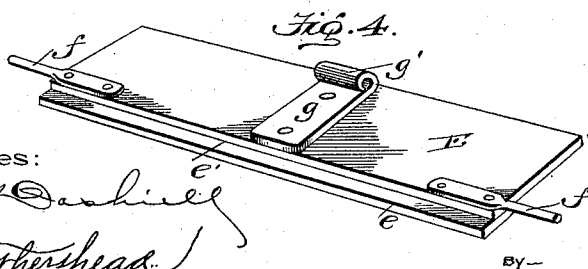
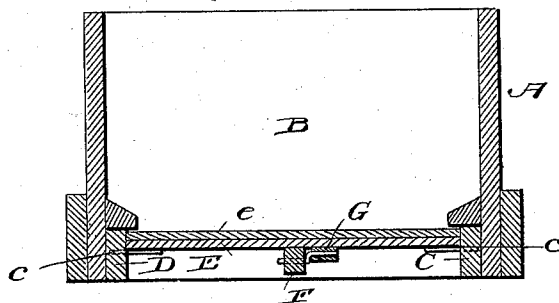
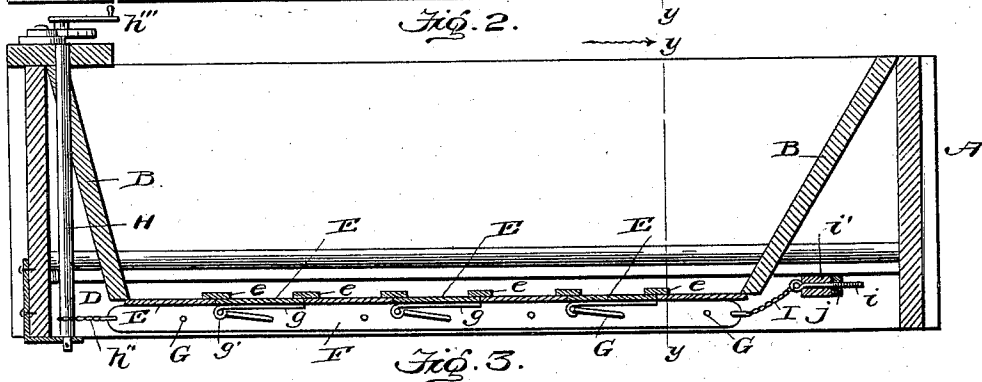
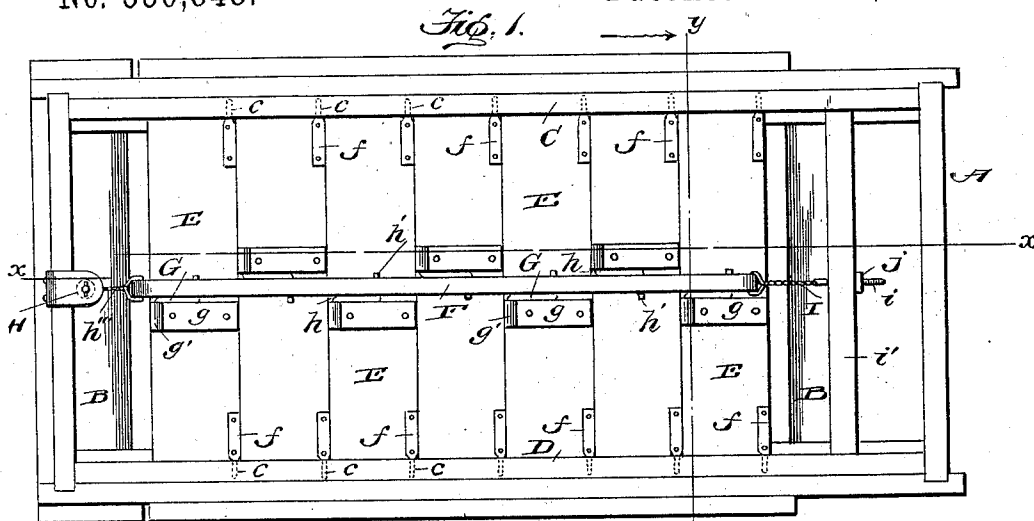


(No Model.)

