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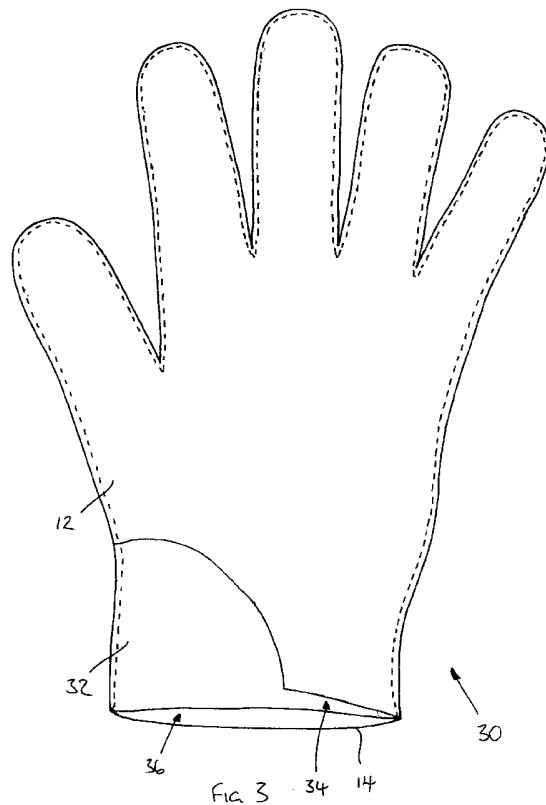
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(56) Documents Cited:  
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**FR 002864751 A1 FR 002737965 A**  
**JP 2005179805 A JP 2004261304 A**  
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INT CL **A41D, A47L**  
Other: **Online: EPODOC, WPI**

(54) Abstract Title: **Cleaning device**

(57) A cleaning device 30 comprising a first generally hand-shaped layer of knitted cotton fabric 12, a second generally hand-shaped layer of knitted cotton fabric 14, and a third generally hand-shaped layer of lint free fabric 32. The layers of fabric 12, 14, 32 are stitched together around their edges to form a cleaning glove having a first wrist opening 34 and a second wrist opening 36. The first wrist opening 34 is defined by the first layer of fabric 12 and the third layer of fabric 32, and the second wrist opening 36 is defined by the second layer of fabric 14 and the third layer of fabric 32.



