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(54) **Snow sledge**

Schneeschlitten

Luge à neige

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(73) Proprietor: **Fiskars Finland Oy Ab**
00560 Helsinki (FI)

(72) Inventors:
- **Masalin, Petteri**
  00560 Helsinki (FI)
- **Salojärvi, Jouni**
  20810 Turku (FI)
- **Sokka, Mika**
  00560 Helsinki (FI)

(74) Representative: **Kolster Oy Ab**
Salmisaarenaukio 1
00180 Helsinki (FI)

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Description

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

[0001] This invention relates to a snow sledge (occasionally referred to as a snow pusher, and more specifically, to a snow sledge which is used manually by a user via a handle of the snow sledge.

DESCRIPTION OF PRIOR ART

[0002] Previously there is known a snow sledge having a forwardly open receptacle with a bottom, side walls and a back wall for receiving and containing snow received over a front edge of the bottom. The snow sledge comprises a handle which the user utilizes for pushing the snow sledge forward during use, such that the outer surface of the bottom slides along the ground and snow on the ground enters the receptacle over the front edge of the bottom.

[0003] A snow sledge as described above works excellent when the conditions are optimal. In that case a hard layer of snow or ice covering the ground contacts the outer surface of the bottom and ensures that the friction is sufficiently low for a user to push the snow sledge. Unfortunately the conditions are in practice often far from optimal. Occasionally, during difficult conditions there is no continuous hard layer of snow or ice under the soft layer of snow which needs to be removed with the snow sledge. Instead the outer surface of the bottom may come into contact with sand, asphalt, concrete or whatever the material of the ground under the soft layer of snow happens to be. In that case it is very heavy for the user to push the snow sledge due to friction between the outer surface of the bottom and the ground. Additionally, use of the snow sledge in such difficult conditions causes scratches in the outer surface of the bottom, which eventually wears out the bottom of the snow sledge.

[0004] Previously there is also known from US - A - 258 260 and US - A - 1 678 135 snow sledges having runners arranged along an outer surface of the bottom of a snow sledge. In these known snow sledges the lower ends of the handle are attached to a back wall of the snow sledge.

SUMMARY OF THE INVENTION

[0005] An object of the present invention is to solve the above mentioned drawback and to provide a snow sledge which is more wear resistant and comfortable to use also in difficult conditions. This and other objects of are obtained with a snow sledge according to independent claim 1.

[0006] The use of a snow sledge comprising at least a first and a second detachable elongated ski extending along the outer surface of the bottom makes the snow sledge more comfortable to use and improves its wear resistance. The material of the detachable skis may be selected independently of the material of the receptacle in order to ensure that a user friendly friction is obtained in all conditions. Additionally, once the skis wear out, they can easily be replaced without needing to replace the entire receptacle or snow sledge. When the first and second end of a handle is attached to a first and second end piece of a reinforcement bar extending along substantially the entire length of the front edge, a snow sledge is obtained where a force directed by a user to the handle is efficiently conducted to the reinforcement bar.

[0007] Preferred embodiments of the invention are disclosed in the dependent claims.

BRIEF DESCRIPTION OF DRAWINGS

[0008] In the following the present invention will be described in closer detail by way of example and with reference to the attached drawings, in which

Figures 1 and 2 illustrate a first embodiment of a snow sledge, and

Figures 3 and 4 illustrate a second embodiment of a snow sledge.

DESCRIPTION OF AT LEAST ONE EMBODIMENT

[0009] Figures 1 and 2 illustrate a first embodiment of a snow sledge 1. Figure 1 illustrates a side view of the snow sledge 1, and Figure 2 illustrates a bottom view of the snow sledge 1.

[0010] The snow sledge 1 comprises a forwardly open receptacle 2 with a bottom 3, side walls 4 and a back wall 5. A handle 6 protrudes upwards from the receptacle 2 to a height suitable for a user to grab the handle 6 with his hands in order to manually use the snow sledge 1 for removing snow from the ground. During such use snow enters the receptacle 2 over the front edge 7 of the bottom 3.

