Title: VERSATILE ACCESSORY FOR A TRUCK HAVING AN OPEN LOAD CARRYING BODY

Abstract: A versatile accessory for a truck with an open load carrying body is provided which includes at least two and generally three operatively generally horizontal transverse support bars (1, 2, 3) each carrying at each end an operatively downwardly extending support leg (4, 5, 6) having at its free end a fitting (10, 12, 14) adapted to be attached to, and supported by, the load carrying body of a truck. The support bars are releasably securable to such load carrying body independently each other and generally have two positions, one in which they are nested behind the driver’s cab and one in which they are spaced apart with at least one in the front of the load carrying body and one at the rear. The front one need not be movable or removable. Side bars (24) may be installed releasably between the legs to form side fences as and when required. A cover (26) is also optionally included to form either a full or a half canopy (26a). The truck may be easily transformed between various configurations thereof depending upon immediate needs.
VERSATILE ACCESSORY FOR A TRUCK HAVING AN OPEN LOAD CARRYING BODY

FIELD OF THE INVENTION

This invention relates to a versatile accessory for a truck having an open load carrying body such as a pickup or larger truck and, more particularly, to a versatile accessory enabling better utility to be achieved in the use of a single truck for a variety of different purposes.

Whilst the scope of this invention is in no way limited to vehicles of any particular size it is especially suitable for use in relation to pickup trucks, being a term used herein to include any relatively lightweight truck having an open load carrying body behind a driver's cab. Such vehicles are known by various names according to the region or country in which they are located but their important distinguishing feature is that their load carrying capacity is generally of the order of between one half and one and a half tonnes.

Irrespective of size, trucks with which this invention is concerned have, in their basic utility condition, an open load carrying body generally with surrounding low height walls whereof the rear wall usually assumes the form of a tailgate.

BACKGROUND TO THE INVENTION

Pickup trucks, as well as somewhat larger trucks, are typically used for a variety of different purposes and for transporting a variety of different loads from time to time. The farming industry, in particular, use trucks for a wide variety of purposes and for transporting loads ranging from farm equipment
of a wide variety to livestock and farm labourers. Added to these applications is the fact that a pickup truck will generally be used also for recreational purposes.

The standard open load carrying body, whilst being typically suited to certain activities, is not necessarily appropriate to the transportation of certain types of loads or for use in certain types of applications.

One form of accessory that is widely applied to such vehicles is a removable canopy and in some cases a half canopy covering only the front half of the load carrying body. Such a canopy is generally made of moulded glass fibre reinforced plastics material and is supported on the periphery of the low height walls to the load carrying body. There is usually a door at the rear which, in some cases, requires the removal of the tailgate, and in other cases, cooperates with the tailgate in order to close of the rear of the now enclosed load carrying body.

The shortcomings of this type of canopy are many. Firstly, when it is not required for use and is to be removed from the truck, it requires a number of persons to lift it from the load carrying body. This results from the fact that they are usually rather heavy. Secondly, they require considerable storage space when not in use and, if left outside, they are rather unsightly. Thirdly, unless they are especially reinforced, they are generally unable to support, in the manner of a roof rack, heavy elongate objects such as pipes and structural timber by way of example. Fourthly, in the event that the canopy is required for one leg of a journey and specifically not for the return journey, or vice versa, then the difficulty exists as to how to transport the canopy in an inoperative position whilst the load carrying body is used for the other purpose.
OBJECT OF THE INVENTION

It is an object of this invention to provide a versatile accessory for a truck with an open load carrying body which may be used to obviate at least one, but generally more, of the aforesaid shortcomings of the standard rigid canopies presently available.

SUMMARY OF THE INVENTION

In accordance with one aspect of the invention there is provided an accessory for a truck with an open load carrying body, the accessory comprising at least two operatively generally horizontal support bars each carrying at each end an operatively downwardly extending support leg having at its free end a fitting adapted to be attached to, and supported by, the load carrying body of a truck and wherein each of the support bars is releasably securable to such load carrying body independently of the other.

