(No Model.)

J. G. RICHARDSON.

DEVICE FOR FEEDING STOCK.

No. 363,849. Patented May 31, 1887.

Fig. 1.

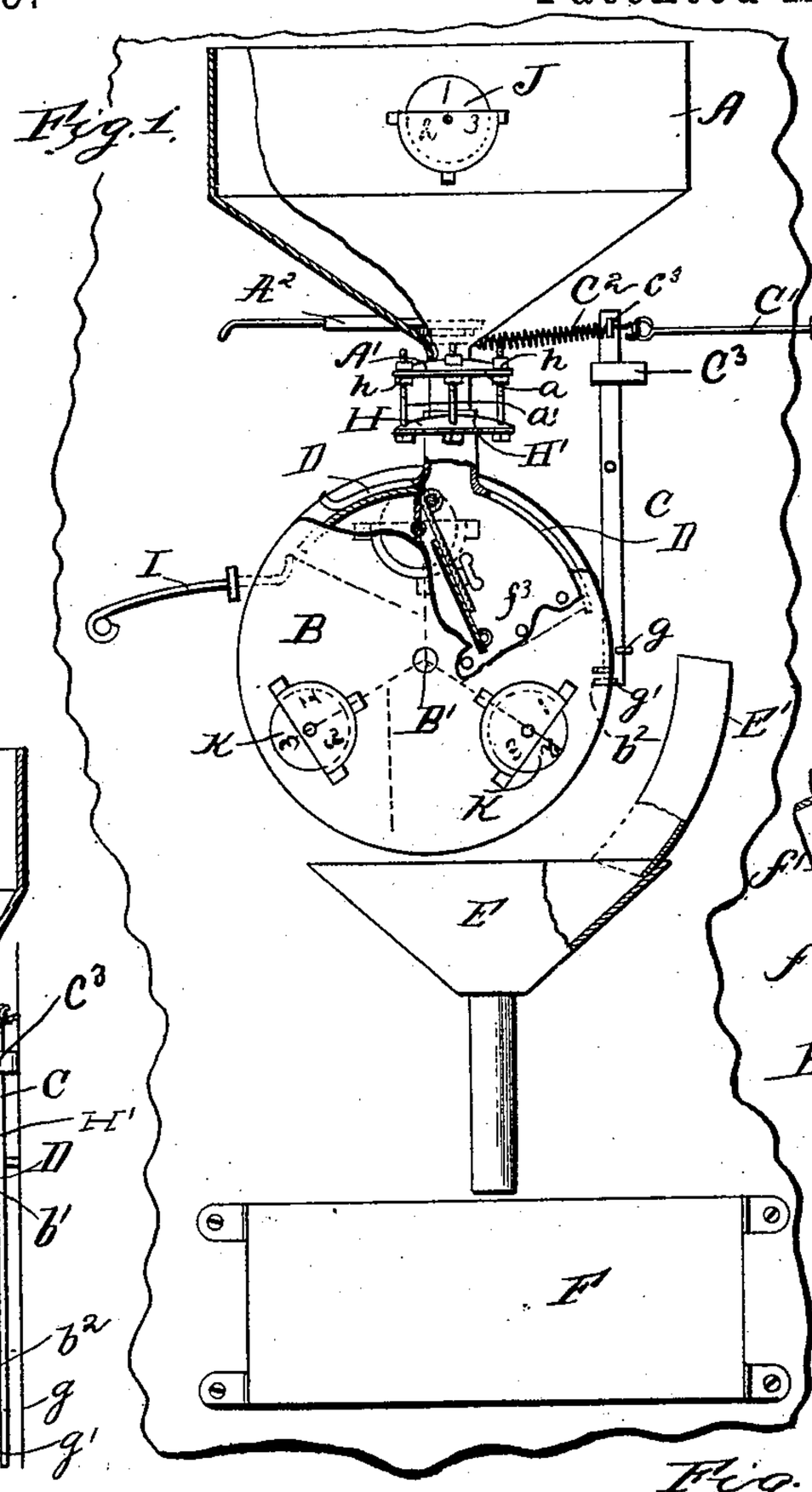


Fig. 2.

