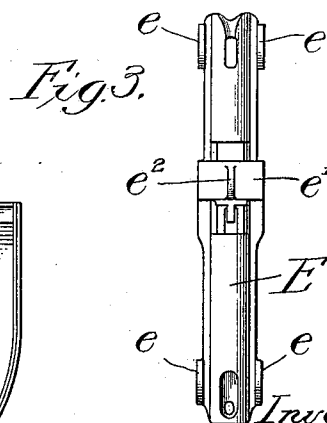
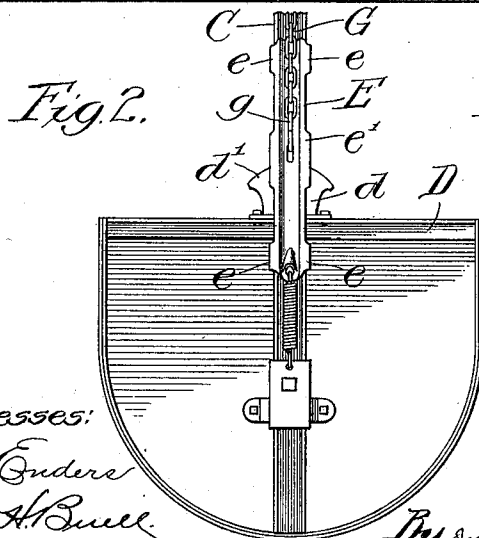
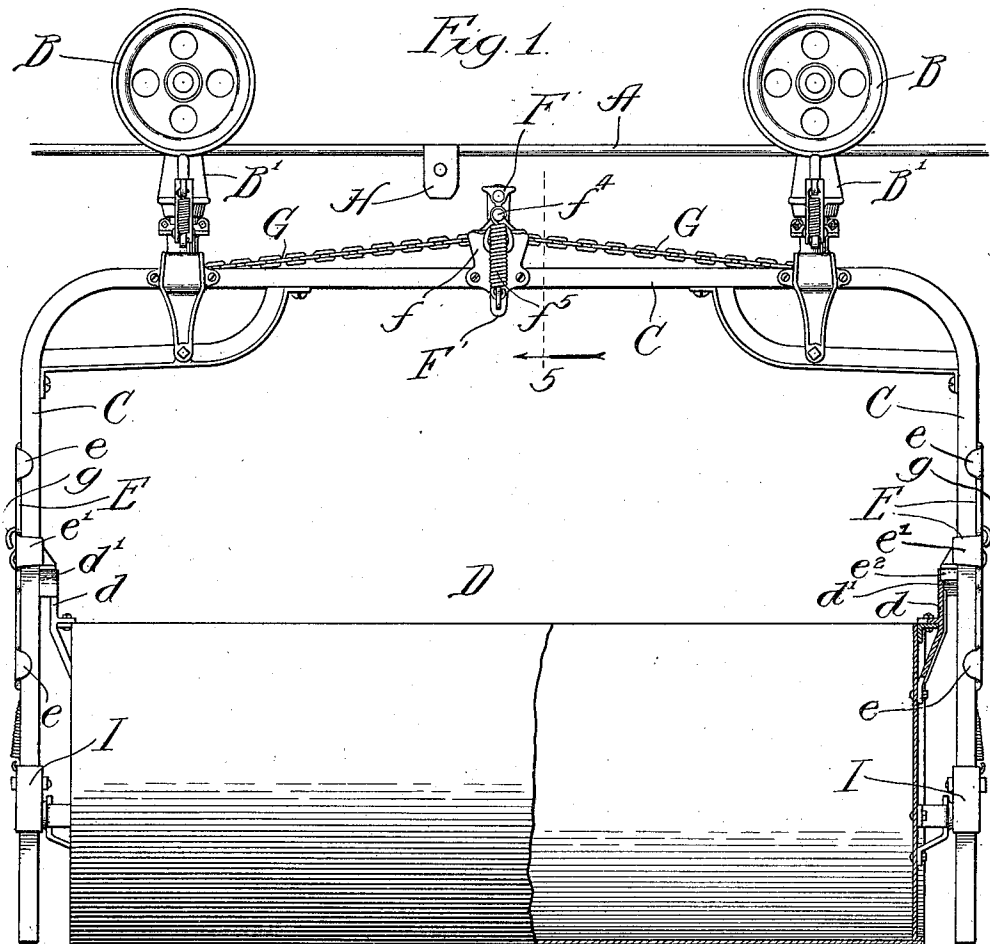


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FEED AND LITTER CARRIER.
APPLICATION FILED JULY 27, 1909.

