No. 849,169.

PATENTED APR. 2, 1907.

G. J. STEIN.

STOCK FEEDER.

APPLICATION FILED JUNE 27, 1906.

2 SHEETS—SHEET 1.

Fig. 2.

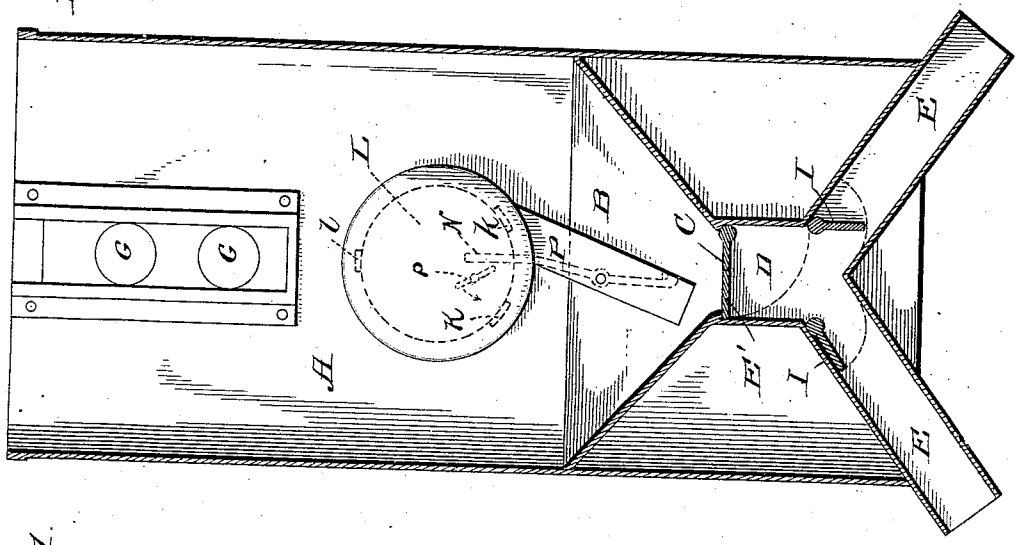
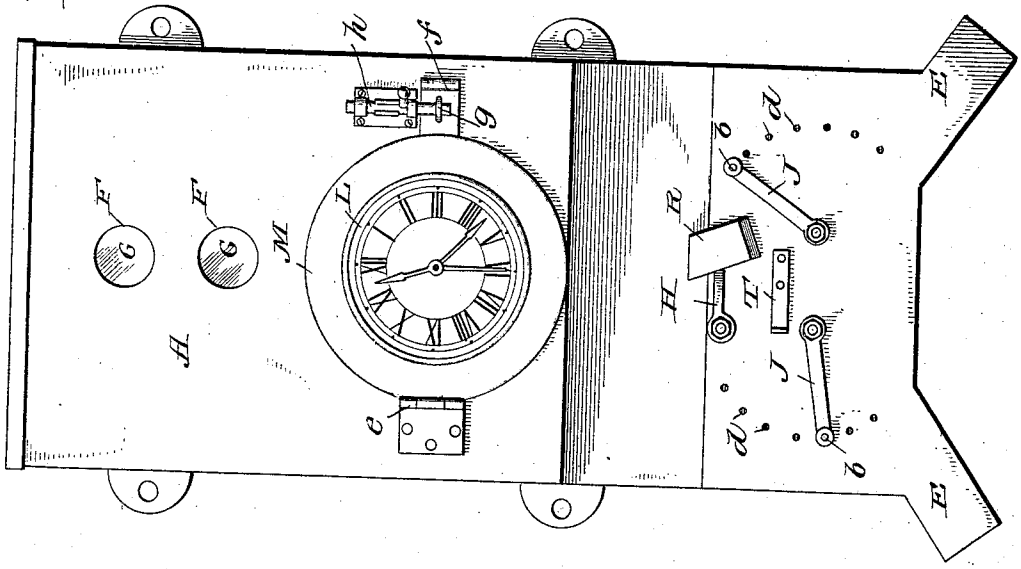


Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

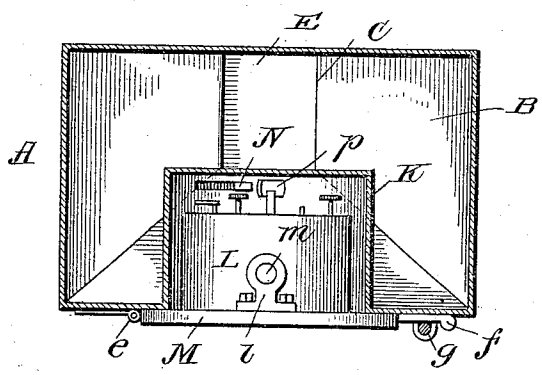


Fig. 4.

