S. H. HIMES.

FEED TROUGH.

APPLICATION FILED MAY 6, 1911.

1,023,018. Patented Apr. 9, 1912.

FIG. 1

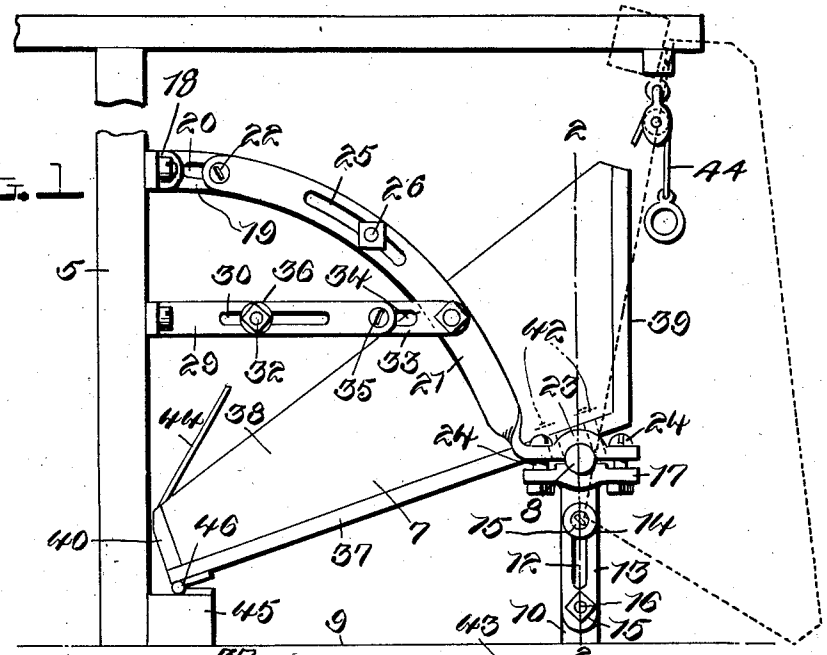


FIG. 3

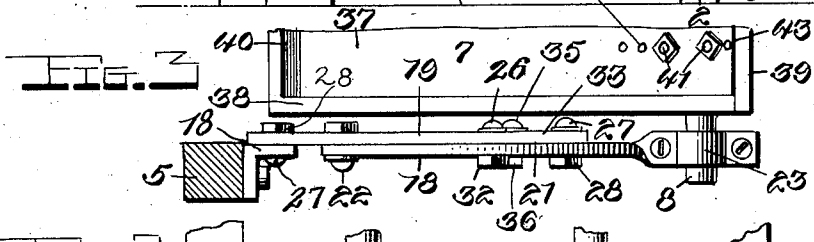
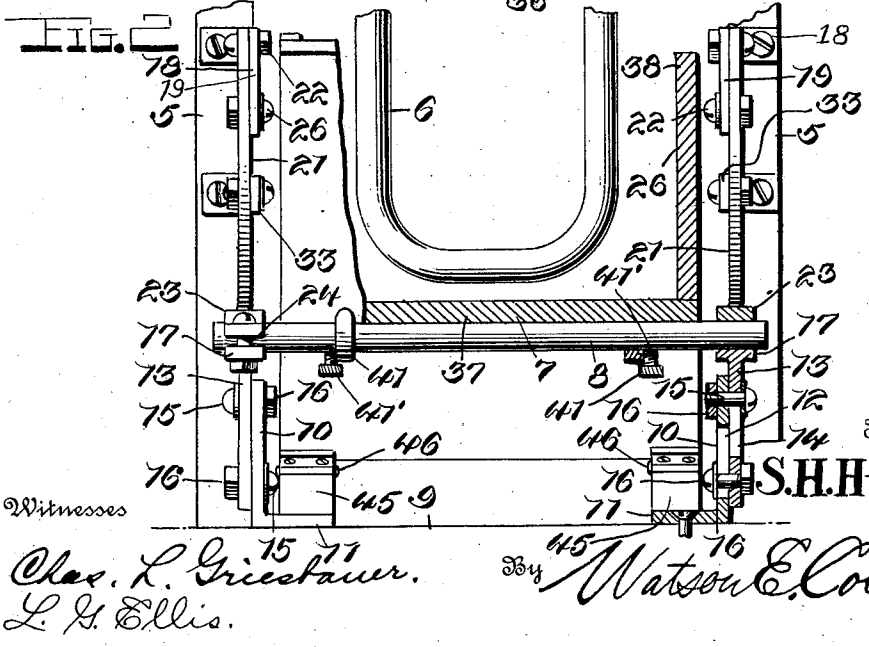


FIG. 2



Witnesses

Chas. L. Griesbauer.

