

PATENT SPECIFICATION

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(52) Index at acceptance
B7A 302 430



(54) A LIVESTOCK CARRIER

(71) I, CHRISTIAN KJELLERUP HANSEN, a Danish citizen of Via Longhena 26 CH-6900 Lugano, Switzerland, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to long distance transportation of cargoes comprising vast multitudes of livestock, in particular sheep, i.e. cargoes of any number of sheep up to some 50,000 or more in one vessel.

No such cargoes could previously be handled in one carrier, and the main object of the invention, therefore, is to make this possible.

The invention essentially consists in the conversion of an oil tanker into a long distance carrier for livestock, the conversion being made by erecting a multi-storeyed cage-like superstructure comprising a plurality of rows of pens in each storey on the deck of an oil tanker without otherwise affecting the construction of the tanker except for the use of a few of its tanks for storage of supplies of water and food.

BACKGROUND

Two prevalent international situations of a different character but each involving a serious economic problem form the background of this invention:

A. The first is concerned with bridging the gap between the capacity to supply and the unsatisfied demand for livestock, more particularly the huge overproduction of sheep in Australia and the very large demand for sheep in the areas generally referred to as The Middle East, especially Iran. The problem is to provide the livestock at acceptable prices which, again is a problem of efficient and economic transportation.

B. The second situation is characterized by the fact that in recent years an ever increasing tonnage of oil tankers has become unprofitable with the result that a great number of large oil tankers are no longer a paying proposition and are therefore lying idle. The problem here is to find ways and means

whereby these vessels can be made profitable.

The recognition of these two situations has prompted the inventor to suggest that the result of problem B — cheap vacant tonnage of large capacity — should be used for the solution of problem A: the provision of efficient and economic transport facilities.

ADVANTAGES:

The advantages achieved by the present invention may briefly be summarized as follows:

1. The first advantage resides in the co-ordination of the two situations A and B so as to provide for the attainment of the main object: a substantial reduction of transportation costs by providing for huge quantities of livestock to be economically shipped over long distances in one carrier.

2. The facilities for long distance transportation of large numbers of livestock can be provided at relatively low cost by accommodating the pens for the livestock in large superstructures of simple construction which can be built separately and subsequently erected on the deck of an oil tanker. Consequently, the vessel need not be immobilized during the construction of the superstructure but may be in operation until the superstructure is mounted. This is a considerable advantage both as regards costs and time saving as compared with the use of traditional freighters which require elaborate reconstruction for adapting such vessels to carry even relatively small quantities of livestock.

3. The superstructure erected on the deck of the tanker is an open cage-like framework comprising several thousands of pens where the sheep will be accommodated under much healthier conditions than if the pens were located in the hull of a freighter. Hence, the loss of livestock due to mortality en route is substantially reduced as compared with traditional transport systems.

4. The erection of the superstructure on the deck of the oil tanker will not affect the stability of the ship, not even if the superstructure carries a load of some 50,000

sheep. Nor will the superstructure interfere with the possibility of using the tanker for its original purpose. In fact, the majority of its oil tanks remain unaffected by the conversion of the vessel into a livestock carrier, and the superstructure may even be completely removed at relatively small cost so as to re-convert the carrier into a 100% oil tanker.

These and other advantages will appear from the following description with reference to the drawings. In the drawings:

Fig. 1 is a schematic side view of an oil tanker provided with a superstructure according to the invention.

Fig. 2 is an enlarged transverse section taken on the line II—II in Fig. 1.

Fig. 3 is a longitudinal section taken on the line III—III in Fig. 2.

In the embodiment of the invention illustrated in the drawings a carrier for a large number of livestock is provided by erecting a superstructure 10, Fig. 1, on the deck 2 of an oil tanker 1. As shown in Fig. 1, the oil tanker hull includes a plurality of longitudinally extending cells including the compartments A, B and C. Each of these compartments is normally divided into three oil tanks comprising one central tank B₁ and one side tank B₂ and B₃ at either side thereof as shown in Fig. 2.

The details of the superstructure 10 are shown in Figs. 2 and 3. This structure comprises a framework of vertical posts or columns 11 interconnected by horizontal girders. The girders extending in the transverse direction are designated as 12a and 13a and the lengthwise extending girders are designated as 12b and 13b. The transverse girders 12a extend continuously through the structure 10 from one side to the other, whereas the intermediate girders 13a are interrupted at regular intervals so as to leave space for corridors 15, Fig. 2. The corridors 15 extend upwardly through two storeys each so as to provide for accessibility to two rows of pens 14 at either side of the corridor. By this arrangement one attendant standing at a service point 15x of the corridor can attend to four pens: 14a and 14b in the upper storey and 14c and 14d in the lower storey.

The lower ends 11a of the posts 11 are supported on the deck 2 of the tanker and are fastened to the deck by means of flanges 11b. The space between the posts 11 is adapted to accommodate the lengthwise extending conduits 3 usually disposed on the decks of oil tankers. These conduits, therefore, will not interfere with the mounting of the superstructure 10 on the deck 2.

The supply of food and water from the storage tanks to the pens and the removal of manure from the pens can be effected by any convenient conveyor means. By way

of example there is schematically shown in Fig. 3 a dispensing container 22 communicating with a conduit within a hollow 11d in a pneumatic conveyor system for supplying food pellets from a storage tank to the dispensing container. There may be one or more such containers in each storey for supplying a suitable number of pens. Similarly, there may be water taps 21 communicating with water conduits within the hollow posts 11c for supplying drinking water from water tanks to the pens. Other conduits or canals 24 may be arranged below the floors of the corridors 15 for collecting and removing manure from the pens by means of any suitable conveyor system. The side walls of the pens 14 may be made of grids 23 as shown schematically in Fig. 3 so as to provide for adequate flow-through ventilation. Finally, the whole structure 10 is covered with a roof 17 and gangways 16 may be provided at either side of the structure at the level of each storey for inspection of and access to the outer pens.

