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(54) **Door for a cool box for carrions**

Tür für eine Kühlbox für Kadaver

Porte pour boîte frigorifique pour cadavres

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Description

[0001] A door for a vessel with an automatic latching mechanism for the open and the closed position is known from document EP-A-0 417 019.

[0002] A door for a vessel with automatic blocking in the open position is disclosed in DE-B-28 43 953.

[0003] The present invention concerns a door for a cool box for carrions.

[0004] It is known that carrions can be best stored in a cool box with a dry cooling, whereby in other words the relative humidity is kept as low as possible, since a high relative humidity advances the rotting process.

[0005] Known cool boxes for carrions are equipped to this end with one or two doors which hinge open around vertical axes of rotation, whereby these doors are provided with a fastening which, after the doors have been closed, provides for an effective locking of the doors.

[0006] A disadvantage of these known doors is that, when they fall to shut by themselves, said locking is not always carried out, which has for a result that the cool box is not always sealed well, so that the inner room is heated and the relative humidity in this inner room rises.

[0007] Another disadvantage of these known doors of a cool box which is erected outside, is that they can be damaged when they are not sealed well and for example can be blown open by a fierce gust of wind.

[0008] Yet another disadvantage of these known doors is that they require a lot of space when being opened, as they are hinge-mounted to the cool box on one side edge and simply swing open as they are opened.

[0009] These known doors, when they are erected outside, can become wet on the inside when they are opened. This can be an additional disadvantage for cool boxes which are provided with a dry cooling, since the relative humidity in the inner room rises.

[0010] Further, these known doors of cool boxes have to be provided with an extra fastening so as to be able to jam the door in open position, so that they cannot slam shut or cannot be blown shut unintendedly, whereby this extra fastening has the disadvantage that locking it requires some time, so that it is often not carried out, which is then at the cost of safety.

[0011] The present invention aims a door for a cool box which offers a solution for the above-mentioned and other disadvantages.

[0012] To this aim, the door according to the invention is defined in claim 1.

[0013] According to a preferred embodiment, the rods are placed one on top of the other on either side of the cool box, whereby the hinged joints of the lower rod are situated at the lower edge of the door respectively, and at about half the height of the cool box, and the hinged joints of the top rod are situated above the hinged joint of the lower rod respectively and on a place on the side wall of the cool box which is simultaneously situated above and behind the other three hinged joints.

[0014] In order to better explain the characteristics of a cool box according to the invention, the following preferred embodiment is described as an example only without being limitative in any way, with reference to the accompanying drawings, in which:

figure 1 represents a view in perspective of a cool box whereby a door according to the invention is applied, and whereby the door of the cool box is in closed position;

figure 2 represents a side view of figure 1;

figure 3 represents a view similar to that in figure 1, but whereby the door is opened;

figure 4 represents a side view of figure 3.

[0015] A cool box 1, as represented in the figures, mainly consists of a bottom plate 2, two side walls 3-4, a back wall 5 and a top wall 6.

[0016] The above-mentioned walls 3 to 6 are made of a thermally insulating material, but of course, according to a variant of the embodiment, thermally insulating material can be provided on the inside or on the outside of non-insulating walls.

[0017] The bottom plate 2 can be made of concrete.

[0018] Further, the cool box 1 is provided with a door 7 according to the invention, which can seal the fourth side of the cool box 1, and which is also at least partially made of thermally insulating material.

[0019] In order to insure a good sealing between the door 7 and the side walls 3-4 on the one hand, and the top wall 6 of the cool box 1 on the other hand, the side walls 3-4 and the top wall 6 are provided for example with a rubber sealing strip 8.

[0020] When the door 7 is in closed position, it is connected with its side edges and its top edge against the sealing strip 8 which is provided on the front edges of the side walls 3-4 and the top wall 6 of the cool box 1.

[0021] In order to ensure a good sealing between the bottom plate 2 and the door 7, the door 7 is also provided with a sealing strip 9 at the bottom which is connected to the bottom plate 2 at the bottom of the door 7.

