Jan. 20, 1925. 1,523,525

S. HATASHITA

DUMP BODY

Filed June 9, 1922 4 Sheets-Sheet 1

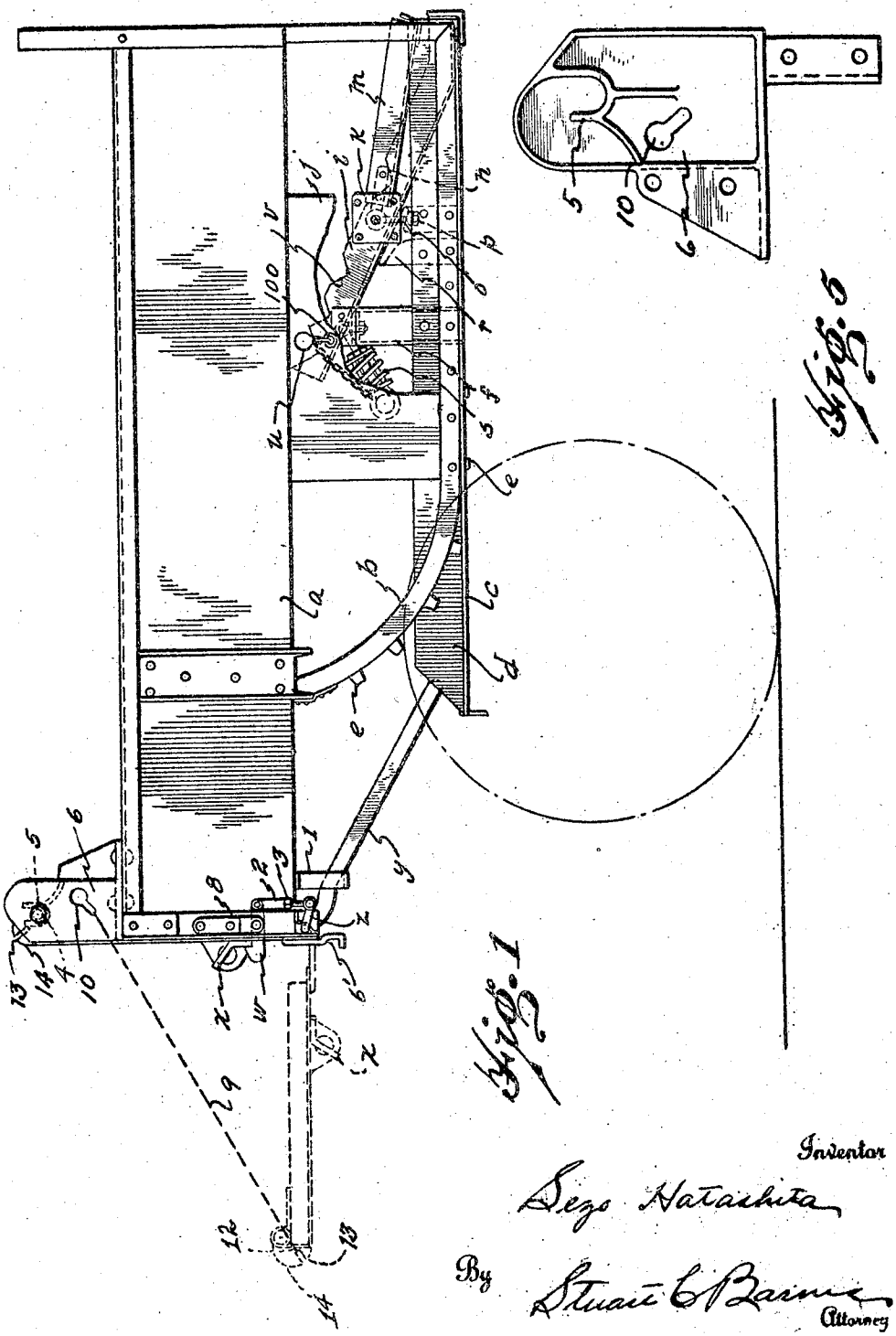


Fig. 1

Fig. 6

