(No Model.)

G. D. BURTON.

FEED TROUGH.

No. 391,580. Patented Oct. 23, 1888.

Fig. 1.

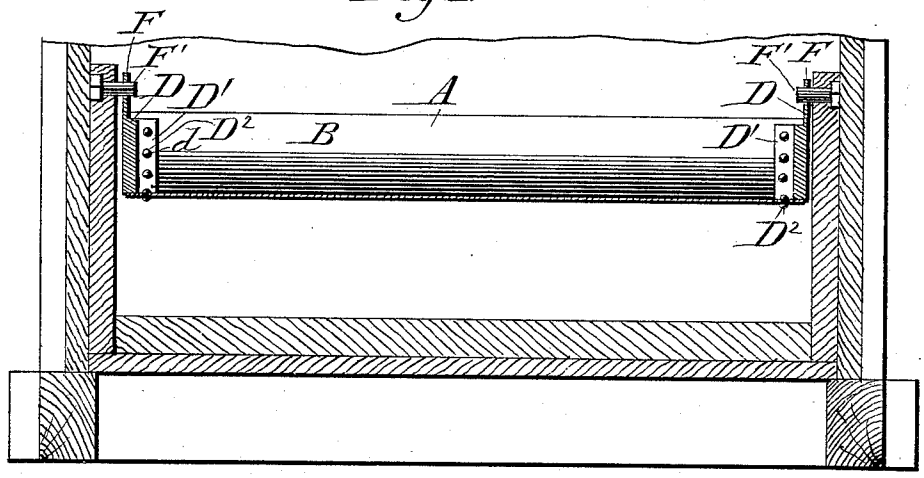


Fig. 6.



Fig. 2.

Fig. 7.

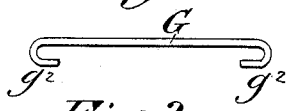


Fig. 3.

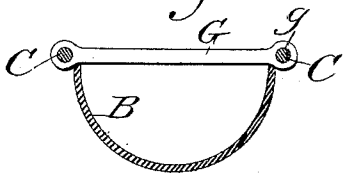


Fig. 4.

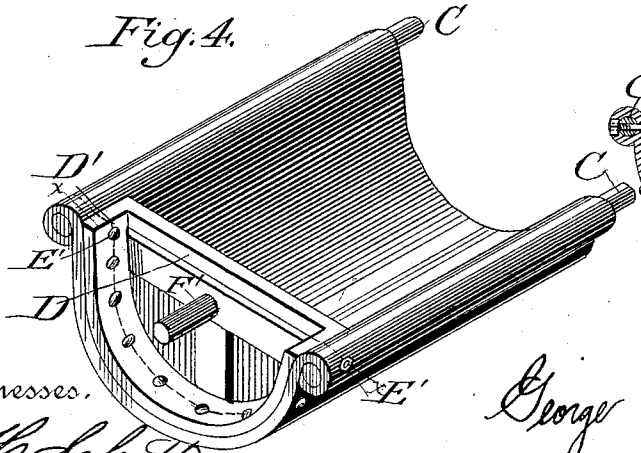


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE D. BURTON, OF BOSTON, MASSACHUSETTS.

FEED-TROUGH.

SPECIFICATION forming part of Letters Patent No. 391,580, dated October 23, 1888.

Application filed March 17, 1888. Serial No. 267,464. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. BURTON, a citizen of the United States, residing at Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Feed-Troughs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Figure 1 is a sectional elevation showing the manner in which my improved feed-trough is hung in position. Fig. 2 is a perspective view of the feed-trough, showing the same provided with transverse bracing-rods to prevent bending of the trough-body, and also to prevent the animals annoying each other when feeding. Fig. 3 is a transverse section on the line *x x* of Fig. 2, showing most clearly the manner in which the bracing-rods are secured to the trough. Fig. 4 is a perspective view of a portion of the feed-trough, showing a slightly modified form thereof. Fig. 5 is a transverse section on the line *x x* of Fig. 4, showing more clearly the manner of securing the trough-body and head-pieces together. Fig. 6 is a perspective view of one of the bracing-rods for the trough, and Fig. 7 is a detail representation of a modified form of the same.

Like letters of reference designate corresponding parts in the several figures.

Heretofore it has been found in the construction of feed-troughs, when the parts composing the same were secured together by bolts or rivets having their heads located on the interior surface of the trough-body, that it was difficult to properly clean the interior of the trough owing to the clogging around these rivets of hay, meal, &c. Another disadvantage experienced with feed-troughs constructed in the manner above set forth was in the rusting and wearing away of the rivets, due to the clogging of the dampened hay thereabout, which wearing away very often occurred, and in a comparatively short space of time causing the trough in certain instances to break, and in any event interfering to an appreciable extent with the perfect working thereof.