[0022] On the back wall 5 of the cool box 1 for example, is fixed a cooling plant 10 which provides for a dry cooling of the inner room 11.

[0023] The door 7 is suspended to the cool box 1 by means of two pairs of rods 12-13 which are connected to the door 7 by means of hinged joints 14, 15 respectively.

[0024] At their other ends, the rods 12 and 13 are further connected to the side walls 3-4 by means of hinged joints 16, 17 respectively.

[0025] The hinged joints 14, 15, 16 and 17 are situated such that, when the door 7 is closed, the hinged joint 15 is situated above the hinged joint 14, whereas the hinged joint 17 is situated higher than the hinged joints 14, 15 and 16.

[0026] The rods 12 and 13 are made such that they contain a free end 18, 19 respectively, which extends

past the respective hinged joints 16 and 17.

[0027] At the free end of the rod 12 is provided a spiral-shaped draw spring 20, which is fixed with its second end to a point which is situated at the height of the floor of the cool box 1, so as to make it easier to open the door 7 of the cool box 1.

[0028] When the door 7 of the cool box 1 is closed, the spiral-shaped draw spring 20 is taut, as represented in figures 1 and 2.

[0029] The rods 12 and 13 are preferably placed in the same vertical plane and on top of one another, whereby the free end 19 of the rod 13 is bevelled such that, when the door 7 of the cool box 1 is entirely opened, the rod 12 forms a stop for this end 19, as is represented in figures 3 and 4, so that the door 7 is supported by the rods 12 and 13 and as a result of which is prevented that the door 7 rests entirely on the top wall 6 of the cool box 1, which would make it more difficult to close the door 7 again.

[0030] when the door 7 of the cool box 1 is closed, this door 7 is pressed down against the bottom 2 by its own weight, and it is drawn against the front edges of the side walls 3 and 4 and the top wall 6, so that the inner room 11 is hermetically sealed by means of sealing strips 8 and 9.

[0031] The door 7 is simply opened by pulling the handle 21 forward and upward, whereby the spiral-shaped draw spring 20 makes it easier to open it.

[0032] In the position in which the door 7 is entirely opened, it is so to say locked by its own weight. Indeed, the centre of gravity of the door 7 is at that moment situated behind the hinged joints 16 and 17, as becomes clear from figures 3 and 4.

[0033] The door 7 can be closed by pulling the handle 21, which is fixed at the bottom of the door 7, forward until the centre of gravity of the door 7 is situated before the hinged joints 16 and 17, after which the door 7 will automatically slam further shut under the influence of its own weight, whereby the spiral draw spring 20 is tightened.

[0034] Moreover, the door 7 according to the invention offers the advantage that its inside is always protected against precipitation, so that the relative humidity in the inner room 11 is not unnecessarily increased. For this is disadvantageous in case of a dry cooling, as is preferably applied in cool boxes for carriages.

[0035] It is clear that in this manner is obtained a door for a cool box whereby little space is required to open the door, and whereby the door is simultaneously closed automatically on the one hand and is automatically locked in its open position on the other hand, without an extra lock being required.

[0036] The present invention is by no means limited to the above-described embodiment represented in the accompanying drawings; on the contrary, such a door can be made in different shapes and dimensions while still remaining within the scope of the appended claims.