A. J. SMITH.
DUMPING WAGON.

No. 550,848.

Patented Dec. 3, 1895.



Witnesses:

Wm C. Dashiell
J. P. Mothershead

Andrew J. Smith.
Inventor.

Edw. Bros
Attorneys

UNITED STATES PATENT OFFICE.

ANDREW J. SMITH, OF GREENSBURG, INDIANA.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 550,848, dated December 3, 1895.

Application filed March 26, 1894. Serial No. 505,128. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. SMITH, a citizen of the United States, residing at Greensburg, in the county of Decatur and State of Indiana, have invented certain new and useful Improvements in Dumping-Wagons; and I do hereby 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.

The nature of this invention is a sectional bed for dumping-wagons which can be readily applied to ordinary wagon-bodies for the purposes of quickly unloading or dumping the contents of the body without hinderance from the running-gear and which is so constructed as to form a tightly-closed bottom for transporting coal, earth, ore, or sand with little waste, if any.

I am aware that previous to my invention a dumping-wagon has been constructed with a series of hinged flaps which are connected loosely together by chains and combined with an operating-shaft adapted to raise the flaps through their chains to a horizontal position; but such a body-bed is not practical, for the reason that there is considerable lost motion in the chains, and they are liable to twist, so that the flaps cannot be brought together when the bottom is to be closed and the vehicle loaded.

My invention consists of bearing-rails arranged longitudinally within the sides of the vehicle-body, to which said bearing-rails are rigidly secured by transverse bolts and provided with series of transversely-aligned pivot-bearings, combined with a series of flaps, each provided at the ends thereof and near one side edge with projecting trunnions or ears, which are fitted in said pivot-bearings of the side rails, and further provided on the side edge adjacent to said pivots or trunnions with a longitudinal recess or bevel, an endwise-movable bar or bars arranged below the hinged flaps and said bar connected at one end to an operating-shaft, and a positive crank connection between the free edge of each hinged flap and the endwise-movable operating-bar, whereby the flaps are operated under the weight of the load to dump the same, and they are positively raised by the

cranks and bar, so that said flaps are in horizontal alignment and the free edge of each flap fits snugly in the recessed or beveled edge of the adjacent flap; and the improvements further consist in the peculiar construction and combination of parts, which will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a bottom plan view of a vehicle-body having its bottom constructed as contemplated by my invention. Fig. 2 is a longitudinal sectional view on the plane indicated by the dotted line *xx* of Fig. 1. Fig. 3 is a vertical transverse section on the line *yy* of Figs. 1 and 2. Fig. 4 is a detail perspective view of one of the hinged flaps.

Like letters denote corresponding parts in all the figures of the drawings.

The body A of the vehicle may be constructed in any approved manner with its lower side open. I prefer to unite the side and end walls of the body by bolts and to strengthen the same by transverse tie-rods, and within the body A, at opposite ends thereof, are secured the reversely-inclined walls B B, which serve to discharge the load of the vehicle toward the middle of the body.

C D designate the bearing-rails contemplated by my invention, and E the flaps. F is the endwise-movable bar, and G the positive crank connections between the free edges of the flaps and said bar F. These bearing-rails C D are arranged longitudinally within the body A from one inclined wall B to the other, and said rails are situated on opposite sides of the body within the same, to which sides the rails are rigidly fastened by through-bolts. These bearing-rails are each provided with pivot-bearings *c*, arranged in series along the length thereof corresponding to the flaps E, and the pivot-bearings of one rail are in line with the similar bearings of the other rail transversely across the body A.