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DUMP BODY

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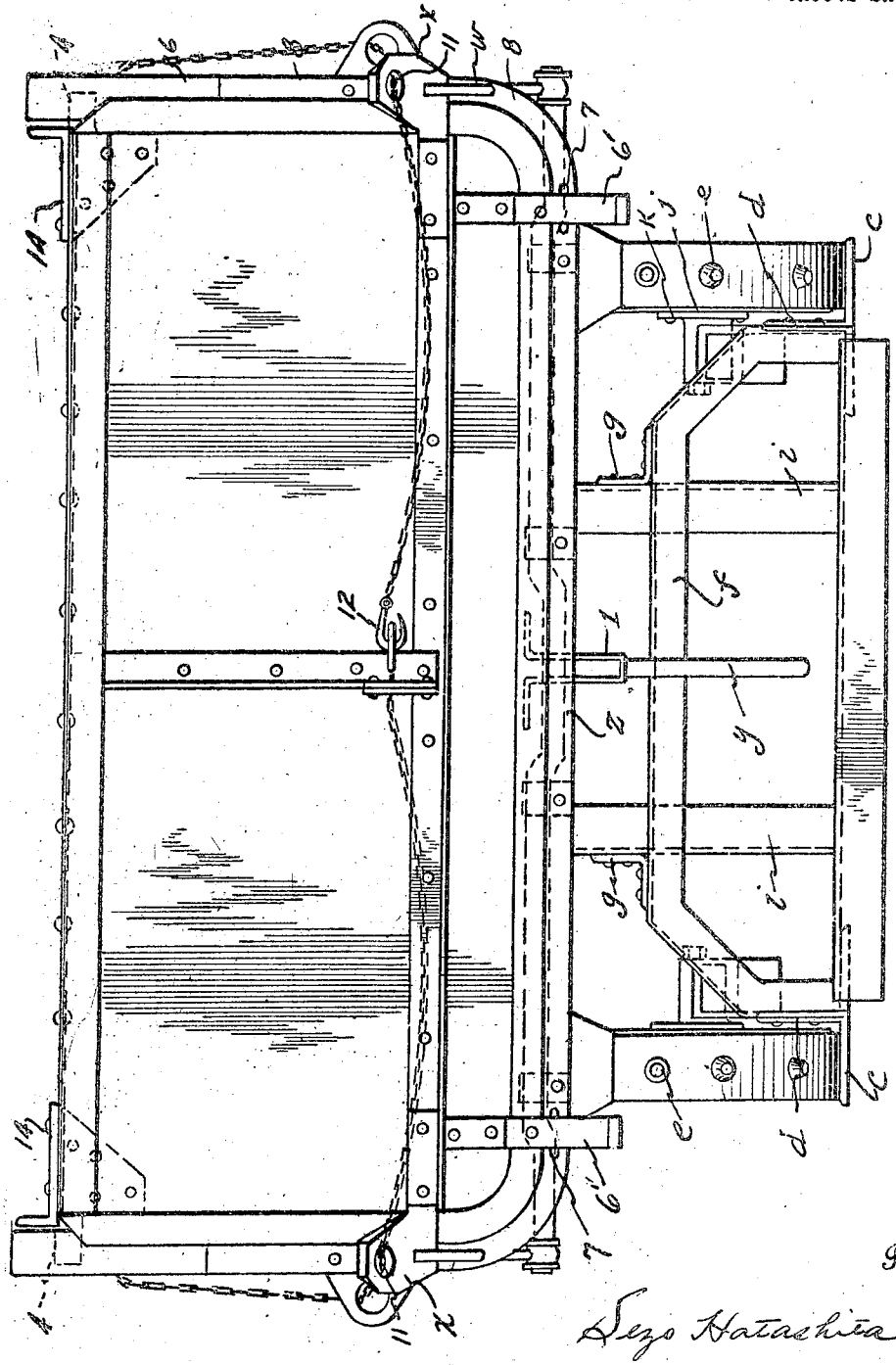


Fig. 2.

