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(54) COMBINATION OF A STORAGE CABINET AND AT LEAST ONE CUSHION

(57) The invention relates to a combination (1) of a storage cabinet (2) and at least one cushion(3), wherein the at least one cushion has at least a top surface, a bottom surface substantially parallel to the top surface and a circumferential surface extending between the top surface and the bottom surface, the at least one cushion comprising:
- heating means (18) arranged near the top surface of the cushion;
- a battery (19) for powering the heating means;
- control means (13) for controlling the heating means and electrically connected to the battery and the heating means; and
- first contact means (9,10) electrically connected to the control means for receiving power for recharging the battery;

and wherein the storage cabinet comprises:
- at least one shelf (4) for supporting the at least one cushion;
- second contact means (6,7) arranged to the at least one shelf (4) for contacting the first contact means when the cushion is supported on the shelf and wherein the second contact means are electrically connected to a power source.

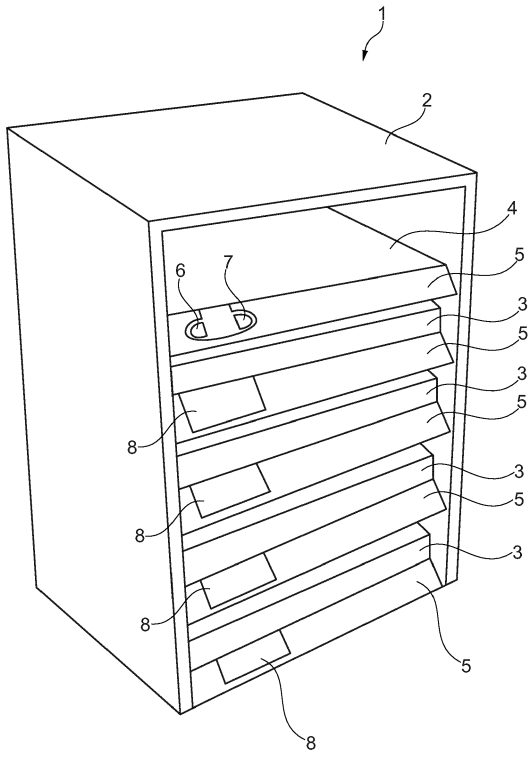

Fig. 1

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Description

[0001] The invention relates to a combination of a storage cabinet and at least one cushion, in particular to heated cushions and the storage thereof.

[0002] It is known to use heaters on terraces of pubs and restaurants to keep customers. Such heaters could be electric, but are typically gas powered. The heaters provide a substantial amount of heat, of which only a small amount is used to heat the customers. The larger part of the heat flows away to the surroundings.

[0003] Old cultural heritage buildings, like churches are often difficult to heat due to the height in combination with poor insulation and outdated and inefficient or no heating installations. During church services or other gatherings in the winter, the temperature is in many cases uncomfortable for visitors, as there is no adequate heating and/or the costs for heating the building to a comfortable temperature will be too high to bear for the owner of the building due to poor insulation or due to the inefficiency of the existing heating installation, it is even impossible to heat the church to a desired temperature.

[0004] It is known to use heated cushions in order to directly warm people, instead of heating people indirectly, such as is the case with terrace heaters. For example NL 1039218 discloses a cushion having a heater element arranged in the surface of the cushion. The heater element is connected to a battery hanging on the back of the chair or is connected via a wire to a power outlet.

[0005] Although, such a known cushion solves the problem of high energy costs for warming people on a terrace or in church, the known cushions have other disadvantages.

[0006] For example, the cushions with a battery need to be recharged by connecting a power adapter to the cushion. This connecting takes time and especially with a large number of cushions, such as for a terrace, church or other building with multiple seats, a substantial amount of time is involved by connecting each and every cushion with a power adapter.

[0007] Furthermore, the connection with a wire will make it less consumer friendly and can easily be damaged.

[0008] Accordingly, it is an object of the invention to reduce or even remove the above mentioned disadvantages.

[0009] This object is achieved with a combination of a storage cabinet and at least one cushion, wherein the at least one cushion has at least a top surface, a bottom surface substantially parallel to the top surface and a circumferential surface extending between the top surface and the bottom surface, the at least one cushion comprising:

- heating means arranged near the top surface of the cushion;
- a battery for powering the heating means;
- control means for controlling the heating means and electrically connected to the battery and the heating means; and
- first contact means electrically connected to the control means for receiving power for recharging the battery;

and wherein the storage cabinet comprises:

- at least one shelf for supporting the at least one cushion;
- second contact means arranged to the at least one shelf for contacting the first contact means when the cushion is supported on the shelf and wherein the second contact means are electrically connected to a power source.