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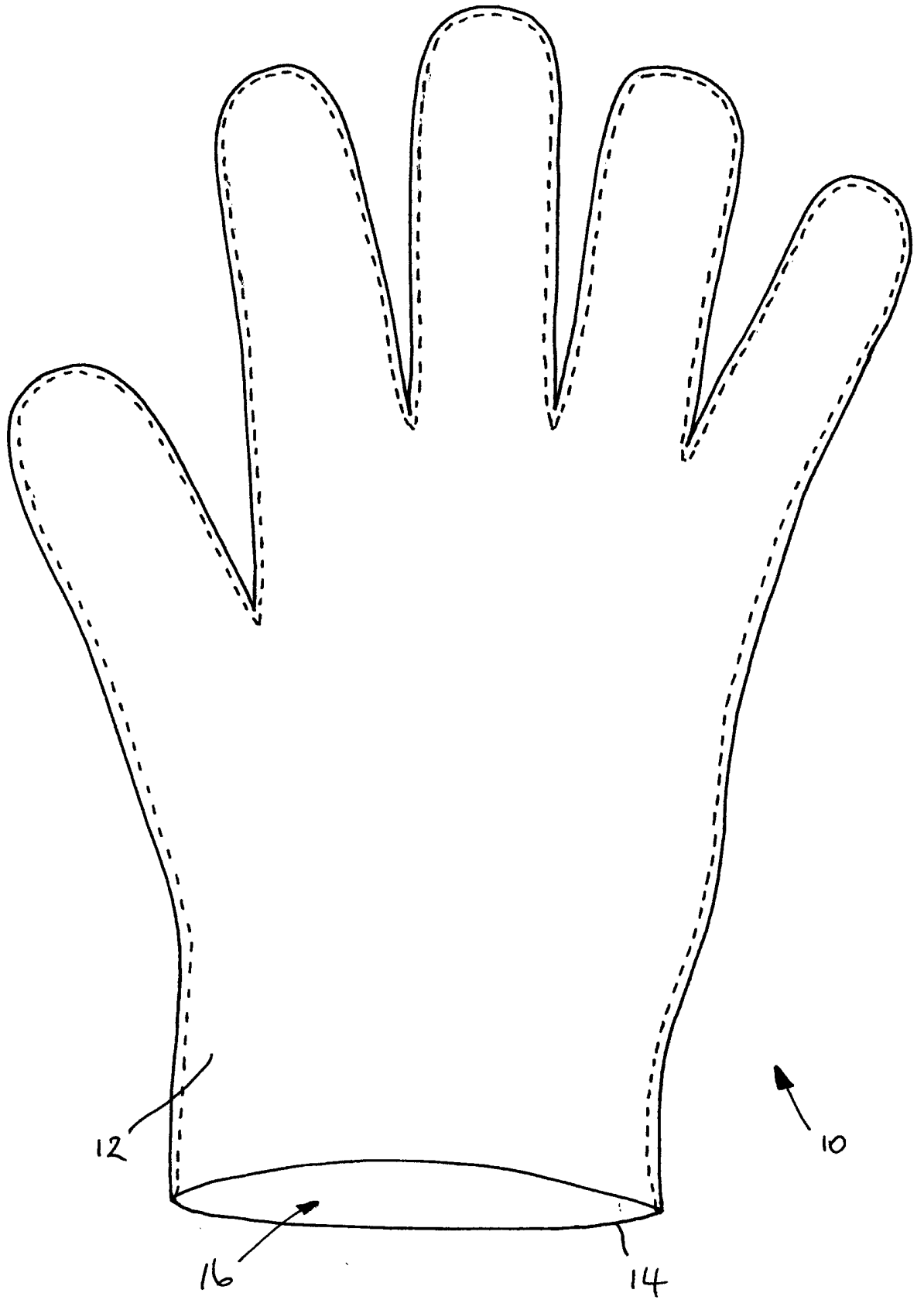


