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(54) Device for the practical use of working gloves of quick fitting and removal type

(57) The device facilitates the practical use of working gloves which need to be of easy fitting and removal, and comprises at least one glove. This latter is provided with means for facilitating the insertion and withdrawal of the hand.

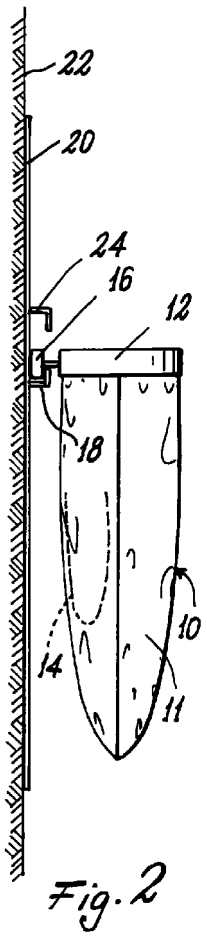

Fig. 2

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Description

[0001] This invention relates to working gloves in the sense of gloves used for example for handling food or for simply keeping the hands clean.

[0002] In retail businesses (for example bakers, delicatessens and confectioners) in which food is sold, the sold products very often pass through the hands of the seller without respecting even minimum hygiene regulations. In this respect, the seller also handles money, touches other unclean objects or various parts of the body, or can suffer from hyperperspiration of the hands. It should be noted in this regard that Article 42 of Law 283 dated 30 April 1962 (R.P.D. 26 March 1980, 327) states that "...relevant personnel are responsible for personal cleanliness and in particular of the hands, and their work must be performed in a hygienically correct manner". Common expedience teaches that this requirement is widely ignored.

[0003] The problem of handling food in a hygienically correct manner is therefore widespread.

[0004] In some countries (for example the United States) the seller wears gloves of surgical type, which however are very difficult to put on and take off, resulting in much time wastage.

[0005] An object of the invention is therefore to provide a glove which does not suffer from the aforesaid drawbacks, ie which can be quickly and easily fitted and removed.

[0006] This object is attained by a device of the invention, comprising at least one glove and characterised in that the glove comprises means for facilitating the insertion and withdrawal of the hand.

[0007] In the most simple embodiment of this invention, said means comprise a substantially rigid ring element which maintains the mouth of the glove open.

[0008] Such a glove is preferably formed such that it does not adhere excessively to the hand, so further facilitating its insertion and withdrawal.

[0009] To further facilitate these operations, means can be provided to maintain the glove substantially at rest while the hand is being inserted or withdrawn.

[0010] If the glove is to be used to handle food, it is constructed of a material suitable for food use (for example polyethylene or latex, and in any event of a material satisfying the requirements of M.D. 22.12.67 and M.D. 21.03.73).

[0011] The glove can be structured simply in the manner of a mitten, in the sense of having one terminal part arranged to receive a single finger, namely the thumb, the other fingers all being received together in the remaining terminal part. However, depending on requirements, the glove can be formed with two individual fingers (usually the thumb and index finger) or more (to a maximum of five).

[0012] The device of the invention is also particularly useful in sectors other than retail food shops, and more generally in all those cases in which the glove has to be repeatedly fitted and removed. In this respect, a device of this type can also be used in a domestic environment, when it is required to handle foods hygienically in successive stages without being compelled to wash the hands each time (as is well known, repeated washing ruins the skin), or to simply avoid soiling the hands but without using normal surgical gloves or those of the type used for washing dishes or for domestic cleaning, such gloves being not easy to fit or remove. The device of the invention can be of use in various industrial activities, in which case it can be advisable to make the glove of a material which is still substantially flexible but more robust.

[0013] The invention will be more apparent from the ensuing description of some embodiments thereof. In this description reference is made to the accompanying drawings, on which:

Figure 1 is a front elevation of a first embodiment of the device of the invention, comprising a single glove with the relative means enabling the hand to be easily inserted and withdrawn;

Figure 2 is a side elevation in the direction of the arrow 2 of Figure 1;

Figure 3 is a plan view from above showing only the annular element at the mouth of the glove;

Figures 4 and 5 are similar to Figures 1 and 2, showing a variant of the device of the invention;

Figure 6 is a plan view from above showing a further variant of the device;

Figure 7 is a side elevation thereof in the direction of the arrow 7 of Figure 6; and

Figure 8 is a view similar to Figure 3, showing a variation of the annular mouth element.

