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CA 2808848 A1 2014/09/07

(21) **2 808 848**

(12) **DEMANDE DE BREVET CANADIEN**
CANADIAN PATENT APPLICATION

(13) **A1**

(22) **Date de dépôt/Filing Date:** 2013/03/07

(41) **Mise à la disp. pub./Open to Public Insp.:** 2014/09/07

(51) **Cl.Int./Int.Cl.** ***A41D 19/015*** (2006.01),
A41D 13/04 (2006.01), ***A41D 19/04*** (2006.01)

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(54) **Titre : GANT DE PROTECTION POUR CHARGE FAIBLE**
(54) **Title: LOW BURDEN PROTECTIVE GLOVE**

LOW BURDEN PROTECTIVE GLOVE

FIELD OF THE INVENTION

The present invention relates to a chemical, biological, radioactive and nuclear (CBRN) protective glove and more particularly, relates to a low burden protective glove and also relates to a manufacturing method.

BACKGROUND OF THE INVENTION

A low burden glove is one in which the heat factor or thermal burden is diminished to provide for increased comfort for the user. Such gloves are frequently designed to be used in hazardous locations such as may be encountered by the military and/or police and/or other users. Gloves come in many different varieties, each designed to protect a person's hand from some sort of hazard while generally trying to prevent over impairment of the user's manual dexterity. For example, ski gloves are designed to protect a skier's hand from moisture and low temperatures while allowing the skier to grip ski poles. Latex gloves are utilized to protect the user from external contamination while allowing considerable manual dexterity. Leather gloves are utilized to protect a person's hand from abrasion and the like while allowing the person to grip and move heavy or rough surfaced items. It is also known in the art to use chainmail gloves to protect a person's hand from being cut by knives.

The present invention is directed to gloves which are utilized when facing potential chemical, biological or radioactive threats. Typically, these gloves may be used in military or first responder applications. They may also be used in some industrial applications where protection is needed against these contaminants.

SUMMARY OF THE INVENTION

According to the present invention, there is provided a glove which utilizes a combination of different materials. In the preferred embodiment, a textile laminate is used

to provide breathability while a rubber like material is utilized to protect against liquid contaminants. The two materials are utilized in different portions of the glove with the glove being manufactured by a molding technique. Both the textile laminate and the rubber material are placed in the mold with the rubber material serving to hold the textile in place. If desired, non laminated textiles can also be employed.

BRIEF DESCRIPTION OF THE DRAWINGS

Having thus generally described the invention, reference will be made to the accompanying drawings illustrating an embodiment thereof, in which:

Figure 1 is a perspective view of the front of a right hand glove;

Figure 2 is a perspective view of the rear of the glove of Figure 1;

Figure 3 is a perspective view of the front of a inner liner used in the glove of Figure 1;

Figure 4 is a rear view thereof; and

Figure 5 is a perspective exploded view illustrating the layers of material forming the textile portion of the glove.

DETAILED DESCRIPTION OF THE INVENTION

Referring to the drawings in greater detail and by reference characters thereto, there is illustrated in Figures 1 and 2 a glove which is generally designated by reference numeral 10.

Glove 10 has a wrist and arm portion generally designated by reference numeral 12 and a hand portion generally designated by reference numeral 14. Hand portion 14 includes a thumb 16 and fingers 18.

Glove 10 is formed of a combination of different materials and to this end it has fabric portions generally designated by reference numeral 20 and "rubber" portions

generally designated by reference numeral 22.

The term "rubber" is utilized in a generic sense and will generally refer to a synthetic rubber which would be formed of a polymer. Many such synthetic rubbers are known in the art and those knowledgeable in the art can readily identify a suitable rubber. Generally, the present invention contemplates the use of a rubber such as a butyl rubber which may be compounded to have desired properties.

Other portions of the glove are made of a textile laminate which will be discussed in greater detail hereinbelow.

Index finger 24 has, as may be seen in Figure 1, a stylus tip 26 which can be molded into the fingertip and will assist with touch screen panels and membrane keypad actuation. All of the fingertips have textured portions 28 to assist in gripping and retaining an object as well as to increase tactility of the user. Textured portions 28 are also present on a palm portion 30 of glove 10.

As may be seen in Figures 1 and 2, there may be provided rubber stringers 32 which extend longitudinally along wrist and arm portion 12. The rubber stringers 32 are designed to relieve tensile loads on the fabric portions 20 of the glove.

A cuff, generally designated by reference numeral 34 has a slightly increased thickness to provide gripping means when donning the glove.