Fig 1

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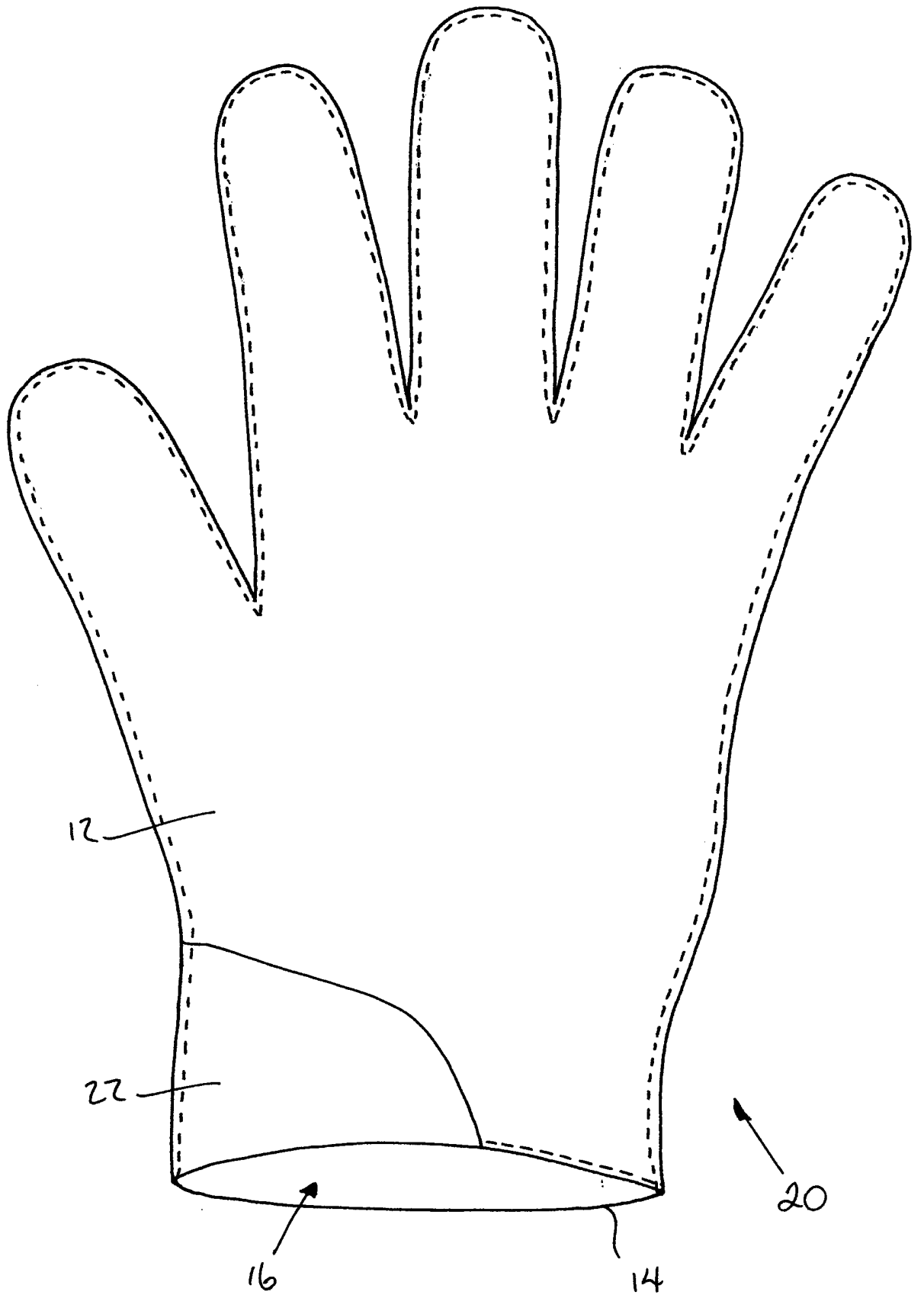