[0014] As can be seen from Figures 1 and 2, the device of the invention comprises a glove 10 (assumed to be used for handling food, and hence constructed for example of polyethylene or latex). The glove 10 possesses a substantially rigid annular element 12 to which the actual glove 11 is applied. In this specific case the glove 10 is of mitten type, ie with only one individual finger, namely the thumb 14, the other fingers being inserted together into the remaining space. However, as already stated, the glove can comprise more individual fingers (to a maximum of five) if required.

[0015] The purpose of the annular element 12 (Figure 3) is to maintain the mouth of the glove 10 properly open, and can be formed from a substantially rigid plastic (in this specific case suitable for food use) or from a suitable metal (for example, in this specific case a stainless steel). The glove can be washed or treated with

suitable detergents to provide the required level of hygiene if it is to be reused, or alternatively it can be disposed of after use.

[0016] As can be seen from Figures 1-3, from the central region of the straight side of the annular element 12 there extends a projection 16 of T cross-section (Figure 2), the base of the T being fixed to the annular element 12. The projection 16 enables the glove 10 to be hooked to a lower hook element 18 fixed to a plate 20, itself fixed to a wall 22. An upper hook element 24, inverted with respect to the lower hook element 18, is provided for the purpose described hereinafter.

[0017] In this specific case the plate 20 and the relative hook elements 18 and 24 are of an easily washable material suitable for food use (for example stainless steel or a suitable plastic).

[0018] If the glove 10 is to be of disposable type, it can be made of the least costly materials, the actual glove 11 being made for example from a flexible polyethylene sheet, and the annular ring 12 for example from rigid polyethylene.

[0019] From Figures 1 and 2 it is apparent how the hand is inserted into and removed from the glove 10. However the operation will be briefly described for greater clarity. Starting from the situation of Figure 2, in which the glove 10 is suspended from the lower hook element 18, the glove 10 is in a condition allowing easy insertion of the relative hand (in this case the right hand, however the glove can equally well be made for the left hand). When the hand has been inserted, it is necessary merely to slightly move it upwards and outwards to disengage the T-shaped projecting element 16 from the lower hook element 18, taking care not to make contact with the upper hook element 24. The glove 10 is then free, with the relative hand inserted into it, and can hence be used.

[0020] To remove the glove 10 from the hand, the T-shaped projecting element 16 is engaged in the upper hook 24 and the hand moved upwards, enabling it to be easily released from the glove 10, this latter then automatically assuming the position shown in Figures 1 and 2, ready for its subsequent use (unless it is of the disposable type).

[0021] If both hands of the operator need to be protected by gloves of the invention, a second plate 20 is provided comprising relative hooks 18 and 24 to which a left glove is hooked, or alternatively a single plate can be provided comprising upper and lower hook elements of sufficient length to receive both a right glove and a left glove.

[0022] The plate and relative hook elements can also be of such dimensions as to receive a number of gloves or more than one pair of gloves, for different operators.

[0023] As stated, a glove of the aforedescribed type can also be used simply for the purpose of not soiling the hands (for example in a mechanical workshop), in which case it could be advisable to make it of a sufficiently strong material such as cloth or a non-woven fabric (possibly of washable type), if necessary reinforced at particular points (for example at the fingertips) or made non-slippable at certain points.

[0024] If the operator suffers from hyperperspiration of the hands, the glove can contain a second glove of a flexible material able to absorb perspiration (for example a suitable paper).

[0025] It should also be noted that although the glove 10 of Figures 1 and 2 has its palm facing the plate 20, if appropriate or more comfortable it could be formed such that when hanging from the lower hook element 18 the relative palm faces outwards.

