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(71) Applicant: **Xorsa Global, S.L.**
27800 Villalba, Lugo (ES)

(72) Inventor: **SANJURJO FERNANDEZ, José Ramón**
27800 Villalba, Lugo (ES)

(74) Representative: **De Castro Hermida, José Luis**
Vitruvio IP Legal
Av. Doctor Arce, 14
28002 Madrid (ES)

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(54) **PROTECTIVE EQUIPMENT FOR WASP NEST REMOVAL**

(57) Protective equipment for wasp nest removal with a 10mm textile coverall (1) with a multi-layer structure of 240 g/m² tissue and 120 g/m² padded fibre, and a hood (2) that is configured to envelope the entire head, made in a padded tissue, except for the front part, which is provided with a thick mesh (3); where the coverall (1) incorporates, on the left arm, a specific pocket (5) for an

adrenalin syringe and a reflector strip (7) on the back. The hood (2) also has a multi-layer structure of 240 g/m² tissue and 120 g/m² padded fibre and also a rod skeleton (4) to provide rigidity. The coverall (1) has elbow guards (9), knee guards (10) and reinforcement patches on the seat (11). The coverall (1) and hood (2) are made in red, black or red and black.

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Description

OBJECT OF THE INVENTION

[0001] The invention, as exposed on the wording of the present specification, relates to a protective equipment for wasp nest removal which imparts to the function it is intended to, advantages and characteristics, which will be described in detail below and which mean an improvement of the current state of the art.

[0002] More particularly, the object of the invention is focused on a protective equipment or coverall specially designed to allow carrying out the removal of wasp nests in complete safety, while providing comfort and versatility to work optimally.

APPLICATION FIELD OF THE INVENTION

[0003] The application field of the present invention is part of the sector of the industry dedicated to the manufacture of special protective garments, encompassing the field of those intended for beekeeping and the like.

BACKGROUND OF THE INVENTION

[0004] As reference to the current state of the art, it should be noted that specific suits and garments are known for beekeeping work, although most are designed for work with bees or common wasps and, in addition to lack of complete sealing, causing some insects to sneak inside the suit, they are only effective against the stings of bees and common wasps, whose sting is much shorter than that of a certain type of wasp, such as the velutina wasp.

[0005] In order to solve this problem, the applicant himself is the owner of a utility model, with application number U201530971, in which equipment for the removal of wasp nests with specific characteristics to avoid such stings is disclosed. Said equipment, although satisfactorily fulfils the objectives pursued in terms of safety related to protection against wasp stings such as the velutina, has, however, certain aspects susceptible to be improved, especially aspects related to the comfort and versatility of use that hinder the performance of work operations, causing inconveniences that, with the equipment improved and developed in this sense in the present invention are successfully solved.

EXPLANATION OF THE INVENTION

[0006] Thus, the protective equipment for wasp nest removal proposed by the invention is configured as an improved solution to effectively solve certain deficiencies that the equipment of the previously indicated model presents.

[0007] Specifically, the protective equipment contemplated by the invention is comprised of at least one coverall suit of textile nature and a helmet, where said suit

has a wall thickness of at least 10 mm, formed by a multi-layer structure with a fabric of 240 g/m² density, to which a padded fibre of 120 g/m² density is attached, presenting the following essential features: on the one hand, the helmet that protects the head, is replaced by a hood made of padded fabric, preferably with the same thickness and layers as the rest of the suit except for the front part, in correspondence with the face, where it is a thick mesh, and has a wraparound configuration, which conforms to the contour of the head, occupying a minimum volume greater than this, so that it is not a hindrance to move between groves or sites with much vegetation, where large elements are a nuisance that gets hooked with the branches, whereby this hood is safer and more comfortable to work with.

[0008] Internally, and in order to achieve that the fabric of the padded hood is held in a rigid position, it carries a skeleton of rods of any suitable material, for example of fibre or any polymer.

[0009] Optionally, the worker, who usually belongs to a squad specializing in hazardous tasks such as the removal of wasp nests, for example firemen, will be able to wear the homologated helmet and, on this, the hood described. And, on the other hand, the coverall incorporates, in the left arm, a specific pocket to incorporate a syringe with adrenaline, which, in addition, has said word printed on it, or incorporated by any appropriate technique, so that it is known that in it there is a syringe that, in case of emergency, can save the life of the worker wearing the suit, as well as being able to do it himself, which is why it is incorporated into the left arm.

