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(56) Documents Cited:
GB 2428692 A **GB 1604748 A**
EP 1808523 A **EP 0122569 A**
US 5815961 A **US 5561880 A**
US 5305484 A

(58) Field of Search:
INT CL **D06F**
Other: **EPODOC, WPI**

(54) Abstract Title: **Garment steamer**

(57) The garment steamer includes a housing 10 and a steam generating system (18, Figure 2) for supplying steam to the interior of the housing. Garments may be hung in the housing, a door 11 closed and the supply of steam commenced to remove creases from the garments. The interior of the housing may be defined by walls carrying steam outlet nozzles 22 for supplying steam from the generating system. The garments may be hung from a rail 17 and have a lower edge weighting device 25 attached for holding the garment taut while being steamed.

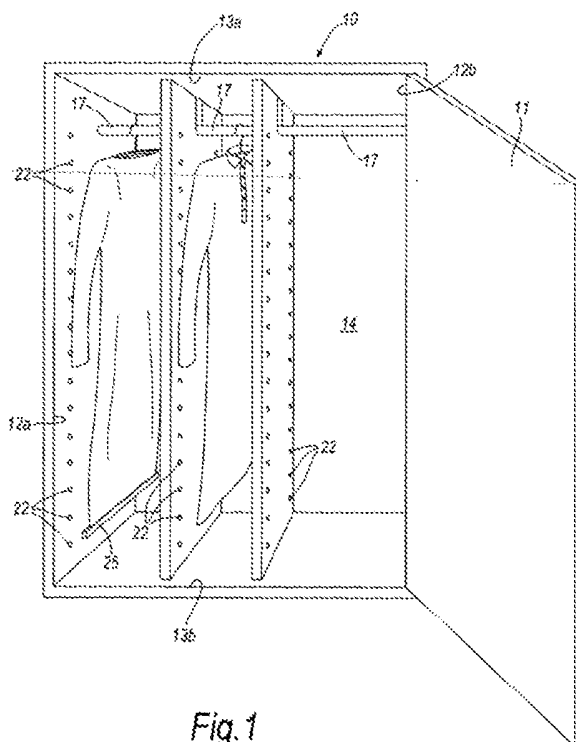


Fig. 1

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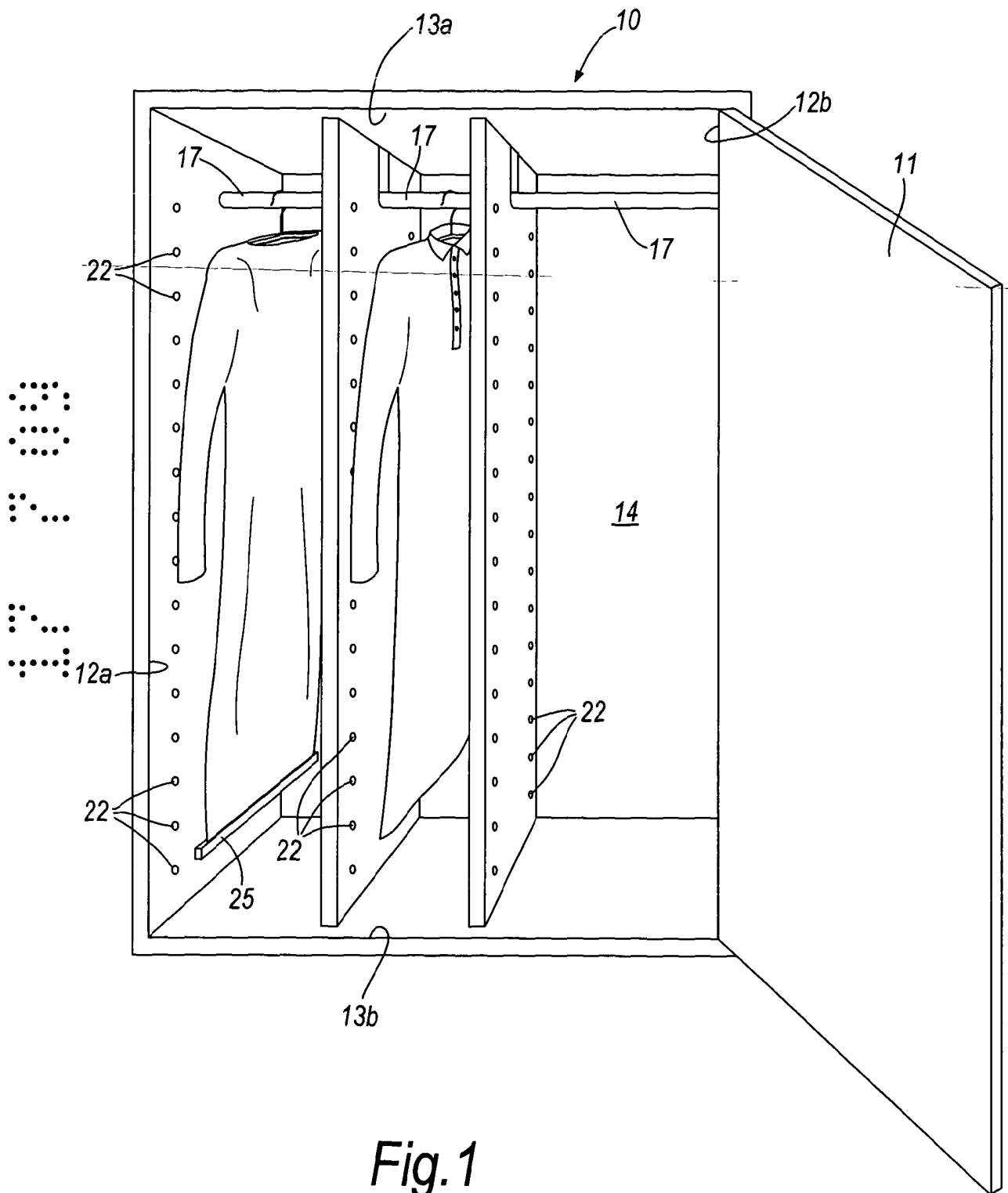
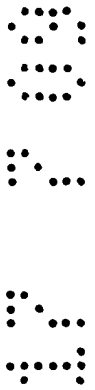
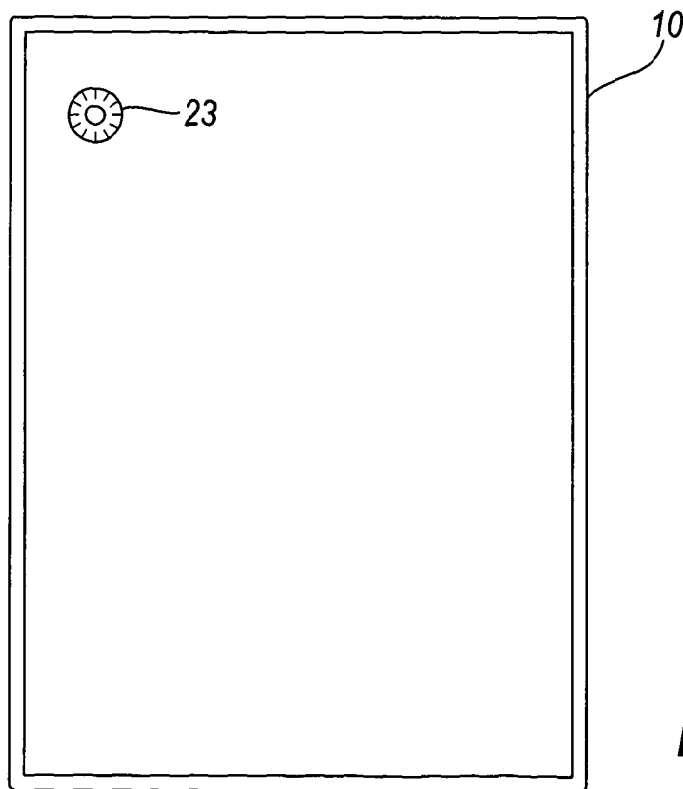
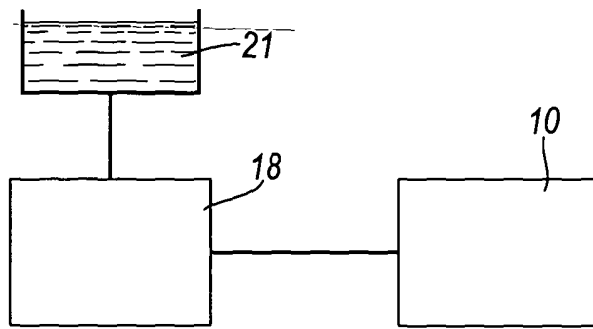
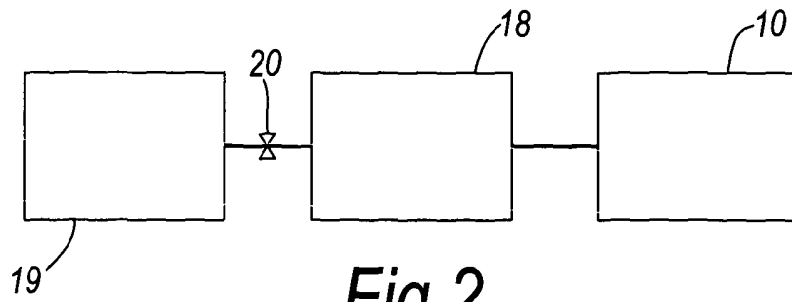