983,614.

Patented Feb. 7, 1911.

2 SHEETS—SHEET 1.



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UNITED STATES PATENT OFFICE.

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FEED AND LITTER CARRIER.

983,614.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed July 27, 1909. Serial No. 509,807.

To all whom it may concern:

Be it known that we, HENRY L. FERRIS and HOWARD J. FERRIS, citizens of the United States, residing at Harvard, in the county of
5 McHenry and State of Illinois, have invented a new and useful Improvement in Feed and Litter Carriers, of which the following is a specification.

Our invention relates to certain new and
10 useful improvements in feed and litter carriers, and is fully described and explained in the specification and shown in the accompanying drawings, in which—

Figure 1 is a front elevation of our im-
15 proved device; Fig. 2 is an end view of the same, with the upper part of the frame broken away; Fig. 3 is an elevation of the latch removed from the frame, looking from the inside; Fig. 4 is a longitudinal section
20 through the device with the tub in its inverted position; Fig. 5 is a detailed section in the line 5, Fig. 1, looking in the direction of the arrow; Fig. 6 is a detailed elevation of the latch-operating mechanism in one po-
25 sition, and Fig. 7 is a similar elevation of the mechanism in another position.

Referring to the drawings—A is a track upon which run rollers B, carried by hang-
30 ers B¹, which support a frame C of an inverted U-shaped form made of outwardly facing channel-iron. A tub D, of usual form, is pivoted between the lower ends of the frame C in unstable equilibrium, so that
35 when released it will swing into the inverted position shown in Fig. 4. The tub bears at its ends latch-brackets d, each of which has a curved cam-shaped surface d¹, provided with a central notch. Latch-members E are
40 mounted in vertically movable position upon the side-bars of the frame C. Each of the latch-members is made channel-shaped in cross-section to lie within, and conform to the groove of the frame C, and each has at
45 its upper and lower ends, ears e, turned over the members of the frame for guiding purposes. Each member has, approximately at its center, a loop-shaped portion e¹ completely surrounding the side-bar of the frame upon which it rides, and the said loop carries
50 a tooth e² to engage with the notch in the latch-brackets at the corresponding end of the tub D, so that engagement can be produced in the manner illustrated in Fig. 1. The two latch-members are normally spring-

pressed downward to effect such engagement 55 automatically.

The center of the frame bears two brackets f, each of which is provided with a transverse hole f¹, the lower part of which is flattened, and the two brackets by their per-
60 forations support a rocking-member F, which has flattened pins f² extending into the said holes. The rocking-member F has two laterally extending arms f³ which are connected by chains G and hooks g with the
65 latching-members in the manner illustrated. It also is provided with two forwardly and rearwardly extending pins f⁴, long enough to extend sidewise beyond the brackets f, and sufficiently elevated to clear the tops of
70 said brackets, and said pins f⁴ are connected by springs f⁵ with the lower portions of the brackets f, so as to draw the upper end of the rocking-member F downward. The
75 track A is supplied with a stationary trip-member H adapted to engage the rocking-member F to oscillate the same on its pivot when the carrier reaches the proper position.

The operation of so much of the device as has already been described will now be set
80 forth.

