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E. C. WILLS ET AL

DUMP BODY

Filed April 19, 1922

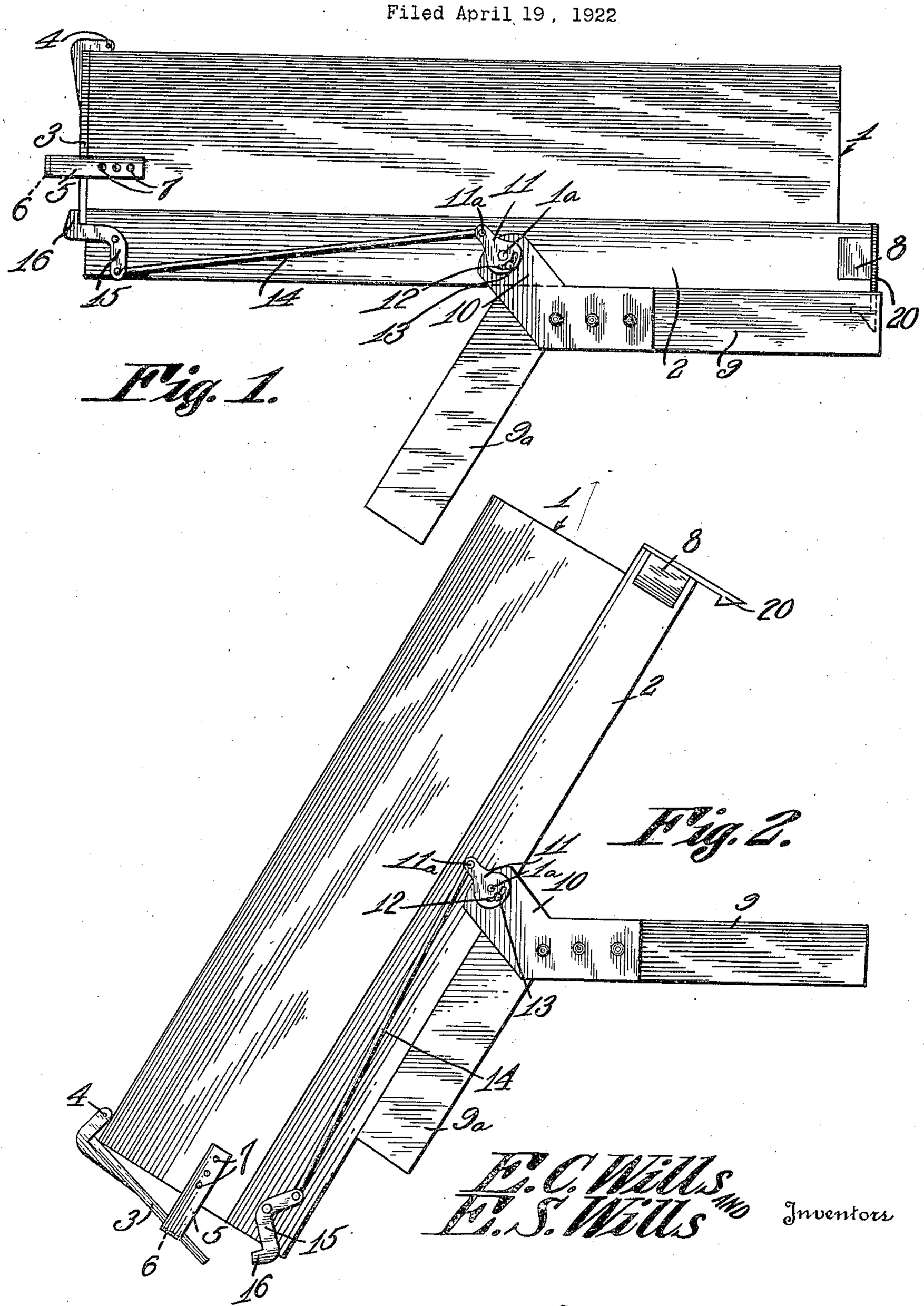

Fig. 1.

Fig. 2.

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UNITED STATES PATENT OFFICE.

ERNEST C. WILLS AND ERNEST S. WILLS, OF CLINTON, IOWA.

DUMP BODY.

Application filed April 19, 1922. Serial No. 555,605.

To all whom it may concern:

Be it known that we, ERNEST C. WILLS and ERNEST S. WILLS, citizens of the United States, residing at Clinton, in the county of Clinton, State of Iowa, have invented a new and useful Dump Body, of which the following is a specification.

This invention relates to dump bodies for vehicles such as wagons, cars and the like.

