COMMONWEALTH OF AUSTRALIA

APPLICATION FOR A STANDARD PATENT
OR A STANDARD PATENT OF ADDITION

(71) GEOFFREY JAMES McHATTIAN

of 4 CHESTER RD TURRAMURRA N.S.W. 2074

(54) hereby apply for the grant of a □ standard patent for an invention entitled
□ patent of addition

IMPROVEMENTS TO SELF LOADING, UNLOADING VEHICLES.

which is described in the accompanying □ provisional □ complete specification.

(72) The actual inventor of the said invention is □ GEOFFREY JAMES McHATTIAN

PART II

THESE SECTIONS ARE ONLY TO BE COMPLETED WHERE APPLICABLE:

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(Only to be used in the case of a further application made by virtue of Section 51)

(62) Number of original application..........................

Person by whom made...........................................

(Only to be used in the case of an application for a patent of addition)

I request that the patent may be granted as a patent of addition applied for on...

Application No............................................... Patent No........................................

in the name of...............................................

I request that the term of the patent of addition be the same as that for the main invention or so much of the term of the patent for the main invention as is unexpired.

Dated this SIXTH day of MAY 1988

(Signature)

TO: THE COMMISSIONER OF PATENTS

This form must be accompanied by either a provisional specification (Form 9 and true copy) or by a complete specification (Form 10 and true copy).
DECLARATION IN SUPPORT OF AN APPLICATION FOR A PATENT

In support of the Application made by GEOFFREY JAMES MCHATTAN
4 CHESTER RD TURRAMURRA N.S.W. 2074
for a patent for an invention entitled IMPROVEMENTS TO SELF LOADING, UNLOADING VEHICLES.

I, GEOFFREY JAMES MCHATTAN
of 4 CHESTER RD TURRAMURRA N.S.W. 2074
do solemnly and sincerely declare as follows:

1. I am the applicant for the patent.

2. I am the actual inventor of the invention.

Declarer at SYDNEY this SIXTH day of MAY 1988

TO:
THE COMMISSIONER OF PATENTS.

Signature of Declarant

(IMPORTANT – Cross out inapplicable words in the above Form.)
DOCUMENTS
LODGED WITH
THIS APPLICATION
ARE UNSUITABLE
FOR REPRODUCTION
AND MAY BE
INSPECTED AT THE
PATENT OFFICE A.C.T.
1. A vehicle chassis/frame self propelled or not, comprising longitudinal members at any spacing & transverse members at any spacing, where some or all the transverse members can be set aside or totally removed, to leave the vehicle substantially free of any transverse members or obstructions, to allow the free passage of payload supports between the vehicles remaining longitudinal members but when the transverse members are set back in position or replaced, the vehicle regains it's original structural integrity.
SHORT TITLE:

INT.

CL:

APPLICATION NUMBER:

LODDED:

COMPLETE SPECIFICATION—LODDED:

ACCEPTED:

LAPPED:

PUBLISHED:

PRIORITY:

RELATED ART:

TO BE COMPLETED BY APPLICANT

NAME OF APPLICANT: GEOFFREY J. MCNATTAN

ADDRESS OF APPLICANT: 4 CHESTER RD. TURRAMURRA N.S.W. 2074

ACTUAL INVENTOR: GEOFFREY J. MCNATTAN

ADDRESS FOR SERVICE: 4 CHESTER RD. TURRAMURRA N.S.W. 2074

5 SHOAL PT. RD., BUCASIA,
Qld., 4750

COMPLETE SPECIFICATION FOR THE INVENTION ENTITLED: IMPROVEMENTS TO SELF LOADING, UNLOADING VEHICLES.