Claims

1. Door for a cool box for carriages, consisting of a door plate, whereby each side edge of this door plate is connected to two rods (12-13) by means of hinged joints (14-15) which are connected towards their other ends (18-19) with the related side walls (3-4) of the cool box (1) by means of hinged joints (16-17), and whereby the above-mentioned rods (12-13) continue with the side walls (3-4) past the hinged joints (16-17), and the continuation of the first rod (12) is connected with an end of a spiral-shaped draw spring (20), which acts to make opening the door easier, **characterised in that** the continuation of the second rod (13) forms a stop with the end (19) of the second rod (13) resting against the first rod (12).
2. Door according to claim 1, **characterised in that** the rods (12-13) are placed on top of one another on each side of the cool box (1).
3. Door according to claim 2, **characterised in that**, when the door (7) is in its closed position, the hinged joints (14-16) of the lower rod (12) are situated at the lower edge of the door (7) respectively, and at about half the height of the cool box (1).
4. Door according to claim 2, **characterised in that**, when the door (7) is in its closed position, the hinged joints (15-17) of the top rod (13) are situated above the hinged joint (14) of the lower rod (12) respectively and at a place of the side wall (3-4) of the cool box (1) which is simultaneously situated above and behind the other three hinged joints (14-15-16).
5. Door according to any of the preceding claims, **characterised in that** the spiral-shaped draw spring (20) is fixed with its second end to a point which is situated at the height of the floor of the cool box (1).
6. Door according to any of claims 1 to 5, **characterised in that** the spiral-shaped draw spring (20) extends forward towards the bottom.
7. Door according to claim 2, **characterised in that** the end of the rod (13) which continues past the hinged joint (17) is bevelled.
8. Door according to any of the preceding claims, **characterised in that** its centre of gravity, when it is in opened position, is situated behind the hinged joints (14-16-17).
9. Door according to any of the preceding claims, **characterised in that**, when it is in closed position, it is connected with its side edges and its top edge

against a sealing strip (8) which is provided on the front edges of the side walls (3-4) and the top wall (6) of the cool box (1).

10. Door according to any of the preceding claims, **characterised in that** it is provided with a sealing strip (9) at the bottom.

Patentansprüche

1. Tür für eine Kühlbox für Kadaver, bestehend aus einer Türplatte, wobei jede Seitenkante dieser Tür mit zwei Stäben (12-13) mittels Scharnierverbindungen (14-15) verbunden ist, die wiederum zu ihren anderen Enden (18-19) hin mit den zugehörigen Seitenwänden (3-4) der Kühlbox (1) mittels Scharnierverbindungen (16-17) verbunden sind, und wobei die oben erwähnten Stäbe (12-13) mit den Seitenwänden (3-4) über die Scharnierverbindungen (16-17) hinausragen, und die Fortsetzung des ersten Stabs (12) mit einem Ende einer spiralförmigen Zugfeder (20) verbunden ist, die dazu dient, das Öffnen der Tür zu erleichtern, **dadurch gekennzeichnet, dass** die Fortsetzung des zweiten Stabs (13) einen Anschlag mit dem Ende (19) des zweiten Stabs (13) bildet, das gegen den ersten Stab (12) anliegt.
2. Tür nach Anspruch 1, **dadurch gekennzeichnet, dass** die Stäbe (12-13) übereinander auf jeder Seite der Kühlbox (1) platziert sind.
3. Tür nach Anspruch 2, **dadurch gekennzeichnet, dass**, wenn die Tür (7) in ihrer geschlossenen Position ist, die Scharnierverbindungen (14-16) des unteren Stabs (12) sich jeweils am unteren Ende der Tür (7) und ungefähr auf halber Höhe der Kühlbox (1) befinden.
4. Tür nach Anspruch 2, **dadurch gekennzeichnet, dass**, wenn die Tür (7) in ihrer geschlossenen Position ist, die Scharnierverbindungen (15-17) des oberen Stabs (13) sich jeweils über der Scharnierverbindung (14) des unteren Stabs (12) und an einer Stelle der Seitenwand (3-4) der Kühlbox (1) befinden, die sich zugleich über und hinter den drei anderen Scharnierverbindungen (14-15-16) befindet.
5. Tür nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die spiralförmige Sprungfeder (20) mit ihrem zweiten Ende an einem Punkt befestigt ist, der sich auf der Höhe des Bodens der Kühlbox (1) befindet.
6. Tür nach einem der Ansprüche 1 bis 5, **dadurch gekennzeichnet, dass** die spiralförmige Zugfeder

(20) sich nach vorne zum Boden hin erstreckt.

