member **12** and the vertical supports **11** and **11'** are each equipped with a pair of apertures **27** for supporting the tie-rods **28** in staggered relation to one another. These rods **28** are employed to retain the floor boards **20** within the channels formed by the members **19** and **19'**.

In FIGS. 1, 2 and 3, there is shown a hook member **29** disposed over the upper edge of the vertical side walls **17**. The lower end of the hook member **29** passes through an aperture near the outwardly extending ends of an angle **30**, and hook member **29** is threaded at the lower end thereof to receive a nut **31** for supporting the floor boards **20** and keeping them in contact with the lower edges of the vertical side walls **17**.

From the above description it will become apparent that the unit constituting the invention consists of interchangeable parts that may be easily assembled to construct a single feed trough or a plurality of sections forming a sectional feed trough.

The device may be easily assembled or disassembled without the use of special mechanical skill or special tools, and although I have shown a specific manner of constructing the component parts, I am fully cognizant of the fact that many changes may be made in their configuration without departing from the spirit of my invention as defined by the claims.

Having thus described the invention, what I claim and desire to secure by Letters Patent in the United States is:

1. In a feed trough formed of modular sections, a plurality of paired longitudinally spaced vertical supports, each of said supports comprising channel members having their webs in back to back relationship with the flanges thereof in confronting relationship with the chan-

nel members of a support spaced therefrom, vertical side walls adapted to be received in said channel members and extending between said spaced supports, the flanges of said channel members being divergent to receive said vertical side walls, a horizontal cross member extending between each pair of vertical supports and providing a guide channel in confronting relationship with the horizontal cross member of a support spaced therefrom, a floor board adapted to be supported by said horizontal cross members and extending between the same, said horizontal cross members having divergent flanges to receive said floor board, said vertical side walls being adapted to rest upon said floor board, spaced angle members extending along said vertical supports and in confronting relationship with each other, a partition adapted to be received within said spaced confronting flanges, adjustable means extending between said pairs of spaced vertical supports for holding the ends of said vertical side walls and said floor board in position of clamping engagement with their respective supporting channel members, and means extending beneath said floor board including a hook member extending upward from each end of said last named means for holding said floor board against the bottom edge of said vertical side walls.

2. In a feed trough formed of modular sections, a plurality of paired longitudinally spaced vertical supports, each of said supports comprising channel members having their webs in back to back relationship with the flanges thereof in confronting relationship with the channel members of a support spaced therefrom, vertical side walls adapted to be received in said channel members and extending between said spaced supports, the flanges of said channel members being divergent to receive said vertical side walls, a horizontal cross member extending between each pair of vertical supports and providing a guide channel in confronting relationship with the horizontal cross member of a support spaced therefrom, a floor board adapted to be supported by said horizontal cross members and extending between the same, said horizontal cross members having divergent flanges to receive said floor board, said vertical side walls being adapted to rest upon said floor board, spaced angle members extending along said vertical supports and in confronting relationship with each other, a partition adapted to be received within said spaced confronting flanges, tensioned means extending between said pairs of spaced vertical supports for holding the ends of said vertical side walls and said floor board in position of clamping engagement with their respective supporting channel members, and means extending beneath said floor board including a hook member extending upward from each end of said last named means for holding said floor board against the bottom edge of said vertical side walls.

3. In a feed trough formed of modular sections, a plurality of paired longitudinally spaced vertical supports, each of said supports comprising channel members having their webs in back to back relationship with the flanges thereof in confronting relationship with the channel members of a support spaced therefrom, vertical side walls adapted to be received in said channel members and extending between said spaced supports, the flanges of said channel members being divergent to receive said vertical side walls, a horizontal cross member extending between each pair of vertical supports and providing a guide channel in confronting relationship with the horizontal cross member of a support spaced therefrom, a floor board adapted to be supported by said horizontal cross members and extending between the same, said horizontal cross members having divergent flanges to receive said floor board, said vertical side walls being adapted to rest upon said floor board, spaced angle members extending along said vertical supports and in confronting relationship with each other, a partition adapted to be received within said spaced confronting flanges, and adjustable means extending between said pairs of spaced vertical supports for holding the ends of said vertical side walls and said floor board in position of clamping engagement with their respective supporting channel members.

4. In a feed trough formed of modular sections, a plurality of paired longitudinally spaced vertical supports, each of said supports providing guide channels in confronting relationship with the guide channels of a support spaced therefrom, said guide channels having divergent flanges adapted to receive vertical side walls extending between said spaced channels and having the ends thereof constrained in said divergent flanges, a horizontal cross member extending between each pair of vertical supports and providing a guide channel in confronting relationship with the horizontal cross member of a support spaced therefrom, each of said guide channels having divergent flanges adapted to receive a floor board supported by said horizontal cross members and having the ends of said floor board constrained between said divergent flanges, and adjustable means extending between said pairs of spaced vertical supports for holding said vertical side walls and said floor board in position.

5. In a feed trough formed of modular sections, a plurality of paired longitudinally spaced vertical supports, each of said supports providing guide channels in confronting relationship with the guide channels of a support spaced therefrom, said guide channels having divergent flanges adapted to receive vertical side walls extending between said spaced channels and having the ends thereof constrained in said divergent flanges, a horizontal cross member extending between each pair of vertical supports and providing a guide channel in confronting relationship with the horizontal cross member of a support spaced therefrom, each of said guide channels having divergent flanges adapted to receive a floor board supported by said horizontal cross members and having the ends of said floor board constrained between said divergent flanges, and tensioned means extending between said pairs of spaced vertical supports for holding said vertical side walls and said floor board in position.

6. In a feed trough formed of modular sections, a plurality of paired longitudinally spaced vertical supports, each of said supports providing guide channels in confronting relationship with the guide channels of a support spaced therefrom, said guide channels having divergent flanges adapted to receive vertical side walls extending between said spaced channels and having the ends thereof constrained in said divergent flanges, a horizontal cross member extending between each pair of vertical supports and providing a guide channel in confronting relationship with the horizontal cross member of a support spaced therefrom, each of said guide channels having divergent flanges adapted to receive a floor board supported by said horizontal cross members and having the ends of said floor board constrained between said divergent flanges, and clearances afforded between the ends of said side walls and said floor board and the webs of their proximate channels, and means extending between said spaced vertical supports for causing the ends of said side walls and said floor board to be securely engaged in their proximate flanges.

References Cited in the file of this patent

UNITED STATES PATENTS

872,032	Tolle	Nov. 26, 1907
2,723,107	Parker	Nov. 8, 1955
2,768,607	McClure	Oct. 30, 1956
2,815,001	Hanson	Dec. 3, 1957

FOREIGN PATENTS

699,117	Great Britain	Oct. 28, 1953