[0026] In the variant of Figures 4 and 5 (in which elements identical or of similar function to those of Figures 1 and 2 are indicated by the same reference numerals plus 100), the glove 110 is a left glove (but if appropriate could be a right glove), and hence has its palm facing outwards. The only true difference between this and the preceding embodiment is that the glove 110 is fixed to the plate 120 by velcro. For this purpose a rectangular piece of velcro 119 (performing the function of both the hook elements 18 and 24 of the preceding embodiment) is fixed to the plate 120, a piece of female velcro 116 (or vice versa) being applied to the outer surface of the ring element 112. In this case the glove is unsuitable for food use because of the presence of the velcro, which can retain dust or dirt, although for other uses it is acceptable.

[0027] In another embodiment, which is not shown on the drawings because it is evident in the light of the aforegoing, the glove is applied to the support plate by a common press-stud, ie a device used on clothes instead of buttons and comprising a male part and a female part snap-fitted together by pressing. One of the two parts of the press-stud is applied to the outer face of the ring element and the other to the support plate. The press-stud is conveniently of large-dimension type.

[0028] It should be noted that although the support plate for the glove or gloves (as already stated it could carry a pair of gloves or even more than one pair) is shown in the figure applied to a vertical wall (22; 122), the plate could equally be positioned horizontally or at any inclination between 0 and 90 degrees, the orientation of this plate not interfering with the use of the glove. In certain cases it could be convenient to choose a determined inclination for the support plate. Suitable support means for the plate will then be provided.

[0029] The embodiment illustrated in Figures 6 and 7 shows a horizontally positioned support plate 200. This plate could however be applied to a vertical wall or be positioned inclined at an angle of between 0 and 90 degrees. As can be seen from these figures, the glove 120 (for example of polyethylene sheet) comprises two individual fingers 214 and 215 (to receive the thumb and index finger respectively), this glove being particularly suitable for use by confectioners. The glove 210 again comprises an annular element 212 which is however

positioned on the inside of the actual glove 211, so that it is protected. In this respect, by suitably choosing the dimensions of the annular element 212 and the mouth of the actual glove 211, the annular element 212 can be forcibly inserted into the mouth of the actual glove 211 so that this in practice remains fixed to the annular element 212, without moving even when the hand is inserted or withdrawn.

[0030] The annular element can also be made in open form (Figure 8) and of an elastically flexible material, so that its size can be reduced by action of the hands during its insertion into the mouth of the actual glove (211), to then reassume its original dimensions and remain locked in position within the glove.

[0031] Returning to Figures 6 and 7, the glove 210 is laid on a plate 220 which rests on a horizontal surface (for example the counter of a confectionary shop) and has a weight such that it does not move when the glove 210 is fitted or removed. Alternatively the plate 220 can be fixed to the surface 222, in which case its weight is no longer of influence.

[0032] In the illustrated example the plate 220 (which can be for example of teflon suitable for food use) has a rectangular recess (Figure 6) containing a permanent magnet 219. Consequently if the whole of the ring element 212, or at least that part thereof facing the magnet 219, is formed of a ferromagnetic material, the glove when in the position shown in Figures 6 and 7 is retained by the magnet 219 with a force sufficient to enable it to be fitted and removed, without obstructing its removal from the plate 220.

[0033] The permanent magnet 219 can be replaced by an electromagnet, in both cases the magnet being embedded in the plate so that it is invisible.

[0034] In the case of an electromagnet, thus can be constructed to exert on the ring element 212 a force sufficiently high to fix the glove so firmly to the plate 220 that it can be removed only with difficulty, there being however provided a switch (operable by the other hand or by other parts of the body if two gloves are used, or operable by a vocal command), to enable the glove to be removed without any force once the hand has been inserted.

[0035] According to a further variant, not shown on the drawings, the support plate can itself be a large permanent magnet (for example a stainless steel plate of a type which can be permanently magnetized or which forms part of an electromagnet, or a plastic plate in which permanent magnet particles are embedded, so that the glove 210 can be positioned in any region of its upper surface.

