(No Model.) 2 Sheets—Sheet 1.

# H. MENDENHALL & F. B. DAVIS.

## FEED TROUGH.

No. 558,694. Patented Apr. 21, 1896.

Fig. 1.

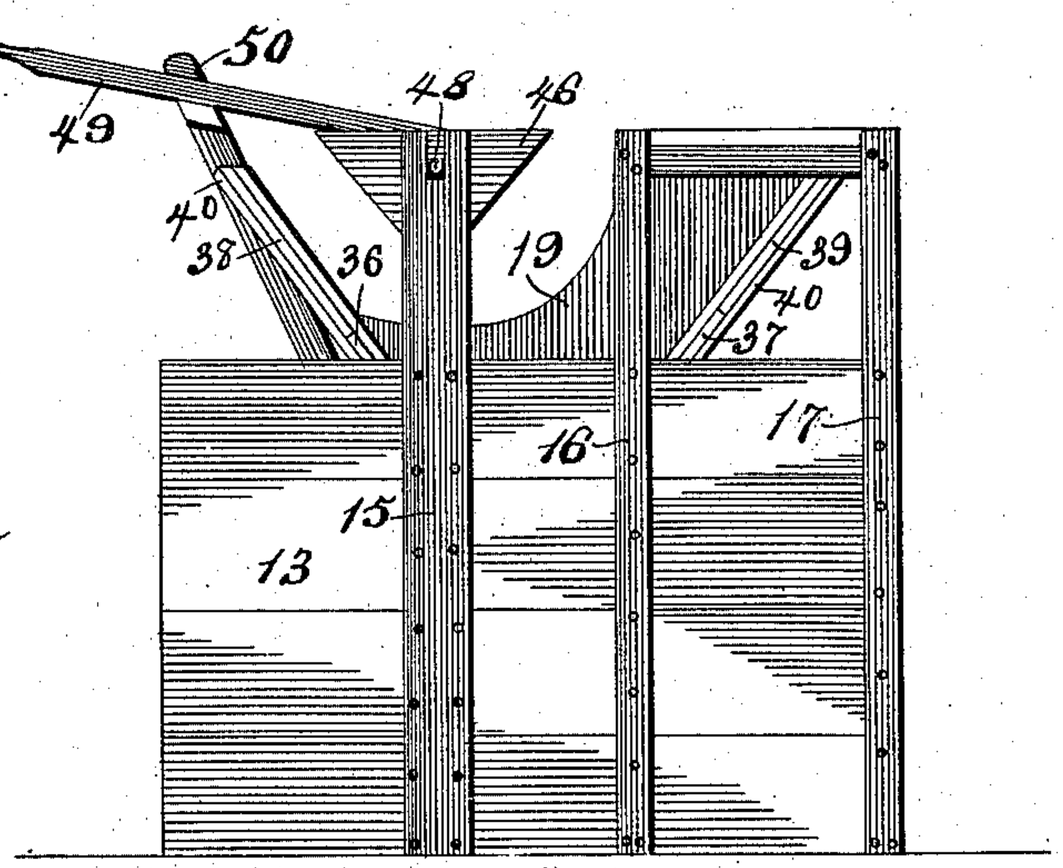


Fig. 2.




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(No Model.) 2 Sheets—Sheet 2.

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## FEED TROUGH.

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Fig. 3.

