May 4, 1926. 1,583,744

J. A. POLLARD

DUMP BODY

Filed June 9, 1925 3 Sheets-Sheet 1

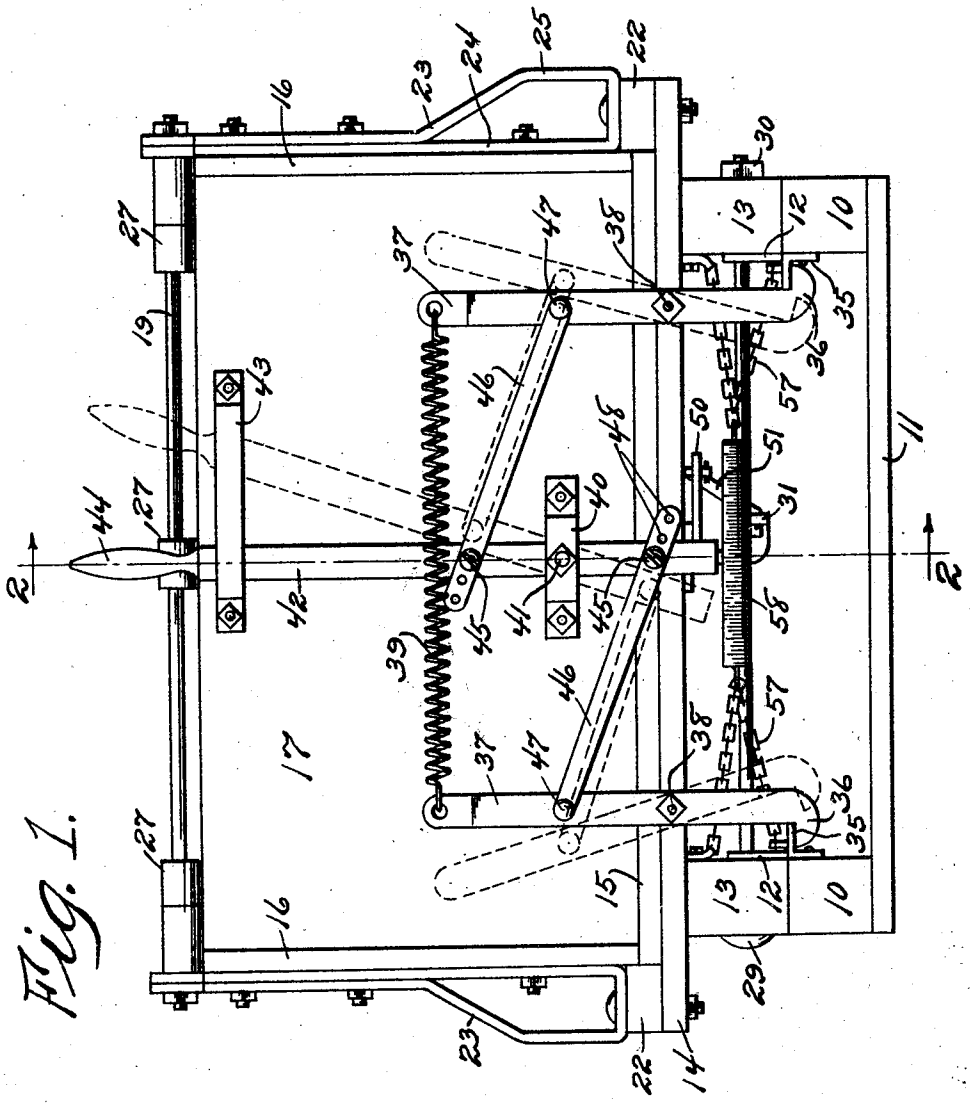

Fig. 1.