[0010] When the cushion according to the invention is placed in the storage cabinet, the first contact means of the cushion will contact the second contact means of the storage cabinet. As a result, the control means will be powered and the battery is recharged. So, simply by placing the cushion in the storage cabinet, which can easily be done by anyone without additional knowledge of the cushion, the battery will be recharged.

[0011] In a preferred embodiment of the combination according to the invention the at least one cushion further comprises a label arranged near the bottom surface to the circumferential surface and wherein the first contact means are arranged to the label.

[0012] Preferably, the second contact means are arranged to the leading edge of the at least one shelf.

[0013] The label provides a visual aid on how the cushion should be inserted into the storage cabinet. Furthermore, the label provides a space for displaying a trade name. Finally, the label provides for a flexible element relative to the cushion on which the first contact means can be arranged. Due to the flexible element, the first contact means can easily adjust to the surface on which the second contact means are arranged, such that a reliable contact of the contact means is achieved.

[0014] In another preferred embodiment of the combination according to the invention the leading edge comprises a slanting surface and the second contact means are arranged in the slanting surface.

[0015] The slanting surface ensures that the label can still hang downwards from the cushion and be in contact with the leading edge. It also prevents the label from folding backwards, while also the overall height of cushion with label is reduces, as the label does not hang straight down, but under an angle parallel to the slanting surface. Especially when the storage cabinet is used to store a number of cushions, reducing the overall height of each cushion, will substantially reduce the total height of the storage cabinet.

[0016] In yet another preferred embodiment of the combination according to the invention one of the first contact means and the second contact means comprise ferromagnetic material and wherein the other of the first

contact means and the second contact means comprise a permanent magnet for attracting the first and second contact means in contact with each other.

[0017] By using a permanent magnet, the first contact means and second contact means will be pulled together when they are in the vicinity of each other. This allows a user to put the cushion without any special precision into the storage cabinet. The first and second contact means will automatically adjust and ensure a reliable contact.

[0018] In still another embodiment of the combination according to the invention the first contact means and the second contact means each comprise housing parts, which are interlocking with each other when the first contact means and the second contact means contact each other.

[0019] Preferably, play is provided between the housing parts.

[0020] With the interlocking housing parts a centering is provided for the contact means. Especially, when some play is provided, any misalignment of the first and second contact means will be reduced by the interlocking housing parts.

[0021] In yet another preferred embodiment of the combination according to the invention, the control means comprise a motion sensor or pressure sensor for detecting usage of the cushion.

[0022] Preferably, the motion sensor is arranged in the label.

[0023] With the motion sensor, the control means can register whether the cushion is being used or not and can control the heating means accordingly. For example, when the cushion is turned on, the heating means can be activated for a set period of for example 10 minutes. If any motion is detected the interval is reset to heat for 10 minutes. However, when no motion is detected during the heating interval, the control means will deactivate the heating means after expiry of the interval of 10 minutes to preserver the power in the battery.

[0024] These and other features of the invention will be elucidated in conjunction with the accompanying drawings.

Figure 1 shows a perspective view of an embodiment according to the invention.

Figure 2 shows a label and a shelf of the embodiment of figure 1.

Figure 3 shows a cross-sectional view of a shelf and cushion of the embodiment of figure 1.

[0025] Figure 1 shows a combination 1 of a storage cabinet 2 with a number of cushions 3. The cushions 3 are placed on shelves 4, which each have a slanting leading edge 5.

[0026] The slanting leading edge 5 is provided with two contacts 6, 7 providing the second contacting means. Each cushion 3 is provided with a label 8 on the bottom side of which first contacting means 9, 10 are provided.

[0027] Figure 2 shows a label 8 with on the bottom two contacts 9, 10 providing the first contacting means. The contacts 9, 10 are arranged on a housing part 11, which interlocks with a housing part 12 arranged in the slanting leading edge 5 on which the contacts 6, 7 are arranged.

