(No Model.) 2 Sheets—Sheet 1.

G. W. BOLL & L. M. REED.

FEED TROUGH.

No. 456,213. Patented July 21, 1891.

Fig. 1.

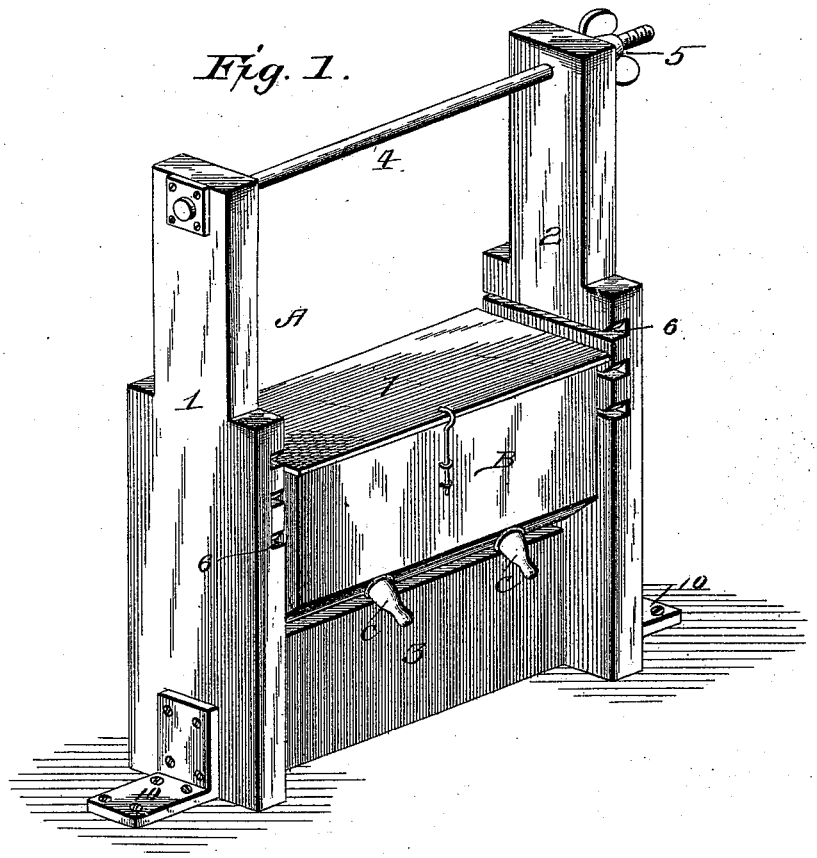
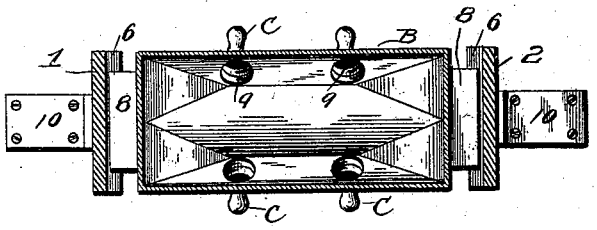


Fig. 5.



WITNESSES

F. L. Ourand

A. G. Huylmun,

INVENTOR

George W. Boll and

Lewis M. Reed

by J. M. Yznaga.

Attorney

(No Model.) 2 Sheets—Sheet 2.

G. W. BOLL & L. M. REED.

FEED TROUGH.

No. 456,213. Patented July 21, 1891.

Fig. 3.

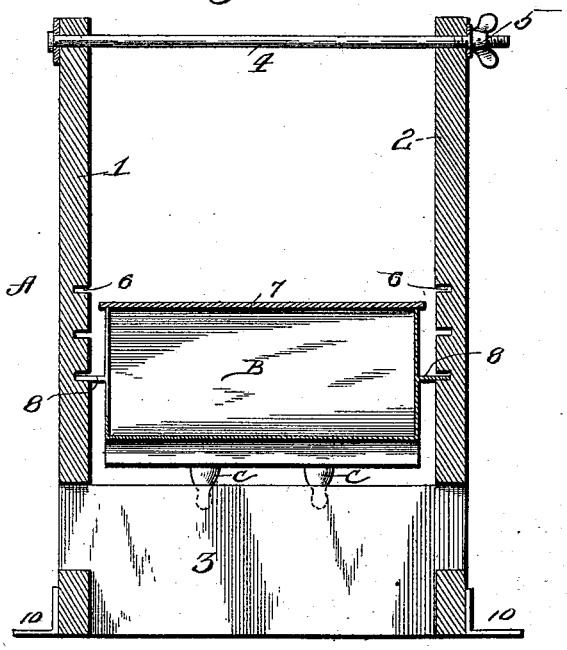


Fig. 2.