Further features of this aspect of the invention provide for the fitting to be adapted to be secured to the upper edge of the side walls of the load carrying body, preferably by means of releasable fasteners; for the fittings to be transverse connecting plates adapted to be bolted to the top surface of the side wall or alternatively to the load carrying platform; for there to be three generally horizontal support bars; for the legs of one support bar to be particularly adapted to be secured to the front end of the load carrying body whilst the legs of another support bar, the rear support bar, are adapted to be secured to the load carrying body towards the rear thereof with, in the event that a third support bar is present, it is adapted to be secured to the load carrying body between the front and rear support bars; for a plurality of side bars to be provided for each side of a truck, in use, the side bars having formations for cooperating with cooperant formations on the legs so as to extend, in the operative position, in generally parallel spaced relationship to
form a retaining fence at each side of the pickup truck with the retaining fence forming a generally vertical extension to the side wall of the truck; for the front bar and leg assembly to carry a permanent front wall preferably including a window adapted to be in substantial registration with a rear window of the cab of a vehicle on which it is located; and for a rear frame to be hingedly associated, optionally in removable manner, with the rear support bar in which case the rear frame forms an openable closure orientated as a vertical extension to the tailgate of a truck in use.

Still further features of the invention provide for a removable cover to be provided for the load carrying body wherein the cover is adapted to be supported by the support bars and to define a full canopy in the erected condition; for the cover to be composed of a roof panel, side panels, a front panel and a rear openable door panel; for the cover to either be made of flexible sheet material such as a suitable fabric or, alternatively, of individual rigid panels connected together by flexible zones permitting of hinging of the panels relative to each other so as to render the canopy collapsible for transport and storage purposes; and, in the case of a cover made of flexible sheet material, for any front panel, roof panel and side panels to be permanently attached to each other whilst the rear openable door panel is attached to the side panels by means of slide fasteners (zippers).

As an alternative, the cover may be arranged to cover only the front portion, generally about a half of the body. In such a case a cover adapted to form a full canopy could be made in two parts releasably attached to each other so that it can be used either as a half or a full cover.

The invention also provides, as a kit, two or three support bars as above defined optionally together with a series of side of bars, and also optionally together with a full or half cover as defined above.
It is a particular feature of the invention that the two, or preferably three, support bars can be attached to a truck in two different configurations, namely a configuration in which they are spaced apart with the front support bar located in the front region of the load carrying body, and the rear support bar located in the rear region of the load carrying body and any central support bar located in between the same, and a configuration in which all two or three support bars, as the case may be, are attached to the load carrying body in a group immediately behind the drivers cab of the truck.

The invention also provides a truck having formations enabling the two configurations described above to be selectively employed.

In order that the above and other features of the invention may be more fully understood one embodiment and a variation thereof will now be described with reference to the accompanying drawings.

**BRIEF DESCRIPTION OF THE DRAWINGS**

In the drawings:-

Figure 1 is a schematic side view of a pickup truck fitted with an accessory according to the invention in one configuration thereof appropriate for purposes such as transport of livestock;

Figure 2 is a similar view but showing a cover installed on the accessory so as to form a canopy over the load carrying body of the pickup truck;

Figure 3 is yet another similar view but showing the three support bars in their stored condition on the pickup truck;
Figure 4 is a similar view but showing a cover installed on the accessory so as to form a half canopy over the load carrying body of the pickup truck;

Figure 5 is an elevation of the front support bar and its associated legs;

Figure 6 is an elevation of the centre support bar and its associated legs;

Figure 7 is a sectional view through the assembled accessory taken along the line VIII-VIII in Figure 1 and showing the rear support bar and rear frame;

Figure 8 is a rear view of the canopy formed by supporting a cover on the erected accessory;

Figure 9 illustrates the attachment fitting of the legs of the front support bar;

Figure 10 illustrates the attachment fitting of the legs of the central support bar;

Figure 11 is a similar view of the attachment fitting of the legs of the rear support bar and also illustrating the couple of assembly details;

Figure 12 is a plan view of a side bar; and,
Figure 13 is a plan view of an alternative cover assembly.

DETAILED DESCRIPTION WITH REFERENCE TO THE DRAWINGS

Referring firstly to Figure 1 of the drawings, the basis of the accessory of this invention is illustrated and comprises a front support bar (1), a central support bar (2), and a rear support bar (3). In each case, each end of each bar an has a downwardly extending support leg (4) (5) and (6). The lower ends of the legs are secured to the upper edge (7) of the side wall (8) of the load carrying body of a pickup truck generally indicated by numeral (9). In each case the transverse support bar and legs together form a robust and structurally strong frame similar to what is often referred to as a roll bar with slightly divergent legs and rounded corners.