The object of the invention is to provide a simple and efficient body of this character which, when the locking means which normally holds it in operative position is released, will tilt automatically under the weight of the load into discharging position and after the load is dumped will automatically return to initial position and be locked ready for use.

Another object is to provide a body of this character having a swinging end gate with a latch for holding it closed and equipped with means for opening the gate at any predetermined point during the tilting of the body to provide for spreading of the material being dumped at any desired thickness.

Another object is to provide a tilting vehicle body having a swinging end gate which opens automatically on the tilting of the body, the opening movement of the gate being limited by an adjustable stop.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 represents a side elevation of a wagon body in operative position, and

Fig. 2 is a similar view showing the body in tilted position.

In the embodiment illustrated, a wagon box 1 is shown mounted on a suitable frame 2 and equipped at its rear end with an outwardly and upwardly swinging end or tail gate 3 hinged as shown at 4. A longitudinally adjustable strap 5 is secured at one side of the wagon box 1 and extends longitudinally beyond the end of said box having an inturned lip 6 at its free end positioned in the path of the end gate 3 to engage said gate and limit its opening movement. This strap 5 is provided with a plurality of longitudinally spaced apertures 7 through which a set screw is designed to be passed for adjustably mounting the strap on the body to position lip 6 closer or further away from the end of the body varying the opening movement of the end gate.

The box or body 1 of the vehicle is provided at its front end with a counter-balancing weight 8 for the rear end of the body when empty and insure the upward swinging movement of the body to horizontal position in which position it is locked by a releasable catch 20 which may be of any desired construction which is positioned for convenient actuation by the driver.

The body 1 is pivotally mounted on the frame 9 being pivoted off center to provide for the tilting rearward thereof when loaded to adapt it to discharge the load in a manner hereinafter to be described. The supporting pivot 1^a is positioned farther toward the front of the body than toward the rear to adapt it to tilt in the manner above set forth.

The truck or wagon frame 9 has a downwardly and rearwardly inclined stop 9^a positioned to be engaged by the body 1 when tilted to its extreme downward limit to prevent the body passing the dead center so that when the load is discharged, the counter balancing weight 8 will operate to return it to initial position.

Brackets as 10 extend upwardly and rearwardly from the frame 9 and through which the pivots 1^a pass. Mounted on these pivots are plates 11 each having an arcuate slot 12 therein arranged concentric with the pivot and through which extends a set screw 13 for fastening the plate in adjusted position. An arm 11^a extends radially from each plate 11 and has pivotally connected with its free end one end of a rod 14, the other end of said rod being pivotally connected with the free end of one arm of a bell crank lever 15, fulcrumed on the body frame 2 near its rear end and which is designed to operate as a latch for securing the end gate 3 in closed position, the other arm of said lever having a right angularly extending finger 16 which is designed to engage the lower edge of the gate 3 and lock it in closed position as is shown clearly in Fig. 1.

From the above description it will be obvious that by adjusting the plate 11 through the set screw 13, the latch 15 may be made

to open at any desired point during the tilting movement of body 1. This is due to the fact that the pivot which connects rod 14 with arm 11ª is placed above the pivot 1ª so that when the box 1 tilts, it will exert a pulling force on latch 15 thereby releasing it from its engagement with the end gate 3.

A tilting body constructed as herein shown and described will when the locking latch 20 at the front thereof is released, tilt under the weight of the load therein and thus the tilting of the body will operate to exert a pull on the rod 14 swinging the latch 15 into the position shown in Fig. 2, and thereby releasing the end gate 3 which will swing outward until it contacts with the lip 6 on the strap 5. The material will continue to flow out until the entire contents of the body is discharged and when this is effected, the weight 8 at the front of the body will operate to swing the body to normal horizontal position, and when it reaches this position, the latch 20 will engage the front portion thereof and lock it until further release by the operator.

We claim:—

The combination with a vehicle frame; of brackets extending obliquely and rearwardly upward from opposite sides thereof, a tilting body mounted between said brackets and pivotally connected therewith at a point in advance of the center of said body, plates mounted on the pivots of said body having arcuate slots therein concentric with said pivot, a set screw extending through each of said slots to secure said plates in adjusted position, an arm extending radially from each plate, a rod pivoted at one end to the free end of each arm, means for limiting the tilting movement of the body, said body having an outwardly swinging end gate, a bell crank lever pivoted on said body adjacent said gate and having a lip for engaging the gate to lock it in closed position, said rod being connected with said bell crank whereby tilting of the body will exert a pull on the rod to release the bell crank.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

ERNEST C. WILLS.
ERNEST S. WILLS.

Witnesses:
GLADYS B. MURRAY,
L. A. DISHER.