[0011] The illustrated snow sledge 1 comprises a first 8 and a second 9 elongated ski which extend along the outer surface of the bottom 3 in a direction from the front edge 7 towards the back wall 5. These skis are detachably attached to the receptacle 2. In the illustrated example it is by way of example assumed that this attachment is carried out with screws 10 and nuts 11, however, in other implementations other ways of attaching the skis may exist. In any case, due to the detachable attachment, the first 8 and second 9 ski may be detached and removed from the receptacle 2 in order to utilize the snow sledge without skis, or alternatively, in order to replace the present skis with new skis. Such replacement may be necessary if the skis have been worn out.

[0012] In the illustrated embodiment the outer surface of the bottom is provided with one or more grooves 12 and the first 8 and second 9 ski are partially embedded into the one or more grooves 12. Partially embedded re-

fers to a solution, where the skis are thicker than the depth of the grooves, such that the skis at least partly protrude out of the grooves and beyond the outer surface of the bottom 3 of the receptacle 2. The skis may protrude about 5 - 8 mm beyond the outer surface of the bottom. In this way it can be ensured that when the snow sledge 1 slides along the ground, it is the surface of the skis that contacts the ground instead of the outer surface of the receptacle as in prior art snow sledges. Suitable mutual dimensioning of the width of the grooves and the width of the skis ensures that the sides of the skis are supported by the sides walls of the grooves, such that the skis are very firmly and rigidly attached to the receptacle 2. A suitable width for the skis is about 5 - 10 cm. Additionally, the grooves 12 in combination with the partially embedded skis makes the bottom 3 of the receptacle 2 more stiff, which is an advantage when heavy snow loads are handled with the snow sledge.

[0013] As best seen in Figure 2, the bottom 3 of the receptacle has a generally flat portion 13 adjacent to the front edge 7. Curved portions 14 of the bottom adjoin the flat portion 13 to the side walls 4 and to the back wall 5 of the receptacle. In order to obtain skis well suited for use with such a receptacle, the skis need to have a shape that matches the shape of the bottom 3. Consequently, the first 8 and second 9 ski are provided with a flat front portion and curved rear portions, which confirms to the shape of the outer surface of the bottom.

[0014] From Figure 2 it can be seen that the first 8 and second skis 9 are provided with one or more longitudinal slits 15 in a bottom surface of the skis. Such slits are not necessary in all embodiments, but may be useful in order to assist the user in controlling the snow sledge such that the snow sledge proceeds straight forward when the user manually pushes the snow sledge 1 via the handle 6.

[0015] In order to ensure that the front edge 7 of the snow sledge 1 is sufficiently stiff and wear resistant, a metal reinforcement bar 16 extends substantially along the entire length of the front edge 7. Small gaps may be provided between the front edge 7 and the metal reinforcement bar 16 on the bottom side of the receptacle at the locations of the skis. In that case the first 8 and second ski 9 may be shaped and dimensioned to protrude into these gaps. Such a solution enhances the attachment of the skis to the receptacle by mechanically locking the front end of the skis in a space between the bottom 3 of the receptacle and the metal reinforcement bar 16.

[0016] In the illustrated example the reinforcement bar 16 is provided with first 17 and second 18 end pieces extending upwards from the front edge 7 at the opposite ends of the front edge 7. In practice, the metallic reinforcement bar 16 may be bent upwards at its opposite ends to obtain the first 17 and second 18 end piece, in which case the reinforcement bar 16 will be generally U-shaped. An advantage obtained with the first 17 and second 18 end piece, is that these, preferably metallic and sharp pieces cut snow very efficiently. Due to this a very nice looking and clean cut is obtained in the snow when the snow sledge is used for removing snow.

