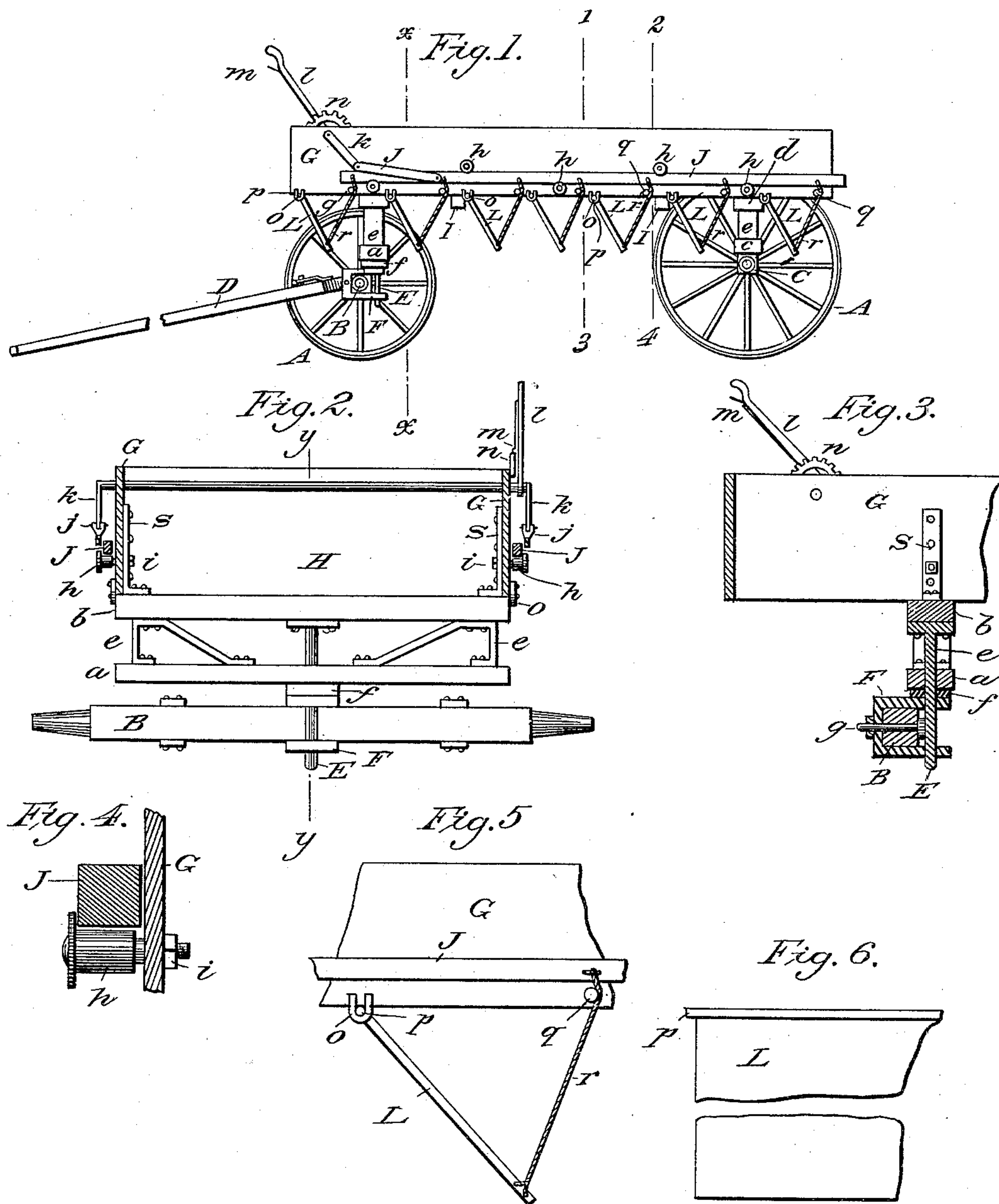


(No Model.)

B. KILLEEN.
DUMPING WAGON.

No. 405,362.

Patented June 18, 1889.



Witnesses:

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BERNARD KILLEEN, OF BIG ROCK, ASSIGNOR OF ONE-HALF TO JOSEPH H. FLICK, OF DIXON, IOWA.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 405,362, dated June 18, 1889.

Application filed June 19, 1888. Serial No. 277,602. (No model.)

To all whom it may concern:

Be it known that I, BERNARD KILLEEN, a citizen of the United States, residing at Big Rock, in the county of Scott and State of Iowa, have invented a new and useful Dumping-Wagon, of which the following is a specification.