[0010] Also, for safety, the coverall has a reflector strip on the back, of about 50 mm, which includes the name of the squad to which the worker belongs in order to be able to distinguish their presence and know if it is a performance of emergency squads, for example firemen, or not.

[0011] In addition, optionally, both the coverall and the helmet are made in red, black or combining both red and black colours, since the wasps have infrared vision and at night they do not see red or black and it is frequent that the work of removing the nests is carried out at night, since it is the moment in which the wasps are less active, so that their reaction time is slower and they are less aggressive.

[0012] Likewise, the coverall incorporates zippers in the lower part of the legs, in order to be able to open them and allow to put it on without the need to remove the boots, since the lower part of the legs has elastics for adjustment to the ankle or the boot's leg. Likewise, the coverall also incorporates elbow guards, knee guards and reinforcement patches on the seat, to protect the fabric against chafing, blows, etc., produced by the use, avoiding the wear of it.

[0013] Finally, the coverall has several independent rings to be able to carry hung, safe and comfortable, the tools used by workers for the work of removing the nests, so that they can bring them with them to have them on

hand and use them in any moment they need it.

DESCRIPTION OF THE DRAWINGS

[0014] In order to complete the description being made and to ease a better understanding of the characteristics of the invention, it is attached to the present specification, making part of the same, a set of layouts where, with an illustrative non limitative character, the following has been represented:

Figure number 1 shows a front perspective view of an example of protective equipment for wasp nest removal, object of the invention, represented with the coverall and the hood separately, the parts and elements that it comprises, as well as its configuration and disposition being appreciated.

And figure number 2.- shows a rear perspective view of the example of the protective equipment of the invention shown in figure 1.

PREFERRED EMBODIMENT OF THE INVENTION

[0015] In the light of the said figures, and according to their numbering, it can be seen on them a non-limiting example of the recommended protective equipment for wasp nest removal, which comprises the parts and elements that are indicated and described in detail below.

[0016] Thus, as seen in said figures, the equipment in question comprises, at least, a coverall (1) of a textile nature that protects the body against wasp stings by having a wall thickness of at least 10 mm, formed by a multi-layer structure of fabric of 240 g/m² density, and padded fibre of 120 g/m² density, and a hood (2) that protects the head, distinguished by the fact that said hood (2) is constituted with a wraparound configuration, which conforms to the contour of the head, made of padded fabric, preferably with the same multi-layer structure of fabric of 240 g/m² density, and padded fibre of 120 g/m² density, with the exception of the front, where it incorporates a thick mesh (3) and provided with a detachable zipper that joins it to the suit.

[0017] In addition, in order to remain rigid, the hood (2) incorporates, internally, a skeleton of rods (4) that provide it with said stiffness, which are of any appropriate material.

[0018] While, for its part, the coverall (1), which in a known manner has a zipper front closure with zippercovers (100) from the neck to the garment inseam, several conventional pockets (101) and elastic rubber (102)) at waist height in the back with a buckle (103) with a quick closing on the front part, it has the peculiarity of incorporating, in the left arm, a specific pocket (5) of dimensions suitable for tightly incorporating a syringe with adrenaline, and on which, in addition, the incorporation of the word "adrenaline" has been foreseen, printed, painted, embroidered or incorporated with any other technique, preferably on a strip (6) provided for this purpose, as a

warning indication of the existence of said syringe.

[0019] The coverall (1) also has a reflector strip (7) on the back, with the name of the squad to which the worker belongs.

[0020] Likewise, the coverall (1) and the hood (2) are made in red, black or red and black, to avoid being seen by wasps at night. Preferably, the coverall (1) also incorporates two zippers (8) in the lower part of the legs, which, when open, determine a sufficiently wide opening that allows the user to put on the suit without taking off his/her boots.

Likewise, also preferably, the coverall (1) incorporates elbow guards (9), knee guards (10) and reinforcement patches on the seat (11), which protect the multi-layer fabric against chafing, blows, etc., avoiding wearing thereof.