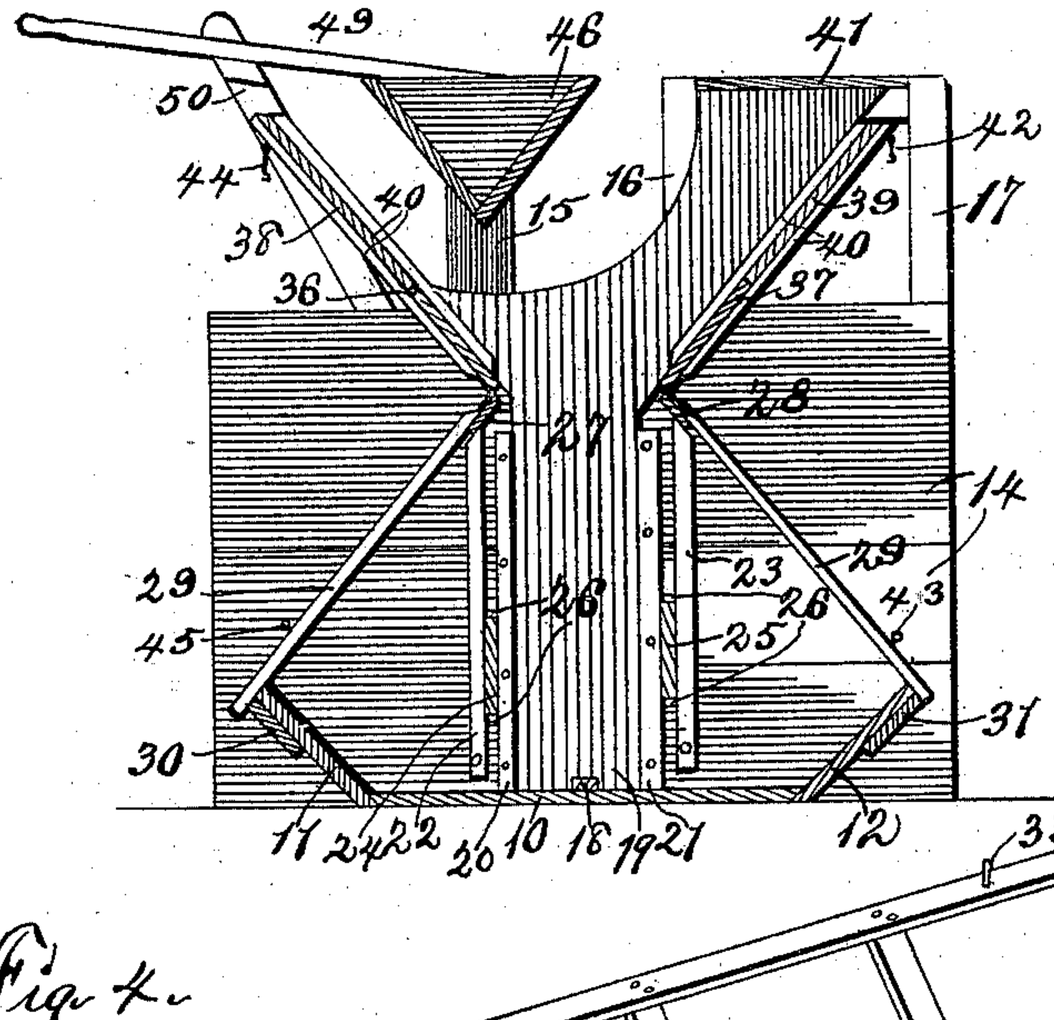



Fig. 4.

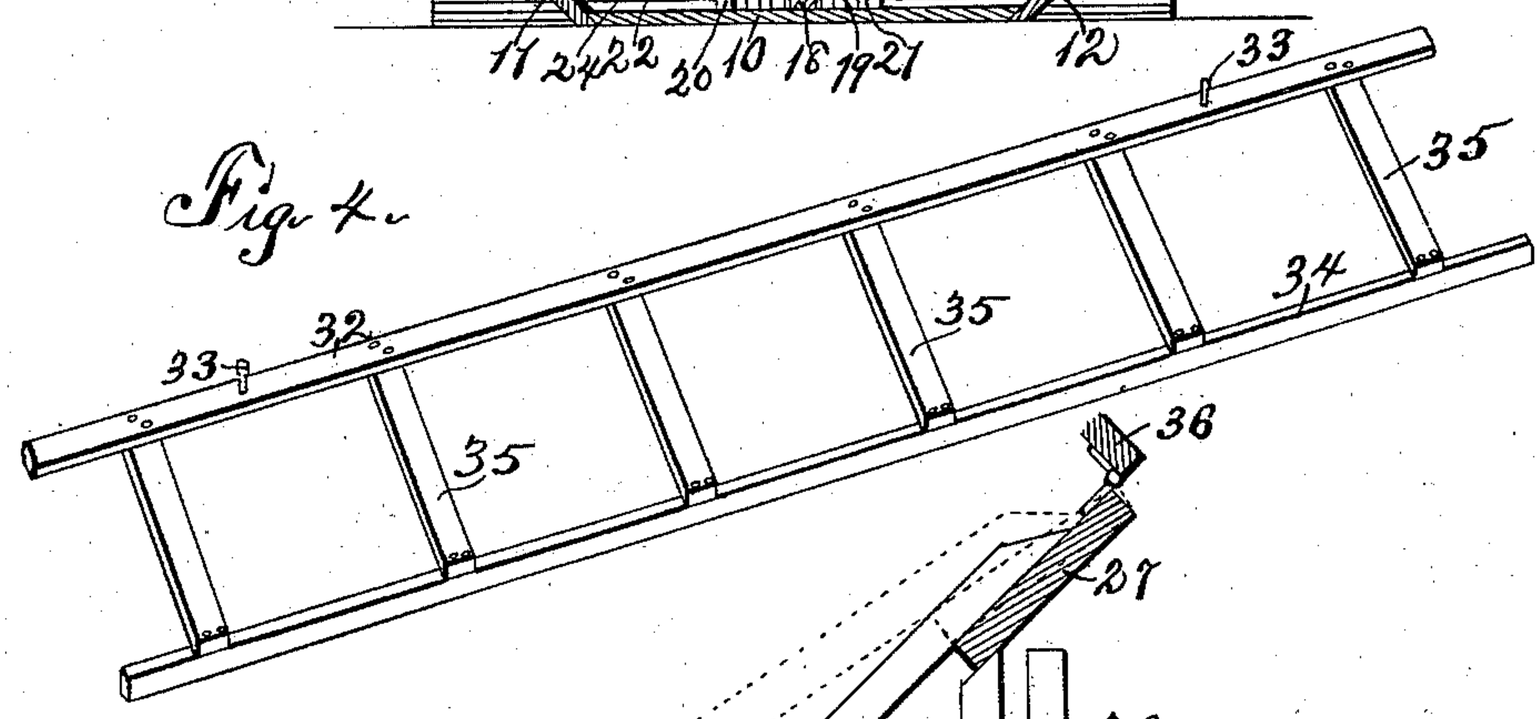
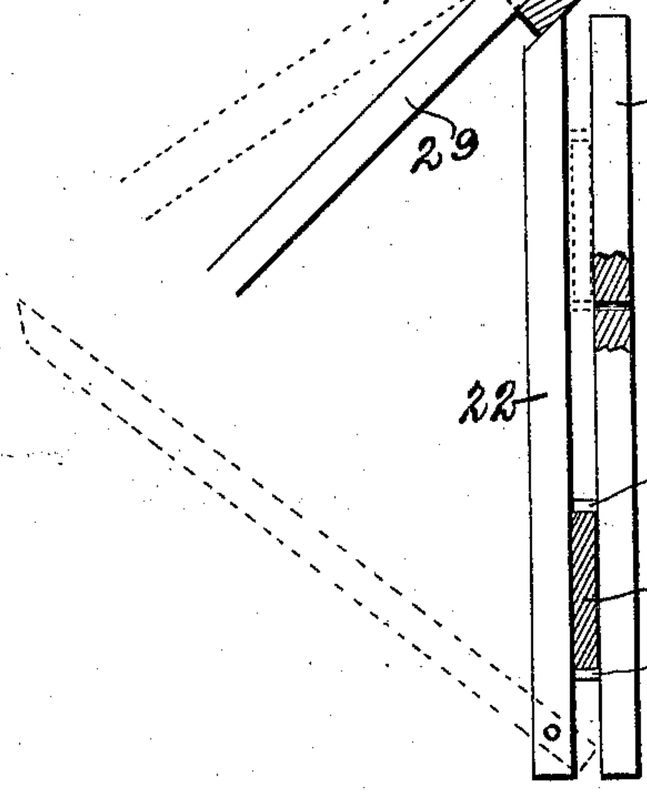



