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DESCRIPTION

OBJECT OF THE INVENTION

[0001] As expressed in the title of the present specification, the invention relates to a caravan with built-in access for driving motorcycles or other vehicles into same, providing the intended function thereof with advantages and features that are described in detail below and constitute a novelty in the current state of the art.

[0002] More specifically, the object of the invention focuses on a caravan of those consisting of a vehicle conditioned to be lived in and towed by an automobile, which is characterized by having a series of integrated structural elements, and optionally additional accessories, which are particularly designed to provide simple and practical access means for effortlessly driving a vehicle, such as a motorcycle, a wheelchair, a cart, or other objects with wheels, even a large motorcycle, into the caravan and placing it therein.

FIELD OF APPLICATION OF THE INVENTION

[0003] The field of application of the present invention is comprised within the transportation sector, focusing particularly in the field of caravans and similar vehicles.

BACKGROUND OF THE INVENTION

[0004] As is known, many caravan users who travel by towing the caravans with their vehicle also tend to bring bicycles and/or motorcycles with them as auxiliary means of travel for use at the destination point. To that end, generally, accessories external to the caravan cabin in which said vehicles are secured are often incorporated.

[0005] In addition to fact that they are unsuitable for large motorcycles due to the weight that they may have, these securing systems present the problem of theft risk as they are exposed on the outside of the cabin. However, keeping the securing systems inside the cabin, which is safer, is usually very complicated given the difficulty in accessing them, particularly large motorcycles, given the height of the floor of the cabin.

[0006] Moreover, the means existing today to facilitate said access usually consist of the use of special ramps of a large weight and volume that must be handled with enormous effort to place them at the entry of the cabin, and once the motorcycle or vehicle in question has been driven into the cabin, these means will have to be moved again for removal and storage purposes, taking up valuable space inside the cabin.

[0007] Therefore, the objective of the present invention is to develop an improved caravan which incorporates an access ramp that can be readily placed and removed in order to avoid the described drawbacks.

[0008] Moreover, and as reference to the current state of the art, it must be indicated that, although different caravans with all type of configurations, accessories, and devices for different uses are known, the applicant at least is unaware of the existence of any caravan having technical, structural, and constitutive features that are identical or similar to those herein claimed.

[0009] In this sense, it must be indicated that document WO2009140714A1 discloses a vehicle-mounted wheelchair boarding apparatus which, similarly to the caravan of the present invention, has a ramp connected to the body of the vehicle by a pivot assembly at an intermediate location between the front and rear of the body, where said ramp extends to the rear of the body and terminates in a ground engageable edge, there being actuating means for pivotally moving the ramp between a horizontal position and a lowered position where the edge engages the ground so that a wheelchair can be maneuvered immediately behind the body for wheeling up the ramp when it is in the lowered position and can be transported on the ramp when it is in the horizontal position.

[0010] However, in addition to not being designed for implementation in a caravan for the purpose of allowing a vehicle, such as a motorcycle, to be driven into same, said apparatus differs from the present invention in that the mentioned ramp constitutes an element that is much more complex and expensive to manufacture and assemble, since it is not defined by a part made of the same board as the rest of the floor, fitting tightly and flush into a complementary gap made for this purpose at one end of the floor, aligned with the door for accessing the cabin, nor is it connected by the proximal side thereof, towards the center of the floor, to said gap of the floor of the cabin and to the chassis of the caravan via a hinged joint, or provided at its distal side with locking means securing it to the chassis in the closed inoperative position, being flush with the rest of the floor.

[0011] Furthermore, from document US2001038787A1 a ramp is also known to allow wheelchair access to a bus, comprising a lifting and folding platform pivotally mounted on a support frame, which, however, has an additional extendable platform beyond of a front end of the platform and retractable with respect to that platform, which, when it is in the fully retracted position, has fixing means that, unlike the ramp of the caravan of the present invention, consist of lateral flanges that extend into a slot so that flanges can rest on the bottom sides and support the ramp raised and retracted

DESCRIPTION OF THE INVENTION

[0012] The caravan with built-in access for driving motorcycles or other vehicles into same proposed by the invention is therefore configured as a novelty in its field of application, given

that the objectives indicated above are specifically and satisfactorily achieved in view of its implementation, with the characterizing details making it possible and distinguishing same being suitably described in the final claims accompanying the present description.