WHAT I CLAIM IS:—

1. A livestock carrier comprising an oil tanker having a deck and a plurality of oil tanks, a multi-storeyed superstructure mounted on the deck of the oil tanker and including a plurality of rows of livestock pens in each storey, a selected number of said oil tanks being converted into storage tanks for supply of water and food for livestock accommodated in said pens and means for connecting said storage tanks to said livestock pens.

2. A livestock carrier, as claimed in Claim 1 in which said connecting means includes pipe lines extending from said storage tanks to said livestock pens, there being means adapted, in use, to cause water and food from said storage tanks to be conveyed through said pipe lines to said livestock pens.

3. A livestock carrier as claimed in Claim 1 or Claim 2 in which the livestock pens are in the form of a superstructure comprising a multi-storeyed cage-like framework including a plurality of rows of livestock pens in each storey there being corridors extending between adjacent rows of livestock pens each of said corridors extending upwardly through two storeys of the superstructure thereby to provide for accessibility to two rows of pens at either side of each corridor.

4. A carrier for livestock substantially as hereinbefore described with reference to and as illustrated in the accompanying diagrammatic drawings.

5. A method for the conversion of an oil tanker into a carrier for livestock comprising the steps of erecting a multi-storeyed superstructure on said oil tanker deck and



31
sheep. Nor will the superstructure interfere with the possibility of using the tanker for its original purpose. In fact, the majority of its oil tanks remain unaffected by the conversion of the vessel into a livestock carrier, and the superstructure may even be completely removed at relatively small cost so as to re-convert the carrier into a 100% oil tanker.

These and other advantages will appear from the following description with reference to the drawings. In the drawings:

Fig. 1 is a schematic side view of an oil tanker provided with a superstructure according to the invention,

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In the embodiment of the invention illustrated in the drawings a carrier for a large number of livestock is provided by erecting a superstructure 10, Fig. 1, on the deck 2 of an oil tanker 1. As shown in Fig. 1, the oil tanker hull includes a plurality of longitudinally extending cells including the compartments A, B and C. Each of these compartments is normally divided into three oil tanks comprising one central tank B, and one side tank B₁ and B₂ at either side thereof as shown in Fig. 2.

The details of the superstructure 10 are shown in Figs. 2 and 3. This structure comprises a framework of vertical posts or columns 11 interconnected by horizontal girders. The girders extending in the transverse direction are designated as 12a and 13a and the lengthwise extending girders are designated as 12b and 13b. The transverse girders 12a extend continuously through the structure 10 from one side to the other, whereas the intermediate girders 13a are interrupted at regular intervals so as to leave space for corridors 15, Fig. 2. The corridors 15 extend upwardly through two storeys each so as to provide for accessibility to two rows of pens 14 at either side of the corridor. By this arrangement one attendant standing at a service point 15x of the corridor can attend to four pens: 14a and 14b in the upper storey and 14c and 14d in the lower storey.

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The supply of food and water from the storage tanks to the pens and the removal of manure from the pens can be effected by any convenient conveyor means. By way

of example there is schematically shown in Fig. 3 a dispensing container 22 communicating with a conduit within a hollow 11d in a pneumatic conveyor system for supplying food pellets from a storage tank to the dispensing container. There may be one or more such containers in each storey for supplying a suitable number of pens. Similarly, there may be water taps 21 communicating with water conduits within the hollow posts 11c for supplying drinking water from water tanks to the pens. Other conduits or canals 24 may be arranged below the floors of the corridors 15 for collecting and removing manure from the pens by means of any suitable conveyor system. The side walls of the pens 14 may be made of grids 23 as shown schematically in Fig. 3 so as to provide for adequate flow-through ventilation. Finally, the whole structure 10 is covered with a roof 17 and gangways 16 may be provided at either side of the structure at the level of each storey for inspection of and access to the outer pens.

WHAT I CLAIM IS:—

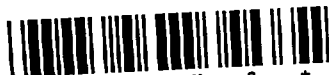
1. A livestock carrier comprising an oil tanker having a deck and a plurality of oil tanks, a multi-storeyed superstructure mounted on the deck of the oil tanker and including a plurality of rows of livestock pens in each storey, a selected number of said oil tanks being converted into storage tanks for supply of water and food for livestock accommodated in said pens and means for connecting said storage tanks to said livestock pens.

2. A livestock carrier, as claimed in Claim 1 in which said connecting means includes pipe lines extending from said storage tanks to said livestock pens, there being means adapted, in use, to cause water and food from said storage tanks to be conveyed through said pipe lines to said livestock pens.

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4. A carrier for livestock substantially as hereinbefore described with reference to and as illustrated in the accompanying diagrammatic drawings.

5. A method for the conversion of an oil tanker into a carrier for livestock comprising the steps of erecting a multi-storeyed superstructure on said oil tanker deck and



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sub-dividing each storey of said superstructure into a plurality of livestock pens.

6. A method for the conversion of an oil tanker into a carrier for livestock substantially as hereinbefore described with reference to and as illustrated in the accompanying diagrammatic drawings.

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