[0017] In the illustrated example the handle 6 consists of an elongated part having a plurality of adjoining sections 19 which extend in different directions. In practice the handle 6 may be manufactured of once single metallic piece, such as a pipe, that is bent at suitable locations in order to obtain the desired shape. In the illustrated embodiment the handle 6 is shaped in such a way that the first 20 and second 21 end of the handle 6 are attached to the first 17 and second 18 end piece of the reinforcement bar 16. An advantage with such a solution is that the force directed by the user to the handle 6 is very efficiently conducted to the reinforcement bar 16 with a minimum of elasticity between these parts. Consequently, if the user scrapes ice on the ground with the reinforcement bar 16, a maximum force can easily be conducted from the handle 6 to the reinforcement bar 16.

[0018] The material of the receptacle may be polypropylene (PP), for instance. The skis may also be of polypropylene, or alternatively of Polyoxymethylene (POM), for instance, which is a relatively slippery material having excellent wear resistance properties.

[0019] Figures 3 and 4 illustrate a second embodiment of a snow sledge. The snow sledge of Figures 3 and 4 is very similar to the one explained in connection with Figures 1 and 2. Therefore the embodiment of Figures 3 and 4 are mainly explained by pointing out the differences between these embodiments.

[0020] For simplicity, Figures 3 and 4 illustrate only the receptacle 2 of the snow sledge without the handle. In the illustrated embodiment, a soft cover 22' has been added to cover at least the lower surface of the metallic reinforcement bar 16. The soft cover 22' may be manufactured of the same material as the skis, for instance, or alternatively of another soft and wear resistant material. Preferably the soft cover 22' is detachable, such that it may be removed from the snow sledge if the user so prefers. This may be achieved by attaching the soft cover to the snow sledge with screws, for instance.

[0021] An advantage obtained by utilizing a soft cover 22' at least on the lower surface of the reinforcement bar 16 is that this soft cover 22' prevents unintentional contact between the reinforcement bar 16 and the surface below the layer of snow which is being removed with the snow sledge. This is a significant advantage when utilizing the snow sledge in locations where damages could otherwise occur, such as on metal-sheeted roofs or wooden terraces. Additionally, the soft cover 22' also improves the use of the snow sledge in difficult conditions in the same way as the first 8 and second ski 9, in other words by lowering the friction and improving the wear resistance, as has been explained previously.

[0022] Though it is sufficient to arrange the soft cover 22' to cover the lower surface of the reinforcement bar, it may be practical to implement the soft cover 22' as illustrated in Figures 3 and 4, where the generally U-shaped soft cover 22' surrounds the reinforcement bar from three sides, from the lower side, front side and upper

side. In such an embodiment the attachment of the soft cover 22' may be implemented as a snap attachment, where the elasticity and stiffness of the U-shaped soft cover ensures that a protruding part of the soft cover 22' enters a cavity in the receptacle 2 or in the reinforcement bar 16

Claims

1. A snow sledge (1), comprising:

a forwardly open receptacle (2) with a bottom (3), side walls (4) and a back wall (5) for receiving and containing snow received over a front edge (7) of the bottom,
a handle (6) protruding upwards from the receptacle (2), and
at least a first and a second elongated ski (8, 9) extending along an outer surface of the bottom (3) in a direction from the front edge (7) towards the back wall (5), wherein
the at least first and second elongated skis (8, 9) are detachably attached to the receptacle (2), and
the at least first and second elongated skis (8, 9) protrude outwards from the outer surface of the the bottom (3), c h a r a c t e r i z e d in that the front edge (7) of the bottom comprises a metal reinforcement bar (16) extending substantially along the entire length of the front edge, and
the handle (6) is shaped in such a way that a first end (20) and a second end (21) of the handle (6) are attached to a first (17) and a second (18) end piece of the reinforcement bar (16).

2. The snow sledge according to claim 1, wherein
the outer surface of the bottom (3) is provided with one or more grooves (12), and the first and second elongated skis (8, 9) are partially embedded in the one or more grooves (12).

3. The snow sledge according to claim 1 or 2, wherein
the bottom (3) of the receptacle (2) has a generally flat portion (13) adjacent to the front edge (7), and curved portions (14) which adjoin the flat portion (13) to the side walls (4) and to the back wall (5), and
the at least first and second elongated skis (8, 9) are provided with flat front portions and curved rear portions for confirming to the shape of the outer surface of the bottom (3).