FIG 2

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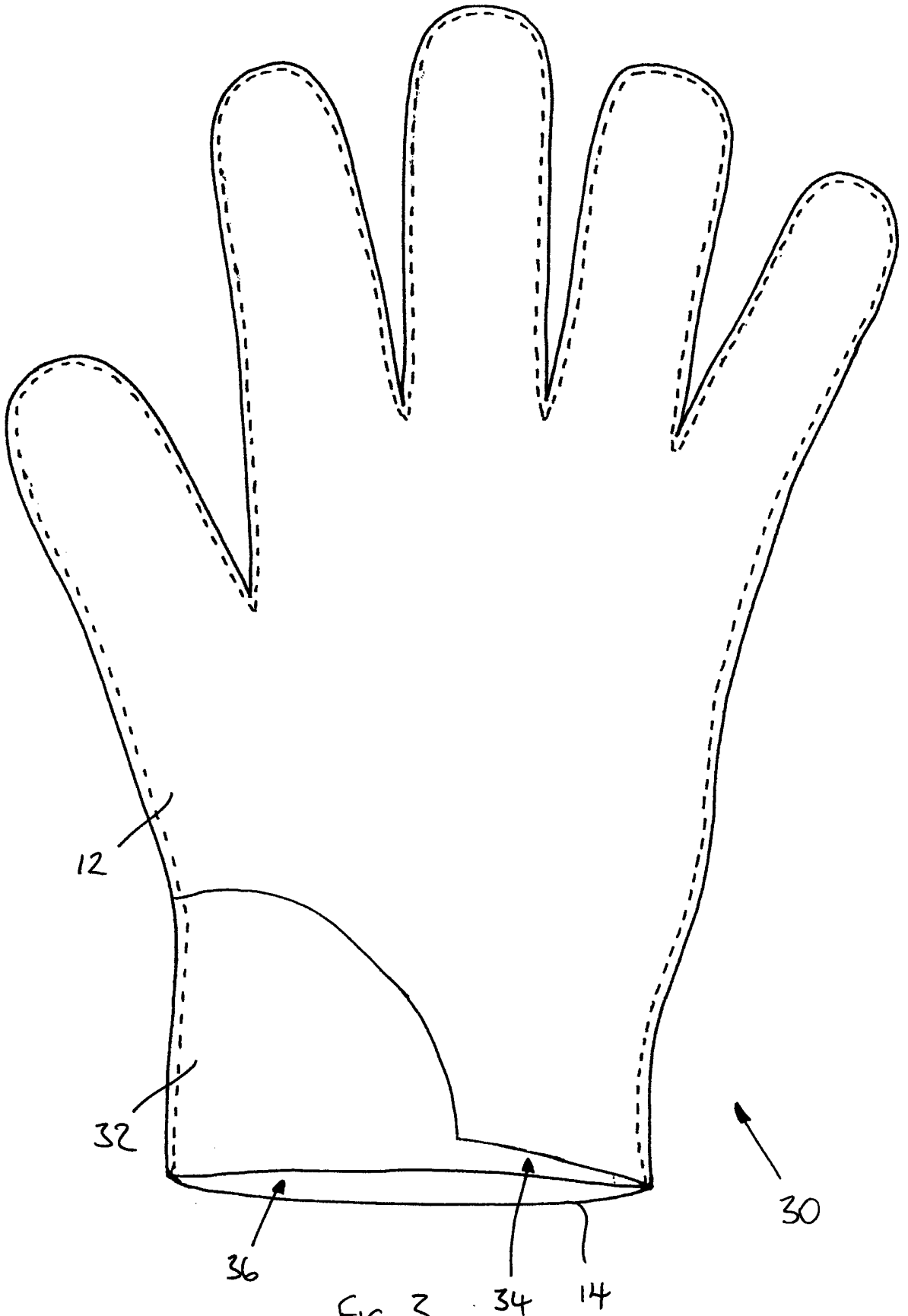


FIG 3

Cleaning device

The invention relates to a cleaning device.

In general, wet cleaning, dry cleaning, dusting and polishing (including the application of  
5 polish or wax and buffing to remove the polish or wax) is carried out using one or more  
cleaning cloths held in and manipulated by a user's hand. This arrangement is perfectly  
adequate for cleaning large, flat surfaces but it can be difficult to retain a hold on a  
cleaning cloth when cleaning shaped, curved surfaces, particularly intricately shaped  
surfaces. In addition, it can be difficult to manipulate the bulk of a cleaning cloth to  
10 clean highly curved or intricately shaped items, such as door furniture or cutlery.

According to an aspect of the present invention there is provided a cleaning device  
comprising first and second generally hand-shaped layers of fabric, the layers of fabric  
being joined together around their edges to form a cleaning glove.

15 A cleaning device in the form of a cleaning glove allows a user wearing the cleaning  
glove to clean within spaces the size of a single finger, to clean awkwardly shaped  
items and to clean into awkwardly shaped spaces, since they do not need to form their  
hand into a fist as would be required to hold a cleaning cloth. The cleaning device can  
also be used on either the left hand or the right hand.

20 The cleaning device preferably further comprises at least one additional generally hand-  
shaped layer of fabric provided between the first and second layers of fabric, the first,  
second and at least one additional layers of fabric being joined together around their  
edges to form a cleaning glove having at least one wrist opening. The cleaning device  
most preferably further comprises a plurality of additional generally hand-shaped layers  
25 of fabric. The layers of fabric may be joined together around their edges to form a  
cleaning glove having a plurality of wrist openings. Two or more of the layers of fabric  
may be joined together at their wrist edges. Alternatively or additionally, two layers of  
fabric may be formed from a single piece of fabric folded about a line forming the wrist  
edges of the said two layers of fabric.