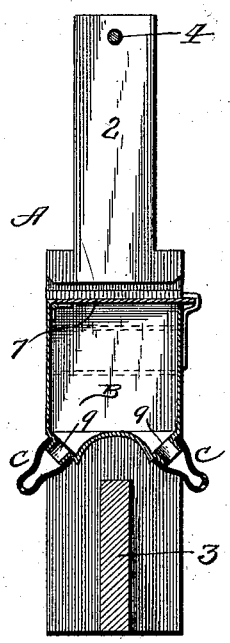
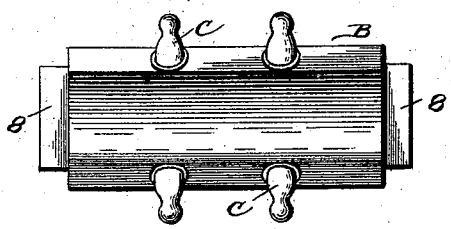


Fig. 4.



WITNESSES
F. L. Ourand
A. G. Heyfmein

INVENTOR
George W. Boll and
Lewis M. Reed.
by J. M. Yznaga.
Attorney

UNITED STATES PATENT OFFICE.

GEORGE W. BOLL, OF MOUNT HOPE, AND LEWIS M. REED, OF PATTERSON, KANSAS.

FEED-TROUGH.

SPECIFICATION forming part of Letters Patent No. 456,213, dated July 21, 1891.

Application filed August 30, 1890. Serial No. 363,481. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. BOLL, of Mount Hope, Sedgwick county, and LEWIS M. REED, of Patterson, Harvey county, Kansas, citizens of the United States, have invented certain new and useful Improvements in Feed-Troughs; and we do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention has relation to improvements in means for feeding stock; and the object is to provide means for feeding small animals, such as pigs, when either by accident or design they are taken from the mother before being weaned from taking their natural nourishment.

Our invention consists in the novel construction of the parts and their combination, as will be hereinafter fully described, and as particularly pointed out in the claim.

We have fully and clearly illustrated our invention in the accompanying drawings, wherein—

Figure 1 is a view of our invention set up in operative condition. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a longitudinal vertical section. Fig. 4 is a bottom view of the trough or feed-holder. Fig. 5 is a horizontal section of the device.

A designates the holding-frame, consisting of two uprights 1 and 2, connected at their lower portion by a substantial cross-piece 3, rigidly secured to the uprights at the ends. The uprights are extended a distance above the top of the trough, and in the top ends is detachably arranged a bar or rod 4, on one end of which are screw-threads, to which is fitted a nut 5, which keeps the uprights from spreading at the top, and by means of the adjusting-nut the trough may be clamped in between the uprights and held from being disturbed by the feeding animals. Across the inner face of each upright are a series or number of open-ended slots 6, oppositely aligning with each other, substantially as shown. These slots take the flanges on the trough and sustain and hold it in position at any height to which it may be placed in the uprights as may be suited to the size of the pigs to be fed. It will be apparent that the trough may be removed or adjusted from either side, the slots being open at their ends, as shown.

B designates the feeding-trough, composed of metal, which may be either cast or malleable. This trough is made rectangular and of such size as may be necessary to hold feed for the number of animals to be fed, and is provided with a hinged lid or cover 7, held down by any proper fastening. On each end of the trough is rigidly secured or formed a plate 8, which fits in the slots in the uprights and serves to hold the trough in connection with the frame. The bottom of the trough is formed so as to carry the contents thereof in the direction of the escapes when the animal is feeding. Any proper shape of bottom to accomplish this object may be adopted. We have shown the bottom as formed convex in the longitudinal central portion and inclined side portion, with the angles at the ends filled by inwardly-inclined parts, so as to direct the liquid feed at all times toward the feed-pieces. At the sides of the bottom in the inclined parts are a number of apertures 9, which have short pipes secured therein, constituting means for having the mouth-pieces arranged thereon. These short pipes may be threaded on their outer surfaces, or they may be formed with an enlarged rim-flange, over which the elastic end of the mouth-piece may be placed and secured.

The letters C designate the mouth-pieces, consisting of elastic tubes having their upper ends formed to fit over and on the short pipes projecting from the trough, and having at their lower ends a small slit or aperture, through which the food may be drawn by suction into the mouth of the little animal needing the nourishment.

The frame of the trough is secured to the floor of the pen or feed-house by means of any suitable fastening. We have shown it secured by means of an angle-iron 10. The bot-

tom cross-piece 3 is made high enough to prevent the animals from crawling over it and under the trough.

The uses of our invention may be readily perceived from the foregoing description, but are here briefly stated. The feed is placed in the trough and the mouth of the little animal given the mouth-piece, when by the natural instincts of the animal it almost invariably proceeds to suck the food from the mouth-piece, and when the animal's greed is satisfied it relinquishes its hold and goes away, or, if needs be, it may be taken away before it gorges itself to repletion.

Having thus described our invention, explained its uses, and stated its operation as required by the statute, we now proceed to particularly point out and distinctly claim the parts and combinations which we believe to be novel, and for which we ask Letters Patent for, as follows:

An adjustable feed-trough consisting of uprights, each formed with a series of open-ended slots, a box or trough proper provided with end flanges to enter said slots, and a clamping-rod connecting the uprights, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE W. BOLL.
LEWIS M. REED.

Witnesses:
L. A. HAMLIN,
JAS. F. HAMLIN.