The tub is latched in its upright position shown in Fig. 1 and filled in the usual way. The carrier is then pushed out to the dump-
85 ing point where the rocking-member F strikes the trip H on the track, and is oscillated to the position shown in Fig. 4. It is to be noted that the rocking-member remains fixed in its normal position by en-
90 gagement of its flattened pins with the correspondingly shaped portions of the openings in the brackets f, but the moment it is swung slightly to one side, the springs attached to it will carry it into the position
95 shown in Fig. 4. This movement will draw up the two chains G and the latching-members E to release the tub, which will then dump its contents. The carrier will then
100 return to its normal position, it being noted that the rocking-member is now in a lowered position and will clear the tripping-member on its return. This is a feature of
105 great importance, because it makes the automatic return of the carrier much more certain than would otherwise be the case. When the carrier returns to its normal position, the rocking-member is also returned to its original position, preferably by ma-

nipulating a handle F¹ (Fig. 5) which is supplied for that purpose, and the tub is reset.

It is oftentimes desirable to adjust the height of the tub on the frame, and many efforts have been made to secure an adjustable device with an automatic dumping means in a simple and satisfactory manner. In the present device, the result is accomplished without undue complications, as will now be described.

The pivotal connection between the ends of the tub and the lower portions of the frame is made through the medium of two vertically movable journals I on the frame, each of which can be placed in three different positions in the form of device here illustrated. The journals are held in place by a single bolt each, and so can be moved very readily, and additional bolt-holes are provided in the frame to receive the bolts in the three variable positions. The springs through the medium of which the latching-members are held down, are attached to said movable journals and consequently will move therewith, and the latching-members are obviously freely movable when disconnected from the chains G, so that when the journals I are moved down, and the chains G disconnected, the latching-members would take the proper relative positions without difficulty. Each of the latching-members is provided with three openings for engagement with the hooks *g* at the lower ends of the chains G, and the hooks will naturally be engaged with the openings in the latching-member which correspond to the opening in the frame occupied by the bolts on the movable journals I. It will be obvious, of course, that if it is desired to adjust the tub to more than three positions, the result can readily be accomplished by providing additional openings in the frame and latching-members with proper relative disposition.

We realize that considerable variation is possible in the details of construction of our improved device, without departing from the spirit of our invention, and we do not intend therefore, to limit ourselves to the specific form herein shown and described.

What we claim as new and desire to secure by Letters Patent is—

1. In a device of the class described, a track provided with a tripping-member, a carrier movable upon the track, a tub-releasing device on the carrier adapted to be struck by the tripping-device to mechanically depress it, and a dead-center spring adapted to pull said tub-releasing device beyond the point of mechanical depression out of line of the tripping-device so as not to interfere with the return movement of the carrier.

2. In a device of the class described, a

tripping-device on the track, a latch-operating device in position to be engaged thereby to be mechanically depressed, said latch-operating device being constructed and arranged to move out of the path of the tripping-device when engaged thereby, and a dead-center spring adapted to pull said latch-operating device beyond the point of mechanical depression, for the purpose set forth.

3. In a device of the class described, a track and a tripping-device thereon, in combination with a movable frame running upon the track, a latch-operating device pivoted to the frame in position to be engaged by the tripping-device and be mechanically depressed thereby, and a dead-center spring for pulling said latch-operating device beyond the point of mechanical depression and for holding it out of line with the tripping-device after the same has been engaged thereby.

4. The combination with a frame provided with brackets having perforations with flattened portions, of a latch-operating device having flattened pins running in said perforations, and a spring tending to hold said latch-operating device with the flattened portions of the brackets and pins out of registration when the latch-operating device is moved from said position.

5. In a device of the class described, a frame, journals movable thereon, a tub pivoted between the journals, latches movable upon the frame, springs connecting the latches to the journals, a latch-operating device on the frame, and flexible connecting means running from the latch-operating device to the latches and having adjustable engagement with the latches to accommodate the varying positions thereof.

6. The combination with a frame provided with brackets having perforations with flattened portions, of a latch-operating device having flattened pins running in said perforations, and a spring tending to hold said latch-operating device normally with the flattened portions of the brackets and pins in registration and to hold the same out of registration when moved therefrom, for the purpose set forth.

7. In a device of the class described, the combination with a frame, of adjustable pivots on the frame for the bucket, latches adjustable on the frame, a latch-operating device, and connecting means therefrom to the latches, the points of attachment between the pivots and the frame and between the connecting means and the latches being correspondingly spaced.

HENRY L. FERRIS.
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In presence of—

W. A. DILLEY,
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