L. G. Ellis.

Inventor

S. H. Himes.

By Watson E. Coleman.

Attorney

UNITED STATES PATENT OFFICE.

SAMUEL H. HIMES, OF WINDBER, PENNSYLVANIA.

FEED-TROUGH.

1,023,018. Specification of Letters Patent. Patented Apr. 9, 1912.

Application filed May 6, 1911. Serial No. 625,460.

To all whom it may concern:

Be it known that I, SAMUEL H. HIMES, a citizen of the United States, residing at Windber, in the county of Somerset and State of Pennsylvania, have invented certain new and useful Improvements in Feed-Troughs, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to feed troughs and more particularly to feed troughs of that character which are used in connection with cattle stalls, the object being to provide means for mounting the trough whereby it may be easily and quickly dumped and kept in a sanitary condition.

Another object of the invention is to provide an adjustable mounting for the trough whereby it may be arranged at various inclinations in accordance with the particular kind of feed or fodder being used.

Still another object of the invention is to provide a pivotally mounted trough, adjustable supports for the pivoted end of the trough, and adjustable connections between said supports and suitable uprights whereby the trough supports may be braced and rigidly held in their adjusted positions.

With the above and other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a feeding trough showing my improved mounting therefor; Fig. 2 is a section taken on the line 2—2 of Fig. 1; and Fig. 3 is a fragmentary plan view of the device.

Referring in detail to the drawing 5 designates the spaced uprights between which the cattle stanchion indicated by the numeral 6 is adapted to be arranged.

My improved feed trough 7 is mounted for pivotal movement upon the horizontal rod 8 which is adjustably supported above the floor or other suitable base 9. These supports each consist of a vertically disposed rectangular standard 10 which at its lower end is laterally extended as indicated at 11 to provide a suitable attaching foot which is rigidly secured to the base 9. This standard is provided with a longitudinal slot 12 and a vertically adjustable plate 13 is arranged upon one side of the standard and is also provided with a slot 14. A bolt 15 is arranged in the upper end of the standard 10 and extends through the slot 14 of the plate 13. A similar bolt is arranged in the lower end of the plate 13 and projects through the slot 11 of the standard. Suitable clamping nuts 16 are threaded upon the ends of these bolts whereby the plate 13 may be rigidly secured in its adjusted position upon the standard. The upper end of the plate 13 has formed thereon a suitable bearing plate 17 in which the end of the trough supporting rod 8 is seated.

To each of the uprights 5 a bracket 18 is secured, and the curved arms 19 are pivotally mounted upon these brackets at one of their ends. These arms are provided with the longitudinal slots 20 to receive the bolts 22 arranged in the ends of the upwardly extending curved bars 21. These bars 21 are laterally extended at their lower ends to provide the half bearings 23 which engage upon the ends of the supporting rod 8. Clamping bolts 24 are disposed through the opposed bearing plates 23 and 17 and are adapted to rigidly secure the ends of the rod 8 between the same. The curved bars 21 are also provided with longitudinal slots 25 to receive the bolts 26 carried by the pivoted arms 19. The bolts 22 and 26 have suitable clamping nuts threaded thereon whereby the bars 21 are held against movement relative to the arms 19. The pivots 27 connecting the arms 19 to the bracket plates 18 are also threaded to receive nuts 28 whereby the arms may be held against pivotal movement.

In order to further increase the rigidity of the trough support, I provide the laterally extending bars 29 which are secured to the uprights 5 below the brackets 18, said bars being slotted as at 30 to receive the bolts 32 arranged in the ends of the bars 33 which are pivoted at their other ends upon the curved bars 21. These latter bars are also longitudinally slotted as at 34 to receive the bolts 35 in the ends of the arms 19. Nuts 36 are threaded on the bolts 32 and 35 to rigidly clamp the arms and bars together after the supporting rod 8 has been properly adjusted.

