

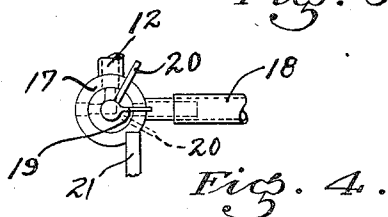
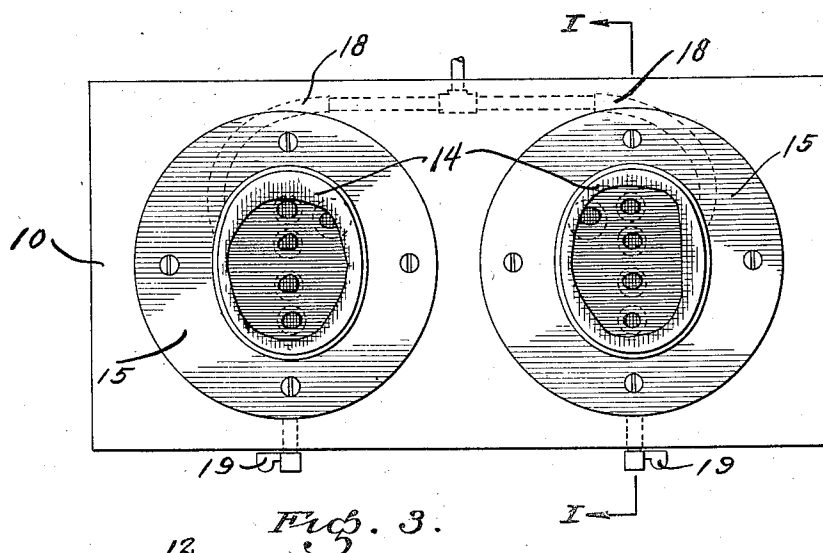
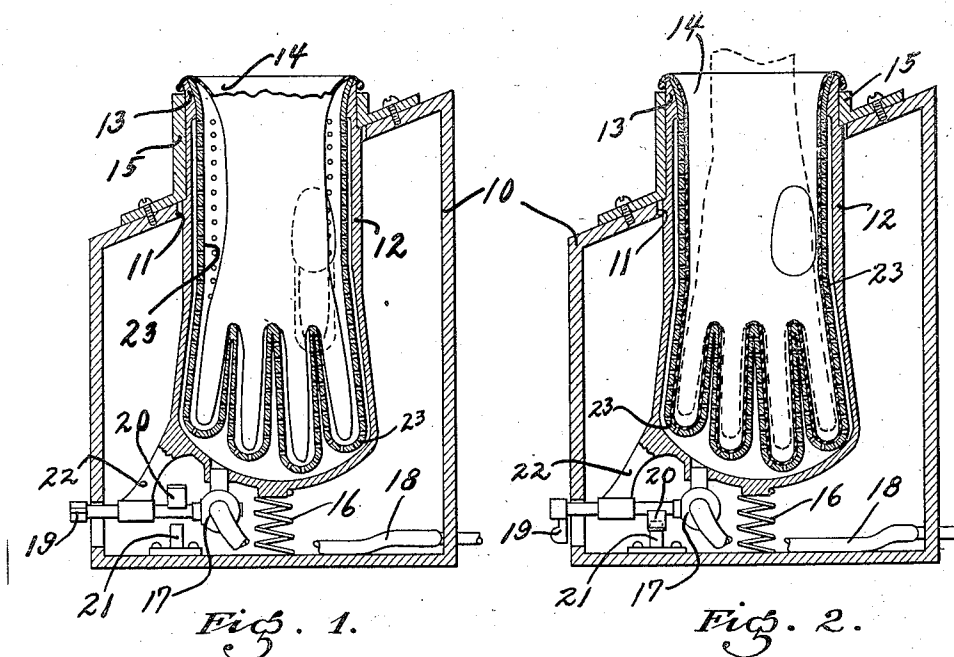
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D. T. HINCEN

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ELASTIC ARTICLE APPLYING DEVICE

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INVENTOR.
DONALD T. KINGHEN,
BY *Wm. H. Affinson*
ATTORNEY.

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ELASTIC ARTICLE APPLYING DEVICE

Donald T. Hitchen, Sydney, New South Wales,
Australia

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6 Claims. (Cl. 223—20.2)

My present invention relates to a fitting device for elastic articles, and more particularly to a means for applying rubber gloves and like elastic articles to other objects.