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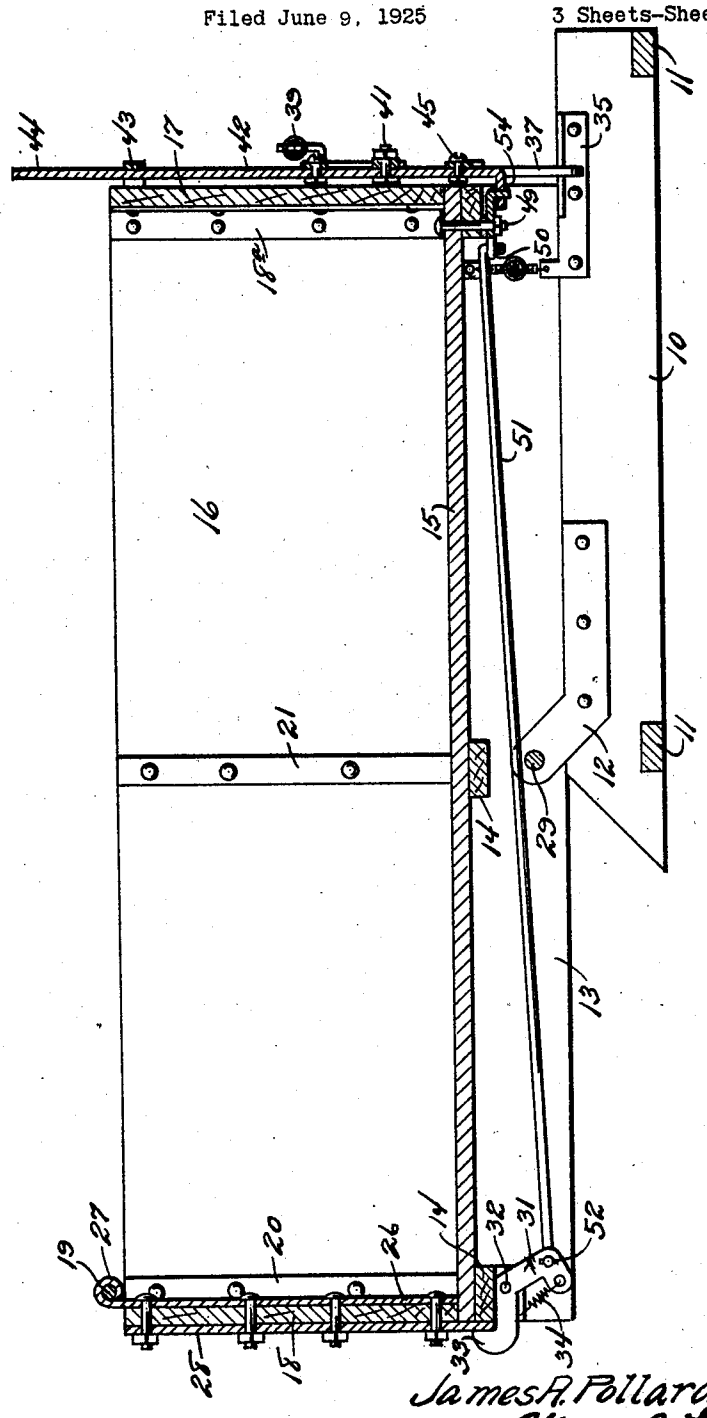

Fig. 2.

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Fig. 3.

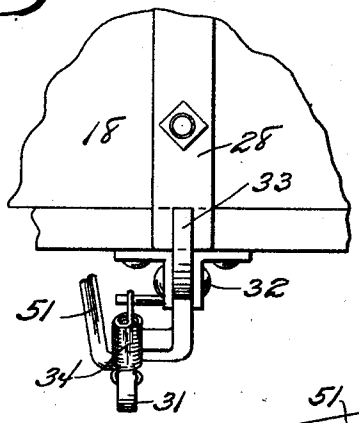


Fig. 4.