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DUMP BODY

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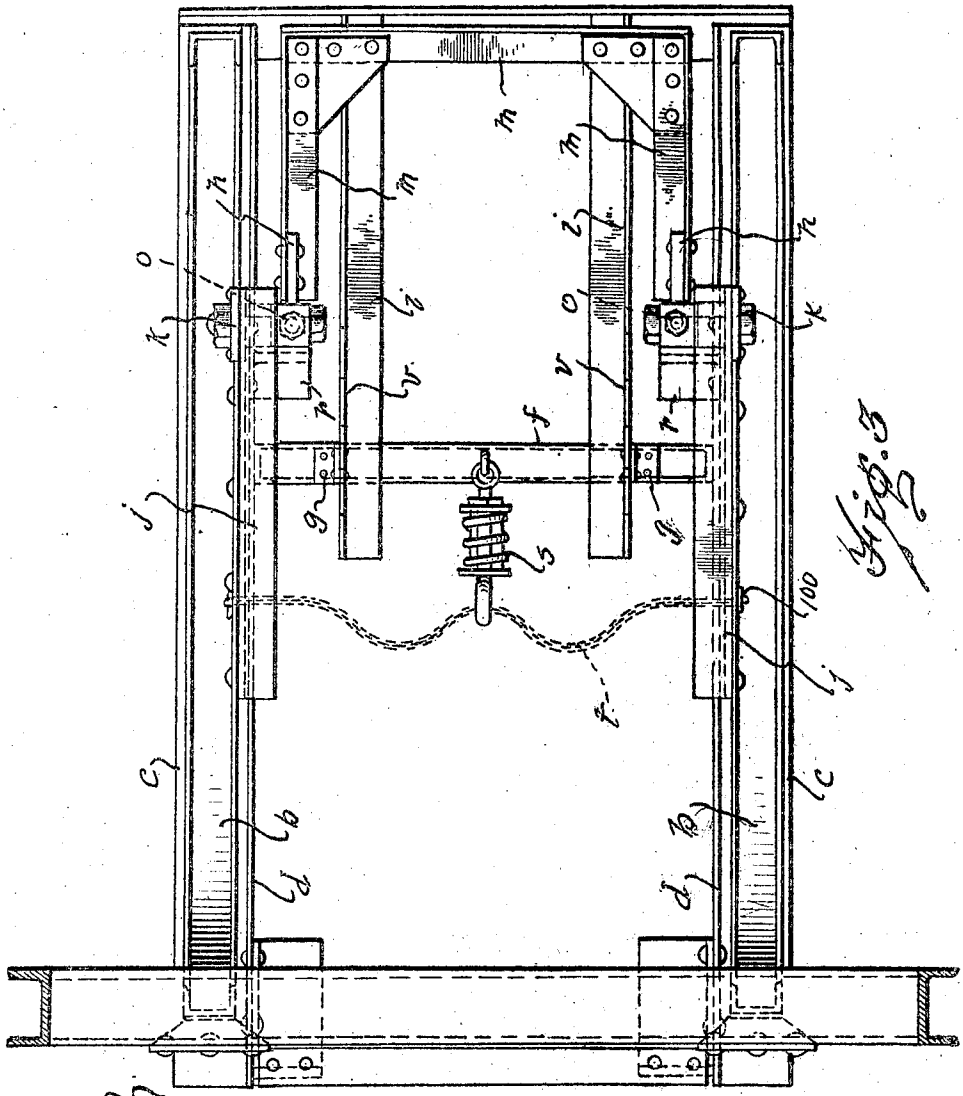


Fig. 3.

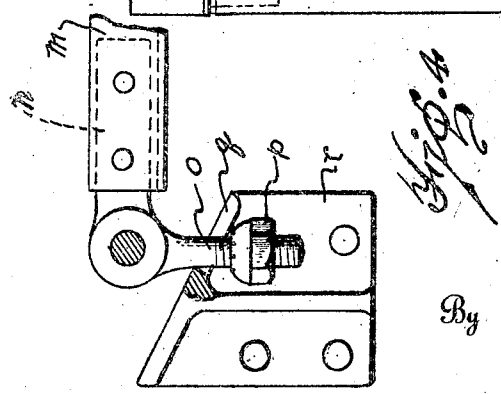


Fig. 4.