The attachment of each of the legs to the side wall of the truck body is achieved using fittings carried by the lower ends of the legs and the fittings may assume many different configurations. Thus, they may be inverted channels fitting over the upper edge of the side wall and may be secured in position using any type of fasteners. However, in this particular embodiment of the invention, the fittings assume the form of simple transverse connecting plates bolted to the generally tubular upper edge of the side wall of the load carrying body.

Thus, as illustrated in Figure 9, the legs (4) of the front support bar (1) have a transverse right angled connector plate (10) welded to it with bolt holes (11) therethrough. In the case of the legs (5) of the central support bar (2) the connector plate (12) is a straight plate provided with bolt holes (13) as shown in Figure 10. Figure 11 illustrates a connector plate (14) secured to a leg (6) of the rear support bar (3). In the latter case a gusset plate (15) is employed to reinforce the structure in view of the fact that the rear support
bar carries a rear frame (16) defining a closure for the rear end of the load carrying body.

A conventional type of telescopically extensible stay (17) is provided to hold the frame in the open position illustrated in Figure 1 as and when required. Figure 11 also illustrates one of the transverse connector plates attached to a box section generally provided at the upper edge of the side wall of a load carrying body of a pickup truck. To this end bolts (18) pass through holes (19) in the box section with wing nuts (20) being used to fasten the connector plate to the top edge of the box section.

The legs of each support bar are provided with three correspondingly placed holes (21) spaced apart up the height of the legs and each of which is fitted with an elastomeric grommet (22). The grommets are each adapted to receive a spigot (23) carried at the end of a side bar (24) (see Figures 11 and 12) which extend, in the first place, between the front legs (4) and centre legs (5), and in the second place between the centre legs (5) and the rear legs (6), as shown most clearly in Figure 1. All of the side bars (24) extend in a generally horizontal direction and, in any event, generally parallel to the upper edge of the side wall of the load carrying body.

It will be understood that with the accessory of this invention installed as described above, and as particularly illustrated in Figure 1, the load carrying body of the pickup truck can be used for transporting any goods which require retaining at a level above the top of the side walls. This configuration of the accessory can also be used for the transport of livestock which require confining in the manner which is achieved by the side bars and the rear frame which also has horizontal bars (25).

It will be understood that with or without the side bars in position the three support bars can be used as a roof rack in order to support elongate heavy objects such as pipes and structural roof timbers, for example.
As an optional component item of the accessory a cover may be provided in order to form a full canopy in the manner generally indicated by numeral (26), and as shown in Figures 2, 7 and 8. In this embodiment of the invention the cover is made of flexible fabric such as canvas or a synthetic equivalent and comprises a roof panel (27), a front panel (28), a pair of oppositely disposed side panels (29), and a rear panel (30). The various panels are stitched together permanently in their cooperative relationship except for the rear panel (13) which is attached to the side panels by slide fasteners (31) as shown in Figure 8.

The flexible fabric is held tightly in position simply by means of an elastomeric cord (31) attached to the operatively lower edges (32) of the various panels with the cord being hooked under the standard lugs (33) provided on the outside of the side walls of the load carrying body. Figure 7 illustrates a cord (31) passing through sleeve formations (34) on the inside of the edge (35) of the rear panel, simply by way of example. Clearly when it is required to access the enclosed load carrying body the slide fasteners must be opened before the rear frame (16) can be lifted and access obtained with the optional release of the tailgate (not shown).

In order to provide neat upper corners to the canopy formed by the cover there are provided arcuate cross-sectioned rigid support sections (24a) which rest on the rounded corners where the transverse bars connect with their legs and are held in position by clips (24b) releasably attaching the sections to the uppermost side bars as shown in Figure 7.

Alternatively, a half canopy (26a) covering only the front half of the load carrying body may be provided as illustrated in Figure 4. The cover for forming the half canopy may be made as such or it may be the front half of a full cover made in two releasable connectable parts.
Figure 3 illustrates the three support bars (1), (2), and (3) and their associated legs in a stored position immediately behind the driver's cab (36). With the support bars in this position all the other components of the composite accessory can be stored on or in the vehicle, for example behind the backrest of the driver's seat, and the various configurations described above can be selected according to requirements and without any prior planning and further without any difficulty in transport of the canopy as and when required. The difficulties outlined above which are associated with conventional rigid canopies are therefore all capable of being obviated by using the present invention.