4. The snow sledge according to one of claims 1 to 3, wherein
at least one of the first and second ski (8, 9) is provided with one or more longitudinal slots (15) in a bottom surface of the first and second ski (8, 9) respectively.

5. The snow sledge according to one of claims 1 to 4, wherein the first and a second end piece (17, 18) of the metal reinforcement bar (16) extend upwards from the front edge (7) at the opposite ends of the front edge to provide a generally U-shaped reinforcement bar (16).

6. The snow sledge according to one of claims 1 to 5, wherein at least a lower surface of the reinforcement bar (16) is covered by a soft cover (22').

7. The snow sledge according to one of claims 1 to 6, wherein the handle (6) consists of an elongated part having a plurality of adjoining sections (19) extending in different directions.

Patentansprüche

1. Schneeschlitten (1), umfassend:

ein nach vorne offener Behälter (2) mit einem Boden (3), Seitenwänden (4) und einer Rückwand (5) zur Aufnahme und zum Beinhalten von Schnee, der über eine Vorderkante (7) des Bodens aufgenommen wird,
ein Griff (6), der vom Behälter (2) nach oben vorsteht, und
mindestens ein erster und ein zweiter länglicher Ski (8, 9), die sich entlang einer Außenfläche des Bodens (3) von der Vorderkante (7) in Richtung der Rückwand (5) erstrecken, wobei
der mindestens erste und zweite längliche Ski (8, 9) abnehmbar an dem Behälter (2) angebracht sind, und
der mindestens erste und zweite längliche Ski (8, 9) von der Außenfläche des Bodens (3) nach außen vorstehen, **dadurch gekennzeichnet, dass**
die Vorderkante (7) des Bodens eine Metallverstärkungsstange (16) umfasst, die sich im Wesentlichen entlang der gesamten Länge der Vorderkante erstreckt, und dass
der Griff (6) so ausgebildet ist, dass ein erstes Ende (20) und ein zweites Ende (21) des Griffs (6) an ein erstes (17) und ein zweites (18) Endstück der Verstärkungsstange (16) angebracht sind.

2. Schneeschlitten nach Anspruch 1, wobei
die Außenfläche des Bodens (3) mit einer oder mehreren Rillen (12) versehen ist und der erste und zweite längliche Ski (8, 9) teilweise in der einen oder mehreren Rillen (12) eingebettet sind.

3. Schneeschlitten nach Anspruch 1 oder 2, wobei
der Boden (3) des Behälters (2) einen im Allgemeinen flachen Abschnitt (13) neben der Vorderkante

(7) und gekrümmte Abschnitte (14), die den flachen Abschnitt (13) an die Seitenwände (4) und die Rückwand (5) anschließen, hat und
der mindestens erste und zweite längliche Ski (8, 9) mit flachen vorderen Abschnitten und gekrümmten hinteren Abschnitten zum Bestätigen der Form der Außenfläche des Bodens (3) versehen sind.

4. Schneeschlitten nach einem der Ansprüche 1 bis 3, wobei
mindestens einer der ersten oder zweiten Ski (8, 9) mit einem oder mehreren Längsschlitzen (15) in einer Bodenoberfläche des jeweils ersten und zweiten Skis (8, 9) versehen ist.

5. Schneeschlitten nach einem der Ansprüche 1 bis 4, wobei sich das erste und ein zweites Endstück (17, 18) der Metallverstärkungsstange (16) von der Vorderkante (7) an den gegenüberliegenden Enden der Vorderkannte nach oben erstrecken, um eine im Allgemeinen U-förmige Verstärkungsstange (16) bereitzustellen.

6. Schneeschlitten nach einem der Ansprüche 1 bis 5, wobei mindestens eine Unterseite der Verstärkungsstange (16) von einer weichen Abdeckung (22') abgedeckt ist.

