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(54) **Perfected work glove**

(57) Perfected work glove, basically designed to cover the hand of operators working in paint booths, or any other activity that requires total cleaning asepsis to prevent any risk of contamination of the products manufactured, characterised in that it is fitted with a cuff (5), with the palm (4) and index finger (3) coated in polyurethane, the cuff (5) and the back (6) being made preferably of polyester fabric.

The invention presented offers the main advantage of being able to fit to the hand with great comfort for the user, moreover, since it is coated with pure polyurethane its impermeability to paint, grease and oil is optimised, facilitating the recovery of the glove following a washing process.

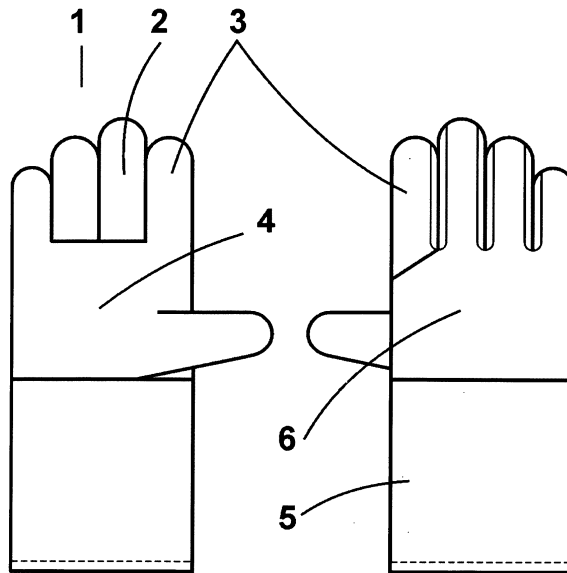


FIG.1

EP 1 731 047 A1

Description

[0001] Perfected work glove, basically designed to cover the hand of operators working in paint booths, or any other activity that requires total cleaning asepsis to prevent any risk of contamination of the products manufactured, characterised in that it is fitted with a cuff, with the palm and index finger coated in polyurethane, the cuff and the back being made preferably of polyester fabric.

[0002] It is widely known that gloves are safety elements at work, used in practically all types of industries, manufactured with very different particularities depending on the characteristics of their application and using for their manufacture a great variety of materials.

[0003] There are safety gloves for almost all spheres of industry in general, there are specific ones for operating theatres and hospitals, special ones for protecting against cuts, for cleaning in industry and at home, etc. but there is no glove so specific that it can be used in painting zones.

[0004] Currently we know of the different types of gloves that exist to carry out typical tasks in painting booths, which, given the materials used, withstand very few washing processes, in addition to not being totally aseptic for their subsequent use.

[0005] The main disadvantage of poor cleaning is that it can lead to many serious imperfections at work due to the adherence, during the work process, of all kinds of dirt particles impregnated in the glove itself, which can cause dirtiness in those places in which the user's glove is placed.

[0006] A further disadvantage is that the gloves that are currently used on most occasions cannot be recovered, with all of the economic and environmental risks that this implies.

[0007] In addition there is the drawback that the materials currently used are not usually the most appropriate ones to comfortably fit the operator's hand, causing discomfort that may lead to low performance in terms of productivity, imperfections in the carrying out of his work and work risks for the worker himself.

[0008] To resolve the current problems, a perfected work glove has been designed to meet the needs of paint booth workers, with the necessary materials in the zones of the glove in which each type of material is required. It is a glove with cuff, with the palm and index finger coated with polyurethane, the cuff and back being preferably made of polyester fabric.

[0009] A version of the design presented consists of fitting an elastic strip at the free end of the cuff, permitting greater adjustment to the operator's arm.

[0010] All of the parts that this glove comprises are joined by means of inside seams, minimizing the effect of the seams on the user.

[0011] The design is as important as the material with which the glove is made as it includes zones that are rendered impermeable by means of polyamide and polyurethane in the critical zones that are subject to greatest exposure in painting booths (index finger and palm) but the rest of the glove is made of polyester to allow hands to transpire.

[0012] The characteristics of the fabric used to manufacture the perfected work glove are as follows:

Back and cuff:

[0013] Preferably polyester between 80% and 100%, with an approximate weight of ≥ 200 g/m².

[0014] The polyester of the back and cuff make the glove is extremely comfortable for users, fitting to the hand with great ease, providing the operator with optimum dexterity in the work tasks that he carries out.

Palm and index finger:

[0015] Composition of backing: Polyamide, between 50% and 70%.

[0016] Composition of covering: Polyurethane between 30% and 50%.

[0017] Approximate weight: 150 - 170 g/m²

[0018] The glove coating is made of pure polyurethane, facilitating the recovery of the glove and optimising the capacity of rendering it impermeable to paints, grease and oil, allowing the glove to remain free of particles, paraffin, silicone or any other type of particle that may adhere to it whilst work is being carried out.