My invention relates to improvements in dumping-wagons in which the bottom of the wagon-box is made in transversely-arranged sections or flaps hinged at opposite outer corners to the lower edges of the side-boards of the box, the opposite outer corners being suspended by chains or straps to longitudinal slide-bars parallel with the sides of the wagon-box; and the object of my improvements is to provide means for expeditiously dumping the contents of the wagon-box. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the dumping-wagon, the two wheels on the left-hand side of which are removed. Fig. 2 is a view of a transverse vertical section on the line $x x$ of Fig. 1, looking in the direction of the front of the wagon, the front wheels being removed. Fig. 3 is a longitudinal vertical section of the view shown in Fig. 2 upon the line $y y$, looking in the direction of the right-hand side of the wagon. Fig. 4 is a view of cross-section of one of the side-boards of the wagon-box and parallel slide-bar with side view of roller upon which the latter rests. Fig. 5 is a side view of the section of the wagon shown between the lines 1, 2, 3, and 4 in Fig. 1; and Fig. 6 is a view of a portion of one of the hinged sections or flaps which form the bottom of the wagon-box.

Similar letters refer to similar parts throughout the several views.

The letters A represent the wheels of the wagon, B the front axle, and C the rear axle.

D is the tongue attached to the front axle.

The letter a represents the lower front bolster, and b the upper front bolster; c , the lower rear bolster, and d the upper rear bolster.

The letters $e e$ represent braces rigidly attached between each of the bolsters a and b and the bolsters c and d . The braces attached

between the bolsters c and d are not shown in the drawings, as the form of the braces and method of attachment are the same as between bolsters a and b ; but, however, in Fig. 1 the end of brace e is shown.

E is the king-bolt, riveted or bolted through its head upon the under side and at or near the center to bolster b , said king-bolt extending downward through bolster a and below the bottom of axle B. On the bottom of bolster a is the washer f , through an aperture in which extends said king-bolt.

A stirrup F is fitted over the top, bottom, and front sides of axle B at or about its center, the horizontal arms of which stirrup extend beyond the rear side of said axle, so that the lower part of king-bolt E may pass vertically through perforations therein. Stirrup F is held in position by the bolt and nut g .

The lower rear bolster c is rigidly attached to the upper surface of axle C.

The letters G represent the side-boards of the wagon-box; and the letters H the end-boards of the same. The lower edges of the side-boards of the wagon-box rest upon the upper surface of the bolsters b and d , and are rigidly secured thereto by the braces S. The wagon-box is further strengthened and supported by beams I I, to which the side-boards are in the same manner secured by similar braces S, but which are not shown in the drawings. From each of the outer surfaces of side-boards G project rollers h , each secured to the side-board by a bolt and nut i . These rollers h extend in two parallel lines lengthwise of said side-boards, being sufficiently apart to accommodate between them slide-bar J upon each of said side-boards. Near the front end of said wagon-box is the transversely-arranged crank-shaft, its extreme ends passing through perforations in said side-boards, thus forming journals for it to rotate in, and which crank-shaft is designated in the drawings by the letter K. The ends of this shaft outside of the wagon-box have attached elbows or cranks $k k$, and to the lower end of each are loosely pivoted the bars $j j$, the rear ends of each of which are loosely pivoted to the outer sides of one of said slide-bars J. On one side of crank-shaft K is at

tached a vertical handle *l*, provided with a catch-lever and bolt *m* to operate and engage with the notches in segment *n*, attached to one of said side-boards *G*. On the lower and
 5 outer surface of said side-boards *G* are attached the hooks *o*. The sections or flaps *L* are made the width of the wagon-box and as long and thick as shall be found desirable. At opposite corners, upon one side of each of
 10 said flaps *L*, extend trunnions *p p*, which enter the hooks *o* upon opposite sides of the wagon-box for the purpose of hinging said flaps to the lower edges of the side-boards of the wagon-box transversely. On the outer sur-
 15 face of said side-boards *G* and near the lower edge are attached the pulleys *q*. To the ends opposite said trunnions of flaps *L* are secured chains or straps *r*, the chain or strap of each end extending upward around one of said
 20 pulleys *q* to slide-bar *J*, to which it is secured.

In Fig. 1 the flaps *L* appear let down or swung downward as they appear immediately after dumping the contents of the wagon-box.
 25 Referring to this figure, the operator, by grasping with his hand the handle *l* and pulling the same backward, causes the crank-shaft *K* to partially rotate and the ends of cranks *k k* to move forward, carrying for-
 30 ward, also, bars *j j* and slide-bars *J J*. The movement forward of slide-bars *J J* causes the respective chains or straps to move forward over their respective pulleys *q* and to raise or swing upward each of the respective
 35 flaps *L* until they come in contact with the surface of the lower edge of each of said side-boards *G* of the wagon-box, when the operator causes the catch-lever and bolt *m* on handle *l* to engage in the notches of segment *n*,
 40 thus locking and holding the flaps *L* in said position.

When the operator desires to dump the contents of the wagon-box, he disengages the catch-lever and bolt *m* from the notches in
 45 segment *n* and moves the handle *l* forward, and the opposite movement of the parts takes place from that above described.

I am aware that prior to my invention dumping-wagons have been described in which the
 50 bottom of the wagon-box was composed of transversely-arranged flaps or sections having trunnions at the sides near the outer ends journaled into bearings on the lower edge of the sides of the wagon-box, the free ends of
 55 which were connected by operating-rods to a lever for the purpose of swinging the flaps upward to form a bottom for the box, and having attached to said lever a device for locking it, and thus holding the flaps in posi-
 60 tion. I am aware that such box was intended for use upon running-gear not connected by a reach.