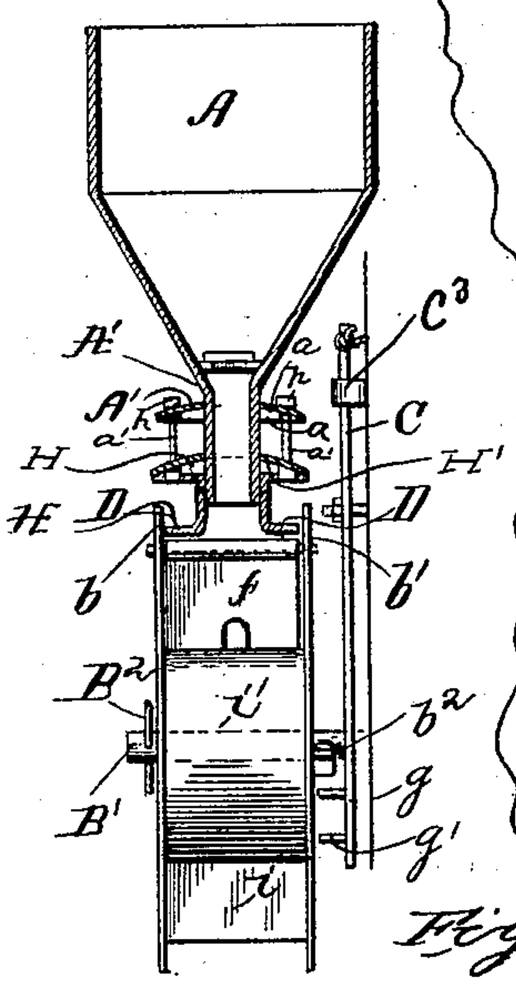


Fig. 3.

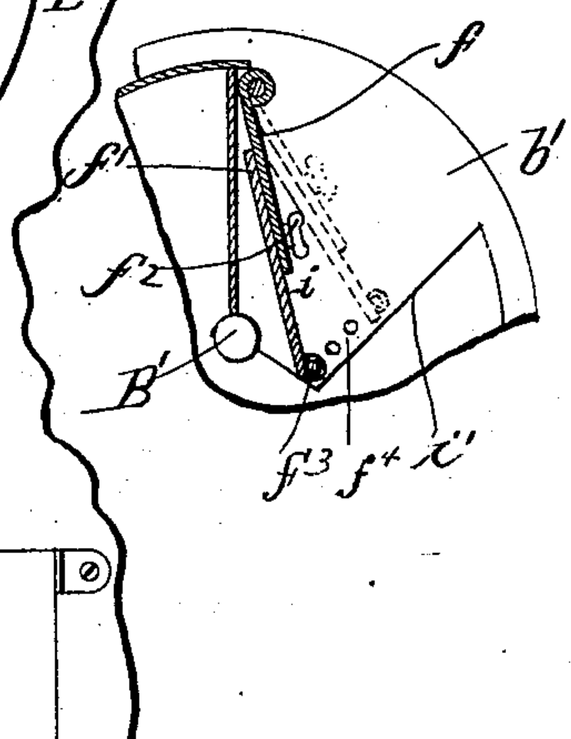


Fig. 4.

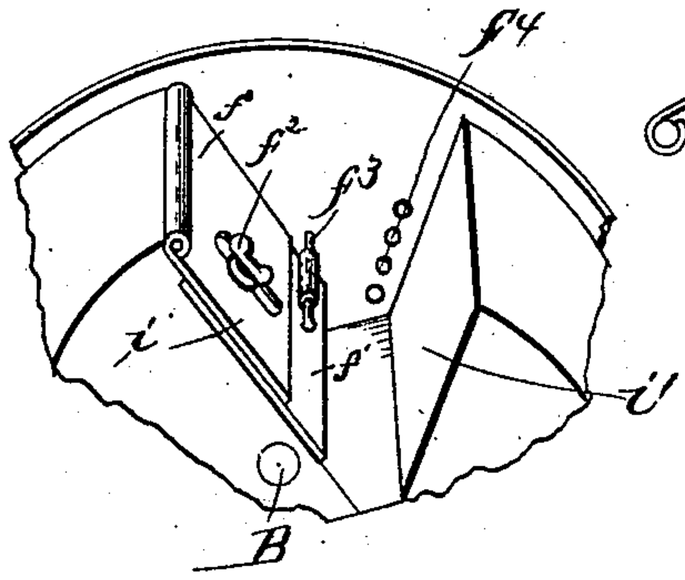
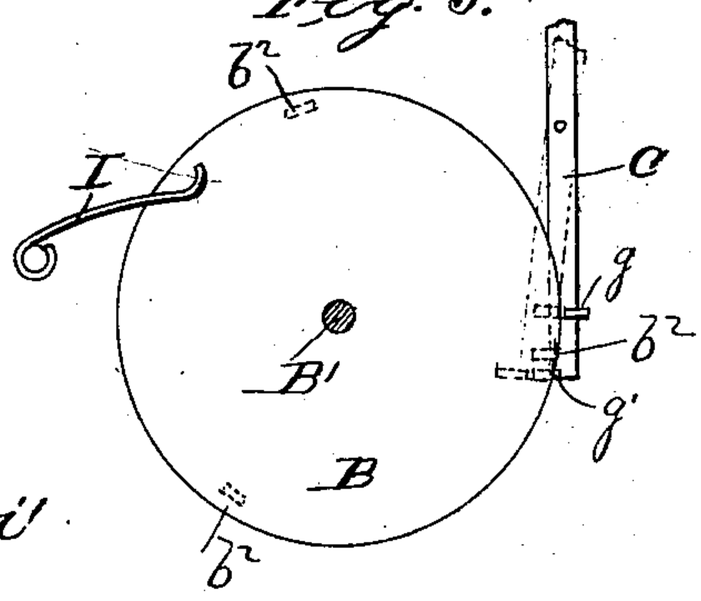