The flaps E may be made of wood or metal, and if made of wood each flap has one edge thereof beveled. I prefer to make the flaps out of a piece of metal having the requisite stability, and to one side is riveted a reinforcement-strip *e*, which has one edge extended beyond the corresponding edge of the flap to form the longitudinal recess *e'*, de-

signed to receive the free edge of an adjacent strip when the flaps are brought into horizontal alignment to close the bottom of the body A, whereby the strips *e* are made to cover the joints between the flaps, as shown by Fig. 2, and close joints are secured between the flaps which lie flush with each other, and waste of the load is prevented. Close to this beveled or recessed edge of each flap are affixed the pivots or trunnions *f f*, which are in line with each other and extend in opposite directions beyond the ends of the flap, and these trunnions of the flap are fitted in the transversely-aligned pivot-bearings in the rails C D, to enable the flaps to turn easily therein. A plate *g* is rigidly fastened to the lower or bottom side of each flap, and near the free edge of the flap this plate *g* is provided with a bearing-loop *g'*. The crank G is made from a single piece of metal, which has its opposite ends bent in reverse directions to form the arm *h* on one side and the arm *h'* on the opposite side, and said crank G has its arm *h* loosely fitted in the loop *g'* of the hinged flap and its other arm, *h'*, pivotally connected to the bar F, whereby the flaps and bar are positively connected together for simultaneous operation. To distribute and equalize the strain on the bar F and the hinged flaps, I arrange the crank connections on the adjacent flaps to connect with opposite sides of the bar. Thus the first, third, fifth, &c., flaps have the cranks G situated on one side of the bar and pivotally connected to the flaps and the bar on that side. The second, fourth, and sixth flaps have their cranks on the opposite side of the bar and thus connected to the flaps and the bar on that side.

If the vehicle is to transport large heavy loads, I may find it necessary to employ two, three, or more of the bars F and to duplicate the cranks G accordingly. Hence I would have it understood that I do not confine myself strictly to the use of a single bar.

The flaps are depressed and lowered by the weight of the load in the vehicle-body; but to conveniently move the bar F and raise the flaps to their horizontally aligned and flush positions I provide an operating-shaft H, which is journaled in suitable bearings at one end of the vehicle, said shaft being connected by a chain *h* to one end of the bar and being held in place by a pawl-and-ratchet device *h'''*.

To limit the upward closing movement of the flaps, I provide a detaining-chain I, connected to the other end of the bar F, and to take up the slack in the chain the eyebolt *i* is attached to the chain I and has its threaded shank attached to a transverse bar *i'*, a nut *j* being screwed on the threaded shank to adjust the eyebolt or chain.

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

1. In a dumping wagon, the flat flaps E provided with the longitudinal reinforcement strips *e* which extend beyond the edges of said flaps to form the recesses and shoulders *e'*, the horizontally projecting trunnions *f f* rigid with the flaps near their recessed edges, and the bearing loops *g'* on the free edges of said flaps, combined with the body or box A, the longitudinal bearing rails secured in the sides of the body or box and receiving the trunnions *f f* of the flaps to support the flaps and enable them to swing to horizontal aligned positions where the free edge of one flap fits in the recess *e'* on an adjacent flap, the joints between all the flaps being covered by the projecting strips *e*, the adjusting bar F, and the cranks G having the arms *h h'* connected to the bar F and the loops *g'* on the flaps E, respectively, as and for the purpose described.

2. In a dumping wagon, the combination with a body or box A, and the bearing rails C D therein, of the flaps E each pivoted near one of its edges in said rails and provided on its free edge with the reinforcement strip which projects beyond said edge to overlap the free edge of an adjacent flap, when all of the flaps are adjusted in horizontal alignment, the central adjusting bar F arranged below the flaps, the two series of bearing loops *g' g'* arranged on opposite sides of said bar and attached to alternate flaps E, and the cranks G arranged alternately on opposite sides of the bar and each crank having one arm connected to the bar F and the other arm connected to a loop *g'* on one of the flaps, substantially as described.

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

ANDREW J. SMITH.

Witnesses:

CORTEZ EWING,
A. MURPHY.