[0028] Figure 3 shows a cross-sectional view of a shelf 4 with a cushion 3. The label 8 is double layered with in between a circuit board 13 comprising a controller. At the back of slanting leading edge 5, a second circuit board 14 is provided on which the contacts 6, 7 are arranged. A permanent magnet 15 is provided behind the contacts 6, 7 to attract the contacts 9, 10 of the label 8 and ensure a reliable contact.

[0029] The cushion 3 has a pillowcase 16, which envelopes a foam core 17. At the top of the cushion 3, a heating element 18 is provided and the bottom and back of the cushion 3, a battery 19 is provided. The heating element 18 and battery 19 are electrically connected via wires 20, 21 to the controller on the circuit board 13. This controller controls the time span during which the heating element 18 is activated. When a motion sensor is provided on the circuit board 13, the controller can check whether the cushion is being used and whether the time span needs to be extended.

Claims

1. Combination of a storage cabinet and at least one cushion, wherein the at least one cushion has at least a top surface, a bottom surface substantially parallel to the top surface and a circumferential surface extending between the top surface and the bottom surface, the at least one cushion comprising:

   - heating means arranged near the top surface of the cushion;
   - a battery for powering the heating means;
   - control means for controlling the heating means and electrically connected to the battery and the heating means; and
   - first contact means electrically connected to the control means for receiving power for recharging the battery;

   and wherein the storage cabinet comprises:

   - at least one shelf for supporting the at least one cushion;
   - second contact means arranged to the at least one shelf for contacting the first contact means when the cushion is supported on the shelf and wherein the second contact means are electrically connected to a power source.

2. Combination according to claim 1, wherein the at least one cushion further comprises a label arranged near the bottom surface to the circumferential surface and wherein the first contact means are ar-

ranged to the label.

3. Combination according to claim 1 or claim 2, wherein the second contact means are arranged to the leading edge of the at least one shelf.

4. Combination according to claim 3, wherein the leading edge comprises a slanting surface and wherein the second contact means are arranged in the slanting surface.

5. Combination according to any of the preceding claims, wherein one of the first contact means and the second contact means comprise ferromagnetic material and wherein the other of the first contact means and the second contact means comprise a permanent magnet for attracting the first and second contact means in contact with each other.

6. Combination according to any of the preceding claims, wherein the first contact means and the second contact means each comprise housing parts, which are interlocking with each other when the first contact means and the second contact means contact each other.

7. Combination according to claim 6, wherein play is provided between the housing parts.

8. Combination according to any of the preceding claims, wherein the control means comprise a motion sensor or pressure sensor for detecting usage of the cushion.