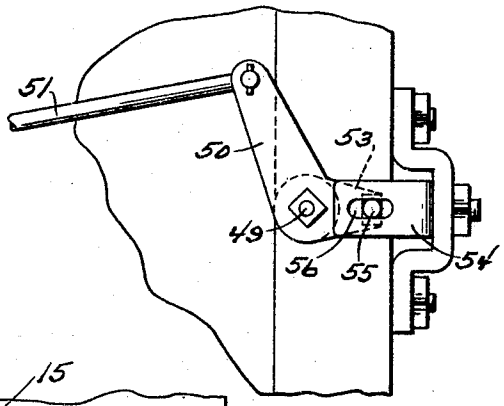
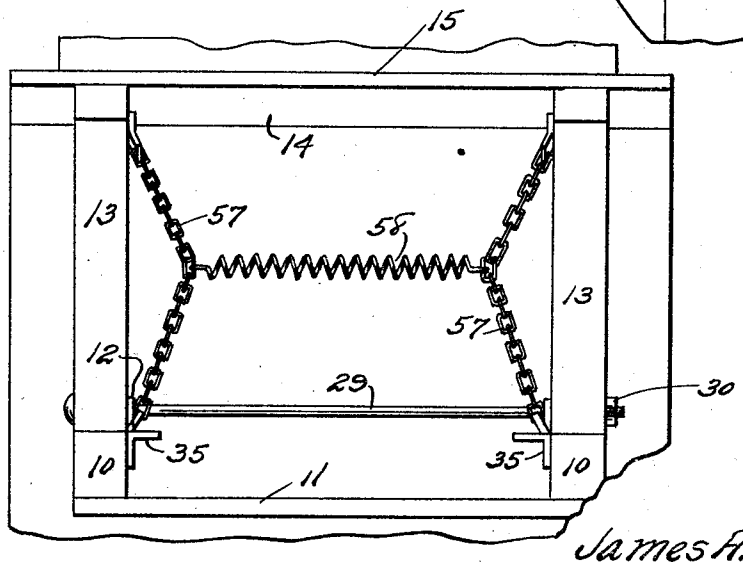


Fig. 5.



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INVENTOR

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WITNESS John Donovan

Patented May 4, 1926. 1,583,744

UNITED STATES PATENT OFFICE.

JAMES A. POLLARD, OF SAN ANTONIO, TEXAS.

DUMP BODY.

Application filed June 9, 1925. Serial No. 35,994.

To all whom it may concern:

Be it known that I, JAMES A. POLLARD, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented new and useful Improvements in Dump Bodies, of which the following is a specification.

This invention relates to vehicle bodies, particularly those of the dumping type, and has for its object the provision of a novel device embodying various structural characteristics constituting an improvement.

An important object is the provision of a dump body which is gravity operated and which will consequently dump its load upon the release of certain holding means.

Another object is the provision of a dumping body provided with novel lever actuated retaining means for holding it in normal or operative position, this means being connected with other means for holding the end gate normally closed so that upon release of the holding means the body will dump gravitationally and at the same time the end gate will open.

Still another object is the provision of a device of this character equipped with shock absorbing and open checking means which will operate to relieve the hinge mounting of unnecessary shock and which will also operate to impart more or less of a vibratory movement to the body when dumping, this movement naturally resulting in jarring loose the load so that the body will be substantially self-cleaning.

An additional object is the provision of a device of this character which will be comparatively simple and inexpensive in manufacture, easy to install and operate, positive in action, efficient and durable in service, and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of construction and the arrangement and combination of parts to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which:—

Figure 1 is a front elevation of the complete device.

Figure 2 is a vertical longitudinal section therethrough.

Figure 3 is a fragmentary rear elevation showing the means for holding the end gate in closed position.

Figure 4 is a fragmentary bottom plan view of the forward end showing the means for actuating or releasing the end gate.

Figure 5 is a front elevation with the body shown in dumping position, this view illustrating the act of the movement limiting and shock absorbing means.

Referring more particularly to the drawings, I have shown the device as including sub-sills 10 spaced apart a desired distance and maintained in spaced relation and braced with respect to each other by means of transverse sills 11. These sub-sills 10 constitute the support for the entire mechanism to be described and they are adapted to be mounted upon the chassis of the motor vehicle or the bed of a wagon, whichever it is desired, securing to be readily accomplished by the employment of U-bolts or the like, not shown, which might be embracingly engaged about the members 10 and suitably secured to the chassis or frame. Secured to the sills 10 in any desired manner are angular arm members 12 to which the movable or dumping body is connected.

