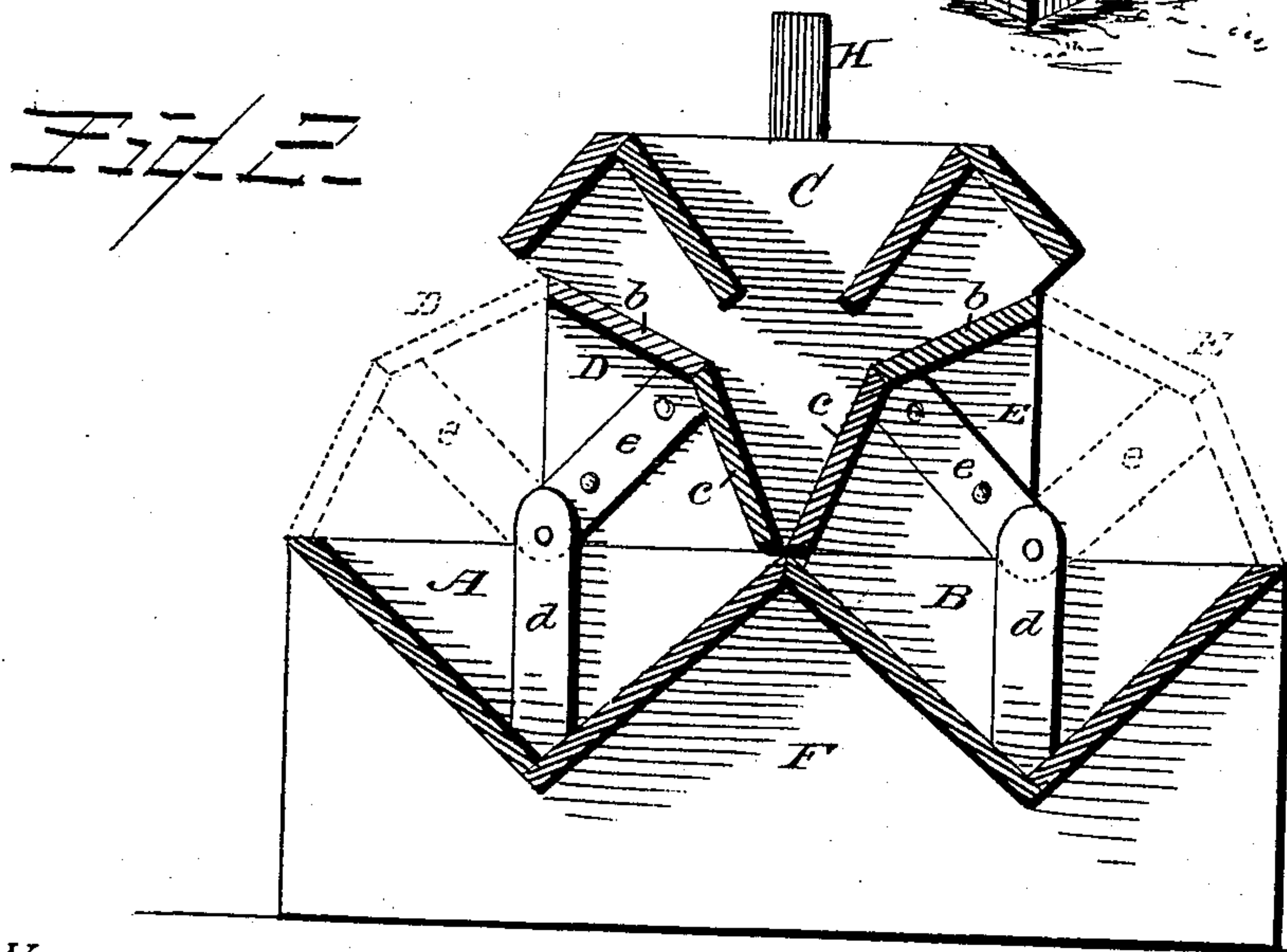
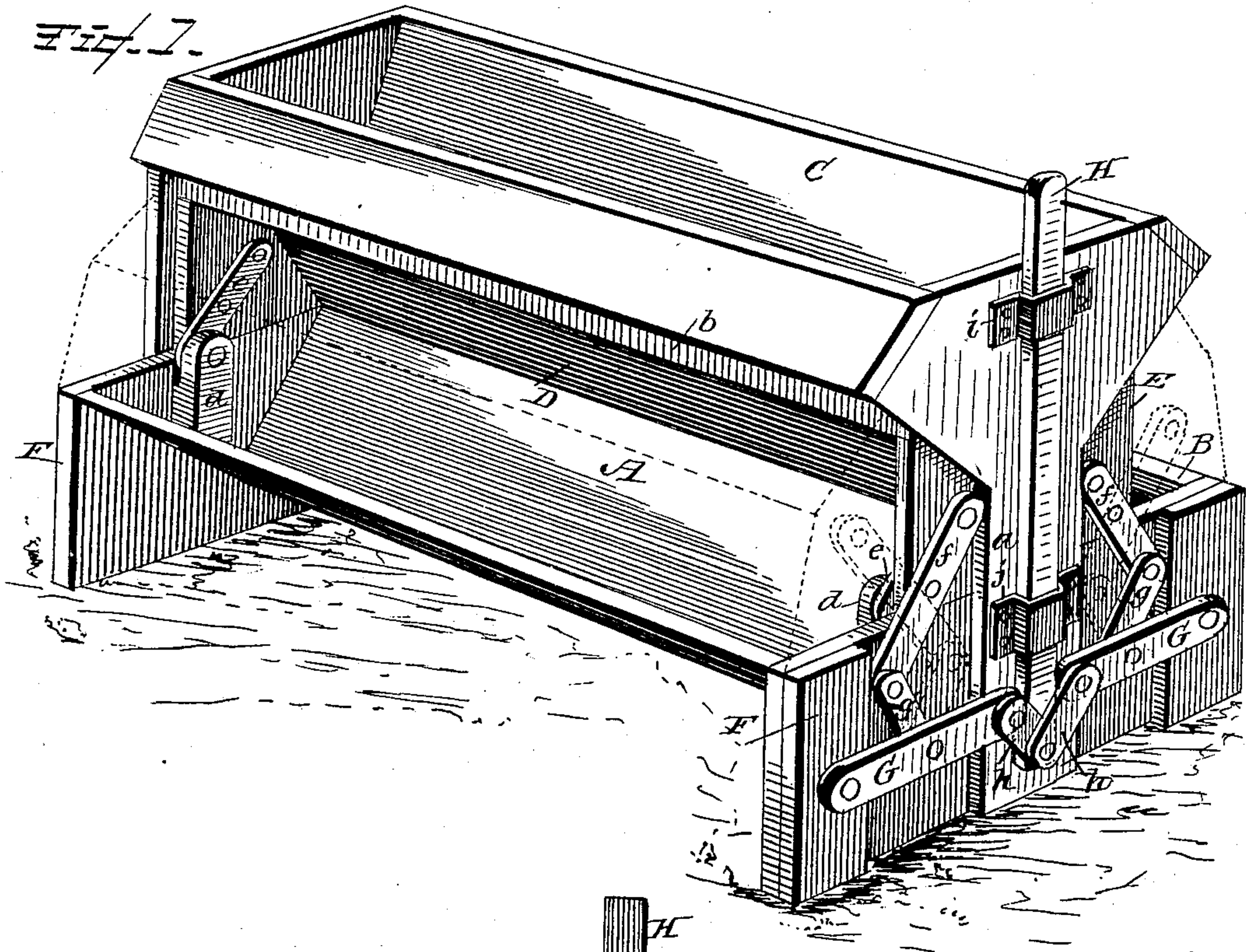