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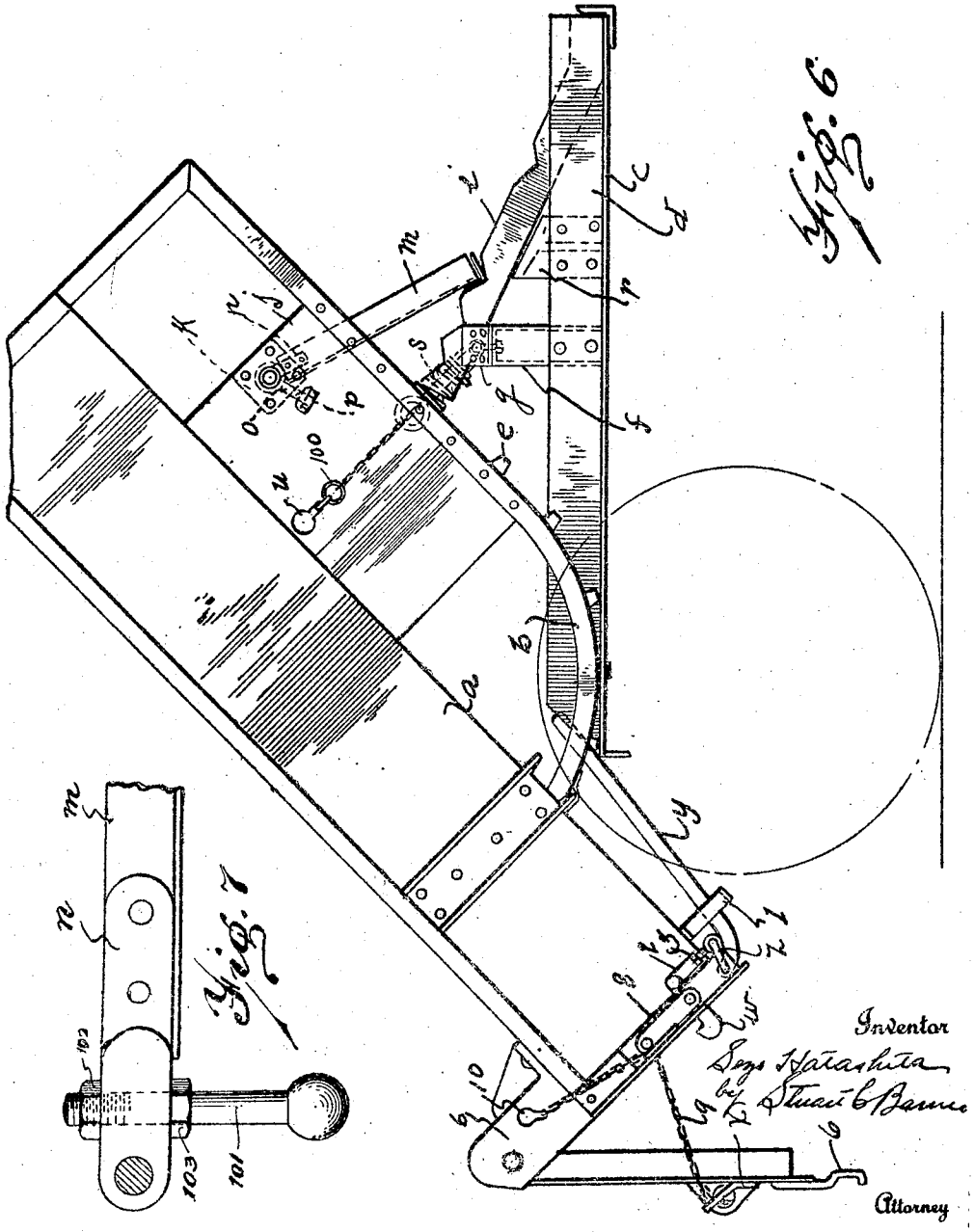
Attorney

Jan. 20. 1925. 1,523,525

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DUMP BODY

Filed June 9, 1922 4 Sheets-Sheet 4



Patented Jan. 20, 1925. 1,523,525

UNITED STATES PATENT OFFICE.