THE FOLLOWING STATEMENT IS A FULL DESCRIPTION OF THIS INVENTION, INCLUDING THE BEST METHOD OF PERFORMING IT KNOWN TO ME:

*Note: The description is to be typed in double spacing, pica type face, in an area not exceeding 250 mm in depth and 160 mm in width, on tough white paper of good quality and it is to be inserted inside this form.
Complete specification for the invention entitled "improvements to self loading, unloading vehicles". Patent application No. PI 8161 refers.

The invention relates to the improved design & construction of vehicle chassis/frames, along with relevant bodywork, for the carriage of goods.

The resultant vehicle, whether or not the vehicle is self-propelled, has the ability to load & unload it's payload without outside assistance.

Existing vehicles that have some ability to self load or unload, usually follow 3 formats:-

(a) A "U" shaped chassis/frame open to the rear, which raises & lowers it's payload, usually by hydraulics but, sometimes by the use of straps (e.g. for vessels)

(b) A conventional vehicle, fitted with various additional pieces of handling equipment.

(c) Vehicles, specifically designed to load & unload other more general vehicles, or for the very limited transport of cargo. (e.g. forklifts, container loaders or bucket loaders.)

Open plan vehicle chassis/frames have existed for some time generally referred to as "skeletal", hydraulic or pneumatic suspension systems have existed in general use for many years, as have vehicles with height adjustable payload sections, particularly in the airline industry.

The existing self load, unload vehicle chassis/frames designs are limited because:-

(1) They severely restrict the payload, either because or their structural integrity in the case of the "U" format
or the amount of weight & space consumed by the additional handling equipment.

(2) The "U" format type can only handle a specific type of cargo e.g. shipping containers. General cargo must be enclosed in containers or vessels in cradles or lifting straps, which impart abrasion damage.

(3) The vehicles specifically designed to load & unload are usually unsuited to the transport of cargo, because of their lack of speed, stability, excess dimensions & lack of conformation with regulations related to the use of vehicles on public roads.

The invention is a vehicle chassis/frame, whether or not self-propelled, which allows the vehicle to self load, unload by adjusting the height of the payload to either remove it from or place it upon supports, which have been positioned under same. The vehicle chassis/frame's transverse members can be set aside, or totally removed to allow the remaining longitudinal members to be placed under or removed from under the payload, without fouling the payloads static support system e.g. blocks, jacks, legs, stands or other.

The invention deals with most of the shortcomings found in existing self load, unload vehicles in the following manner:-

(A) The tare weight of the vehicle is only marginally higher than a similar conventional vehicle. The design delivers a vehicle with no disadvantage in it's volumetric capacity.

(B) In it's transport configuration, the resultant vehicle has the same structural integrity as a similar conventional vehicle.
(C) The resultant vehicle has normal stability & speed ability & can be constructed to comply with all road use regulations.

(D) The resultant vehicle can carry various types of cargo without the need for containers, cradles or straps.

(E) The resultant vehicle can self load, unload extremely heavy payloads, which would present special problems even with conventional loading equipment, according to the availability of such handling equipment.

The invention has the ability to allow the vehicle to be moved under, or removed from under, the payload in much the same manner that a forklift's tykes pass under a payload, without the vehicles transverse members, of any kin., presenting an obstruction to the payload's supports, be they blocks, jacks, legs, stands or other.

The vehicle chassis/frame is constructed in the normal manner of longitudinal members in conjunction with transverse members except that the transverse members are not permanently affixed to the longitudinals.

The vehicle chassis/frame along with any ancillary bodywork is so constructed that selected, or all. transverse members can be set aside or totally removed, leaving only the vehicles longitudinal elements.

The transverse members are structurally attached to the longitudinals by various means, dependant upon the application, as follows:-

(1) Hinged, vertical or horizontal axis, one or both ends, so the members can be set aside
without total removal. see fig 1, & fig 3(b).

(2) Boxed, fig 3(a)

(3) Conventional fastenings, fig 3(c)

(4) Interlocked, fig 3(d)

but regardless of the fastening method chosen the transverse members regain & maintain their structural integrity when the vehicle is in its transport configuration. All fastening types, should have a blocking bar, which will prevent the transverse members being unlocked whilst any load is present upon the vehicle.