[0036] Before concluding it is important to note, as already stated, that the device of the invention can in its most simple embodiment be reduced to the glove and to the relative annular element which maintains its mouth open. In this case it is advantageous to make the glove fairly loose-fitting to enable the hand to be inserted and withdrawn easily, and preferably of a material which does not tend to adhere to the hand.

Claims

1. A device for the practical use of working gloves which need to be of easy fitting and removal, comprising at least one glove, characterised in that the glove comprises means for facilitating the insertion and withdrawal of the hand.

2. A device as claimed in claim 1, wherein the glove comprises a means enabling its mouth to be maintained open.

3. A device as claimed in claim 2, wherein means are provided to maintain the glove substantially at rest during its fitting and removal.

4. A device as claimed in claim 2, wherein the means for maintaining the glove mouth open comprises a substantially rigid annular element.

5. A device as claimed in claim 4, wherein the substantially rigid annular element is open and has sufficient flexibility to enable its size to be reduced by action of the hands, to enable it to be more easily inserted into the mouth of the actual glove.

6. A device as claimed in claim 1, wherein the glove has a single individual finger, namely the thumb.

7. A device as claimed in claim 1, wherein the glove has two individual fingers, namely the thumb and the index finger.

8. A device as claimed in claim 3, wherein the means for maintaining the glove substantially at rest during its fitting and removal comprise a projection to be hooked to hook elements to oppose the movement of the glove in the two senses of one and the same direction.

9. A device as claimed in claim 3, wherein the means for maintaining the glove substantially at rest during its fitting and removal comprise male velcro applied to a support and female velcro applied to the annular element.

10. A device as claimed in claim 3, wherein the means for maintaining the glove substantially at rest during its fitting and removal comprise a permanent magnet or an electromagnet fixed to a support, the glove annular element being formed entirely or at least partly of ferromagnetic material.

11. A device as claimed in claim 10, wherein the permanent magnet or the electromagnet are fixed to a support plate or are incorporated into it.

12. A device as claimed in claim 3, wherein the means for maintaining the glove substantially at rest during its fitting and removal comprise a support plate of a suitable plastic in which a plurality of small permanent magnets are embedded, the glove annular element being formed entirely or at least partly of ferromagnetic material.

13. A device as claimed in claim 3, wherein the means for maintaining the glove substantially at rest during its fitting and removal are applied to a surface having an inclination of between 0 and 90 degrees.

14. A device as claimed in claim 1, comprising a glove to be used for handling food, wherein the glove is of a material compatible with food use.

15. A device as claimed in claim 1, wherein the glove is of washable material.

16. A device as claimed in claim 1, wherein the glove contains a second glove of a flexible material able to absorb perspiration.