The body comprises longitudinally extending sills 13 located above the sub-sills 10 and normally resting thereon. The longitudinal sills 13 are connected at intervals by cross-members 14 which are preferably recessed thereinto as indicated in Figure 2, and these cross-members 14 support the floor or bottom 15 of the body or box. While the detail construction of the body might be varied within wide limits, I have shown it as including sides 16, a front wall 17 and an end gate 18. The sides may be secured to the front 17 in any desired manner as for instance by means of the angle bars 18^a and at the rear ends the sides are held against spreading by means of a transversely extending tie rod 19 which passes through the upper ends of suitable angle bars 20 or the like. Any desired number of vertically arranged stiffeners or brace members 21 may be provided as these are mechanical details well within the skill of an ordinary mechanic.

The transverse bar members 14 extend laterally beyond the sides 16 and secured upon the projecting ends are longitudinally extending auxiliary sills 22 which bear against the side edges of the bottom 15 and against the outer faces of the sides 16 for preventing outward movement of these parts. As ad-

ditional reinforcement, I may make use of a plurality of brace devices 23 secured to the outer faces of the sides 16 and also secured to the ends of the auxiliary sills 22. Each of these braces 23 may be conveniently formed from a single length of resilient or bendable metal, bent as shown in Figure 1 to provide the main portion 24 which is secured to the sides and to provide the outstanding angular portion 25 which acts as a brace. Obviously, these braces could be replaced by solid ones, if preferred, without departing from the spirit of the invention.

The end gate 18 is shown as provided with metal straps 26 which may in actual practice be formed with knuckles 27 embracingly engaged upon the transverse tie rod 19 so as to provide a hinge mounting for the end gate. Secured to the outer face of the end gate and projecting below the lower edge thereof is a reinforcing bar 28 which normally engages against the rear edge of the bottom and against the rear edge of the rearmost transverse member 14 when the end gate is in closed position. It will be observed that the remainder of the end gate is of such construction as to fit within the confines of the box or body.

As stated above, the longitudinal sills 13 of the movable body normally rest flat upon the upper edges of the sub-sills 10 and outwardly of the bracket arms 12 which consequently serve as stops for preventing lateral displacement of the movable body in one direction or the other. The means for pivoting the body may consist of a bolt 29 extending transversely through the sills 13 and through the bracket arms 12. This bolt is equipped with a nut 30 which will act to exert a clamping action so that the bolt will readily fold the sills 13 in the proper relation and prevent spreading thereof.

The end gate 18 is normally held in a closed position by means of an angular latch device 31 pivoted at 32 on a suitable bracket and having a shouldered head 33 engaging against the outside of the reinforcing bar 28. A coiled spring 34 is connected with the latch for the purpose of normally holding it in engagement with the end gate. The means for effecting release will be hereinafter explained.

The means for holding the body itself normally in horizontal or low carrying position, comprises bracket members 35 mounted upon the inner faces of the sub-sills 10 and engaged by the shouldered heads 36 of depending arms 37 pivoted at 38 at the forward end of the body. A coiled spring 39 is connected with the upper ends of these arms for normally holding them together so that the lower ends or shouldered heads will engage against the brackets 35. Secured upon the forward end 15 of the body is a bracket 40 within which is pivoted, at 41, an operating lever 42 which is movable along a combined guide and stop bracket 43 mounted at the upper portion of the front 17. This lever terminates in a handle 44 which is preferably located above the top of the body so as to be in convenient position for grasping by the driver of the vehicle. Pivotally connected with this lever 42 at opposite sides of its pivot 41, as indicated at 45 are links 46 which extend outwardly and in opposite direction and which are pivotally connected at 47 with the arms 37. In order that adjustment of the flow may be had, the links 46 are represented as being provided with a series of holes 48 through any one of which may be passed the pivot 45. Suitably pivoted at 49 on the underside of the forwardmost cross sill 14 is an angle lever 50 one arm of which is pivotally connected to a rod 51 which extends rearwardly and which is pivotally connected at 52 with the angular latch 31. The other arm 53 of the angle lever 50 is located above a rearward extension 54 formed on the lower end of the lever 42 and is pivotally and slidably connected therewith by means of a suitable bolt 55 passing through the extension 54 and through an elongated slot 56 in the arm 53.