[0019] The perfected work glove can be made in different sizes, each of these being made of different coloured polyurethane to facilitate their identification.

[0020] The perfected work glove complies with the regulations in force with regard to the levels of protection against mechanical hazards 1,0,1,1.

[0021] It can be dry-cleaned up to 25 times without losing the previously mentioned protection levels, thanks to the quality of the material used to make the glove.

[0022] The possibility of washing means that the glove can be recovered, with all the economic and environmental benefits that this implies, as well as remaining free of particles, paraffin and silicone enabling it to be used inside paint

EP 1 731 047 A1

booths fulfilling the conditions of asepsis required for these areas.

Protection levels:

- 5 **[0023]** pH index: Approximately neutral, in accordance with EN420 standard
 [0024] Dexterity: Level 5 (1---5), according to EN420 standard.
 [0025] The dexterity gives an idea of the adaptability of the fingers and the sense of touch that they provide. The
 perfected work glove boasts the maximum level, level 5, due to the fact that the polyurethane with which it is made is
 fine enough to provide an optimum sense of touch.

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Mechanical hazard performance:

[0026]

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CHARACTERISTIC	VALUE	
	New glove	Washed glove (*)
Abrasion resistance	1	1
Cut resistance	0	0
Tear resistance	1	1
Puncture resistance	1	1
(*) Glove after having been washed 25 times, according to ISO 3175 standard, consisting of a method for assessing the cleanability of textiles and garments.		

Cleaning conditions:

[0027] This glove can be washed in accordance with the following indications:

- It should not be washed in a water bath
- It should not be washed with chlorine
- Ironing is not necessary
- Dry cleaning with all the solvents that are normally used in this washing process except for trichloroethylene.
- The maximum temperature of the drier must not be more than 60°C

[0028] The perfected glove that is presented offers many advantages over those currently in use, the main advantage being that it can be dry cleaned up to 25 times without losing its protection levels 1, 0, 1, 1.

[0029] The possibility of washing allows the glove to be recovered with the economic and environmental benefits that this implies, as well as remaining free of particles, paraffin and silicone, enabling it to be used inside paint booths fulfilling the conditions of asepsis required for these areas.

[0030] Another of the most important advantages is that its polyurethane coating renders it impermeable to the paint, oils and greases with which it comes into contact during the work process.

[0031] An added advantage is that the polyester on the back and cuff make the glove is extremely comfortable for users, fitting to the hand with great ease and providing optimum dexterity.

[0032] An important advantage is that the glove coating is pure polyurethane, facilitating the recovery of the glove and optimising its impermeability to paints, grease, oils and any type of particles that adhere to the glove during performance of work.

[0033] Another important advantage is that the glove that is presented can be made in different sizes, each size being made in a different coloured polyurethane to facilitate identification.

[0034] In order to better understand the object of the present invention, a preferential practical embodiment of said invention has been represented on the drawing attached. On said drawing:

Figure 1 shows the front and back of the perfected work glove.

Figure 2 shows the front and back of the perfected work glove with the version that has elastic at the free end of the cuff.

[0035] The perfected work glove (1) that is presented, comprises fingers (2) with the palm (4) and index finger (3) coated in polyurethane, the cuff (5) and the back (6) being preferably made of polyester fabric.

[0036] Figure 2 presents the version of the perfected work glove (7) that is presented, comprising five fingers (2) with the palm (4) and index finger (3) coated with polyurethane, the cuff (5) and the back (6) being preferably made of polyester fabric, and an elastic strip (8) at the free end of the cuff (5).

[0037] Having described the nature of the present invention in sufficient detail, in addition to a means for putting it into practice, all that remains to be added is that its description is not restrictive, and that variations can be made provided that said variations do not alter the essential nature of the characteristics claimed below.

Claims

1. Perfected work glove, basically designed to cover the hand of operators working in paint booths, or any other activity that requires total cleaning asepsis to prevent any risk of contamination of the products manufactured, **characterised in that** it comprises fingers (2) with the palm (4) and index finger (3) coated in polyurethane, the cuff (5) and the back (6) being made of polyester material.
2. Perfected work glove, according to the preceding claim wherein the perfected work glove (7), includes an elastic strip (8) at the free end of the cuff (5).
3. Perfected work glove, according to the preceding claims wherein the characteristics of the fabric used in its manufacture are as follows:

Back and cuff: Polyester between 80% and 100%, with an approximate weight of ≥ 200 g/m².

Palm and index finger:

Composition of backing: Polyamide between 50% and 70%.

EP 1 731 047 A1

Composition of coating: Polyurethane between 30% and 50%.

