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(54) **Hand-driven cart to transport coffins**

Transportwagen zum Transport von Särgen

Chariot de transport pour le transport de cercueils

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(56) References cited:
FR-A- 2 786 091 **US-A- 1 198 892**
US-A- 4 494 259 **US-A- 5 179 746**

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Description

OBJECT OF THE INVENTION

[0001] This invention refers to an improved hand-driven cart suitable to transport coffins, the purpose of which is evidently to transport a coffin with a body inside. The surface that supports the cart can be adjusted to a variety of heights in order to simplify the operations involved in transporting the coffin with its contents on the cart itself, such as from the funeral parlour to the hearse and vice versa. By making use of some independently activated hydraulic pumps, the support platform can be adjusted to a diagonal position. The operations of elevating and lowering the platform are carried out by means of pedals, which directly act upon the pumps involved, together with the relevant support mechanism.

[0002] The height of the invention, thanks to its lifting and lowering mechanism, can be lowered in order to reduce its total volume for storage or transport purposes.

FIELD OF THE INVENTION

[0003] This invention is applicable in the industry dedicated to the manufacture of carts, lift-trucks and similar articles.

BACKGROUND OF THE INVENTION

[0004] The applicant is aware of the existence of a large number of hand-driven carts designed to transport coffins, the common denominator of which are the wheels that move the cart and a rectangular surface on which the coffin is positioned, with a gripping area to guide it when being moved and having the whole of it a closure around the perimeter, either flexible or not.

[0005] However, during the many operations involved in the moving and transport of coffins, it can be seen that the transport vehicles that operate as hearses, pathology vans and others, have different heights, in which case the persons in charge of the transport have to be aided by other employees to move the coffins containing bodies, if the carts used for this transport are not of the same height as the vehicle.

[0006] The evident solution to this problem would consist of using an improved hand-driven cart on which the upper surface is capable of being positioned at different heights. This height adjustment needs to be a simple operation, aligning the cart with the surface of the vehicle in which the coffin containing the body is to be taken to the cemetery or to the funeral parlour, or even when the body is to be autopsied and therefore has to be placed at the disposal of a pathologist before the burial.

[0007] Document FR 2 786 091 describes a cart which support platform can be adjusted in height by means of a linkage mechanism comprised by two crossed diagonal bars movable by an hydraulic pump activated by an only pedal. Due to the fact that in the described mechanism both diagonal bars are articulated between themselves at their middle point, the support platform can only be raised and lowered horizontally, parallel to the floor.

[0008] A device that allows varying the inclination of a support structure is described in document US 4,494,259. The suggested solution consists on joining the support structure to a sliding platform through articulated levers, which lower end moves longitudinally along the sliding platform through a screw-nut mechanism.

DESCRIPTION OF THE INVENTION

[0009] The hand-driven cart suitable to transport coffins proposed in this invention is an element designed to transport coffins which, in addition to being lowered and raised in height, can also be positioned on a diagonal plane by raising either the front or the rear of its support platform.

[0010] More concretely, the improved hand-driven cart to transport coffins which is the subject matter of this invention is based on a metal structure or frame which constitutes its rigid structure, and is sufficiently resistant for the purpose for which it is intended.

[0011] On the top of the cart there is a support platform made of stainless steel plate, whereas on the bottom, and fastened by one of its ends to the central part of the longitudinal bars of the frame, there are two independent hydraulic pumps activated by a couple of pedals that are positioned beneath one of the short sides, at the centre and on the bottom, on the same side where there is a grip handle.

[0012] This grip handle consists of a chrome plated iron bar which is used to steer the cart, which is fitted with two pairs of rubber wheels with bearings. The front wheels are fixed, whereas the rear wheels turn 360° and are equipped with a brake.

[0013] On the top of the cart, and over the support platform, there is a stainless steel tray that slides along the platform, thanks to the lower bearings with which it is fitted, receiving or ejecting one end of the coffin with the least possible effort.

[0014] On the end of the cart that is opposite the end with the grip handle, there is a retractable bracket that prevents

the coffin from moving once it is positioned, consisting of a metal bar with holes that can be adjusted to handle any size of coffin.

[0015] The cart has two drapes at the sides to hide all the interior mechanism, so that the hand-driven cart has a suitable appearance.

DESCRIPTION OF THE DRAWINGS

[0016] To complete this description and in order to provide a better understanding of the characteristics of the invention, this specification contains two sheets of drawings, to illustrate the invention, but which do not limit it in any way, showing the following:

Figure number 1 represents a perspective view of the object of the invention, relating to an improved hand-driven cart to transport coffins, in which the coffin support platform is in a raised position and therefore affords a view of the interior mechanism.