Fig. 1

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GARMENT STEAMERS

The invention relates to garment steamers.

5 It is known to remove creases from garments using steam. In such known arrangements, the garment is hung on a hanger and steam applied to the exterior of the garment using a hand-held nozzle connected to a supply of steam. The nozzle is moved over the surface of the garment and steam applied to the surface. Such an arrangement removes creases but is labour intensive
10 since the nozzle is moved by hand and since only one garment can be treated at a time.

According to the invention, there is provided a steamer for garments comprising a housing and a steam generating system for supplying steam to the
15 interior of the housing to remove creases from garments hanging in the housing.

By using a housing, a number of garments can be treated at the same time and the steam is concentrated in an enclosed space so avoiding the need to pass a
20 nozzle over the surface of a garment.

The following is a more detailed description of an embodiment of the invention, by way of example, reference being made to the accompanying drawings in which:-

5 Figure 1 is a view of a garment steamer formed by a housing and showing a door of the housing open and garments hanging in the housing.

 Figure 2 is a schematic block diagram of the housing of Figure 1 connected to a steam generation system in turn connected to supply of mains
10 water.

 Figure 3 is a similar view to Figure 2 but showing the steam generating system connected to a removable water tank, and

15 Figure 4 is a front view of the steamer of Figure 1 with the door closed and showing controls on the outer surface of the door.

Referring first to Figure 1, the steamer comprises a generally rectangular cross-section housing indicated generally at 10 and including a door 11. The housing
20 10 also includes vertical side walls 12a, 12b interconnected by horizontal top and bottom walls 13a, 13b. A rear wall 14 opposite the door 11 closes the housing 10. The housing 10 may be made of any suitable material such as a suitable plastics material.

The interior of the housing 10 is sub-divided into three compartments by two spaced vertical partition walls 15, 16 extending between the top and bottom walls 13a, 13b and parallel to the side walls 12a, 12b. The size of the interior of the housing 10 and the size of the compartments is chosen to accommodate the garments to be steamed. Where the steamer is for use with men's shirts, each compartment may be about 105cm high and 80–90cm deep. A rail 17 is mounted on, and extends between the side walls 12a, 12b near the top of the housing 10, passing through the partition walls 15, 16. For this purpose, the partition walls 15, 16 are provided with U-shaped cut-outs 26 extending inwardly from upper edges of the walls 15, 16. The portion of each cut-out 26 above the rail 17 may be filled.

As seen in Figures 2 and 3, the steamer includes a steam generating system 18, which may be of known type in which water is converted into steam by a heating element powered by electricity. The water may be derived from a pressure main 19, via a valve connector 20, as seen in Figure 2, or from a removable refillable tank 21, as seen in Figure 3. The steam generating system 18 may be mounted on the exterior of the housing 10 or may be incorporated into the housing 10 in a separate chamber.

The system 18 feeds steam to the interior of the housing to nozzles 22 mounted on the walls 12a, 12b and on the partition walls 15, 16. There are a large

number of nozzles 22 on each wall arranged in columns and rows to allow an even and complete spread of steam over each of the compartments.