30 The provision of at least one additional layer of fabric enables the cleaning device to be  
used with two or more layers of fabric forming a cleaning pad on the in-use palm side of

the cleaning device; the layers of fabric forming the cleaning pad may be joined together at their wrist edges to form a permanent cleaning pad arrangement or alternatively may not be joined at their wrist edges. The provision of at least one additional layer of fabric additionally provides the cleaning device with a plurality of cleaning surfaces by turning  
5 the cleaning device inside out through the wrist opening between two layers of fabric, or between a cleaning pad and a layer of fabric.

The layers of fabric are preferably stitched together around their edges. The layers of fabric may alternatively be bonded together around their edges, most preferably using an adhesive.

10 The layers of fabric preferably comprise layers of a woven fabric, a non-woven fabric or a knitted fabric. The layers of fabric may each be of the same fabric or may be of different fabrics. By constructing the cleaning device from layers of different fabrics a single cleaning device is given a plurality of potential cleaning functions, including wet  
15 cleaning, dry cleaning, dusting, waxing and polishing, which a user can select by using the cleaning device on the appropriate hand and/or by turning the cleaning device inside out in order to locate the desired layer of fabric on the outside of the device.

One or more of the layers of fabric may be impregnated with a cleaning product.

The cleaning device may further comprise a waterproof liner glove to be worn over a user's hand underneath the cleaning glove.

20 Embodiments of the invention will now be described in detail, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a diagrammatic representation of a cleaning device according to first embodiment of the invention;

25 Figure 2 is a diagrammatic representation with part cut-away of a cleaning device according to second embodiment of the invention; and

Figure 3 is a diagrammatic representation with part cut-away of a cleaning device according to third embodiment of the invention.

Referring to Figure 1, a first embodiment of the invention comprises a cleaning device 10 comprising a first generally hand-shaped layer of knitted cotton fabric 12 and a second generally hand-shaped layer of knitted cotton fabric 14. The first and second layers of fabric 12, 14 are stitched together around their edges to form a cleaning glove  
5 having a wrist opening 16.

In use, a user places the cleaning glove 10 on their hand (the cleaning glove 10 can be used on either hand) and proceeds to clean in a manner similar to cleaning using a cleaning cloth; i.e. the cleaning glove 10 may be wetted and a wet cleaning product applied to the cleaning surface (being the palm of the cleaning glove 10) or to a surface  
10 to be cleaned, or the cleaning glove 10 may be used dry to dust, apply wax or polish, or to polish or buff a surface to be dusted, waxed or polished. The cleaning glove 10 can be worn directly on a user's hand or can be worn over a rubber glove.

The user can easily clean into spaces the size of a single finger, clean awkwardly shaped items and clean into awkwardly shaped spaces, since they do not need to form  
15 their hand into a fist as would be required to hold a cleaning cloth and can therefore use the palm of their hand and their fingers to clean with. This particularly improves the ease of cleaning of intricately shaped items.

The user can swap the cleaning glove 10 onto their other hand to obtain a fresh cleaning surface or the user can turn the cleaning glove 10 inside out to obtain a fresh  
20 cleaning surface; thereby providing the cleaning glove with four cleaning surfaces. If desired, a cleaning device 10 can be worn on each hand.

Whilst cleaning, the user can use cleaning implements, such as brushes, dusters, scourers etc, and can dispense cleaning products without needing to remove the cleaning glove 10.

25 The cleaning glove 10 can be washed out or rinsed whilst still being worn by a user by manipulating their hands in the same way as washing their hands. Following or during use excess water can be removed from the cleaning glove 10 by the user making their hand wearing the cleaning glove 10 into a fist, squeezing the hand wearing the cleaning glove 10 with their other hand, or by squeezing their hand wearing the cleaning glove 10  
30 around a solid object, such as a tap.