7. Schneeschlitten nach einem der Ansprüche 1 bis 6, wobei der Griff (6) aus einem länglichen Teil mit mehreren angrenzenden Abschnitten (19), die sich in unterschiedliche Richtungen erstrecken, besteht.

Revendications

1. Luge à neige (1) comprenant :

un réceptacle ouvert vers l'avant (2) avec un fond (3), des parois latérales (4) et une paroi arrière (5) pour recevoir et contenir la neige reçue sur un bord avant (7) du fond,
une poignée (6) faisant saillie vers le haut à partir du réceptacle (2), et
au moins un premier et un second ski allongé (8, 9) s'étendant le long de la surface externe du fond (3) dans une direction allant du bord avant (7) vers la paroi arrière (5), dans laquelle :

les au moins premier et second skis allongés (8, 9) sont fixés de manière détachable sur le réceptacle (2), et
les au moins premier et second skis allongés (8, 9) font saillie vers l'extérieur à partir de la partie externe du fond (3), caractérisée en ce qui :

le bord avant (7) du fond comprend une barre de renforcement métallique (16) s'étendant sensiblement sur toute la longueur du bord avant, et
la poignée (6) est formée de sorte qu'une première extrémité (20) et une seconde extrémité (21) de la poignée (6) sont fixées à une première (17) et une seconde (18) pièce d'extrémité de la barre de renforcement (16).

2. Luge à neige selon la revendication 1, dans laquelle la surface externe du fond (3) est prévue avec une ou plusieurs rainures (12), et les premier et second skis allongés (8, 9) sont partiellement encastrés dans les une ou plusieurs rainures (12).

3. Luge à neige selon la revendication 1 ou 2, dans laquelle :

le fond (3) du réceptacle (2) a une partie généralement plate (13) adjacente au bord avant (7), et des parties incurvées (14) qui assemblent la partie plate (13) aux parois latérales (4) et à la paroi arrière (5), et
les au moins premier et second skis allongés (8, 9) sont prévus avec des parties avant plates et des parties arrière incurvées pour se conformer à la forme de la surface externe du fond (3).

4. Luge à neige selon l'une des revendications 1 à 3, dans laquelle :

au moins l'un des premier et second skis (8, 9) est prévu avec une ou plusieurs fentes longitudinales (15) dans une surface inférieure des premier et second skis (8, 9) respectivement.

5. Luge à neige selon l'une des revendications 1 à 4, dans laquelle la première et la seconde pièce d'extrémité (17, 18) d'une barre de renforcement métallique (16) s'étendent vers le haut à partir du bord avant (7) au niveau des extrémités opposées du bord avant pour fournir une barre de renforcement (16) généralement en forme de U.

6. Luge à neige selon l'une des revendications 1 à 5, dans laquelle au moins une surface inférieure de la barre de renforcement (16) est recouverte avec un revêtement souple (22').

7. Luge à neige selon l'une des revendications 1 à 6, dans laquelle la poignée (6) se compose d'une partie allongée ayant une pluralité de sections attenantes (19) s'étendant dans différentes directions.

