

- [54] **SURGEON'S GLOVE**
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 Pearne & Gordon*

- [52] **U.S. Cl.**..... 2/167
- [51] **Int. Cl.**..... **A41d 19/00**
- [58] **Field of Search**..... 2/161 R, 167, 168, 159

[57] **ABSTRACT**

A thin gauge elastomeric glove is disclosed which is particularly suited for use by surgeons. The glove fits the hand snugly in the finger, thumb, palm, and knuckle portions, but there is provided an outwardly directed bulge in the back of the glove to cover the metacarpal bone portion of the hand. The bulge comprises a "reservoir" of extra material that provides for material flow to the palm and knuckle areas when the hand is closed. This minimizes tightness in the knuckle and palm areas, and permits the surgeon's hand to be relaxed and not stressed by the glove in the closed position.

[56] **References Cited**

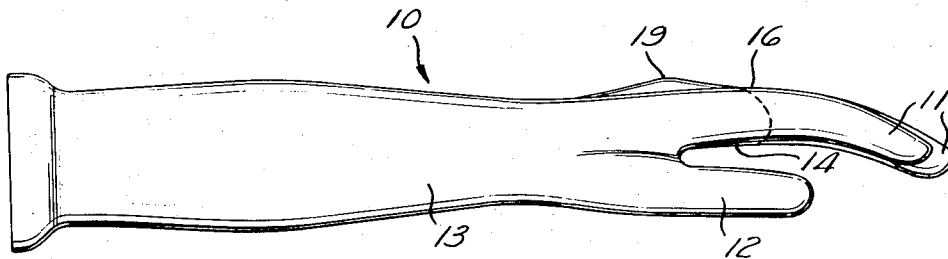
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2 Claims, 3 Drawing Figures



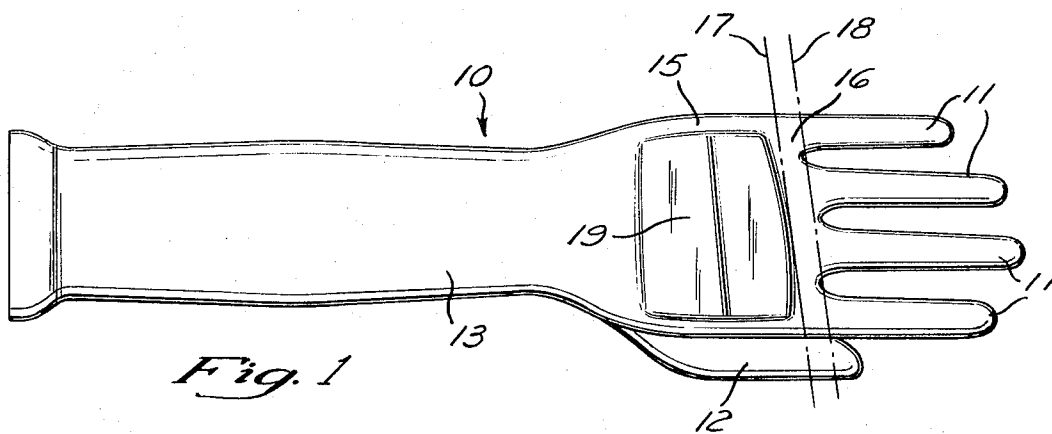


Fig. 1

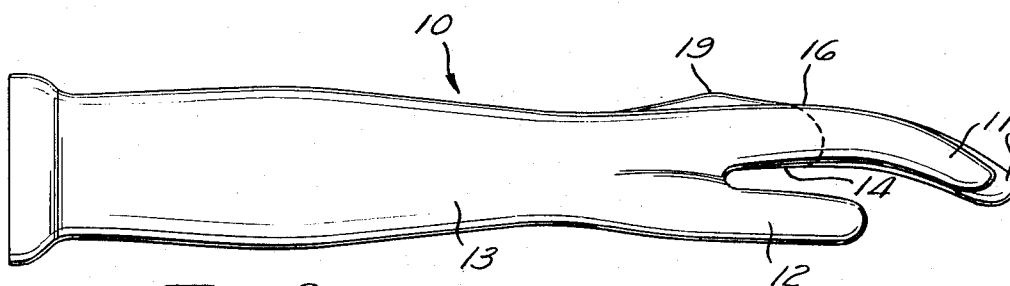


Fig. 2

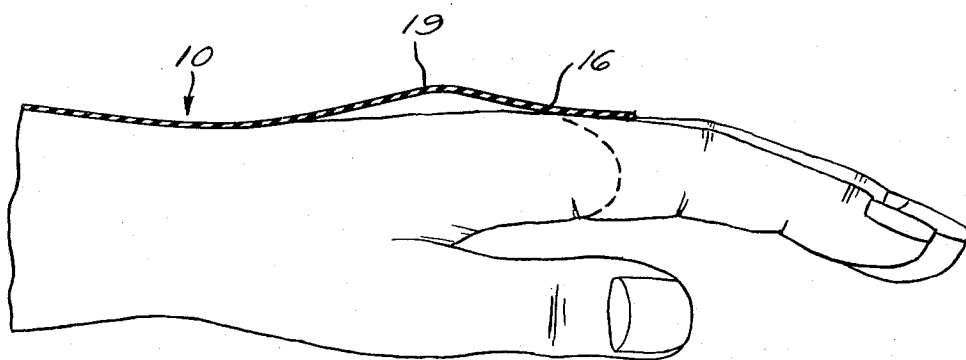


Fig. 3

SURGEON'S GLOVE

BACKGROUND OF THE INVENTION

This invention relates to elastomeric gloves and, more particularly, to surgeons' gloves which are formed of latex or the like.