The trough 7 consists of a bottom 37 upon which the tapered side walls 38 are arranged, said walls being connected at their rear ends by the outwardly inclined wall 39 of the trough and at their forward ends

by the short vertical wall 40. U-shaped clips 41 are secured to the bottom of the trough adjacent its rear end, said clips loosely embracing the horizontal pivot rod 8 upon which they have free pivotal movement. The ends of these clips extend through the bottom of the trough and are threaded to receive the nuts 42. Set screws 41′ are threaded into the rod 8 adjacent the clips 41 to prevent longitudinal movement of the trough on said rod. The bottom of the trough is provided with a plurality of openings 43 so that the clips may be adjusted therein when the pivot rod 8 is elevated.

To the front wall 40 of the trough, the end of a chain or cable 44 is connected, said cable extending over a supporting pulley or other suitable guide fixed to one of the beams of the building. To the bottom 37 of the trough at its forward end and adjacent to its longitudinal edges, the blocks 45 are hingedly secured as indicated at 46. These blocks are for the purpose of supporting the forward end of the trough so that the upper edge of its front wall is above the lower cross bar of the stanchion. These blocks automatically move to position as the trough is lowered.

From the foregoing description, it will be readily seen that by providing the adjustable supporting means for the pivoted trough, the use of the device is not limited to any specific construction of the cattle stalls. In order to adjust the trough to the desired inclination, it is only necessary to loosen the various clamping bolts, and elevate the plates 13 upon the standards 9. After the trough has been adjusted to the proper height, the clamping bolts are tightened so that the pivot rod 8 is rigidly braced and held in its adjusted position. In order to move the trough to its inoperative position, the cable 44 is pulled so that the forward end of the trough is elevated, and the rear end lowered until the edge of the rear wall engages with the floor or base upon which the trough is mounted, as shown in dotted lines in Fig. 1. While in this position, the downwardly inclined rear wall of the trough prevents the accumulation of water or dirt therein. The trough may also be easily and quickly cleaned so that the same is always sanitary. When the trough is returned to its operative position as shown in full lines, the blocks 45 swing upon their hinges from the dotted line position to the full line position, and support the forward end of the trough so that it is raised slightly above the lower cross bar of the stanchion.

From the foregoing it is thought that the construction, operation and many advantages of my improved trough will be readily understood.

The device is simple, efficient and may be constructed and installed at a very small cost.

A constant feed of the material may be maintained to the lower forward end of the trough and by simply elevating its rear pivoted end, this gravitation of the material may be assured irrespective of the character of the feed used.

The device is also very strong, rigid and durable.

While I have shown and described the preferred construction and arrangement of my invention, it will be understood that the device is susceptible of considerable modification without departing from the essential feature or sacrificing any of the advantages thereof.

Having thus described the invention what is claimed is:—

1. The combination with the spaced uprights, of a horizontal rod, vertically adjustable supports for said rod, a trough pivotally mounted upon the rod, and adjustable braces pivotally supported at one of their ends upon the uprights, the other ends of said braces engaging the ends of said rod and co-acting with the supports to rigidly secure the ends of the rod upon said supports.

2. The combination with the spaced uprights, of a horizontally disposed rod, vertically adjustable supports, said rod being arranged on the supports at its ends, a trough adjustable upon said rod and pivotally movable thereon, and braces engaging upon the ends of said rod to retain the same upon the supports, said braces also acting to rigidly secure the supports in their adjusted positions.

3. The combination with the spaced uprights, of a pair of vertically adjustable supports, a horizontally disposed rod mounted at its ends upon said supports, a trough, clips adjustable in the bottom of the trough loosely embracing said rod, arms pivotally mounted on the uprights, curved bars engaging upon the ends of the rod, clamping bolts connecting said bars and the uprights, means adjustably connecting said bars and arms, and laterally extending adjustable braces secured to the uprights and to said bars.

4. The combination with the spaced uprights, of a pair of supports each consisting of stationary standards and plates vertically adjustable thereon, said plates having bearings formed on their upper ends, a horizontally disposed rod having its ends mounted in said bearings, arms pivoted at one of their ends upon said uprights, curved bars engaged at their lower ends upon the ends of the rod and rigidly secured to said adjustable plates, the upper ends of said bars being adjustably disposed upon said

arms, means for rigidly securing the bars and arms together, braces connecting said bars and the uprights each consisting of relatively movable bars, means for rigidly securing said brace bars together, and a trough adjustably mounted upon said rod and pivotally movable thereon.

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

SAMUEL H. HIMES.

Witnesses:
M. C. LYDDANE,
GEO. S. LIVINGSTON.