SEZO HATASHITA, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO JAMES G. WINSOR, OF DETROIT, MICHIGAN.

DUMP BODY.

Application filed June 9, 1922. Serial No. 567,012.

To all whom it may concern:

Be it known that I, SEZO HATASHITA, a subject of Japan, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Dump Bodies, of which the following is a specification.

This invention relates to dump bodies and has in view particularly a dump body which will automatically rock to dumping position in the rear of the vehicle and will automatically unlock the tail gate to discharge the contents.

Another feature of this dumping body is the tail gate construction, which permits the tail gate to be interchangeably used as a swinging tail gate or as a platform to form an extension of the floor of the box or hopper.

In the drawings:—

Fig. 1 is a side elevation of the vehicle and the hopper showing the hopper in full line in the normal position for transport. This figure also shows in dotted lines the tail gate dropped down to form a supporting platform.

Fig. 2 is the rear elevation of the hopper and the parts by which it is supported.

Fig. 3 is a plan view of the hopper-supporting parts where the hopper or box is removed.

Fig. 4 is a detail view of the locking lever and bracket.

Fig. 5 is an elevation of the tail gate hanger.

Fig. 6 shows the hopper in the dumping position.

Fig. 7 shows a modification of the locking lever.

a designates the ordinary box type of hopper which is supported upon rockers *b* that run on the flanges *c* of the T-bar rails *d*. These rockers are provided with the usual teeth *e* that engage in openings in the flange of the rail to properly measure the travel of the rockers on the rails and prevent their slipping on the rails.

Located on the chassis frame and bolted to the web of the rails *d* is a yoke-like channel section cross member *f* having a pair of angle bar clips *g* to which are riveted the angle section rack bars *i*. Bolted to the plates *j* are the locking lever bearings *k*. *m* designates a yoke on the end of which is bolted the bell crank member *n* (see Fig. 4) one arm of which is screw-threaded as at *o* to take the adjusting and lock nuts *p*. This arm is adapted to pass through the slot *q* in the keeper or bracket *r*, the nuts hooking in under the wall that bears the slot to lock the hopper in position for transport. The purpose of making this bell crank locking lever threaded is to permit the two nuts to be adjusted to make each lever catch in under the shoulder on the keeper so that the hopper will be locked at each side and hence will not vibrate at one side due to a looseness at this point.

Fastened to the center of the cross member *f* is a checking line comprising the extensible spring unit *s* and the chain *t* which is provided with a ring 100 adapted to pass through the slot *u* in the plate *j*. After the ring has been passed through this slot, the chains may be dropped down into the reduced end of the slot so as to lock the same in the plate at any desired point along the chain.

The operation of this part of the dumping apparatus will be apparent. By lifting the yoke *m*, the locking lever *o* has its end lifted out from under the shoulder of the keeper *r* and the hopper is free to roll to dumping position. The calculation of the center of the rockers with respect to the center of gravity of the hopper when loaded is such that this center of the load lies behind the center of the rocker and consequently the load will automatically carry the hopper to dumping position when the locking yoke is lifted to release the locking lever. The notches shown in the inclined supporting bar *i* permit the locking bar *m* to rest in various positions and consequently hold the hopper in various positions of inclination, depending upon the amount of checking chain used. The amount of chain used may be varied by locking the same at any desired point along the chain and in the slot *u*.