No. 832,094.

PATENTED OCT. 2, 1906.

W. D. SURFACE.  
FEED TROUGH.

APPLICATION FILED FEB. 27, 1906.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WALTER DEWEES SURFACE, OF VILLISCA, IOWA.

## FEED-TROUGH.

No. 832,094.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed February 27, 1906. Serial No. 303,195.

*To all whom it may concern:*

Be it known that I, WALTER DEWEES SURFACE, a citizen of the United States, residing at Villisca, in the county of Montgomery and State of Iowa, have invented certain new and useful Improvements in Feed-Troughs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has reference to that class of feed-troughs provided with swinging or pivoted protectors connecting with a suitable lever mechanism whereby the troughs are closed or opened; and the object thereof is to improve the construction of the swinging protector and the means for operating the same, whereby increased efficiency is obtained in addition to strength and durability.

The invention consists in a feed-trough constructed substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings is a perspective view of a feed-trough constructed in accordance with my invention, showing the protecting-hoods thrown back in full lines and closed down over the troughs in dotted lines; Fig. 2, a cross-section of Fig. 1.

In the accompanying drawings, A B represent the troughs, in which the feed is placed through the hopper C, and D E the hoods to close and protect the troughs when desired.

The troughs A B may be of any suitable form and construction and are suitably connected at their ends to supporting-frames F, and the hopper C is provided with standards a at its ends, which are secured to said frames, forming a strong and durable structure to both the troughs and hopper.

The hoods D E are constructed of two sections b c, placed at an angle to each other, and therefore will not warp or twist, as would a flat board, and will hold their shape from end to end and can be made much lighter on account of their angle shape, as well as preventing the stock getting on the hoods with front feet when they are closed down over the trough.

At both ends of each trough are short standards d, which extend up above the same, and upon the inner sides of the ends of the hoods are braces e, which are pivoted at their ends to the ends of the standards, as shown in Fig. 2 of the drawings.

The hoods by their pivotal connections

with the troughs have a swinging movement back and forth and when down, as shown in dotted lines of Fig. 2 of the drawings, completely cover the troughs and being of angular form prevent the stock getting thereon with their feet, as well as preventing the hoods from being raised except by the lever mechanism, which is constructed as follows:

At one end of each hood D E are secured links f, and these links are pivoted at their lower ends to the ends of links g, and said links in turn are pivoted to lever-arms G, and the lever-arms connect with an upright operating-lever H by links h, which are pivoted to the ends of the lever-arms and also to the lower end of the upright operating-lever. The operating-lever H is guided in its up-and-down movement by the guide-brackets i j, and by pressing down on the lever the hoods will be thrown back to uncover the troughs, as shown in full lines in Fig. 2 of the drawings. After the hoods pass from an upright position the hoods will automatically fall by their own gravity to the position shown in full lines of Fig. 2 of the drawings, and in this movement the lever H will be carried back to its normal position, and the hoods will act in the same manner when closing the troughs.

The operating mechanism connecting with the hand-lever provides a simple and effective means for raising or lowering the protecting-hoods, as the leverage power is greatly increased by the arrangement of pivoted links and lever-arms and with no danger of the mechanism becoming inoperative, besides enabling the hoods to act automatically after the operating-lever is once pressed down, this being accomplished by the arrangement of links and lever-arms.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A feed-trough and pivoted hoods therefor, and means for operating said hoods consisting of a vertically-operating hand-lever, pivoted lever-arms, links pivoted to the lever-arms and to the end of the hand-lever, links secured to the ends of the hoods and links pivoted thereto and to the lever-arms, substantially as and for the purpose specified.

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

WALTER DEWEES SURFACE.

Witnesses:

JAMES CARMICHAEL,  
JOHN WHAN.