It will, of course, be quite apparent that the front support bar and leg assembly can be substantially permanently installed as there is generally no reason for it to be moved and it can serve as a permanent roll bar.

Figure 13 illustrates one form of alternative cover assembly wherein the various panels may be rigid and simply interconnected with each other by way of flexible strips (37) interconnecting the roof panel (38) and the front panel (39), side panels (40), and a rear panel (41), as the case may be.

It will be understood that numerous variations may be made to the embodiment of the invention described above without departing from the scope hereof. Simply by way of example, the front support bar and leg assembly may have a front wall (42) permanently attached thereto, preferably with a window (43) adapted to be in alignment with a rear window of a driver's cab in use. Numerous other variations and additions are also within the scope hereof.
CLAIMS:

1. An accessory for a truck (9) with an open load carrying body (8), the accessory comprising at least two operatively generally horizontal support bars (1, 2, 3) each carrying at each end an operatively downwardly extending support leg (4, 5, 6) having at its free end a fitting (10, 12, 14) adapted to be attached to, and supported by, the load carrying body of a truck and wherein each of the support bars is releasably securable to such load carrying body independently of the other.

2. An accessory as claimed in claim 1 in which the fitting is adapted to be secured to the upper edge (7) of the side walls of the load carrying body.

3. An accessory as claimed in claim 2 in which the fittings are transverse connecting plates (10, 12, 14) adapted to be bolted to the top surface of the side wall or load carrying platform of a truck.

4. An accessory as claimed in any one of the preceding claims in which there are three generally horizontal support bars.

5. An accessory as claimed in any one of the preceding claims in which the legs (4) of one support bar (1) are particularly adapted to be secured to the front end of the load carrying body whilst the legs (6) of another support bar (3), the rear support bar, are adapted to be secured to the load carrying body towards the rear thereof.

6. An accessory as claimed in any one of the preceding claims in which a plurality of side bars (24) are provided for each side of a truck, in use, the side bars having formations (23) for cooperating with cooperant
formations (21, 22) on the legs so as to extend, in the operative position, in generally parallel spaced relationship to form a retaining fence at each side of the truck with the retaining fence forming a generally vertical extension to the side wall of the truck.

7. An accessory as claimed in any one of the preceding claims in which the front support bar and leg assembly carries a permanent front wall (42) optionally including a window (43) adapted to be in substantial registration with a rear window of the cab of a vehicle on which it is located.

8. An accessory as claimed in any one of the preceding claims in which a rear frame (16) is hingedly associated with the rear support bar to form an openable closure orientated as a vertical extension to the tailgate of a truck in use.

9. An accessory as claimed in any one of the preceding claims in which a removable cover (26) is provided for the load carrying body wherein the cover is adapted to be supported by the support bars and to define a full canopy in the erected condition.

10. An accessory as claimed in claim 9 in which the cover is composed of a roof panel (27), side panels (29), an optional front panel (28) and a rear openable door panel (30).

11. An accessory as claimed in either one of claims 9 or 10 in which the cover is made of flexible sheet material.

12. An accessory as claimed in claim 11 in which the cover includes an optional front panel, a roof panel and side panels permanently attached to each other whilst the rear openable door panel is attached to the side panels by means of slide fasteners (zippers)(31).
13. An accessory as claimed in either one of claims 9 or 10 in which the cover is made of individual rigid panels (38, 39, 40, 41) connected together by flexible zones (37) permitting of hinging of the panels relative to each other so as to render the canopy collapsible for transport and storage purposes.

14. An accessory as claimed in any one of claims 9 to 13 in which the cover is made in two parts releasably attached parts one of which may be independently attached to the supports and legs to form a half canopy over the forward portion of the load carrying body.

15. An accessory as claimed in any one of claims 1 to 8 in which a cover (26a) is provided and is adapted to form a half canopy over the load carrying body.

16. An accessory as claimed in any one of the preceding claims whenever supplied in kit form.

17. A truck fitted with an accessory as claimed in any one of the preceding claims and wherein the two or three support bars are attachable to a truck in two different configurations, namely a configuration in which they are spaced apart with the front support bar located in the front region of the load carrying body, and the rear support bar located in the rear region of the load carrying body and any central support bar located in between the same, and a configuration in which all two or three support bars, as the case may be, are attached to the load carrying body in a group immediately behind the driver's cab of the truck.