Surgeons' gloves are customarily formed by dip or spray coating a form with a suitable rubber or plastic material. For manufacturing reasons, the form is in an open condition, with the fingers and thumb extended. During major portions of an operation, the surgeon's hand is in a closed or semi-closed position, thus increasing the bulk of the surgeon's palm and knuckle areas. This causes tightening of the glove on those areas and fatigue during relatively long surgical procedures. Furthermore, since the glove is formed in an open condition, it has a natural tendency to urge the surgeon's hand to an open position, which further promotes fatigue.

It has been proposed to provide a bulge in the portion of the glove extending over the knuckle area to facilitate bending of the hand. With the bulge extending over the knuckles, however, the glove tends to be "baggy" at the base of the fingers, and this condition is undesirable, since the glove should be form-fitting and not loose in the palm, thumb, and finger areas.

It has been proposed in U.S. Pat. No. 3,283,338 to provide a glove having a multiplicity of corrugations on the back side of the glove. These corrugations are provided so that the wearer may open and close his hand without discomfort. However, such corrugations are not suitable for surgeons' gloves, since a surgeon's glove must provide a smooth surface for the various manipulative techniques performed by the surgeon.

SUMMARY OF THE INVENTION

This invention overcomes the foregoing prior art problems by providing a glove which is smoothly fitted in the palm, thumb, and finger portions but which permits the surgeon to maintain his hand in a relaxed condition when his hand is closed. According to this invention, there is provided an outwardly directed bulge in the back of the glove which covers the metacarpal bone portion of the hand. This bulge provides a reservoir of extra material that allows material flow to the palm and knuckle areas when the hand is closed. The bulge is in a portion of the glove which does not interfere with the surgeon's manipulative techniques and does not interfere with his sense of feel.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a view showing the back side of a glove embodying the invention;

FIG. 2 is a side view of the glove illustrated in FIG. 1; and

FIG. 3 is a side view of a hand and a fragmentary cross sectional view of a portion of the glove according to the invention.

DETAILED DESCRIPTION OF THE INVENTION

In the drawing there is illustrated a glove 10 embodying the present invention. The glove includes four finger portions 11, a thumb portion 12, a wrist portion 13,

a palm portion 14 joining the finger, thumb, and wrist portions to form a front face area of the glove, and a back portion 15 joining the finger, thumb, and wrist portions to form a back face area of the glove. The back portion of the glove includes a knuckle area 16. As used herein, the term "knuckle area" is the area between the ends of the metacarpal bones and the finger webs. This area is generally designated in FIG. 1 as the area between a line 17 and a line 18, which are respectively drawn through the ends of the metacarpal bones and the finger webs.

The glove is snugly fitted in the finger portions, thumb portion, wrist portion, and knuckle area to provide the wearer with a good sense of feel in those portions and in that area. In a conventional glove, the back portion is defined by a substantially straight line generatrix which is in substantial alignment with the central axis of the glove. According to the present invention, however, there is provided an outwardly directed bulge in the back portion 15 which covers the metacarpal bone portion of the hands. The bulge 19 provides a "reservoir" of extra material which provides for material flow to the palm portion and knuckle area when the hand is closed. This minimizes tightness in the palm portion and knuckle area and permits the surgeon's hand to be relaxed and not stressed by the glove in the closed position. While performing this function, the bulge is provided in a location which does not hinder or interfere with the surgeon's manipulative techniques.

The scope of the invention is not limited to the slavish imitation of all of the structural and operative details mentioned above. These have been given merely by way of an example of a presently preferred embodiment of the invention.

what is claimed is:

1. In a thin gauge elastomeric glove comprising a wrist portion, four finger portions, a thumb portion, a palm portion joining said finger, thumb, and wrist portions to form a front face area of the glove, a back portion joining said finger, thumb, and wrist portions to form a back face area of the glove, said glove having a central axis, said back portion including a knuckle area extending from said finger portions toward said wrist portion, said back portion being defined by a substantially straight line generatrix in substantial alignment with the central axis of said glove, the improvement wherein an outwardly directed bulge is provided on said back portion between said wrist portion and said knuckle area, wherein the finger, thumb and knuckle areas snugly fit the wearer's hand, and wherein all portions of the glove are of substantially uniform thickness.

2. A thin gauge elastomeric glove, including four finger portions, a thumb portion, a palm portion, and a knuckle area, said foregoing portions and area being dimensioned to snugly embrace corresponding portions of the human hand, all portions of said glove being of substantially uniform thickness, said glove also including a portion for covering the metacarpal bone portion of the hand, said metacarpal covering portion having an outwardly directed bulge that loosely embraces the metacarpal bone portion of the hand.

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