[0021] Finally, the coverall (1) incorporates several independent metal rings (12), preferably four, two on each side of the waist, suitable to carry, hung from them, tools used by the worker for the removal of the nests.

[0022] Having sufficiently described the nature of the present invention, as well as a way of putting it into practice, it is not considered necessary to make a more extensive explanation in order that any expert in the art will understand its scope and the advantages that can be derived from it, making known that, within reason it could be put into practice in other embodiments differing in detail from that indicated by way of example, and which will obtain the same degree of protection, provided that they do not alter, change, or modify its fundamental principle.

Claims

1. PROTECTIVE EQUIPMENT FOR WASP NEST REMOVAL that, comprising, at least, a coverall (1) of a textile nature that protects the body against wasp stings by having a wall thickness of at least 10 mm, formed by a multi-layer structure of fabric of 240 g/m² density, and padded fibre of 120 g/m² density, and a hood (2) that protects the head, is **characterized in that** the hood (2) is constituted with a wraparound configuration, which conforms to the contour of the head, made of padded fabric, except for the front part, where it incorporates a thick mesh (3); and **in that** the coverall (1) incorporates, in the left arm, a specific pocket (5) of dimensions suitable for tightly incorporating a syringe with adrenaline, and which also incorporates a reflector strip (7) on the back.
2. PROTECTIVE EQUIPMENT FOR WASP NEST REMOVAL, according to claim 1, **characterized in that** the hood (2) is made with the same multi-layer structure of fabric of 240 g/m² density, and padded fibre of 120 g/m² density, as the coverall (1).
3. PROTECTIVE EQUIPMENT FOR WASP NEST REMOVAL, according to claim 1 or 2, **characterized in**

that the hood (2) incorporates, internally, a skeleton of rods (4) that provide it with said stiffness.

4. PROTECTIVE EQUIPMENT FOR WASP NEST REMOVAL, according to any of claims 1 to 3, **characterized in that** the coverall (1) incorporates elbow guards (9), knee guards (10) and reinforcement patches on the seat (11). 5
5. PROTECTIVE EQUIPMENT FOR WASP NEST REMOVAL, according to any of claims 1 to 4, **characterized in that** the coverall (1) and the hood (2) are made in red, black or red and black. 10
6. PROTECTIVE EQUIPMENT FOR WASP NEST REMOVAL, according to any of claims 1 to 5, **characterized in that** the coverall (1) incorporates zippers (8) in the lower part of the legs, which when open, determine a wide opening that allows the user to put on the suit without taking off his/her boots. 15 20
7. PROTECTIVE EQUIPMENT FOR WASP NEST REMOVAL, according to any of claims 1 to 8, **characterized in that** the coverall (1) incorporates several independent rings (12) to carry hanging tools used by the worker. 25