The object of my present invention is to construct a feed-trough in which the above disadvantages will not be experienced, and which will therefore be more perfect in its operation, more durable in its construction, and at the same time capable of being most thoroughly cleansed in a minimum space of time.

Another object of my invention is to provide a device, whereby, when the trough is being used by more than one animal, their heads will be separated and the animals prevented from biting and annoying each other, which device will further serve to strengthen and brace the trough, preventing the body thereof from becoming warped and bent.

To these various ends my invention consists in certain peculiaries in the construction, arrangement, and combination of parts, substantially as will be hereinafter fully described, and particularly pointed out in the subjoined claim.

Referring to the drawings, A represents my improved feed-trough particularly adapted for use in connection with cars for the transportation of live stock. This feed-trough is constructed of metal, and comprises the trough body B, rolled or otherwise formed to a semi-circular shape, and having its extremities embracing longitudinal supports, as C, and the head-pieces D, situated one at each end of the said trough-body. Upon reference to the drawings it will be observed that the opposite edges of the body-piece B are rolled around their longitudinal supports C in such a manner that no projections are formed at these points to obstruct the free exit from the trough of its contents when the former is reversed. These head-pieces D are formed with flanges D′, of a proper shape and size to fit closely within the trough, and the said flanges are formed with perforations *d* to receive bolts or rivets D², extending entirely through the same and the trough-body, so that they will obviously be secured together.

In Fig. 2 the flanges D′ of the head-pieces D are shown as facing toward the center of the feed-trough; but they preferably face in the opposite direction, toward the ends of the said trough, as shown in Fig. 4, as the prevention of the clogging of the troughs around the rivets will then be insured, owing to the fact that the food and water receiving portion thereof terminates at the line of the inner faces of the said head-pieces.

The head-pieces shown in Figs. 1 and 2 are formed with upwardly-extending lugs or pro-

jections F, perforated to receive projections F′ extending from the frame of the main car-body when the trough is situated within a stock-car. It will thus be seen that these projections F′ will form journals for the feed-trough, permitting the same to be reversed in order to empty its contents. I do not wish, however, to be understood as limiting myself to the constructing of the journals independent of the feed-troughs and adapted to engage therewith, as they may be formed integral with the head-pieces D, as shown in Fig. 4, in which event they will be located immediately above the flanges D′ on the same side thereof. I furthermore reserve the liberty of dispensing with the journals if I so desire and securing the troughs in position in any other suitable manner without departing from the spirit of the invention.

Rivets, as E′, passing through the head-pieces, trough-body, and longitudinal bars, may, if desired, be employed as an additional guard against the separation of the said parts of the trough.

When metallic feed-troughs were used in stock-cars, a great disadvantage was experienced, owing to the liability of the body of the trough to become bent and warped by the animals falling against it when the car was jolted. In order to obviate this disadvantage the said troughs are provided with transverse bracing-rods G. Two constructions of these rods G are shown in the drawings, Figs. 6 and 7, and either of these constructions is deemed to be protected by my patent. In Fig. 6 it is shown as formed with enlarged extremities having perforations $g\,g$, adapted to embrace the longitudinal supports C of the feed-trough, and in Fig. 7 the said bracing-rod is shown as consisting of an ordinary bar having its extremities bent over to form hooks $g^2\,g^2$ for engagement with the said longitudinal supports. These rods G will obviously also tend to prevent the animals biting and annoying each other when feeding and the abstraction by one animal of the food of another.

The trough-body B, at the points where the transverse rods are situated, is formed with recesses B′, in order that the upper sides of the said bracing-rods may be on a line with the upper extremities thereof, and which recesses will also prevent lateral displacement of the said bracing-rods.

I do not wish to be understood as limiting myself to the employment of these bracing-rods in connection with metallic troughs of this particular construction, but reserve the liberty of employing them in connection with metallic troughs of any other construction.

It will be quite obvious that the bracing-rods, constructed after the plan shown in Fig. 7, may be formed of some suitable spring metal, so that they can be removed and replaced whenever desired.

Having now described my invention, what I believe to be new, and desire to secure by Letters Patent, and what I therefore claim, is—

The trough-body having recesses at its upper edges and bent to form cylindrical flanges, longitudinal supports encircled by the said cylindrical flanges, and head or end pieces, in combination with transverse rods the extremities of which are formed to engage with the said longitudinal supports and are located within the recesses of the body-piece.

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

GEO. D. BURTON.

Witnesses:
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