Fig. 5.

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# UNITED STATES PATENT OFFICE.

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## FEED-TROUGH.

SPECIFICATION forming part of Letters Patent No. 558,694, dated April 21, 1896.

Application filed August 20, 1895. Serial No. 559,969. (No model.)

*To all whom it may concern:*

Be it known that we, HIRAM MENDENHALL and FRANK B. DAVIS, citizens of the United States of America, and residents of Audubon, in the county of Audubon and State of Iowa, have invented a new and useful Improvement in Feeding-Troughs, of which the following is a specification.

Our object is to facilitate the regulation of the flow of feed from the inner central receptacle to the troughs on its opposite sides and to control the access of animals of different sizes to the troughs.

Our invention consists in the construction, arrangement, and combination of elements, as hereinafter set forth, pointed out in our claim, and illustrated by the accompanying drawings, in which—

Figure 1 is an end elevation of the complete device. Fig. 2 is a side elevation of the complete device, the dotted lines indicating an auxiliary frame, shown in detail in Fig. 4. Fig. 3 is a sectional elevation of the complete device on the indicated line 3 3 of Fig. 2. Fig. 4 is a perspective of an auxiliary frame detached from the device. Fig. 5 is a detail sectional elevation illustrating the adjustment of the flow of food from the primary to the secondary receptacles.

In the construction of the device as shown the numeral 10 designates a bottom, to the side margins of which are secured trough-boards 11 12. Ends 13 14, formed of a plurality of horizontally-positioned boards, are fixed to the end margins of the bottom 10 and trough-boards 11 12. Some of the boards forming the ends 13 14 are fixed to standards 15, 16, and 17, arranged in series at opposite ends of the apparatus, the upper end portions of said standards being secured to other elements of the apparatus, as hereinafter explained. A cleat 18 is longitudinally positioned in the central portion of the bottom 10 and subdivides the trough into two secondary receptacles. A center board 19 is vertically positioned in the central portion of the trough, approximately midway of its length, and forms a support for the central portion of the apparatus. Battens 20 21 are arranged in pairs on the inner faces of the ends 13 14, and are vertically positioned in parallel planes separated by a distance approximating to the width of the lower portion of the center board 19. Locking-levers 22 23 are arranged in pairs on the inner faces of the ends 13 14 and are pivoted at their lower ends thereto. The locking-levers are arranged parallel with and at slight distances of separation from the battens 20 21, and side boards 24 25 are horizontally positioned between said levers and battens and extend longitudinally of the apparatus.