Figure 2 shows a cleaning device 20 according to a second embodiment of the invention. The cleaning device 20 of this embodiment is substantially the same as the cleaning device 10 of the first embodiment, with the following modifications. The same reference numbers are retained for corresponding features.

5 In this embodiment the cleaning device 20 further comprises a third layer of knitted cotton fabric 22 provided between the first layer of fabric 12 and the second layer of fabric 14. The first layer of fabric 12 and the third layer of fabric 22 are stitched together along their wrist (lowermost) edges, so that the cleaning device 20 still comprises a glove having a single wrist opening 16. Alternatively, the first 12 and third 22 layers of  
10 fabric may be formed from a single piece of fabric folded about a line defining the wrist edges of the layers of fabric 12, 22.

The first and third layers of fabric 12, 22 together form a cleaning pad on the in-use palm side of the cleaning device 20. The cleaning device 20 shown in Figure 2 is a left hand glove, since the cleaning pad formed by the first and third layers of fabric 12, 22 is  
15 located at the user's palm when the cleaning device 20 is worn on the user's left hand. If the user wishes to use the cleaning device on their right hand, this can be simply achieved by turning the cleaning device 20 inside out. Similarly to the cleaning device of the first embodiment, the cleaning device 20 can be turned inside out to provide further cleaning devices.

20 A cleaning device 30 according to a third embodiment of the invention is shown in Figure 3. The cleaning device 30 of this embodiment is substantially the same as the cleaning device 10 of the first embodiment, with the following modifications. The same reference numbers are retained for corresponding features.

In this embodiment the cleaning device 30 further comprises a third layer of fabric 32  
25 provided between the first layer of knitted cotton fabric 12 and the second layer of knitted cotton fabric 14. The third layer of fabric 32 comprises a layer of a lint free fabric such as lint free cotton or a non-woven lint free fabric.

The three layers of fabric 12, 22, 32 are not joined together along their lowermost (wrist) edges, thereby forming a cleaning glove 30 having two wrist openings 34, 36. The first  
30 wrist opening 34 is defined by the first layer of fabric 12 and the third layer of fabric 32,



and the second wrist opening 36 is defined by the second layer of fabric 14 and the third layer of fabric 32.

The user can therefore wear the cleaning device 30 on either their right hand by locating their right hand through the first wrist opening 34, to form a cleaning glove 30 having a cleaning pad formed by the second layer 14 and the third layer 32, or on their left hand by locating their left hand through the second wrist opening 36, to form a cleaning glove 30 having a cleaning pad formed by the first layer 12 and the third layer 32. In both of these configurations the cleaning surface is a knitted cotton surface.

If the user requires a lint free fabric cleaning surface, this is obtained by turning the cleaning device 30 inside out. If the cleaning device 30 is turned inside out through the first wrist opening 34 a left handed cleaning glove 30 having a lint free cleaning surface and a cleaning pad will be formed. If the cleaning device 30 is turned inside out through the second wrist opening 36 a right handed cleaning glove 30 having a lint free cleaning surface and a cleaning pad will be formed. The cleaning device 30 thereby has six cleaning surfaces.

A user can therefore use the cleaning device 30 with the knitted cotton fabric layers outermost to apply a polish or wax to a surface, and then turn the cleaning device 30 inside out to expose the lint free layer of fabric 32 for polishing or buffing the surface.

In a fourth embodiment of the invention a cleaning device 10, 20, 30 according to any of the previous embodiments further comprises a waterproof liner glove to be worn over a user's hand underneath the cleaning device 10, 20, 30.

In a fifth embodiment of the invention, the cleaning device 30 of the third embodiment is modified by impregnating the first layer of fabric with cleaning fluid or soap.