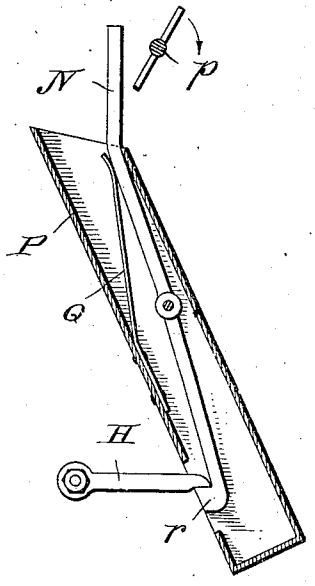


Fig. 5.

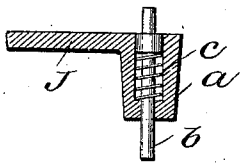
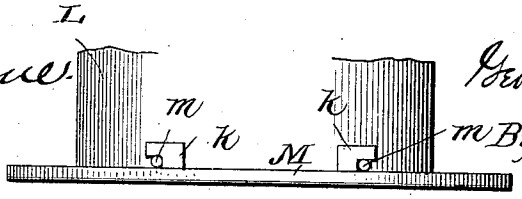


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE J. STEIN, OF MOUNT CARMEL, PENNSYLVANIA.

STOCK-FEEDER.

No. 849,169. Specification of Letters Patent. Patented April 2, 1907.

Application filed June 27, 1906. Serial No. 323,611.

To all whom it may concern:

Be it known that I, GEORGE J. STEIN, a citizen of the United States, residing at Mount Carmel, in the county of Northumberland and State of Pennsylvania, have invented new and useful Improvements in Stock-Feeders, of which the following is a specification.

My invention pertains to stock-feeders; and it has for one of its objects to provide a stock-feeder having a plurality of spouts connected with the discharge of a hopper and arranged when the valve controlling the said discharge is opened to supply feed to different animals, separate valves for controlling the said spouts, and means whereby each valve may be adjustably fixed in the position desired independent of the other, this in order that equal quantities of the feed may be supplied to the animals or more may be supplied to one animal than to another.

Another object of the invention is the provision of a time-controlled stock-feeder in which the clock employed is normally arranged in a chamber isolated from the interior of the casing and is carried by the hinged door of the chamber. This provision is obviously advantageous, since the isolation of the clock precludes the same being affected by the feed, while the connection of the clock to the chamber-door adapts the clock to be conveniently thrown into a position where its parts may be readily positioned to assure opening of the valve controlling the discharge of the hopper at the predetermined time fixed upon.

Another object is the provision in a time-controlled stock-feeder of a construction whereby the mechanism intermediate the clock and the valve controlling the discharge of the hopper is isolated from and is not liable to be affected by the feed.

With the foregoing in mind the invention will be fully understood from the following description and claims when the same are read in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of the stock-feeder constituting the present and preferred embodiment of my invention, the same being shown with the valve controlling the discharge of the hopper closed and the valve of one spout fully open and the valve of the other spout partially open. Fig. 2 is a vertical section illustrating the hopper in the casing, the valve controlling the discharge of the hopper, the divergent spouts arranged to receive from said discharge, and the valves for controlling the said spouts. Fig. 3 is a horizontal section taken through the clock-chamber of the casing looking downward and showing the clock in plan. Fig. 4 is a detail view illustrative of the relative arrangement of the arm on the valve controlling the hopper-discharge, the alarm-winding key, the lever which engages said arm to normally hold the valve closed, and the subcasing in which the said lever is arranged or mounted. Fig. 5 is an enlarged detail section illustrative of the construction whereby the arms of the valves controlling the spouts are adjustably fixed to the casing. Fig. 6 is a detail inverted plan showing the manner in which the lower portion of the clock is connected to the door M.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A is the casing of the feeder, which is preferably of sheet metal and of the shape illustrated. The said casing is open at its upper end and contains a hopper B, the side portions and front portion of the bottom of which are declined inward to a discharge C, from which depends a conduit D. This conduit D merges at its lower end into divergent spouts E, the office of which is to conduct feed to the troughs of different animals. In the front wall of the casing are preferably provided openings F, controlled by a pane of glass G. These openings F serve to enable the person in authority to see whether or no the hopper B contains feed.