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES G. RICHARDSON, OF LAKE CITY, MINNESOTA.

DEVICE FOR FEEDING STOCK.

SPECIFICATION forming part of Letters Patent No. 363,849, dated May 31, 1887.

Application filed December 8, 1886. Serial No. 221,004. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. RICHARDSON, a citizen of the United States, residing at Lake City, in the county of Wabasha and State of Minnesota, have invented certain new and useful Improvements in Devices for Feeding Stock; and I 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.

This invention relates to devices for feeding stock, and has for its object to improve the construction of such devices, whereby their efficiency is increased and their operation rendered more accurate and certain.

The improvement consists in, first, a revolving pocket-wheel or measure, connected with and receiving its supply from a suitable bin or fountain-head, and means for tripping it, whereby the wheel will automatically revolve and discharge the grain into a trough; second, the peculiar construction of the revolving pocket-wheel and the adjustable hinged partition for regulating the capacity of the pockets formed therein; third, the shield and adjustable connection between the bin and revolving wheel; fourth, the indicator for showing at a glance whether the horses have been fed or the device tampered with; and, fifth, in the peculiar construction and combination of parts, which will be more fully hereinafter set forth and claimed, and shown in the annexed drawings, in which—

Figure 1 is a front view, parts broken away, of a device for feeding horses embodying my invention. Fig. 2 is a detail view showing the revolving pocket-wheel, the bin, the shield, and the adjustable connection between the bin and hopper. Fig. 3 is a detail view of a portion of the revolving pocket-wheel and the hinged adjustable partition, showing the latter in an adjusted position by dotted lines. Fig. 4 is a perspective detail view of the features shown in Fig. 3, and Fig. 5 is a detail view of the revolving pocket-wheel and the tripping mechanism.

The device comprises the bin or grain-receiving compartment A, in which the grain is stored in bulk and which forms the fountain-head, the revolving pocket-wheel B, the tripping-lever C, the shield D, and the chute E, for guiding the grain into the manger F.

The pocket-wheel has as many pockets as the number of times it is desired to feed the horse in one day, three being the number usually employed. The pockets are so formed that the one in position for receiving the grain from the bin will be wholly to one side of a plane passed vertically through the axis about which the wheel turns. The sides are extended, forming flanges *b* and *b'*, between which the shield D fits. The walls *i* and *i'* of each of the grain-receiving pockets are convergent, and the wall *i* is movable, so as to regulate the capacity of said pockets, and is hinged at its outer end to that portion of the wheel extending between each two of the pockets. The inner end is movable to and from the wall *i'*. The distance between the end of the wall *i* and the wall *i'* varies according to the position of said wall *i;* hence it has been found expedient to devise a means whereby this variation may be accounted for, so that the end of the wall *i* may fit close against the wall *i'* at each and every adjustment, and not leave any space for the grain to pass through and lodge in the rear of said wall *i*. To meet this requirement the wall *i* is composed of two parts, *f* and *f'*, adapted to slide over one another. The part *f'* is fitted upon the part *f* and slides thereon to and from the wall *i'* to lengthen and shorten the wall *i*. The part *f* is slotted and the part *f'* is held in an adjusted position by the set-screw f^2, passing through the slot and screwed into the part *f'*.

When it is desired to regulate the capacity of the pocket, the set-screw is loosened, the wall adjusted into the desired position and held there by the spring-catch f^3, secured to the end of the part *f'*, entering one of a series of notches or sockets, f^4, in the side of the wheel, and the set-screw previously loosened is tightened. The wheel is mounted loosely upon the shaft B', and may be held thereon by the pin B^2 or the shield D passing between the flanges *b* and *b'*.