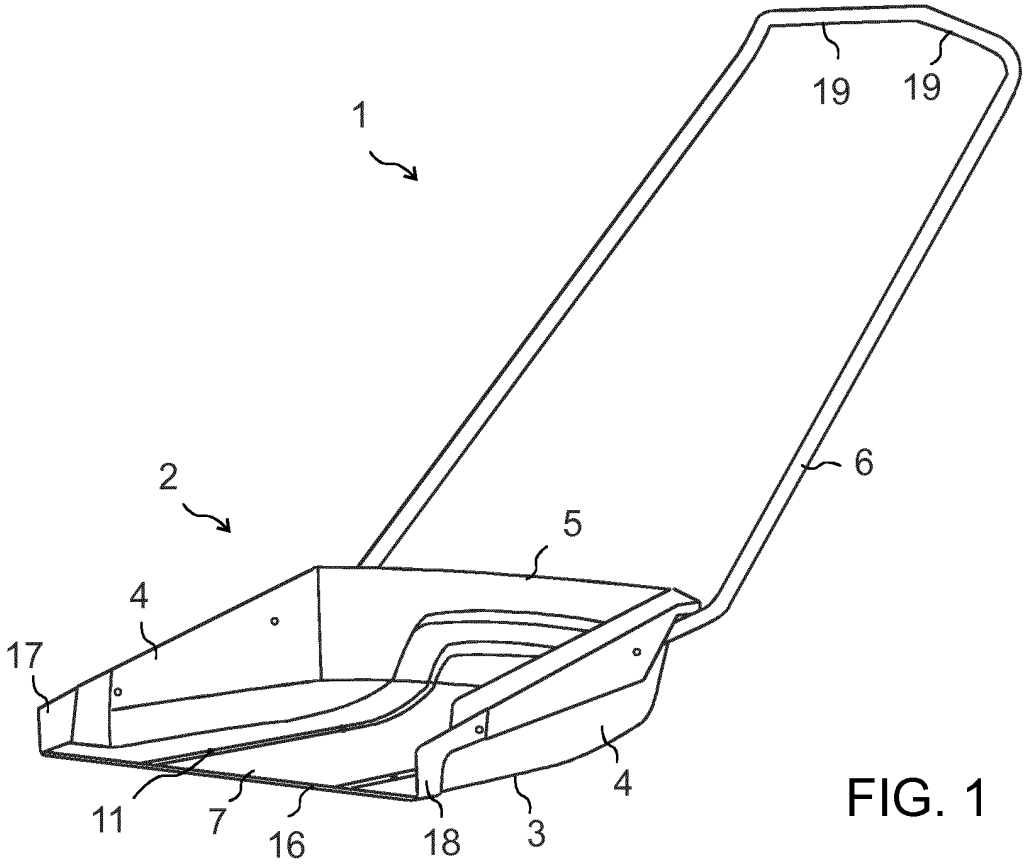

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FIG. 1

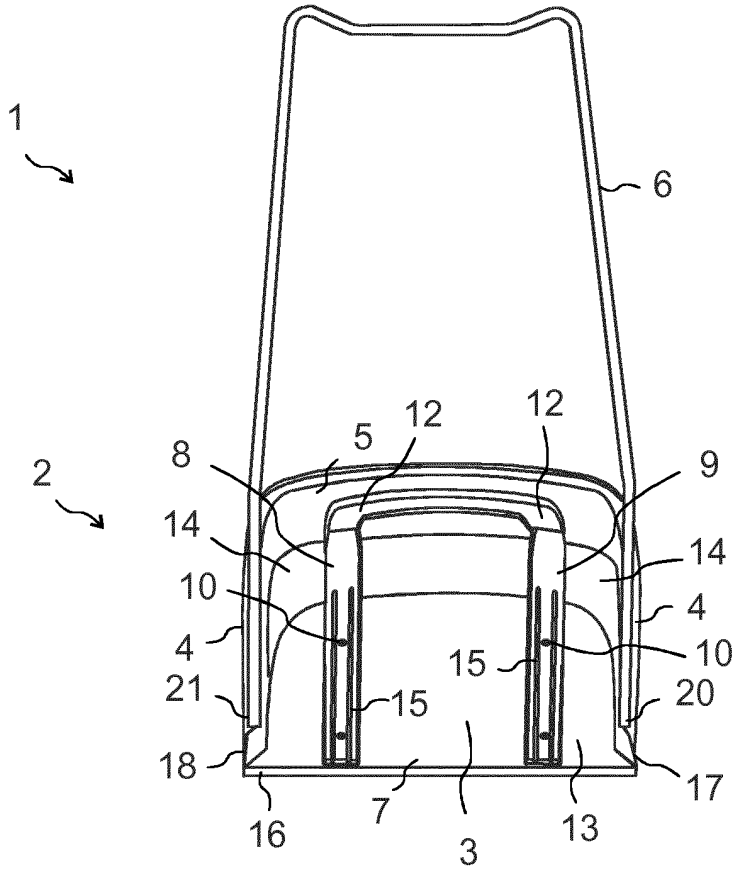

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FIG. 2