The door 11 carries a timer control 23 that allows the time for which steam is supplied to the interior of the housing 10 to be adjusted. The timer is optional. There could be simply an on/off switch.

In use, garments 24 on hangers are suspended from the rail 17. In general, there will be one garment 24 per compartment, but this need not always be the case. The door 11 is closed and the timer control 23 is set. This starts the steam generating system 18 and steam is supplied to compartments in the interior of the housing 10 through the nozzles 22. The steam removes creases from the closely adjacent surfaces of the garments 24. At the end of the cycle, the door 11 is opened and the garments removed.

15

It has been found that improved results can be obtained if a weighted device 25 is attached to a lower edge of a garment 24 to hold the garment 24 taut while the garment 24 is being steamed.

20 There are a number of changes that could be made to the arrangement described above with reference to the drawings. First, the compartments could be omitted with the housing 10 forming a single space. The door 11 could be omitted and replaced, for example, by a curtain. There could be specially

adapted hangers for clothes that include nozzles to supply steam to the interior of a garment 24. There could be a fan to remove steam when a cycle is complete and the bottom wall 13b will include a drain to remove condensed water. The housing 10 may be insulated to retain heat. Although the tank 21 is
5 described as removable, it may be fixed.

The door 11 may be fitted with a controlled lock that prevents the door 11 being opened before a steaming cycle is complete. There may more or less nozzles 22 than shown in the Figures. The number and arrangement of the
10 nozzles will be sufficient to ensure complete coverage of the garments 24. A typical nozzle diameter might be 0.5 cm to 1.5 cm.

CLAIMS

1. A steamer for garments comprising a housing and a steam generating system for supplying steam to the interior of the housing to remove creases
5 from garments hanging in the housing.

2. A steamer according to claim 1 wherein the interior of the housing is defined by walls, at least one of the walls carrying steam outlet nozzles for supplying steam from the generating system to the interior of the housing.
10

3. A steamer according to claim 2 wherein the interior is rectangular in cross section defined by two vertical side walls, a vertical rear wall and top and bottom horizontal walls, the steam outlets being formed on the side walls.

- 15 4. A steamer according to claim 2 or claim 3 wherein the interior of the housing is sub-divided by at least one partition wall into two or more compartments, each compartment receiving a respective garment, the at least one partition wall carrying steam outlet nozzles for supplying steam from the generating system to the interior of the associated compartment.
20

5. A steamer according to claim 4 wherein two partition walls are provided to form three compartments.

6. A steamer according to any one of claims 1 to 5 wherein the interior of the housing includes a support from which garments to be steamed are hung.

7. A steamer according to claim 6 wherein the support comprises a rail.

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8. A steamer according to any one of claims 1 to 7 wherein the steam generating means includes a connection for connecting the steam generating means to a supply of water under pressure.

10 9. A steamer according to any one of claims 1 to 7 wherein the generating means includes a tank for holding a supply of water.

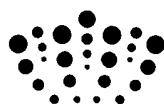
10. A steamer according to claim 9 wherein the tank is removable for filling and then replaceable.

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11. A steamer according to claim 10 in combination with a lower edge weighting device for attachment to a lower edge of a garment for holding the garment taut while steaming.

20 12. A steamer according to any one of claims 1 to 11 wherein the housing is closable by a door.

13. A steamer for garments substantially as hereinbefore described with reference to the accompanying drawings.



Application No: GB0807821.4

Examiner: Ian Blackmore

Claims searched: 1-13

Date of search: 31 July 2009

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-12	EP0122569 A (FUMAGALLI) see figure 4
X	1-12	EP1808523 A (BRUESKE) see figure 1
X	1-12	GB2428692 A (NEWBURY) see abstract and figures
X	1-12	US5815961 A (ESTES et al) see figures 1-7
X	1-12	US5561880 A (ALLEN et al) see whole document
X	1-12	US5305484 A (FITZPATRICK et al) see figures 1-10
X	1-12	GB1604748 A (AZZOLINI et al) see figures 4-8

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X:

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Worldwide search of patent documents classified in the following areas of the IPC

D06F

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI

International Classification:

Subclass	Subgroup	Valid From
D06F	0073/02	01/01/2006