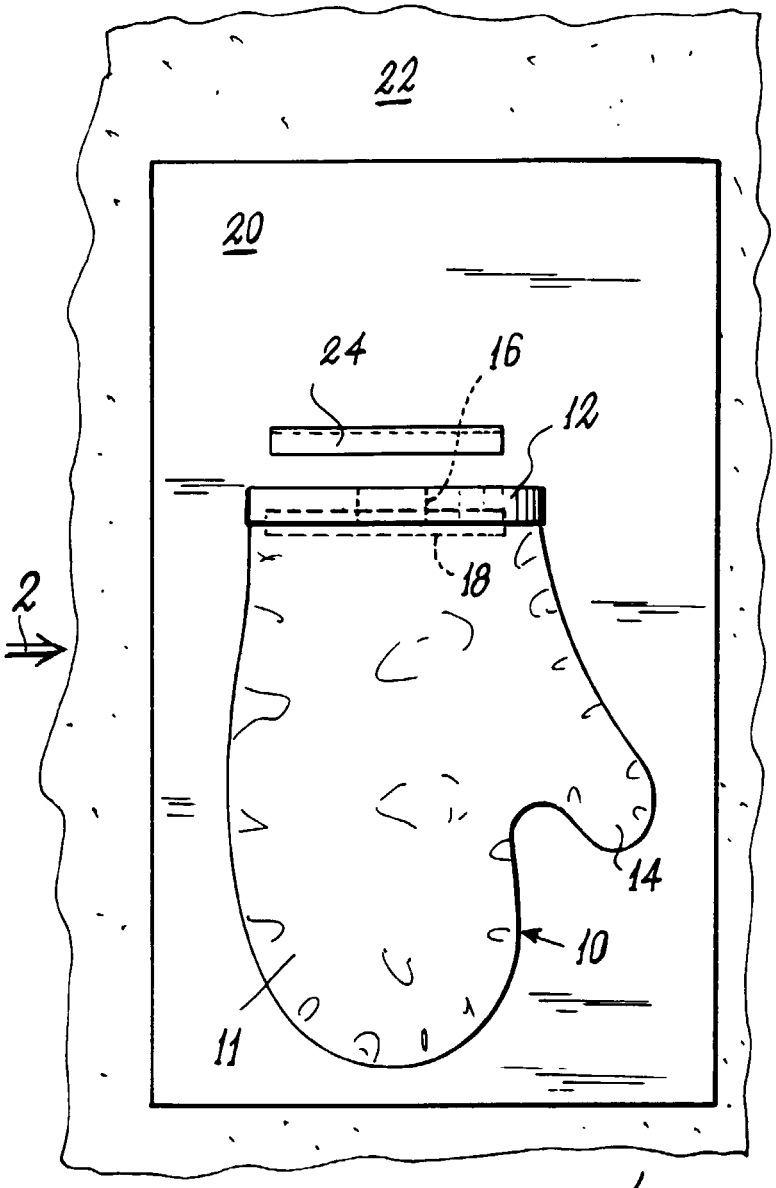

Fig. 1

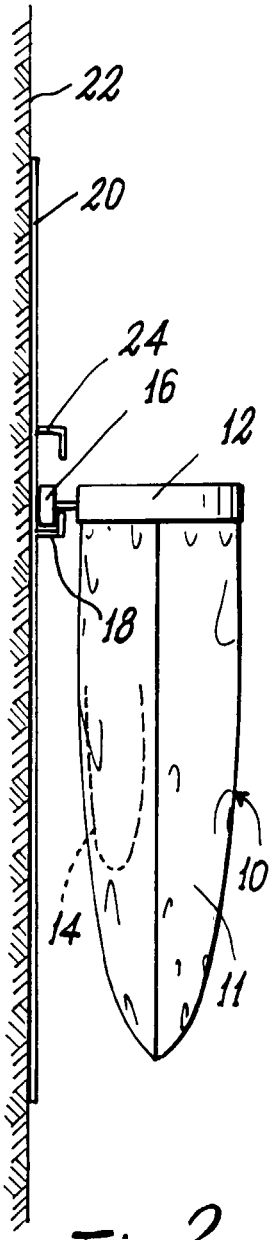

Fig. 2

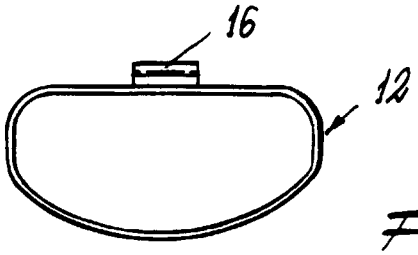