The means for checking or limiting the movement of the body when it drops into dumping position comprises a pair of flexible members such as the chains illustrated at 57, which chains have their end portions connected respectively with the forward ends of the sills 13 and 10. The intermediate portions of the chains are connected by a spring 58 which is, of course, stretched when the chains tend to straighten upon dumping of the body.

In the operation, it will be seen that under normal conditions the body is held in its horizontal or load carrying position by engagement of the heads 36 of the arms 37 with the brackets 35. The end gate 18 is held closed by the head 33 of the latch 31 as clearly indicated in Figure 2. When the operator desires to dump the load, it is merely necessary that he grasp the handle 44 and swing the lever 42 into the position shown by dotted lines in Figure 1. When this is done the movement of the lever is imparted to the links 46 and as the latter are pivotally connected with the arms 37 it is quite clear that these arms will be swung outwardly at their upper ends into the position shown by dotted lines in Figure 1 so that the shouldered heads 36 at the lower ends thereof will be disengaged from the retaining brackets 35. The weight of the load being slightly overbalanced at the rear of the body will then cause the body to tilt and dump, the pivotal movement occurring at the rod 39. It should, of course, be understood that when the lever 42 is moved to

release the body from the retaining means carried by the sub-sills the angle lever 50 is swung owing to the engagement of the bolt 55 with the slot 56 and with the extension 54. The swinging movement of the angle lever 50 is imparted to the latch 31 through the medium of the rod 51 and the result is that the latch 31 will be moved in such a direction that the shouldered head 33 thereof will be disengaged from the bar 28 on the end gate. Obviously, there is then nothing to hold the end gate shut and will be automatically opened as the load slides out of the body. When the body moves to its dumping position the chains 57, of course, tend to straighten and it results in stretching the spring 58 which therefore acts as a shock absorber to take up the jar and prevent a too sudden movement of the body which might result in injury thereto. Furthermore, the action of this spring and chains will be to give somewhat of a vibratory movement to the body which will result in shaking out any portion of the load which may have a tendency to stick or clog. In this way the body may be said to be self-cleaning.

When dumping has been accomplished and it is desired to restore the body to its normal or initial position, it is merely necessary that it be manually moved into its horizontal position whereupon engagement of the shouldered head 36 with the bracket members 35 will be automatic. Similarly when the end gate is closed the lower end of the bar 28 will engage against the head 33 of the latch and swing the latch downwardly so that the end gate may pass into closed position subsequently to which the spring 34 will act to restore the latch to its operative position.

From the foregoing description and a study of the drawings it will be apparent that I have thus provided a comparatively simple and inexpensive dump body which possesses various features of superiority and advantage especially in point of ease of operation and freedom from shock and jar. It is believed that the construction, operation and advantages will be readily apparent to one skilled in the art without further explanation.

While I have shown and described the preferred embodiment of my invention, it should be understood that I reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:—

1. In a dump body construction, stationary sills, a body disposed thereon and pivoted with respect thereto for vertical movement, bracket members carried by the sills, a pair of arms pivoted intermediate their ends upon the front end of the body and having shouldered heads normally engaging the brackets, a lever pivoted intermediate its ends upon the forward end of the body, and a pair of links pivotally connected with the lever at opposite sides of its pivot and pivotally connected with the intermediate portions of said arms for swinging the latter out of engagement with the brackets, a pivotally mounted end gate at the other end of the body, a latch normally holding the end gate closed, and an operative connection between said latch and said lever for moving the latch into release position simultaneously with disengagement of said arms from the brackets.

2. In a dump body construction, stationary sills, a body disposed thereon and pivoted for movement in a vertical direction, an end gate pivotally mounted at the rear end of the body, retaining means on the sills, latch devices on the forward end of the body normally engaging said retaining means, a lever pivoted on the forward end of the body and operatively connected with the latch means for releasing the same from engagement with the retaining means, said lever terminating in a rearward extension, a horizontally disposed angle lever pivoted on the underside of the body and having one arm pivotally and slidably connected with the rearward extension of the lever, a vertically swingable latch pivoted at the rear end of the body and normally holding the end gate closed, and a rod connecting said angle lever with said latch for simultaneously releasing the latter upon disengagement of the first named latch means from the retaining means.

In testimony whereof I affix my signature.

JAMES A. POLLARD.