The discharge C of the hopper B is controlled by a vertically-swinging valve E′, and this valve is provided on its shaft and in front of the casing A with an arm H, through the medium of which the valve is held in a closed position until the time arrives for permitting the feed to pass from the hopper B to the spouts E. The spouts E are controlled by vertically-swinging valves I, Fig. 2, and these valves I are provided on their shafts at points

in front of the casing A with arms J. These arms J have sleeves *a* disposed at right angles to the front casing-wall, and in the said sleeves are pins *b*, between abutments on which and the forward portions of the sleeves are interposed coiled springs *c*, which are contained in the sleeves *a* and have for their function to press the pins *b* toward the front wall of the casing A. In the said front wall are series of apertures *d*, arranged to describe arcs of circles, and by placing the pins *b* in said apertures it will be apparent that the valves I may be adjustably fixed in various positions. For instance, one of the valves I may be fixed in a fully-opened position, while the other valve I may be fixed in a partly-opened position, this to assure more feed passing through one of the spouts E than the other.

In the hopper B, at about the elevation illustrated, is arranged a chamber K, which is open at its forward side and is entirely isolated from the hopper with a view of preventing the feed from affecting the clock L. The front of the said chamber K is closed by the said clock L and by the door M, in which the clock is mounted and secured. The door M is hinged at *e* to the front wall of casing A, and at its opposite end it is provided with a hasp *f*, designed to receive a staple *g* on the casing and to be connected or fastened thereto through the medium of a bolt *h*. At its inner side the door M is provided with hook-shaped lugs *k* and an apertured arm *l*, the lugs *k* being designed to seat studs *m* on the exterior of the clock, while the aperture in the arm *l* receives a stud *n* on the exterior of the clock at an opposite point with reference to the studs *m*. Thus it will be observed that the clock is firmly held to the door, so as to move therewith, and yet when necessity demands the clock may be readily removed from the door after the arm *l* is disconnected from the door.

The clock L may be, and preferably is, of the well-known alarm type—that is to say, it is provided with an alarm-winding key *p* and the ordinary appurtenances whereby it may be set so as to assure turning of the said key at a predetermined time. When the door is closed and the clock is contained in the chamber K, the alarm-key *p* of the clock rests at the right of the upper arm of a lever N. This lever N is mounted in a subcasing P and is normally held by a spring Q in the position illustrated. The subcasing P extends outside the casing A, as indicated by R in Fig. 1, and is provided in the side of its said extension with an opening to receive the arm H on the shaft of the valve E′ and to permit of the said arm being placed in engagement with the toe *r* on the lower arm of lever N. By virtue of this construction it will be apparent that when the alarm of the clock is set for a predetermined time and the alarm is wound through the medium of the key *p* the said key will when the said time arrives push the upper arm of lever N toward the left, when the lower arm of said lever N will permit the valve E′ to gravitate to an open position, thus assuring the passage of feed from the hopper B to the spouts E.

T is a stop which is preferably provided on the front wall of the casing A to limit the downward movement of the arm H on the shaft of the valve E′ when the said valve is permitted to gravitate to an open position.

The general operation of my novel stock-feeder will, it is believed, be fully understood from the foregoing, and it need not, therefore, be reiterated. It will be gathered from the foregoing, however, that the clock and the parts controlled thereby do not come in contact with, and hence are not liable to be affected by, the feed, and it will also be gathered that the clock serves when properly set and wound to rock the lever N at the predetermined time desired and in that way effect the release of the valve E′ and the discharge of feed from the hopper B.

The construction shown and described constitutes the present and the preferred embodiment of my invention; but I desire it understood that in practice those changes or modifications may be made which fairly fall within the scope of my invention as claimed.

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

1. In a stock-feeder, the combination of a casing having a hopper, a valve arranged to control the discharge of the hopper, spouts arranged to receive from the discharge of the hopper when the valve thereof is opened, separate valves controlling communication between the discharge of the hopper and the spouts, coöperating means on the valves and the casing, whereby each valve may be adjustably fixed independent of the other, and time-controlled mechanism for releasing the valve controlling the discharge of the hopper at a predetermined time.

2. In a stock-feeder, the combination of a casing containing a hopper and a chamber; the said chamber being isolated from the hopper, a subcasing communicating with and extending down from the bottom of the chamber and having an opening in its side adjacent to its lower end, a lever extending lengthwise of and fulcrumed at an intermediate point of its length in the subcasing and having a toe on its lower arm and also having its upper arm extended up into the casing, a valve controlling the discharge of the hopper and having an arm arranged to be engaged by the said toe of the lever, a hinged door for

closing the front of the chamber, and a clock carried by the door and having a rotary device arranged when the door is closed to assume a position in readiness to engage the upper arm of the lever and also arranged to rock the lever and release the valve at a predetermined time.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE J. STEIN.

Witnesses:
SAMUEL A. RUBRIGHT,
AL JEFFERSON.