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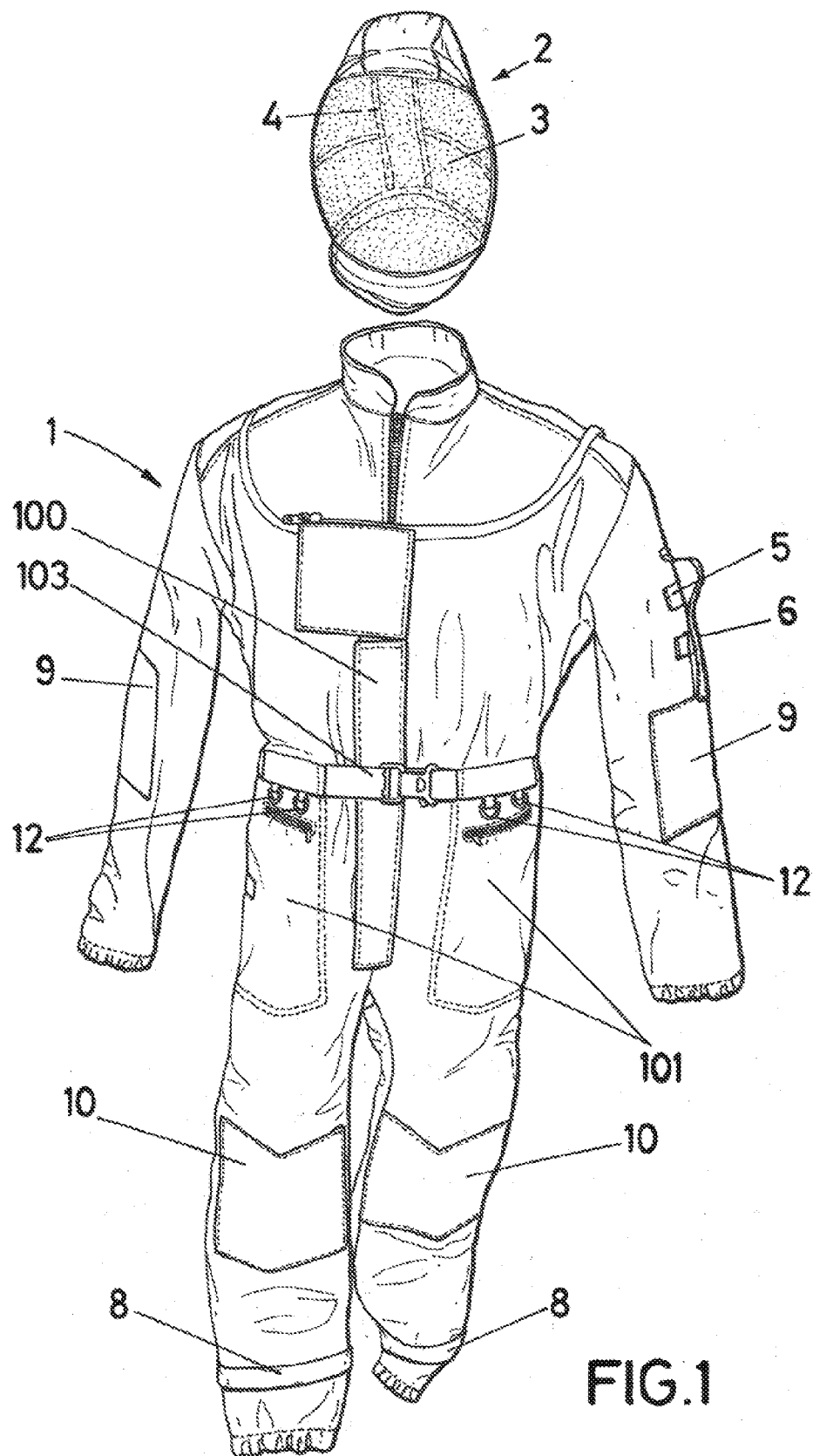
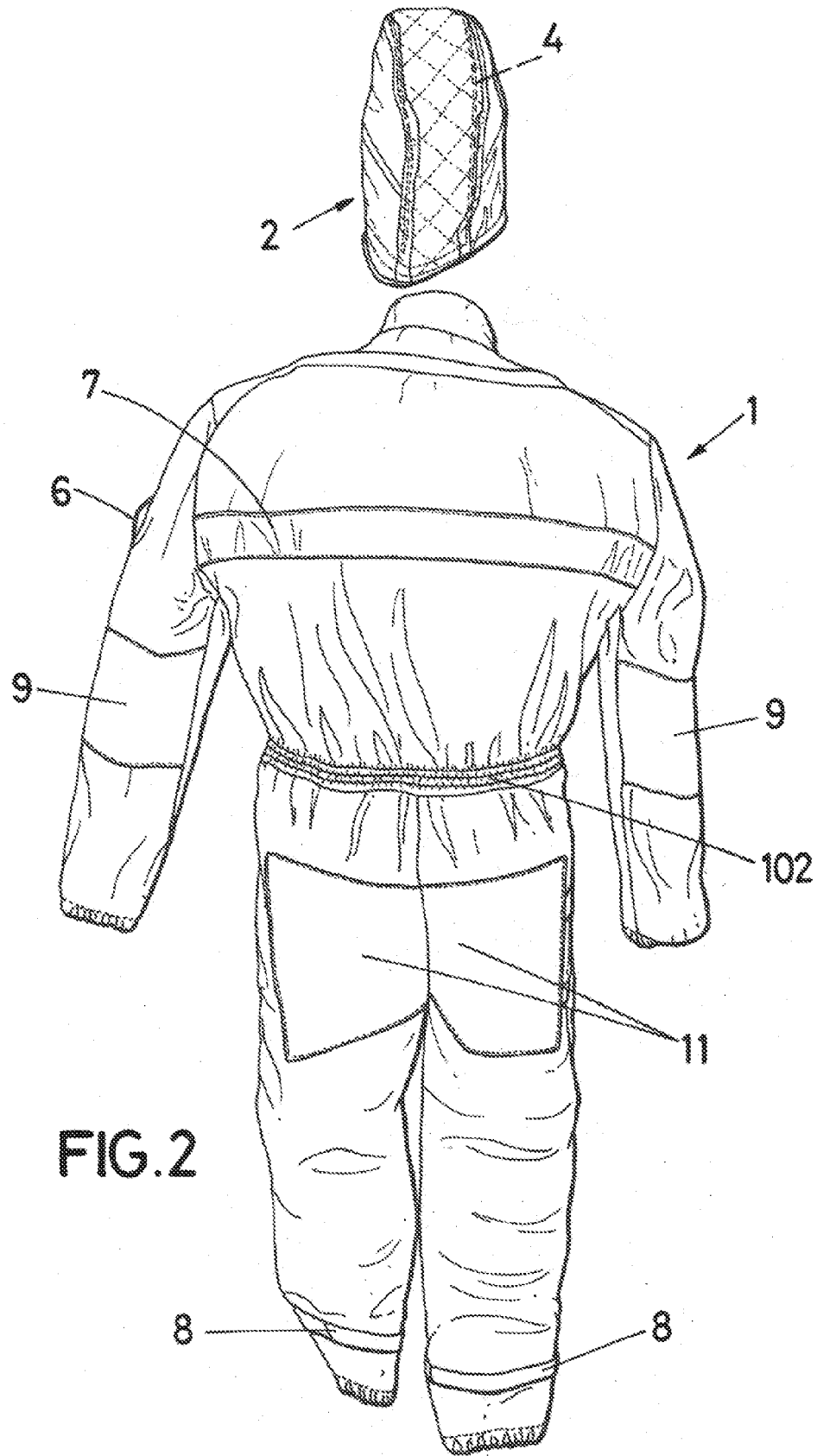