Fig. 3

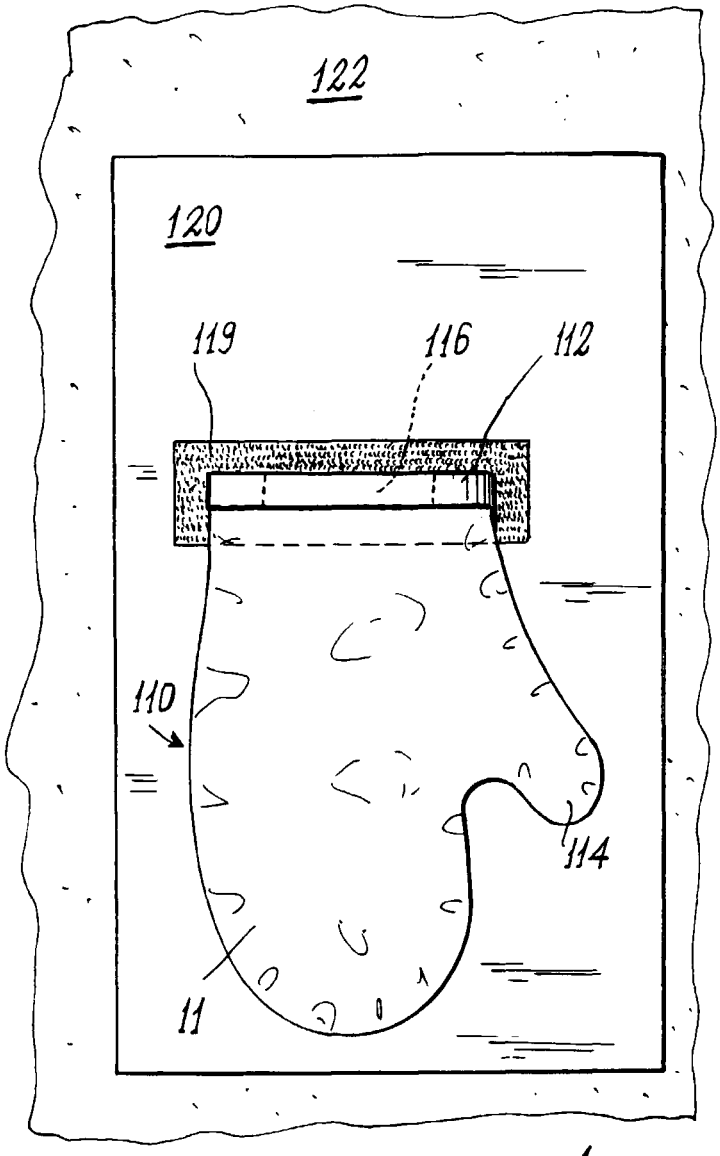

Fig. 4

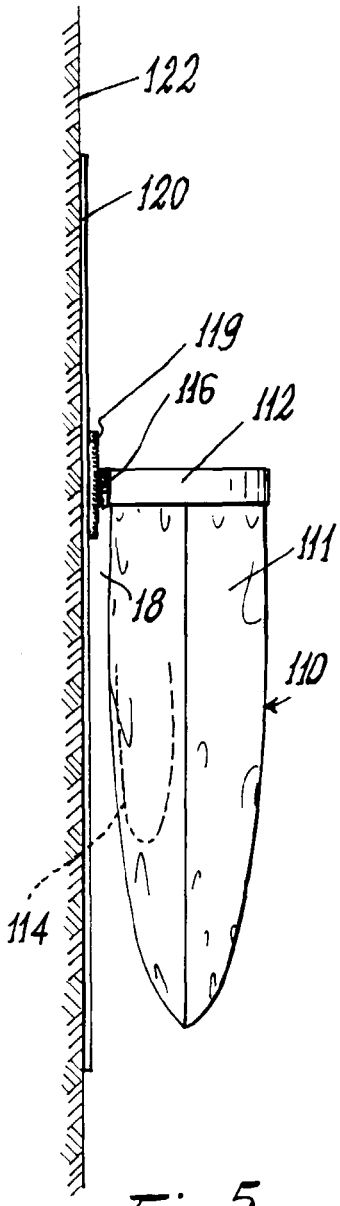

Fig. 5