The textile portions of the glove may be made of any suitable combination of materials. Generally, the textile portion will include a woven textile. Various fibre blends including aramid fibres, cotton fibres, viscose/nylon fibre blends and the like may be utilized. In the embodiment illustrated in Figure 5, there is illustrated a general textile portion which will include an outer shell 38 formed of a textile laminate, an aerosol

barrier 40, an activated carbon textile 42, and a wicking layer 44. As may be seen from Figures 3 and 4, moisture wicking layer 44 does not have any fingertips so as to provide maximum dexterity and tactility. The wicking layer 44 thus extends over the entire hand save and except for the fingertips.

As seen in Figures 1 and 2, the glove is molded to have a desired configuration with anatomical and anthropometric factors provided. As may also be seen in Figure 2, knuckle protection is provided.

The method of the present invention may be used for forming the glove or alternatively, can be used for other products. The method includes the steps of placing a textile material in the mold along with the rubber material and molding the two simultaneously.

It will be understood that the above described embodiment is for purposes of illustration only and that changes and modifications may be made thereto without departing from the spirit and scope of the invention.

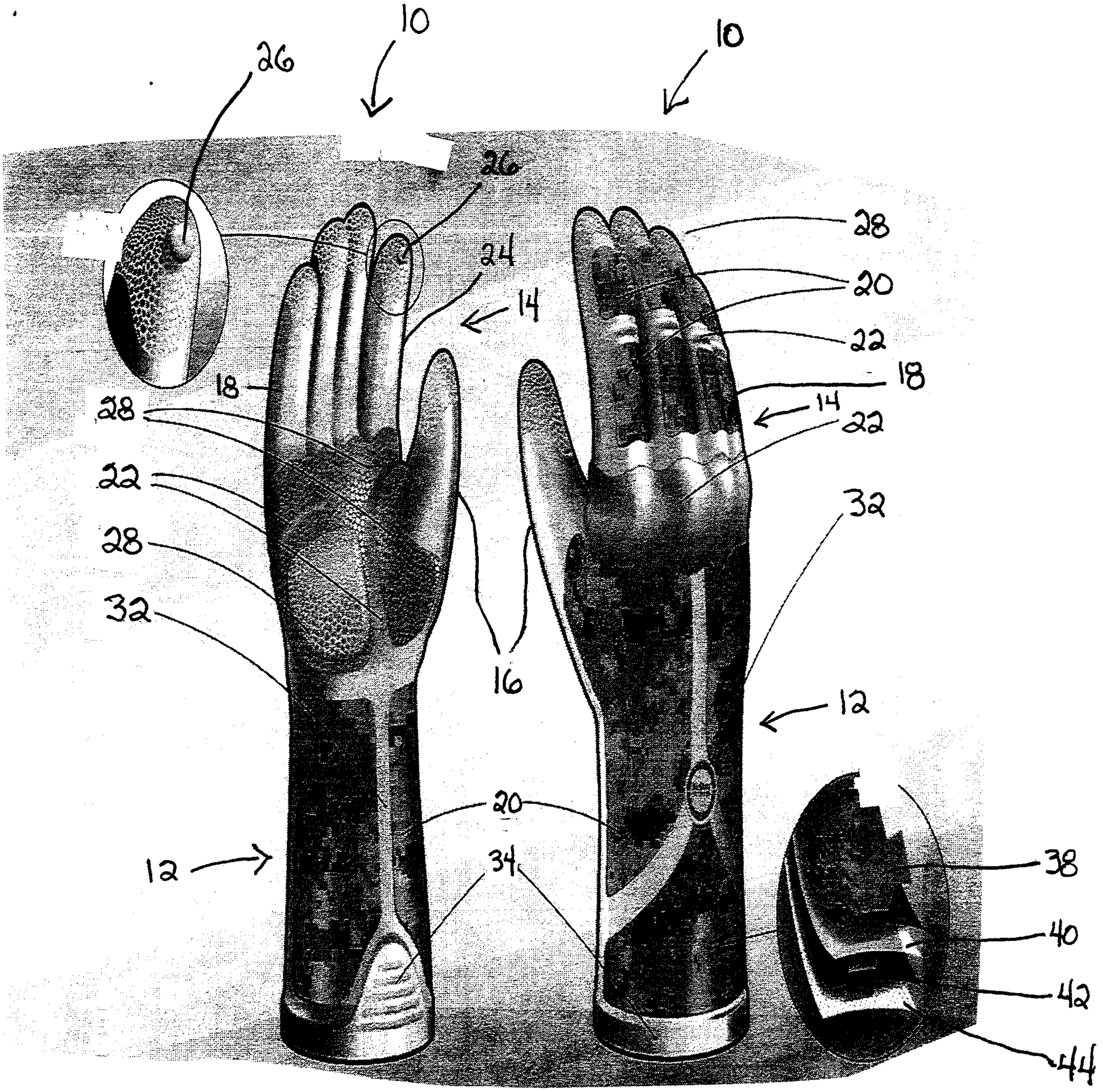


Fig. 1 Fig. 2 Fig. 5

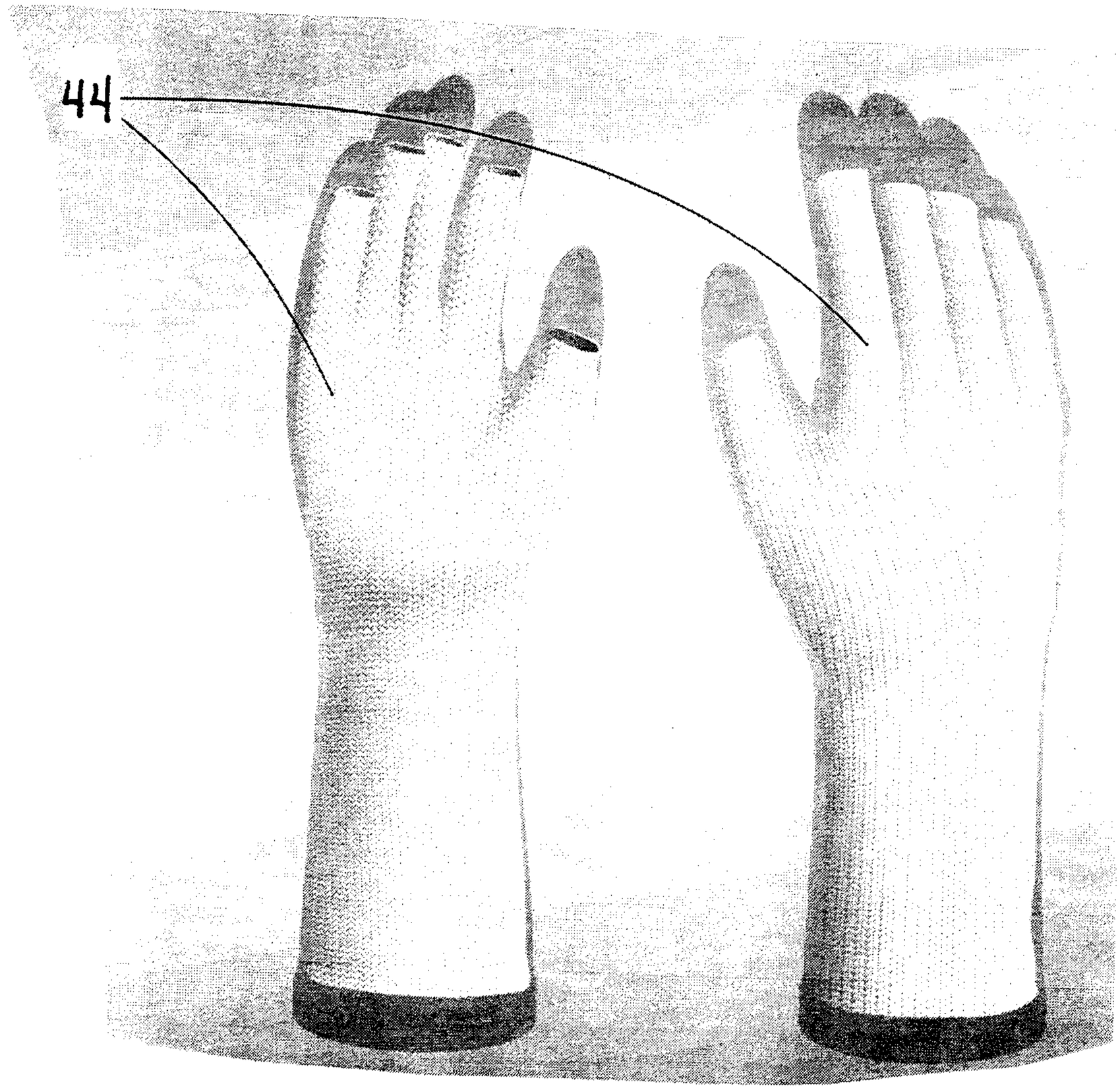


Fig. 3

Fig. 4