I do not broadly claim the feature of a king-bolt in the rear of the front axle, be-
 65 cause I am aware that such has been described in connection with an upper circular plate horizontally attached to the under side

of the bolster or head-block having a lug extending in the rear of said axle, an under
 circular plate horizontally attached to the 70 top of the axle-bed upon said axle having a lug extending in the rear of said axle, a brace, its forward end bolted to the front part of the upper circular plate, its forward project-
 ing end supporting the front part of the under 75 circular plate, such brace extending rearwardly therefrom and secured to the under side of said axle, with a further rearward projection back of said axle and said lugs and
 rearward projection of said brace back of said 80 axle, each perforated in a vertical line to accommodate said king-bolt. Such construction is substantially described in Letters Patent No. 345,585 to Greer, July 13, 1886. I
 place the king-bolt in the rear of the front 85 axle to permit the axle to swing thereon; but I use a more simple and practical device to accomplish such result. I do not use the for-
 ward-projecting upper and under circular 90 plates respectively connected with the bolster and axle, nor the forward-extending brace supporting such plates. I use simply
 rear projections rigidly attached to the top and bottom surfaces of the axle, each per-
 95 forated in vertical line to accommodate the king-bolt, and for strength only I connect the forward ends of the projections, thus forming a stirrup. A washer is fitted over the king-
 bolt between the lower bolster and the per- 100 foration of the upper rear projection, so as to raise such bolster in a horizontal line above the upper horizontal surface of the axle to avoid contact in swinging.

I am aware that a longitudinal bar has been described as supported in suitable 105 guides on the side-board of a dumping-wagon arranged to be moved forward and backward by a suitable hand-lever; that the floor of such wagon-box is described as composed of transverse slats, their pivots projecting 110 through the side-board, having at the end crank-connection with such longitudinal bar, whereby such slats could be caused to turn with their pivots from a horizontal position to a vertical, and vice versa. Such construc- 115 tion is described in Letters Patent No. 233,049 to Townsend, dated October 5, 1880. I am also aware that where hinged transverse slats are used to form the floor of the wagon-box and a longitudinal bar supported in guides 120 upon the side of the wagon-box, arranged to be moved forward and backward by a suitable hand-lever, that mechanism for turning such slats upon their pivots from a horizontal to a vertical position, and vice versa, has been 125 described, in which the outer ends of the pivots are bent at right angles, forming a crank to engage suitable cams on said longitudinal bars. I do not claim such features, broadly, but limit myself to the specific structure in 130 the various combinations which I have described, which are more simple and less liable to disarrangement than other devices now known.

While I use transverse flaps or slats hinged to the side-boards to form the floor of the wagon-box and longitudinal bars supported in roller-guides on the side-boards
 5 actuated by a hand-lever, yet I combine with these a transversely-arranged crank-shaft, whereby the longitudinal bar upon each side-board is connected, thus imparting similar longitudinal movement to each bar through
 10 the hand-lever. I connect the free sides of each transverse flap to the longitudinal bars by means of straps or chains moving over rollers at the lower edge of the side-boards. By releasing the segment-catch upon the hand-
 15 lever the weight of the earth or other material upon the flaps when in a horizontal position causes them to swing downward automatically, and also moves the longitudinal bars upon their roller-supports sufficiently to
 20 permit such action. The operator has only to use manual power against the lever when raising the flaps from a vertical position to a horizontal position, which is thereafter maintained through the catch engaging the notches
 25 upon the segment.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a dumping-wagon where each of its two box-sides supports in suitable guides
 30 a longitudinal slide-bar, mechanism, substantially as described, for lowering the free edge of the pivoted transverse flaps forming the floor of such box when horizontal to a vertical position, and vice versa, in com-
 35 bination with a transverse shaft journaled

through such box-sides, a crank-arm on each end of such shaft outside of said box, a vertical handle rigidly attached to said shaft carrying a catch-lever and bolt to engage with the notches of a segment attached to one of
 40 the sides of said box, and each of such longitudinal bars connected to the end of one of such cranks by an intermediate pivoted bar, for the purposes stated, and substantially as described.

2. In a dumping-wagon, the front axle provided with the stirrup F, combined with the king-bolt attached to the upper and lower bolster, the lower part of said king-bolt passing vertically through suitable apertures in
 50 the upper and lower arms of said stirrup and at the rear of said axles, substantially as described.

3. In a dumping-wagon where each of its two box-sides supports in suitable guides
 55 a longitudinal slide-bar, mechanism, substantially as described, for moving such bars forward and backward, and such box provided with transverse flaps trunnioned thereto, substantially as described, and arranged to
 60 swing from a vertical to a horizontal position, and vice versa, in combination with the chains or straps r, running over pulleys q on said box-sides and connecting said transverse flaps with said longitudinal bars, for the pur-
 65 poses stated, and substantially as described.

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Witnesses:

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