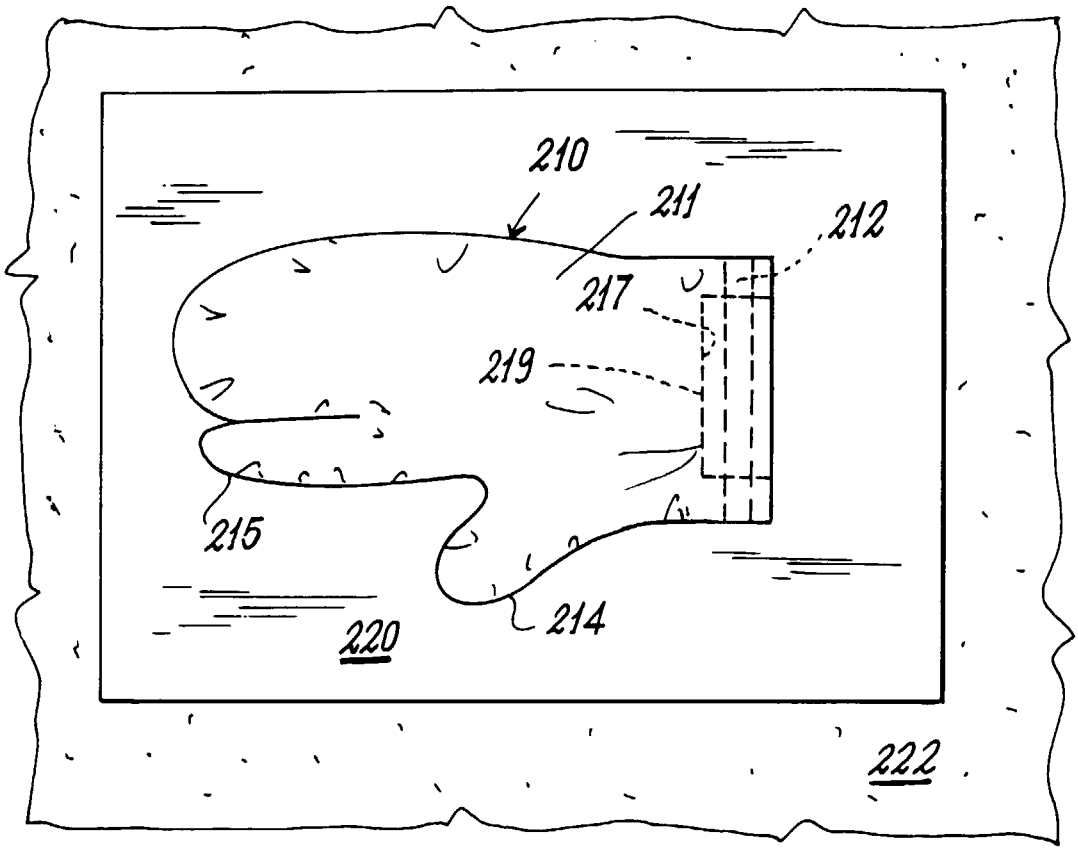

Fig. 6

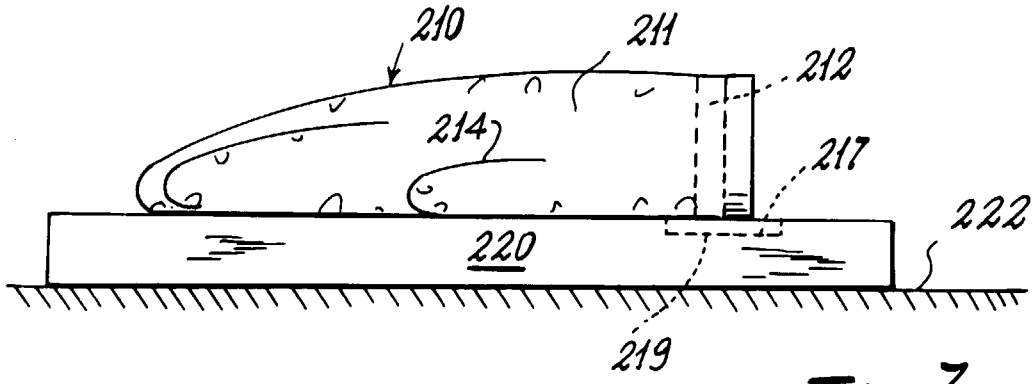

Fig. 7

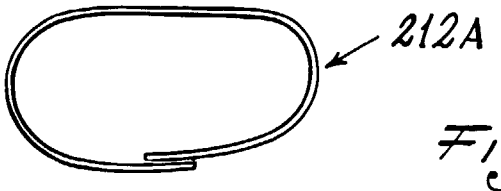

Fig. 8