Approximate weight: 150 - 170 g/m²

5 **4.** Perfected work glove, according to the preceding claims wherein it can be dry-cleaned up to 25 times without losing its levels of protection 1, 0, 1, 1, enabling its recovery, free of particles, paraffin and silicone, fulfilling the required conditions of asepsis.

5. Perfected work glove, according to the preceding claims wherein the levels of protection are as follows:

10 pH index: Approximately neutral, in accordance with EN420 standard.

 Dexterity: Level 5 (1----5), in accordance with EN420 standard, maximum level in terms of adaptability of fingers and the sense of touch they permit.

15 **6.** Perfected work glove, according to the preceding claims wherein it can be made in different sizes, each size being made in polyurethane of a different colour to facilitate their identification.

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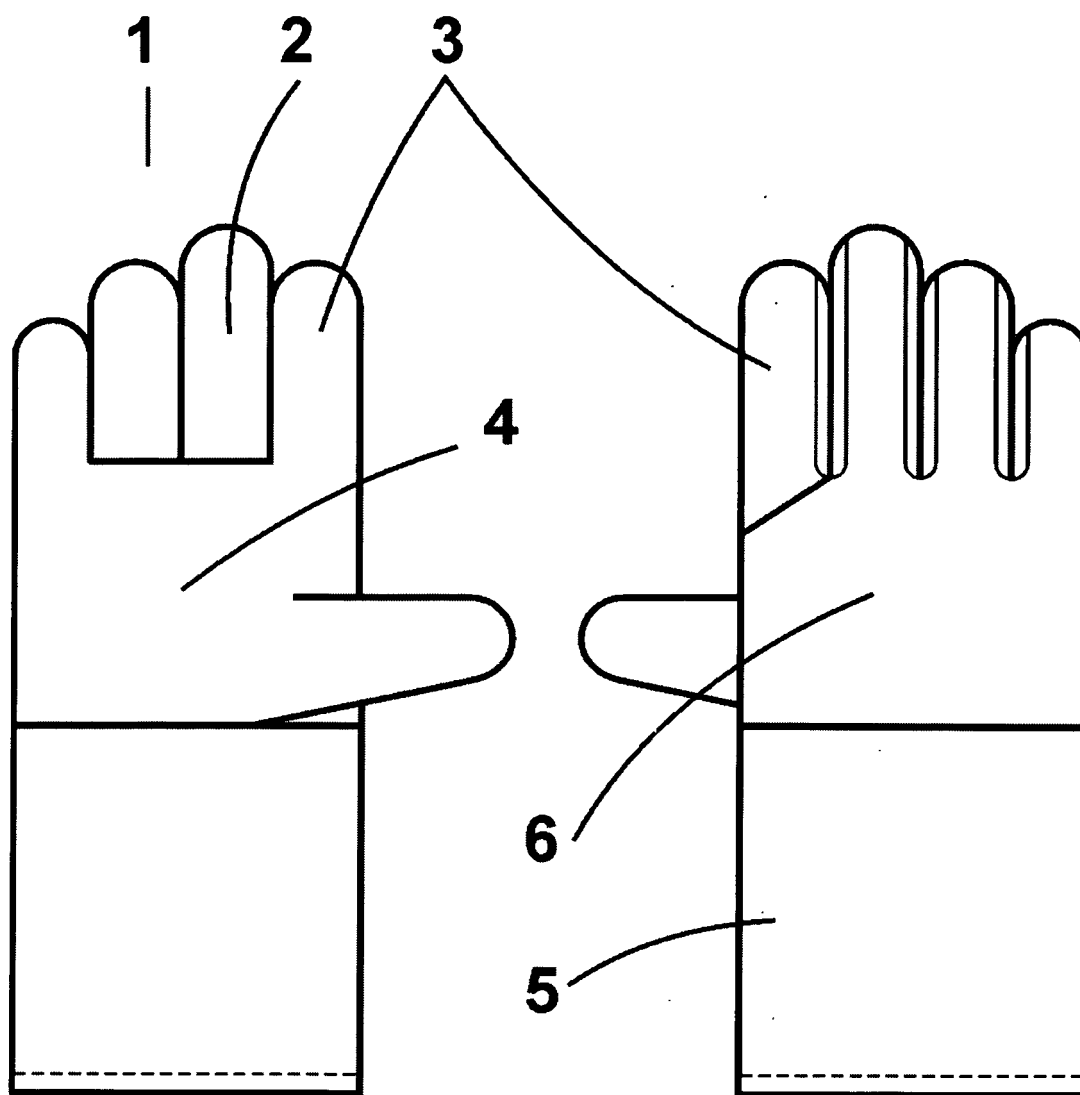