Figure number 2 represents a side view of the object represented in figure number 1.

Figure number 3 represents an aerial view of the object shown in the previous figures.

Figure number 4 represents a view of the object shown in the previous figures one of the short sides.

PREFERRED EMBODIMENT OF THE INVENTION

[0017] These figures show how the hand-driven cart (1) suitable to transport coffins is based on a metal structure or rectangular frame (2), which has two pairs of wheels on the bottom, a pair of mobile rear wheels (3) that turn freely up to 360° and act as steering wheels, and a pair of fixed front wheels (3'). A rectangular support platform (13) is disposed over the rectangular frame (2).

[0018] The cart has two drapes (4) on the sides in order to keep the internal mechanism out of sight. This internal mechanism is made up of the following items.

[0019] A left rear diagonal bar (8) and a right rear diagonal bar (8') articulated at the rear end of the rectangular support platform (13,) and a left front diagonal bar (9) and a right front diagonal bar (9') articulated at the front end of the rectangular support platform (13), their lower ends slidingly joined to the central part of the frame (2), by way of a pair of rear guides (12) and a pair of front guides (12') disposed on each of the inner faces of the rectangular frame (2).

[0020] A left rear lever (5) articulated on the left rear diagonal bar (8) and the rectangular frame (2) and a right rear lever (5') articulated on the right rear diagonal bar (8') and the rectangular frame (2) joined by a rear transversal bar (7) at the centre of which there is a rear fork (23); and a left front lever (6) articulated on the left front diagonal bar (9) and the rectangular frame (2) and a right front lever (6') articulated on the right front diagonal bar (9') and the rectangular frame (2) joined by a front transversal bar (7') at the centre of which there is a front fork (23').

[0021] Fastened to the central part of the longitudinal bars of the rectangular frame (2), a rear pump (10) articulated to the rear fork (23) and a front pump (10') articulated to the front fork (23'), activated independently by a first pedal (11) and a second pedal (11'), to which they are connected by means of a first conduit (21') and a second conduit (21) respectively.

[0022] Continuing with figure number 1, on the top there is a tray (14) that moves along the rectangular support platform (13) by means of bearings, in order to receive the coffin, for which a left stop (15) and a right stop (15') are fitted, which, when they slide from one end to the other when a coffin is in place, act as stops when the bearings beneath the mobile tray (14) are forced to stop when they reach the area that coincides with the grip handle (17). A telescopic mechanism consisting of a tube (20) in which an "L" shaped bracket (16), forming a 90° angle, is inserted with its corresponding clamp (18) used to immobilise said bracket (16) when the coffin has been placed on the rectangular support platform (13).

[0023] The end of the rectangular support platform (13) that opposite the end with the grip handle (17) is equipped with a roller (19) that collaborates with the movement of the coffin.

[0024] The invention works by aligning the rectangular support platform (13) on the same plane on which the coffin to be transported is positioned, and applying the brake (22) to the rear wheels (3).

[0025] One of the ends of the coffin (neither represented referenced) is placed on the tray (14) resting against the left stop (15) and the right stop (15'), and the coffin is then slid until the tray (14) reaches the stop located near the grip handle (17).

[0026] The safety brake consisting of the bracket (16) is now applied, its end being raised and retaining the coffin at the end opposite the end first positioned on the rectangular platform (13) in collaboration with the tray (14).

[0027] The brakes (22) are then removed from the rear wheels (3) and the coffin is transported to the desired place, where operations proceed in reverse and, by using the first pedal (11) and the second pedal (11'), at the optimal inclination generated by the independent action of the pedals on the hydraulic pumps (10) and (10').

Claims

1. Hand-driven cart suitable to transport coffins, comprising a rectangular support platform (13), comprising two longitudinal sides and two transverse sides, to support a coffin, and a rectangular frame (2), comprising two longitudinal bars and two transverse bars, equipped with a pair of freely turning rear wheels (3) implemented with a brake (22), and a pair of fixed front wheels (3'),
a left rear diagonal bar (8) and a right rear diagonal bar (8') articulated at the rear end of the support platform (13) and a left front diagonal bar (9) and a right front diagonal bar (9') articulated at the front end of the support platform (13), their lower ends slidingly joined to the central part of the frame (2), by way of a pair of rear guides (12), for the rear diagonal bars, and a pair of front guides (12'), for the front diagonal bars, said guides disposed on the inner faces of the longitudinal bars of the frame (2),
characterised in that it comprises:

a left rear lever (5) articulated on the left rear diagonal bar (8) and the frame (2) and a right rear lever (5') articulated on the right rear diagonal bar (8') and the frame (2), said two rear levers joined by a rear transversal bar (7) at the centre of which there is a rear fork (23); and a left front lever (6) articulated on the left front diagonal bar (9) and the frame (2) and a right front lever (6') articulated on the right front diagonal bar (9') and the frame (2), said two front levers joined by a front transversal bar (7') at the centre of which there is a front fork (23'), and further comprising, a rear pump (10) articulated to the rear fork (23) and a front pump (10') articulated to the front fork (23'), said two pumps being fastened to bars connected to the central part of the longitudinal bars of the frame (2), activated independently by a first pedal (11) and a second pedal (11'), respectively, to which they are connected by a first conduit (21') and a second conduit (21), respectively, to vary the height of the support platform (13) above the rectangular frame (2) and its inclination angle.
2. Hand-driven cart to transport coffins, according to the preceding claim, **characterised in that** in one of the transversal sides of the support platform (13) there is a grip handle (17), whereas on the opposite side a transversal roller (19) is disposed at the same height as the surface of the support platform (13).
3. Hand-driven cart to transport coffins, according to the preceding claims, **characterised in that** beneath the surface of the support platform (13) and on the side of the roller (19) there is a tube (20) placed longitudinally and fitted with a clamp (18), inside which an "L" shaped bracket (16) slides, constituting a holding brake for the coffin.
4. Hand-driven cart to transport coffins, according to the preceding claims, **characterised in that** on the support platform (13) there is a rectangular tray (14), which can move along the support platform, equipped with bearings beneath it, and fitted at points close to two of its corners with a left stop (15) and a right stop (15'), to hold the end of the coffin when placed on it.

Patentansprüche

1. Handbetriebener Wagen geeignet zum Transport von Särgen, der eine rechteckige Halteplattform (13) umfasst, mit zwei Längsseiten und zwei Querseiten, um einen Sarg zu halten und einen rechteckigen Rahmen (2), der zwei Längsstangen und zwei Querstangen umfasst, ausgestattet mit zwei frei drehenden Hinterrädern (3) mit einer Bremse (22) und zwei festen Vorderrädern (3'),
eine linke hintere diagonale Stange (8) und eine rechte hintere diagonale Stange (8'), gelenkig an dem hinteren Ende der Halteplattform (13) und eine linke vordere diagonale Stange (9) und eine rechte vordere diagonale Stange (9'), gelenkig an dem vorderen Ende der Halteplattform (13), wobei deren unteren Enden gleitend an dem mittleren Teil des Rahmens (2) durch zwei hintere Führungen (12) für die hinteren diagonalen Stangen befestigt sind und durch zwei vordere Führungen (12') für die vorderen diagonalen Stangen, wobei die besagten Führungen an den Innenseiten der Längsstangen des Rahmens (2) angebracht sind,
dadurch gekennzeichnet, dass er Folgendes umfasst:

einen linken hinteren Hebel (5), der gelenkig an der linken hinteren diagonalen Stange (8) und dem Rahmen (2) ist und einen rechten hinteren Hebel (5'), der gelenkig an der rechten hinteren diagonalen Stange (8') und dem Rahmen (2) ist, wobei die besagten zwei hinteren Hebel durch eine hintere Querstange (7) miteinander verbunden sind, in deren Mitte sich eine hintere Gabel (23) befindet; und einen linken vorderen Hebel (6), der gelenkig an der linken vorderen diagonalen Stange (9) und dem Rahmen (2) ist und einen rechten vorderen Hebel (6'), der gelenkig an der rechten vorderen diagonalen Stange (9') und dem Rahmen (2) ist, wobei die

besagten zwei vorderen Hebel durch eine vordere Querstange (7') miteinander verbunden sind, in deren Mitte sich eine vordere Gabel (23') befindet und
desweiteren eine hintere Pumpe (10), gelenkig mit der hinteren Gabel (23) und eine vordere Pumpe (10'),
gelenkig mit der vorderen Gabel (23') verbunden, wobei die besagten zwei Pumpen an Stangen befestigt sind,
die an dem mittleren Teil der Längsstangen des Rahmens (2) befestigt sind und unabhängig voneinander durch
eine erstes Pedal (11) bzw. ein zweites Pedal (11') aktiviert werden, an das sie durch ein erstes Kabel (21')
bzw. ein zweites Kabel (21) angeschlossen sind, um die Höhe der Halteplattform (13) unter dem rechteckigen
Rahmen (2) und den Neigungswinkel zu verändern.