The vehicle chassis/frame, is fitted with an "independant" type suspension so the relevant axle or axles do not create a transverse obstruction.

The vehicle may be fitted with an adjustable ride height suspension or payload section that allows the load bearing elements of the vehicle to be brought into or removed from, contact with the static load. There need be no facility to adjust the height, of the vehicle or payload section, because the payload can be brought to bear on the vehicle by the use of normal jacks.

The procedure for using the system is thus:— (see figs 1 & 2)

(1) The transverse members are swung to one side, or removed as appropriate.

(2) The vehicle, which is now devoid of any transverse obstruction is then manoeuvred under the payload, which has previously been placed upon supports at an appropriate height.

(3) The transverse members are returned, or replaced, to their transport position & locked.

Movement of the transverse members, & locking
may be power assisted, dependant upon the size of the sections involved.

(4) The vehicle's loadbearing members are then raised, by any means, or the payload can be lowered by the use of jacks.

(5) The payload supports, or jacks, are then removed from under the vehicle, when the vehicle can then be driven or towed away as appropriate.

(6) Unloading is a reverse of the loading procedure.

Please note that all drawings, only show the loadcarrying portion of the vehicle. The balance of the vehicle will vary depending on the application or whether or not self-propelled.

DATED TWENTY SEVENTH OF MAY 1988

GEOFF. McHATTAN
The claims defining the invention are as follows:

1. A vehicle chassis/frame self propelled or not, comprising
   longitudinal members at any spacing & transverse members at any spacing,
   where some or all the transverse members can be set aside or totally
   removed, to leave the vehicle substantially free of any transverse
   members or obstructions, to allow the free passage of payload supports
   between the vehicles remaining longitudinal members but when the
   transverse members are set back in position or replaced, the vehicle
   regains its original structural integrity.

2. A vehicle chassis/frame as defined in claim 1 wherein the suspension
   system is such that it does not create any transverse member or obstruction
   between the vehicle's longitudinal members.

3. A vehicle chassis/frame as defined in claim 1 wherein the ride height
   of the vehicle is adjustable by any means.

4. A vehicle chassis/frame as defined in claim 1 wherein the loadbearing
   members are height adjustable by any means.

5. A vehicle chassis/frame as defined in claim 1 wherein the chassis/frame
   junctions, between longitudinal & transverse members is by any non-perm-
   anent means.

6. A vehicle chassis/frame as defined in claim 1 with any or all of the
   features mentioned in claims 2, 3, 4 or 5.

Dated this twenty seventh day of may, 1988

G.J. McInerny
NAME OF APPLICANT

* Note: If there is insufficient space above to type the statement of claim, do not use this sheet, but use separate sheets of paper beginning with the words “The claims defining the invention are as follows:” and ending with the date and the name of the applicant in block letters.
FIG 1

(a) TRANSPORT CONFIGURATION

(b) LOAD, UNLOAD CONFIGURATION.

(c)

(d)

N.B. ONLY THE LOAD CARRYING PORTION OF THE VEHICLE IS SHOWN.
FIG 2

(a) TRANSPORT CONFIGURATION

(b) LOAD, UNLOAD CONFIGURATION

N.B. ONLY THE LOAD CARRYING PORTION OF THE VEHICLE IS SHOWN
FIG. 3 (a)

TRANSVERSE BEAM BOXED.

(b)

TRANSVERSE BEAM, HINGED, VERTICAL OR HORIZONTAL AXIS, ONE OR BOTH ENDS.

(c)

TRANSVERSE BEAM, MULTIPLE FASTENING USING CONVENTIONAL FASTENERS.

SUGGESTED ATTACHMENT METHODS FOR TRANSVERSE TO LONGITUDINAL BEAMS JUNCTION.