Various modifications may be made without departing from the scope of the invention. For example, any of the layers of fabric may be replaced by a generally hand shaped layer of a different fabric to those described, including woven cotton fabrics, and non-cotton fabrics such as microfibre. The cleaning device according to the second embodiment may include a greater number of additional layers of fabric and two or more of the additional layers of fabric may be stitched together with the first layer of

fabric to form a thicker cleaning pad. One or more additional layers of fabric may alternatively or additionally be stitched together with the second layer of fabric to form a second cleaning pad.

5 The cleaning device according to the third embodiment may alternatively comprise two or more additional layers of fabric, to form a plurality of wrist openings and a plurality of cleaning surfaces. It will also be appreciated that the cleaning pad arrangement of the second embodiment can be incorporated into the cleaning device of the third embodiment, to form a cleaning device having a cleaning pad and 2 or more wrist openings.

**Claims**

1. A cleaning device comprising first and second generally hand-shaped layers of fabric, the layers of fabric being joined together around their edges to form a cleaning glove.
2. A cleaning device as claimed in claim 1, wherein the cleaning device further comprises at least one additional generally hand-shaped layer of fabric provided between the first and second layers of fabric, the first, second and at least one additional layers of fabric being joined together around their edges to form a cleaning glove having at least one wrist opening.
3. A cleaning device as claimed in claim 2, wherein the cleaning device comprises a plurality of additional generally hand-shaped layers of fabric.
4. A cleaning device as claimed in claims 2 or 3, wherein the layers of fabric are joined together around their edges to form a cleaning glove having a plurality of wrist openings.
5. A cleaning device as claimed in claim 4, wherein two or more of the layers of fabric are joined together at their wrist edges.
6. A cleaning device as claimed in claims 4 or 5, wherein two layers of fabric are formed from a single piece of fabric folded about a line forming the wrist edges of the said two layers of fabric.
7. A cleaning device as claimed in any preceding claim, wherein the layers of fabric are stitched or bonded together around their edges.
8. A cleaning device as claimed in any preceding claim, wherein the layers of fabric comprise layers of a woven fabric, a non-woven fabric or a knitted fabric.
9. A cleaning device as claimed in claim 8, wherein the layers of fabric are each of the same fabric.

10. A cleaning device as claimed in claim 8, wherein the layers of fabric are of the different fabrics.
11. A cleaning device as claimed in any preceding claim, wherein one or more of the layers of fabric are impregnated with a cleaning product.
12. A cleaning device as claimed in any preceding claim, wherein the cleaning device further comprises a waterproof liner glove to be worn over a user's hand underneath the cleaning glove.
13. A cleaning device substantially as described above with reference to the accompanying drawings.

Application No: GB0603711.3

Examiner: Mr Anders Bak  
Sørensen

Claims searched: 1-13

Date of search: 8 June 2006

**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,Y	X for 1,2,3,7,8, 9,10,11; Y for 12	JP2005179805 A (ASAHI CHEMICA CO LTD) See figures.
X,Y	X for 1,2,3,7,8, 9,10,11; Y for 12	FR2864751 A1 (CHAREYRON) See figures.
X,Y	X for 1,2,3,7,8, 9,10,11; Y for 12	US2004/244132 A1 (OUELLETTE et al.) See figures.
X,Y	X for 1,2,3,7,8, 9,10,11; Y for 12	JP2004261304 A (KAO CORP) see figures.
X,Y	X for 1,2,3,7,8, 9,10,11; Y for 12	BE1014179 A6 (OULTREMONT) See figures.
X,Y	X for 1,2,3,7,8, 9,10,11; Y for 12	EP1316413 A1 (SCA HYGIENE PROD GMBH) See figures.
X,Y	X for 1,2,3,7,8, 9,10,11; Y for 12	US6811338 B1 (PROCTER & GAMBLE) See figures.
X,Y	X for 1,2,3,7,8, 9,10,11; Y for 12	FR2737965 A (DENISSENKO) see figures.



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Y	12	US5008969 A (JARRETT) see claim 3 and column 2 line 66-68.
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**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<sup>X</sup> :

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

A41D; A47L

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

EPODOC, WPI