[0013] More specifically, as set forth above, the invention proposes providing a caravan of the type intended to be towed by an automobile, formed by a chassis with wheels and coupling means for said towing on which a cabin conditioned as a living space to be lived in is coupled, said caravan being characterized by comprising, integrated in the actual chassis and cabin, access means for effortlessly driving a motorcycle, a wheelchair, a cart, or other objects with wheels, into the caravan and placing it therein, with said access means being equipped with the robustness required to be able to provide access even to a large motorcycle.

[0014] To that end, said means are based on the fact the actual floor of the cabin, preferably consisting of a sandwich-type board formed by layers of wood, insulation, and wood, incorporates a ramp defined by a rectangular portion of said board, fitting tightly and flush into a complementary gap made for this purpose at one end of the floor, aligned with the door of the cabin, usually the rear end, which portion is connected on one side to the rest of the floor of the cabin and to the chassis of the caravan via a hinged joint which allows collapsing the ramp to lower it to the ground by the opposite side and to act as a ramp through which the motorcycle can be driven into the cabin, and said portion has on the opposite side with locking means for securing same to the chassis of the caravan in an inoperative position, being flush with the rest of floor with no possibility of collapsing when the lock is in the locked position, assuring the firmness and robustness of the floor of the inside of the cabin for the use thereof in a normal situation and with a motor thereon.

[0015] Thus, every time a motorcycle is to be driven into the cabin of the caravan, it will suffice to open the lock of the ramp, cause the ramp to collapse downwards to the ground, drive the motorcycle up the ramp, and again place the ramp in the closed position, all this effortlessly, as any need to move the ramp from a storage position to an operational position and vice versa is prevented, furthermore preventing the need to arrange said housing for keeping the ramp, given that said ramp is an integral part of the actual floor of the cabin and does not take up any extra space in the closed position.

[0016] Additionally, the caravan also furthermore has an electric winch for pulling the motorcycle up the ramp into the cabin, which winch is preferably housed in the compartment of the front portion which can be found in most existing caravans and is located on the beams for coupling to the automobile, where it has been envisaged for the winch to be attached such that it is screwed to a steel sheet, and for there to be a through hole for passing the cable from said compartment to the inner portion of the cabin.

[0017] The described caravan with built-in access for driving motorcycles or other vehicles into same therefore represents an innovation in structural and constitutive features that have been unknown up until now, and these reasons, combined with its practical usefulness, provide it with sufficient grounds to obtain the exclusive privilege that is sought.

DESCRIPTION OF THE DRAWINGS

[0018] To complement the description that is being made and for the purpose of helping to better understand the features of the invention, a set of drawings is attached to the present specification as an integral part thereof in which the following is depicted in a non-limiting, illustrative manner:

Figure 1 shows a bottom perspective view of the caravan with built-in access for driving motorcycles or other vehicles into same, object of the invention, with the main portions and elements characterizing it, specifically the collapsible access ramp incorporated in the floor of the cabin, as well as the configuration and arrangement thereof, being observed.

Figure 2 shows a bottom perspective view of the proximal end of hinged joint of the access ramp, with the hinges connecting it to the chassis being observed.

Figure 3 shows a bottom perspective view of the opposite end of the ramp with respect to that shown in the preceding figure, i.e., the distal end of the access ramp, with the locking means for locking same to the chassis being observed.

Figure 4 shows a perspective view of a front portion of the caravan, specifically the compartment which is located on the beams for coupling to the automobile, with the electric winch incorporated for pulling the motorcycle into the cabin, being observed.