2. Handbetriebener Wagen, um Särge zu transportieren, gemäss dem vorangegangenen Anspruch, **dadurch gekennzeichnet, dass** sich an einer der Querseiten der Halteplattform (13) ein Haltegriff (17) befindet, wobei auf der gegenüberliegenden Seite eine Querrolle (19) auf der selben Höhe wie die Oberfläche der Halteplattform (13) angebracht ist.
3. Handbetriebener Wagen, um Särge zu transportieren, gemäss den vorangegangenen Ansprüchen, **dadurch gekennzeichnet, dass** unter der Halteplattform (13) und auf der Seite der Rolle (19) ein Rohr (20) längs angebracht ist und mit einer Klemme (18) befestigt ist, in der eine "L"-förmige Klammer (16) gleitet, wodurch eine Feststellbremse für den Sarg gebildet wird.
4. Handbetriebener Wagen, um Särge zu transportieren, gemäss den vorangegangenen Ansprüchen, **dadurch gekennzeichnet, dass** sich auf der Halteplattform (13) ein rechteckiges Tablett (14) befindet, das sich entlang der Halteplattform bewegen kann, ausgerüstet mit Auflagern darunter und mit einer linken Sperre (15) und einer rechten Sperre (15') nahe an zweien seiner Ecken befestigt ist, um das Ende des Sargs zu halten, wenn dieser darauf gelegt wird.

Revendications

1. Chariot à commande manuelle approprié pour transporter des cercueils, comprenant une plate-forme (13) de support rectangulaire, comprenant deux côtés longitudinaux et deux côtés transversaux, pour supporter un cercueil, et un châssis rectangulaire (2), comprenant deux barres longitudinales et deux barres transversales, équipé d'une paire de roues (3) arrière à rotation libre, aménagées avec un frein (22), et une paire de roues (3') avant fixes une barre (8) diagonale arrière gauche et une barre (8') diagonale arrière droite articulées à l'extrémité arrière de la plate-forme de support (13) et une barre diagonale avant gauche (9) et une barre diagonale avant droite (9') articulées à l'extrémité avant de la plate-forme (13) de support, leurs extrémités inférieures étant légèrement unies à la partie centrale du châssis (2), par l'intermédiaire d'une paire de guides (12) arrière, pour les barres diagonales arrière, et une paire de guides avant (12') pour les barres diagonales avant, lesdits guides étant disposés sur les faces internes des barres longitudinales du châssis (2),
caractérisé en ce qu'il comprend
un levier arrière gauche (5) articulé sur la barre (8) diagonale arrière gauche et le châssis (2), et un levier arrière droit (5') articulé sur la barre (8') diagonale arrière droite et le châssis (2), lesdits deux leviers arrière étant unis par une barre transversale arrière (7) au centre de laquelle il y a une fourchette arrière (23) ; et un levier avant gauche (6) articulé sur la barre (9) diagonale avant gauche et le châssis (2) et un levier (6') avant droit articulé sur la barre (9') diagonale avant droite et le châssis (2), les deux leviers avant étant unis par une barre (7') transversale avant au centre de laquelle il y a une fourchette avant (23'), et
comprenant, en outre, une pompe arrière (10) articulée à la fourchette arrière (23) et une pompe avant (10') articulée à la fourchette avant (23'), lesdites deux pompes étant fixées à des barres connectées à la partie centrale des barres longitudinales du châssis (2), activée indépendamment par une première pédale (11) et une deuxième pédale (11'), respectivement, auxquelles elles sont connectées par une première conduite (21') et une deuxième conduite (21), respectivement, pour varier la hauteur de la plate-forme de support (13) au-dessus du châssis rectangulaire (2) et son angle d'inclination.
2. Chariot à commande manuelle pour transporter des cercueils, selon la revendication précédente, **caractérisé en ce que** sur un des côtés transversaux de la plate-forme (13) de support il y a une poignée (17), tandis que sur le côté opposé est disposé un rouleau transversal (19) à la même hauteur que la surface de la plate-forme (13) de support.
3. Chariot à commande manuelle pour transporter des cercueils, selon les revendications précédentes, **caractérisé**

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en ce que sous la surface de la plate-forme (13) de support et sur le côté du rouleau (19) il y a un tube (20) disposé longitudinalement et équipé avec une crampe (18), à l'intérieur de laquelle glisse un gousset (16) sous forme de « L », constituant un frein pour le cercueil.

- 5 4. Chariot à commande manuelle pour transporter des cercueils, selon les revendications précédentes, **caractérisé en ce que** sur la plate-forme (13) de support il y a un plateau (14) rectangulaire, lequel peut se déplacer le long de la plate-forme de support, équipé de coussinets sous celle-ci, et monté à des points près de deux de ses angles avec une buté gauche (15) et une buté droite (15') pour maintenir l'extrémité du cercueil lorsqu'il est placé sur celui-ci.

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