The main feature I have in mind is the automatic releasing of the tail gate following upon the rolling of the hopper to dumping position: The tail gate is normally held in locked position by the pivoted hook or latch *w* engaging behind the keeper *x* on the tail gate. During transport the hook *w* is maintained in locked position with the keeper *x* by the weight of the locking lever *y*. This locking lever is threaded on to the crank shaft *z* through an eye in the locking

lever. Normally a hanger *l* secured to the bottom of the hopper prevents the locking lever dropping down from the position shown in the full lines in Fig. 1. However when the hopper rolls to dumping position the lever *y* strikes the end of the chassis frame as shown in Fig. 6, lifting the lever as shown in this figure and consequently pulling down on the crank, thereby pushing up on the adjustable connecting rod 2 and unhooking the latching lever. The contents of the hopper, being against the tail gate, will quickly push the tail gate open and discharge. Connecting rod 2 is made up of a bored and tapped rod portion and a threaded stem portion which screw together and are provided with a jam nut 3 so that the length of the connecting rod may be adjusted to meet requirements.

Still another feature is the inter-changeable arrangement of the tail gate so that it can act as a tail gate swinging on a hanger located at the top of the gate or it may be optionally used as a carrying platform or extension of the hopper floor as is shown in the dotted lines of Fig. 1. The gate is provided with studs 4 which set into the rests 5 on the inside of the castings 6 which might appropriately be termed the tail gate hangers. These hangers are bolted to the top rear corner of the hopper. These rests 5 form open-top-pivot-bearings. The tail gate may have its pivot studs lifted out of the open-top-pivot-bearings and the hooks 6′ may then be engaged in the slots 7 of the rear bent-end-angle-bar of the hopper designated 8. This bar is a U shaped angle-bar that runs up the sides as well as running across the back of the hopper to give it its box-like shape and reenforcement at the corners. With the hooks 6′ hooked into the slots of this bar the chain 9 may support the rear of the tail gate from the slot 10 in the tail gate carrying bracket 6.

This chain can be run through the perforations 11 in the keeeprs *x* when not in use and the two hooks 12 may be hooked together and supported at the back of the tail gate. When in actual use the chain hooks 12 are hooked into the slots 13 at the free end of the tail gate. These slots are in the castings 14 which also form gusset plates for the corners of the tail gate. The other end of the chain is anchored in the reduced end of the slot 10 carried in the casting 6. The chain, when in the position shown in Fig. 6 acts as a check chain to limit the opening of the tail gate.

In Fig. 7 I have shown a modification of the locking lever in which a spherical headed bolt 101 with two locking nuts 102 and 103 are used to take up any looseness between the locking lever and the keeper.

What I claim is:

1. The combination of a vehicle, a rear dumping hopper supported upon the vehicle and provided with a plate having a slot with a reduced end, an inclined supporting bar provided with notches, a bracing member secured to the hopper and arranged to engage in the notches to support the hopper in different degrees of inclination, and a checking chain secured to the vehicle and arranged to engage in the said slot with the reduced end at various points along its length.

2. The combination of a vehicle, a rear dumping hopper supported upon the vehicle, an inclined supporting member provided with several places for supporting the hopper in several positions of inclination in dumping, a bracing member secured to the hopper for resting on any one of the several places of said supporting member, and a checking chain anchored upon the vehicle and which may be engaged with the hopper to vary its effective checking length.

3. The combination of a vehicle, a rear dumping rolling hopper supported upon rockers, a keeper secured to the vehicle and provided with a slot, a locking lever secured to the hopper and provided with a bell crank member, one arm having a clamping member adjustable thereon, the said arm adapted to fit in the slot of the keeper member and the clamping member adapted to bind the locking lever in locking relation with the keeper member.

4. The combination of a vehicle, a rear dumping rolling hopper supported upon rockers, a keeper secured to the vehicle and provided with a slot and a locking lever having an arm secured to the end thereof and secured to the hopper, said arm engaging with said slot and provided with means adjustable thereon for providing a tight engagement of the lever with said keeper.

5. The combination of a vehicle, a rear dumping hopper supported upon the vehicle, a keeper secured to the vehicle and provided with a slot, a locking lever secured to the hopper and provided with a downturned arm having a clamping member adjustable thereon and engaging in said slot, said clamping member arranged to engage under the keeper.

In testimony whereof I affix my signature.

SEZO HATASHITA.