FIG.1

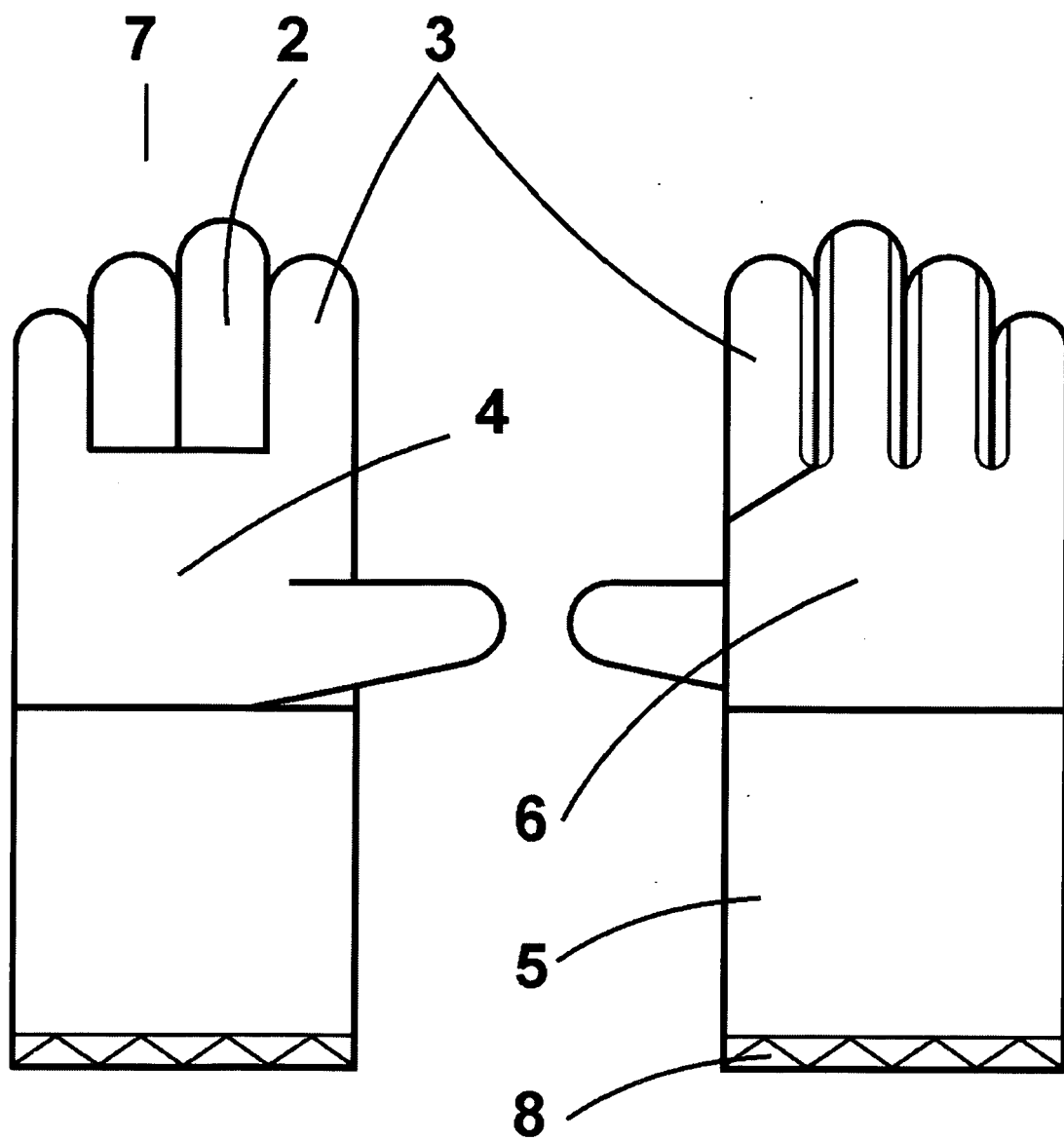


FIG.2



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EUROPEAN SEARCH REPORT

Application Number
EP 06 01 0878

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	EP 0 716 817 A (HUTCHINSON S.A) 19 June 1996 (1996-06-19) * page 1, line 52 - line 58 * * page 2, line 45 - page 3, line 4 * * page 3, line 30 - line 47 * * claims 1-3,8; figures 1-4 * -----	1,3	INV. A41D19/015
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A	US 6 395 656 B1 (JIN L. MIN ET AL) 28 May 2002 (2002-05-28) * column 2, line 52 - column 3, line 27; claims 1,2,4,7 * -----	1	
A	US 6 044 493 A (POST ET AL) 4 April 2000 (2000-04-04) * column 3, line 50 - column 6, paragraph 3 * -----	1,2	
			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 19 July 2006	Examiner Garnier, F
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 E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 06 01 0878

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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