Pins 26 26 (shown in detail in Fig. 5) are removably and replaceably mounted in the battens 20 21 at distances of separation corresponding with the width of either board 24 25, which pins serve to retain said boards at given distances from the bottom 10. The boards 24 25 form a primary receptacle in the apparatus from which the feed automatically flows into the secondary receptacles.

The upper ends of the locking-levers 22 23 are beveled, and are designed for engagement by rack-bars 27 28, to which rack-bars are secured a plurality of partition-bars 29. The partition-bars 29 normally extend downwardly and outwardly from the rack-bars 27 28 and traverse the longitudinal planes of the outer margins of the trough-boards 11 12, and are separated such distances as will permit of an individual of the swine family having free access with his head to the secondary receptacles between said bars. The lower end portions of the bars 29 are rigidly connected in series by bases 30 31, designed for engagement with the lower faces of the trough-boards 11 12.

In Fig. 5 we have illustrated an auxiliary frame comprising a top bar 32, perforated to admit pins 33, whereby securance may be had to the partition-bars 29, a base-bar 34, arranged parallel with the top bar 32, and partition-bars 35, connecting said top and base bars. This auxiliary frame is designed for positioning on the rack-frames through which the swine have access to the secondary receptacles, the bars 35 alternating with the bars 29 and reducing by more than one-half the horizontal dimensions of the spaces through which the swine may feed, thus providing for the employment of a given apparatus with feed-racks adjusted to the varying sizes of the individuals of the herd, to the end that the smaller and weaker members of the herd may

not be crowded and jostled by the larger and stronger members and by them prevented from participation in a sufficient repast. The upper end portion of the center board 19 is enlarged in width and formed with upwardly-divergent edges. Side boards 36 37 are mounted in oppositely-inclined planes on the divergent edges of the center board and are secured to the ends 13 14. Auxiliary side boards 38 39 are fixed to the boards 36 37 by battens 40, which battens overlap the said boards 36 37 adjacent to the ends thereof. The side boards 36 37 38 39 form a hopper whereby the feed is directed into the primary receptacle. A lid 41 is mounted on the upper end portions of the standards 16 17 and a hook 42 on the board 39 is designed for engagement with an eye 43 on one of the partition-bars 29.

A hook 44 is fixed to the upper edge of the auxiliary side board 38, and is designed for engagement with an eye 45, fixed in one of the partition-bars 29, as shown in detail in Fig. 5. The upper end portions of the standards 15 15 are bifurcated, and a trough 46, V-shaped in cross-section and provided with pivots 47 48, is mounted on said standards with the said pivots bearing in the bifurcations thereof. A lever or handle 49 is fixed to and obliquely extends from one end of the trough 46, the outer end portion of which lever is normally confined in a notch formed in a standard 50, fixed to and rising from the end 14 of the device, whereby the trough is normally retained in a position to contain food. The rack-bars 27 28 are hinged to the lower edge of the side boards 36 37.

In the practical use of our device the food is deposited in and measured by the trough 46. The lever 49 is manually released from the standard 50 and carried through an arc to invert the trough 46, thereby depositing the food in the primary receptacle under the control of the side boards 36 37 38 39, the boards 24 25 having been previously adjusted relative to the bottom of the apparatus to govern and control the flow of the feed to the secondary receptacle.

When it is desired to cleanse the receptacles, the rack-frames are oscillated and suspended by means of the hooks 42 44, the locking-levers 22 23 are oscillated, as shown by dotted lines in Fig. 5, and the boards 24 25 removed. The boards 24 25 are adjusted relative to the bottom 10 by changing the positions of the retaining-pins 26 26, as indicated by dotted lines and broken portions in Fig. 5.

The cleat 18 on the bottom 10 is designed to be engaged by ear-corn or other coarse food to cause said food to project outside the primary receptacle and within easy reach of the swine.

It is obvious that our invention is also well adapted for feeding sheep and calves.

We claim as our invention—

In a feed-trough, the arrangement and combination of the fixed battens 20 and 21, the removable boards 24 and 25, the pivoted locking-levers 22 and 23, having beveled top ends, the hinged rack, composed of bars 27, 28, a plurality of bars 29, and base-pieces 30 and 31, the fixed trough-boards 11 and 12 an auxiliary rack constructed as shown and provided with pins 33, and a central food-receptacle extending parallel with the said fixed trough-boards, substantially as and for the purposes stated.

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