PREFERRED EMBODIMENT OF THE INVENTION

[0019] In view of the mentioned figures and according to the numbering used, a non-limiting embodiment of the caravan with built-in access for driving motorcycles or other vehicles into same of the invention can be seen therein, which caravan comprises the portions and elements indicated and described in detailed below.

[0020] In that sense, as seen in said Figure 1, the caravan in question, formed by a chassis (1) and a cabin (2) of variable dimensions and configuration, is characterized by comprising, attached to the actual chassis (1) and integrated in the floor (3) of the cabin (2), a collapsible ramp (4) with a collapsed operational position, in which it serves as access means for driving a motorcycle up and placing it inside the caravan, and a closed inoperative position, in which it is an integral part of the actual floor (3) of the cabin (2).

[0021] To that end, the mentioned ramp (4) is preferably defined by a rectangular part (40) made of the same board as the rest of the floor (3), preferably consisting of sandwich-type board formed by layers of wood, insulation, and wood, fitting tightly and flush into a

complementary gap (30) made for this purpose at one end of the floor (3), aligned with the door (20) for accessing the cabin (2) and preferably of the same width as the latter. Furthermore, said part (40) is connected by the proximal side thereof, towards the center of the floor (3), to said gap (30) of the floor (3) of the cabin and to the chassis (1) of the caravan via a hinged joint (5) which allows collapsing same to lower it to the ground by the opposite or distal side, on the edge of the floor (3) and adjacent to the door (20), and thereby act as a ramp (4), and it is provided by said distal side with locking means (6) that allow it to be secured to the chassis (1) in the closed inoperative position, being flush with the rest of the floor (3).

[0022] Preferably, both the perimetral edge of the rectangular board part (40) forming the ramp (4) and the perimetral edge of the gap (30) of the floor (3) into which said ramp (4) is fitted are provided with a metallic reinforcement (7) preferably consisting of a U-shaped profile of screwed galvanized sheet.

[0023] Preferably, the hinged joint (5) which allows collapsing the ramp (4) from its inoperative position flush with the floor (3) to its operational position, is formed by several hinges that are screwed to the reinforcement (7) of the part (40) of the ramp (4) and to an intermediate crosspiece (10) of the chassis (1), located aligned with the proximal side of said part (40), as seen in Figures 1 and 2.

[0024] And the locking means (6) of the ramp (4), in their inoperative position flush with the floor (3) of the cabin (2), are preferably determined by respective transverse external tube segments (11, 12), two side segments (11) forming the chassis (1) at the rear end thereof, attached beneath the floor (3) to both sides of the ramp (4), and one central segment (12) attached on the distal side of the ramp (4), which segments are, for example, 50 x 50 mm squares, between which segments there run two other sliding internal tube segments (13), for example a 45 x 45 square tube, such that these sliding internal tube segments can move to either side of the central tube (12) and be secured via respective set screws (14) for blocking the separation of the side tubes (11) to the left and right sides of the ramp (4) and the central tube (12), preventing the unlocking thereof, or for allowing the separation thereof for collapsing the ramp (4). Additionally, the caravan also has an electric winch (8) for pulling the motorcycle up the ramp (4) into the cabin (2), which winch is preferably housed in the compartment (21) of the front portion of the cabin (2) on the beams (15) of the chassis (1) which are used for coupling to the automobile, where it has been envisaged for the winch to be attached such that it is screwed to a steel sheet (9) together with a through hole (22) made for this purpose for passing the cable into the cabin (2).

[0025] Figure 4 depicts said compartment (21) with its door (23) open, allowing the arrangement of the mentioned electric winch (8) to be seen.

[0026] Having sufficiently described the nature of the present invention, as well as the manner of putting it into practice, it is not considered necessary to expand on this explanation so that one skilled in the art will understand that the invention is only limited by the content of the appended claims.