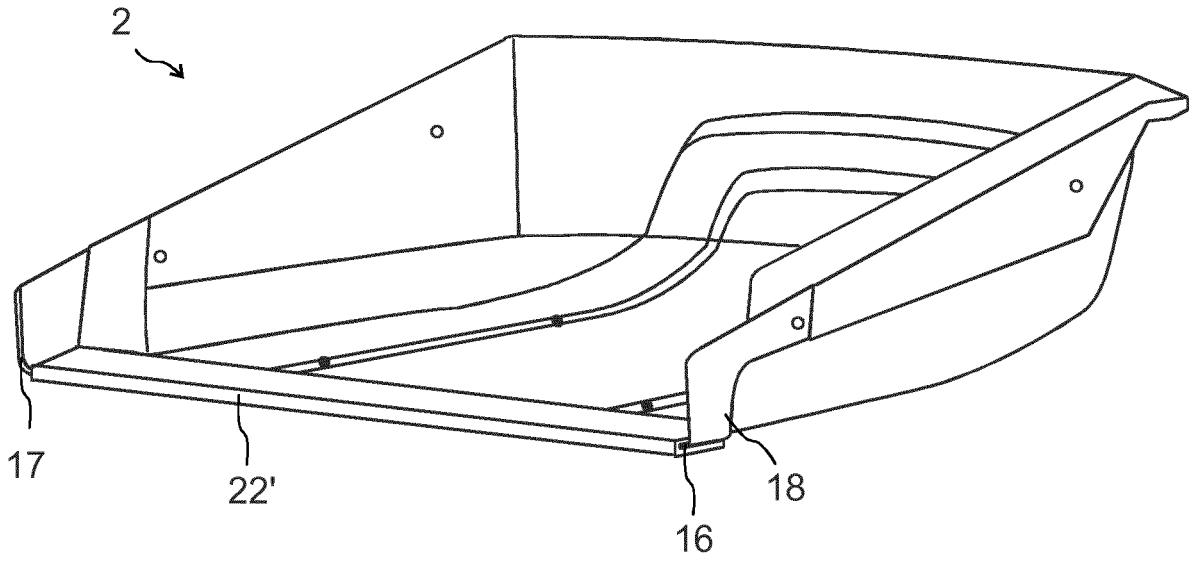


FIG. 3

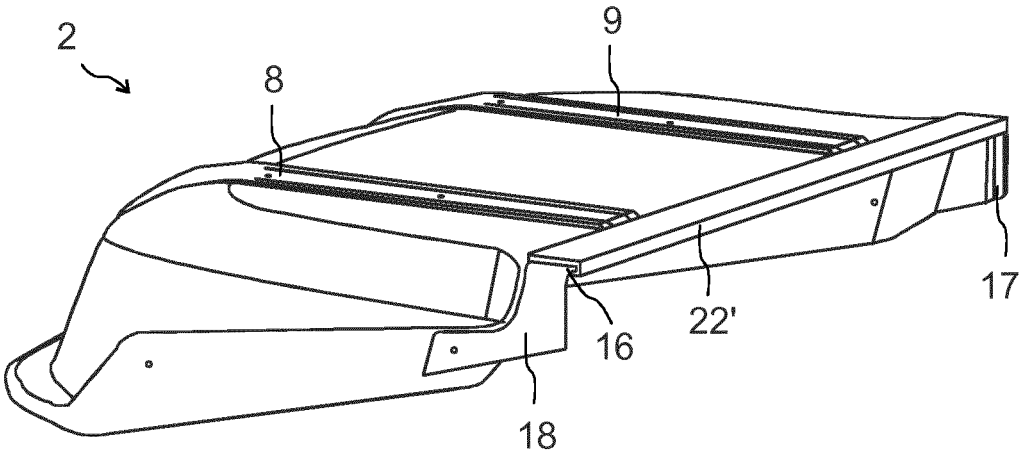


FIG. 4

REFERENCES CITED IN THE DESCRIPTION

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