7. Tür nach Anspruch 2, **dadurch gekennzeichnet, dass** das Ende des Stabs (13), das sich über die Scharnierverbindung (17) hinaus fortsetzt, abge-schrägt ist.
8. Tür nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** ihr Schwerpunkt, wenn sie in ihrer geöffneten Position ist, hinter den Scharnierverbindungen (14-16-17) liegt.
9. Tür nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass**, wenn sie in ihrer geschlossenen Position ist, sie mit ihren Seitenkanten und ihrer Oberkante gegen einen Dichtungsstreifen (8) verbunden ist, der an den Vorderkanten der Seitenwände (3-4) und der oberen Wand (6) der Kühlbox (1) bereit gestellt ist.
10. Tür nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** sie unten mit einem Dichtungsstreifen (9) versehen ist.

Revendications

1. Porte pour un compartiment de réfrigération destiné à de la charogne constitué d'une plaque faisant office de porte, chaque bord latéral de cette plaque faisant office de porte étant relié à deux tiges (12 - 13) à l'aide de joints articulés (14 - 15) qui sont reliés, du côté de leurs extrémités (18 - 19), aux parois latérales apparentées (3 - 4) du compartiment de réfrigération (1) à l'aide de joints articulés (16 - 17), et les tiges susmentionnées (12 - 13) se prolongeant par les parois latérales (3 - 4) au-delà des joints articulés (16 - 17), le prolongement de la première tige (12) étant relié à une extrémité d'un ressort de traction en spirale (20) qui agit pour faciliter l'ouverture de la porte, **caractérisée en ce que** le prolongement de la deuxième tige (13) forme un arrêt de telle sorte que l'extrémité (19) de la deuxième tige (13) vient s'appuyer contre la première tige (12).
2. Porte selon la revendication 1, **caractérisée en ce que** les tiges (12 - 13) sont disposées l'une par-dessus l'autre de part et d'autre du compartiment de réfrigération (1).
3. Porte selon la revendication 2, **caractérisée en ce que**, lorsque la porte (7) se trouve dans sa position fermée, les joints articulés (14 - 16) de la tige inférieure (12) sont disposés au bord inférieur de la porte (7), respectivement et approximativement à mi-hauteur du compartiment de réfrigération (1).

4. Porte selon la revendication 2, **caractérisée en ce que**, lorsque la porte (7) se trouve dans sa position fermée, les joints articulés (15 - 17) de la tige supérieure (13) sont situés au-dessus du joint articulé (14) de la tige inférieure (12) respectivement, et à un endroit de la paroi latérale (3 - 4) du compartiment de réfrigération (1) qui est situé en même temps au-dessus et à l'arrière des trois autres joints articulés (14 - 15 - 16). 5 10
5. Porte selon l'une quelconque des revendications précédentes, **caractérisée en ce que** le ressort de traction en spirale (20) est fixé, à sa deuxième extrémité, à un endroit situé à hauteur de la base du compartiment de réfrigération (1) . 15
6. Porte selon l'une quelconque des revendications 1 à 5, **caractérisée en ce que** le ressort de traction en spirale (20) s'étend vers l'avant en direction de la base. 20
7. Porte selon la revendication 1, **caractérisée en ce que** l'extrémité de la tige (13) qui se prolonge au-delà du joint articulé (17) est chanfreinée. 25
8. Porte selon l'une quelconque des revendications précédentes, **caractérisée en ce que** son centre de gravité, lorsqu'elle est dans la position ouverte, est situé derrière les joints articulés (14 - 16 - 17). 30
9. Porte selon l'une quelconque des revendications précédentes, **caractérisée en ce que**, lorsqu'elle est dans la position fermée, elle est reliée avec ses bords latéraux et son bord supérieur contre une bande d'étanchéisation (8) qui est prévue sur les bords frontaux des parois latérales (3 - 4) et de la paroi supérieure (6) du compartiment de réfrigération (1) . 35
10. Porte selon l'une quelconque des revendications précédentes, **caractérisée en ce qu'elle** est munie d'une bande d'étanchéisation (9) à sa base. 40

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