9. Combination according to claim 2 and 8, wherein the motion sensor is arranged in the label.

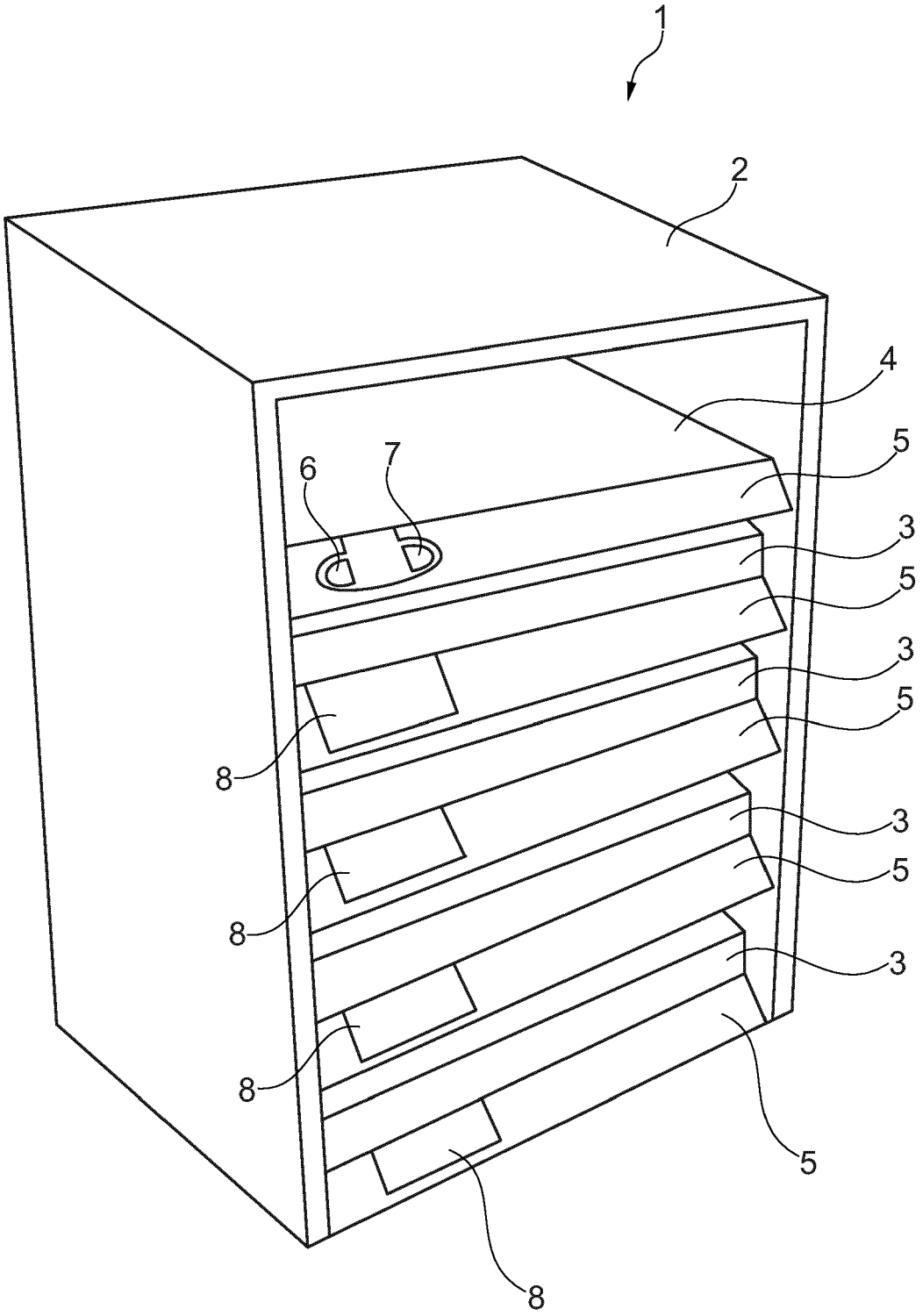

Fig. 1

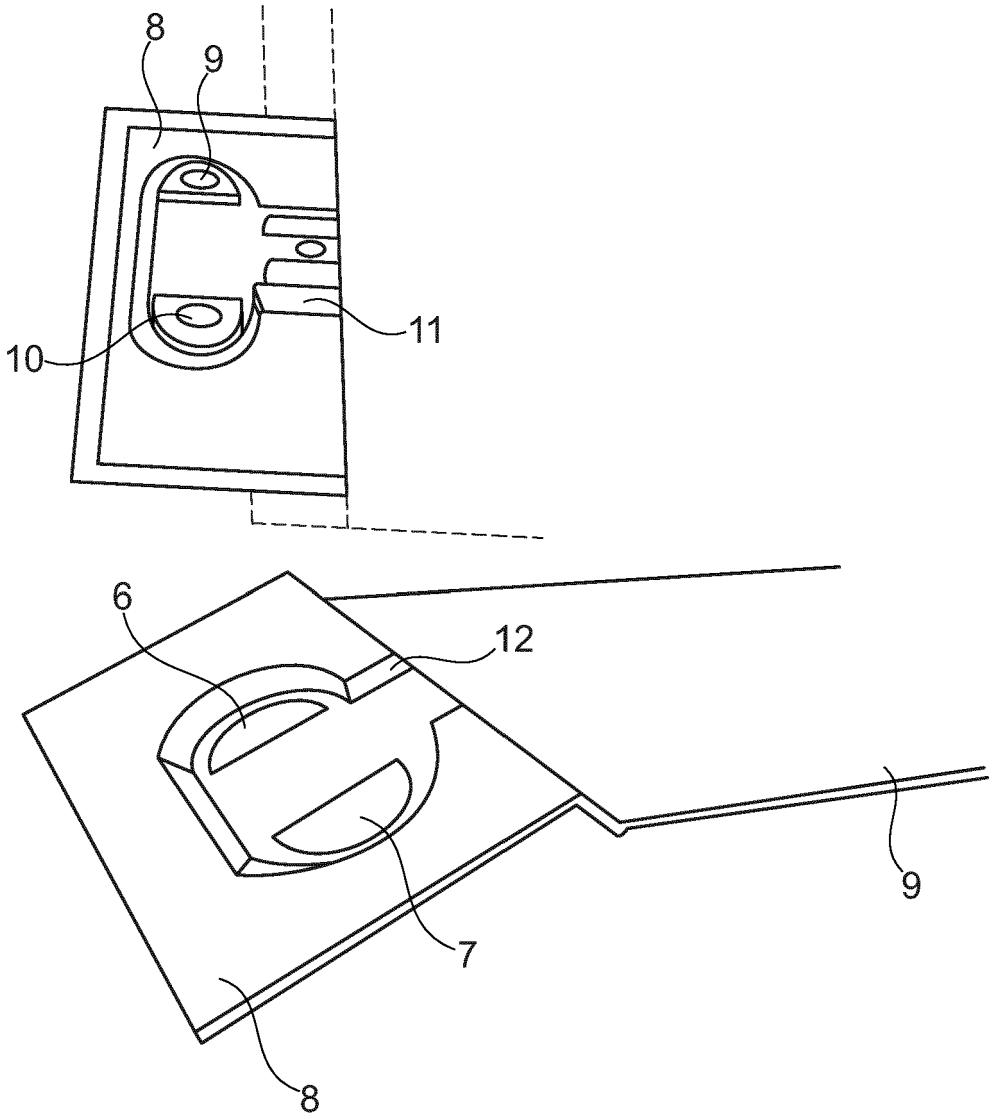

Fig. 2

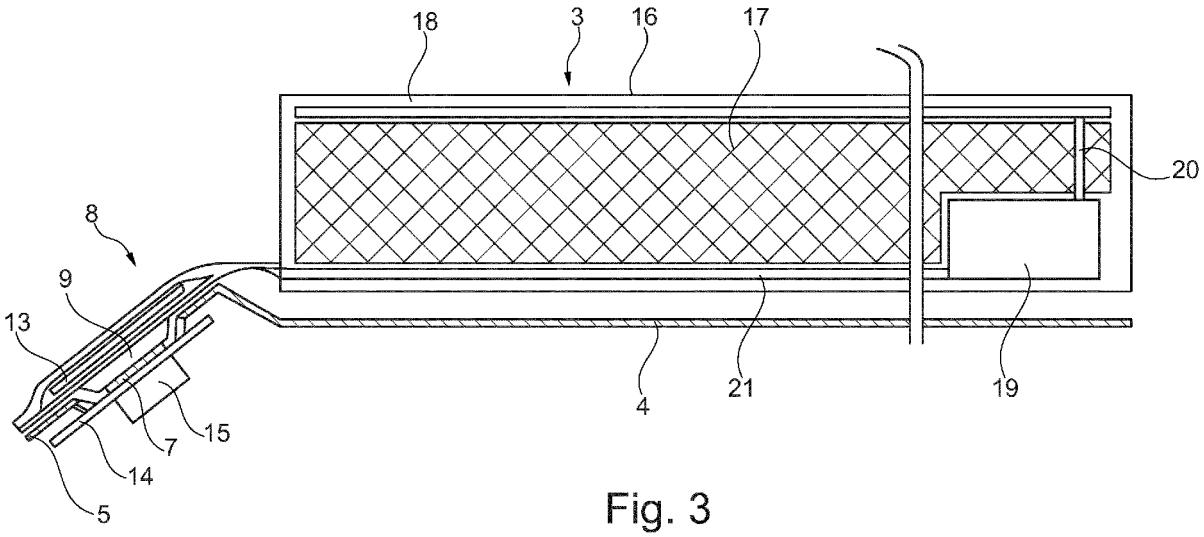

Fig. 3

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EUROPEAN SEARCH REPORT

Application Number
EP 15 18 4469

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A,D	NL 1 039 218 C (RIJKSCHROEFF JORG) 10 June 2013 (2013-06-10) * page 6, line 32 - page 10, line 18; figures 1-7 *	1-9	INV. A47C7/74
A	DE 29 00 482 A1 (HUMMEL) 31 July 1980 (1980-07-31) * page 4, line 6 - page 6, line 21; figures 1-3 *	1	

TECHNICAL FIELDS SEARCHED (IPC)

A47C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	12 February 2016	Lehe, Jörn

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
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D : document cited in the application
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 15 18 4469

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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12-02-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
NL 1039218 C	10-06-2013	NONE	
DE 2900482 A1	31-07-1980	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- NL 1039218 **[0004]**