REFERENCES CITED IN THE DESCRIPTION

Cited references

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Patent documents cited in the description

- [WO2009140714A1 \[0009\]](#)
- [US2001038787A1 \[0011\]](#)

Patentkrav

1. Campingvogn med indbygget adgang til at køre motorcykler eller andre køretøjer ind i denne, dannet af et chassis (1) og en kabine (2) med variable dimensioner og
- 5 udformning, omfattende, fastgjort til selve chassiset (1) og integreret i kabinens (2) gulv (3), en sammenklappelig rampe (4) med en sammenklappet anvendelsesposition, i hvilken den fungerer som adgangsmiddel til at køre en motorcykel op og anbringe den inden i campingvognen, og en lukket inaktiv position, i hvilken den er en integreret del af kabinens (2) gulv (3), og hvor rampen (4) er defineret af en rektangulær del (40), der er
- 10 fremstillet af samme plade som resten af gulvet (3) og passer nøjagtigt i og flugter med en komplementær udsparring (30), der er fremstillet til dette formål i en ende af gulvet (3), på linje med døren (20) med henblik på adgang til kabinen (2); hvor den del (40), der definerer rampen (4), ved den proksimale side deraf mod midten af gulvet (3), er forbundet med udsparringen (30) af kabinens gulv (3) og med campingvognens chassis
- 15 (1) via et hængsellede (5), der muliggør sammenklapning deraf til nedsænkning deraf til jorden ved den modsatte eller distale side, på gulvets (3) kant og ved siden af døren (20), og den distale side er forsynet med låsemidler (6), der gør det muligt at fastgøre den til chassiset (1) i den lukkede inaktive position, idet den flugter med resten af gulvet (3), **kendetegnet ved, at** rampens (4) låsemidler (6) i deres inaktive position flugtende
- 20 med kabinens (2) gulv (3) bestemmes af respektive tværgående udvendige rørsegmenter (11, 12), to sidesegmenter (11), der danner chassiset (1) ved bagenden deraf, fastgjort under gulvet (3) på begge sider af rampen (4), og et centralt segment (12), der er fastgjort på den distale side af rampen (4), mellem hvilke segmenter der strækker sig to andre glidende indvendige rørsegmenter (13), der kan bevæge sig til hver
- 25 side af det centrale rør (12) og fastgøres ved hjælp af indstillingsskruer (14) til blokering af adskillelsen af siderørene (11) på venstre og højre side af rampen (4) og det centrale rør (12), hvorved oplåsning deraf forhindres, eller til muliggørelse af adskillelse deraf til sammenklapning af rampen (4).
- 30 2. Campingvogn med indbygget adgang til at køre motorcykler eller andre køretøjer ind i denne ifølge krav 1, **kendetegnet ved, at** både den perimetriske kant af den rektangulære pladedel (40), der danner rampen (4), og den perimetriske kant af

udsparingen (30) i gulvet (3), som rampen (4) passer ned i, er forsynet med en metalforstærkning (7).

5 **3.** Campingvogn med indbygget adgang til at køre motorcykler eller andre køretøjer ind i denne ifølge krav 2, **kendetegnet ved, at** hængselleddet (5), der muliggør sammenklapning af rampen (4) fra den inaktive position, der flugter med gulvet (3), til anvendelsespositionen, er dannet af flere hængsler, der er skruet på forstærkningen (7) af rampens (4) del (40) og på et mellemliggende tværstykke (10) af chassiset (1), der er anbragt på linje med den proksimale side af delen (40).

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4. Campingvogn med indbygget adgang til at køre motorcykler eller andre køretøjer ind i denne ifølge et af kravene 1 til 3, **kendetegnet ved, at** pladen, der danner delen (40), der definerer rampen (4) og gulvet (3), er en sandwichlignende plade, der er dannet af lag af træ, isolering og træ.

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5. Campingvogn med indbygget adgang til at køre motorcykler eller andre køretøjer ind i denne ifølge et af kravene 1 til 4, **kendetegnet ved, at** den også har et elektrisk spil (8) til at trække motorcyklen op af rampen (4) og ind i kabinen (2), der er anbragt i et rum (21) af frontdelen, der er skruet på en stålplade (9) sammen med et gennemgående hul (22),
20 der er udformet til at lede kablet ind i kabinen (2).

DRAWINGS