FIG.1



INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2017/070727

A. CLASSIFICATION OF SUBJECT MATTER

A41D13/00 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A41D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

INVENES, WPI, EPODOC, XPESP

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ES 1143585U U (XORSA GLOBAL S L) 10/09/2015, claim 1, claim 4,	1-2, 5
A	CN 102356932 A (ZUNYI NORMAL COLLEGE) 22/02/2012, BASE DE DATOS EPODOC EN EPOQUE, CN102356932 (ZUNYI NORMAL COLLEGE), 22.02.2012, abstract	1-7
A	CN 201805951U U (FUJIAN NO 2 POWER CONSTRUCTION CORP) 27/04/2011, BASE DE DATOS EPODOC EN EPOQUE, CN201805951U (FUJIAN NO 2 POWER CONSTRUCTION CORP), 27.04.2011, abstract	1-7

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance.	
"E" earlier document but published on or after the international filing date	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"O" document referring to an oral disclosure use, exhibition, or other means.	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other documents, such combination being obvious to a person skilled in the art
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search
12/12/2017Date of mailing of the international search report
(14/12/2017)

Name and mailing address of the ISA/

Authorized officer
J. García Cernuda GallardoOFICINA ESPAÑOLA DE PATENTES Y MARCAS
Paseo de la Castellana, 75 - 28071 Madrid (España)
Facsimile No.: 91 349 53 04

Telephone No. 91 3495352

Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2017/070727

Information on patent family members

Patent document cited in the search report	Publication date	Patent family member(s)	Publication date
ES1143585U U	10.09.2015	ES1143585Y Y	02.12.2015
----- CN102356932 A	----- 22.02.2012	----- NONE	-----
----- CN201805951U U	----- 27.04.2011	----- NONE	-----
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Form PCT/ISA/210 (patent family annex) (January 2015)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 201530971 A [0005]