The shield is a part of tube H and extends from the lower end thereof, the tube H telescoping with the tube A′, extending from the bin, which tube A′ has a flange, *a*, through which bolts *a′*, secured to the flange H′ of the tube H, pass, and have their upper end threaded. The nuts *h*, screwed upon said threaded ends and located above and below the flange *a*, serve to adjust the tube H and the shield D, so that the latter will be kept from pressing too hard upon the wheel and be prevented from interfering with the free movement of said wheel. It covers the mouth of the grain-receiving compartments and keeps rats, &c., away from the grain.

The tripping-lever C is provided with stops *g* and *g′* near its lower end, which are adapted to engage with corresponding stops, b^2, projecting from the rear side of the wheel, and hold it in position against forward motion while receiving the grain. The detent I, having its free end projecting in the path of the stops b^2, prevents the retrograde movement of the hopper by the free end thereof springing up back of such stops after the latter have passed thereover, as will be readily appreciated.

In practice the grain is supplied to the bin and communication established between it and the hopper by withdrawing the slide A^2 in the lower part of the bin A, when the pocket opposite the tube H will be filled. A movement of the trip-lever will disengage the stop *g′* from the stop b^2 and permit the wheel to revolve and discharge the contents of the filled pocket into the manger, preferably through the chute E, which is provided with a guard, E′, for preventing the grain escaping over the front edge of the chute and falling to the ground. The trip-lever C is operated from any convenient point by the rod or cord C′, and is returned to a normal position by the spring C^2. Its movement is limited by the keeper C^3. A pull on the cord C′ throws the stop *g′* out of the path of the stops b^2 and projects the stop *g* within the path of the stops b^2. By this construction the wheel can move forward the distance of one pocket only.

It will be understood that one device will be provided for each animal to be fed, and where a number of such devices are arranged close to each other the trip-levers may be connected, so as to be simultaneously operated and feed all the animals at the same time.

In case the wheel should fail to revolve, through lack of grain in the bin or from any other cause, or should the wheel be revolved by a person other than the one in charge, it has been found expedient to provide means for informing the attendant of such fact at a single glance; and to this end the wheel is provided with numbers placed opposite the grain-pockets, a number being provided for each pocket, and a movable disk, J, having numbers corresponding with the numbers on the wheel, placed upon the bin.

The numbers on the wheel are arranged consecutively, and when the wheel revolves the dial J is turned by hand, so that the number exposed will correspond with the uppermost number on the wheel. The dial J must be turned at each movement or supposed movement of the wheel. If the hopper should fail to move and the dial J is moved, evidently the number on the bin and the number on the upper portion of the wheel will not correspond, and it may be known at a glance that something is out of time, or that the device has been tampered with. The numbers upon the wheel are arranged upon dials K, similar to the dial J. By this means more than one horse can be fed from the same manger, and the numbers can be arranged in order after feeding said horse or horses.

The several parts—such as the bin A, the support B′, upon which the pocket-wheel is journaled, the lever C, the keeper C^3, the detent I, the chute E, and the manger F—are directly connected with and supported by any suitable wall or partition, as will be readily understood by reference to the drawings.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device for feeding animals, the combination of the bin, the revolving wheel having grain-receiving pockets, the adjustable connection between the bin and wheel, and the trip-lever, substantially as and for the purpose described.

2. The combination of the bin, the tube depending therefrom, the flange extending from the tube, the revolving wheel, the shield, the telescoping tube supporting the shield and having its upper end flanged, and the bolts and nuts for adjustably connecting the tubes, substantially as and for the purpose described.

3. The combination of the bin, the revolving wheel having its sides projecting beyond the periphery forming flanges, and the shield fitting between said flanges, substantially as and for the purpose described.

4. The combination, with the wheel having a pocket, of a wall hinged at one end and adjustable at the opposite end for regulating the capacity of the pocket, and means, substantially as described, for holding said wall in an adjusted position.

5. The combination, with the wheel and the convergent walls forming a pocket, of a hinge-support for one of the walls, means, as set forth, for adjusting said wall about its support and holding it in an adjusted position, and means, as described, for lengthening and shortening the hinged wall, substantially as and for the purpose specified.

6. The combination, with the wheel having extended sides, of convergent walls extended between said sides, forming grain-receiving pockets, one of said walls having its outer end hinged and composed of two parts adjustably

connected together, and having a catch to fit into one of a series of notches in the side of the wheel, as and for the purpose described.

7. The herein-described device for feeding animals, consisting of the bin, the revolving wheel, the shield, the adjustable connection between the bin and shield, the trip-lever, the chute, and the guard, substantially as set forth.

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

JAMES G. RICHARDSON.

Witnesses:
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H. DWELLE.