A purpose of my invention is to provide a means for stretching a glove or other elastic articles without danger of tearing same so that the hand or any other object may be easily inserted therein.

A further purpose of my invention is to provide a glove fitting means in which a difference in air pressure between the inside and outside of the glove is relied upon to expand the glove.

It is contemplated that my invention may find general favor in applying any type of elastic article, but it is believed that its greatest field of usefulness will be found in hospitals, dispensaries, chemical laboratories and factories for applying rubber gloves. My invention will be found especially valuable in hospitals and clinics where, as is well known, the rubber gloves used are of the thinnest materials and very often must be applied quickly.

With my improved device it will be possible to easily and quickly apply the thinnest type of glove without the slightest danger of tearing same as is so often the case where such a glove is applied by hand.

In applying a glove by hand there is the possibility of the glove becoming soiled and unsanitary and therefore where a sterilized glove is to be used my device will be found indispensable as the glove, after being sterilized, can be placed in my device and then applied to the hand without fear of contamination.

Where my invention is installed in the operating room of a hospital the nurse, after sterilizing the gloves, can place them in the device without touching more than a small portion of the cuff.

A further advantage of my device is that with it a user can instantly apply one or both gloves in a simple and quick manner and consequently can use his bare hands up to the moment the gloves are needed and then immediately apply the gloves by merely inserting his hands into the gloves which have been previously placed in the device.

While my invention in its broadest aspect may find many useful applications it is believed, as suggested above, that its greatest field of usefulness will be in applying rubber gloves. Therefore, I shall illustrate and limit my description to apparatus designed for this purpose.

For a better understanding of my invention reference should be had to the accompanying draw-

ing wherein I have shown by way of illustration and not of limitation a preferred embodiment thereof.

In the drawing:

Figures 1 and 2 are vertical sectional views taken along line I—I of Figure 3, showing a glove in different positions,

Figure 3 is a plan view of the apparatus shown in Figures 1 and 2, and

Figure 4 is a fragmentary view of a control valve.

In the drawing the numeral 10 designates a housing or cabinet having two openings 11 in the top thereof. Mounted in each of these openings and associated therewith I provide similar means for supporting and dilating a glove. These supporting and dilating means are similar in every respect except that the parts are reversed to provide for a right and left hand. Therefore, I shall describe only one such means, it being understood that each means comprises the same elements.

Disposed in each of the openings 11 of the cabinet 10, I provide an open ended member or chamber 12. This chamber is shown as mounted vertically with its open end at the top, but it is to be understood that it may be disposed horizontally if desired. The opening of the chamber 12 is provided with a projecting rim 13 about which the cuff of a glove 14 may be stretched. The chamber 12 is mounted in a bearing collar 15 so that it is capable of a small axial movement and a spring 16 serves to hold it in its outermost position, as shown in Figures 1 and 2 of the drawing.

Connected in the bottom or end of the chamber 12, I provide a two-way valve 17 which communicates with the atmosphere and also through a tube or pipe 18 with a suction pump or other evacuating apparatus, not shown. The evacuating apparatus may be a vacuum pump or it may be a tank from which air has been exhausted. The valve 17 has an operating handle 19 which projects through the front wall of the cabinet 10 and the stem of the valve carries a lug or boss 20 which is adapted to cooperate with a stop or abutment 21 when the chamber 12 with the valve 17 is pushed in to release the glove as will now appear.

The valve 17 which is of the two-way type is mounted upon and moves with the chamber 12 and its stem is supported by an arm 22 so that as the chamber 12 is moved the valve 17 and its stem with the lug or boss 20 will also move.

One port of the valve 17 communicates with

the atmosphere and another port is connected through a flexible tube or hose 18 with a pump or vacuum producing means. When the valve 17 is in the position shown in Figure 1 the interior of the chamber 12 will be connected with the atmosphere and when the valve 17 is turned to the position shown in Figure 2 the interior of the chamber 12 will be connected with the vacuum producing means.

At this point it should be noted that the bearing collar 15 is so designed and positioned that when the chamber 12 with the glove stretched over its rim is forced inwardly the cuff of the glove will be forced off the rim 13 to facilitate a withdrawal of the glove.

When the cuff of the glove 14 is stretched across the open end of the chamber 12 and the air is exhausted from the chamber 12 the atmospheric pressure within the glove will cause the glove to be expanded, as illustrated in Figure 2. In order to insure that the glove 14 will expand uniformly I provide a suitable form 23 within the chamber 12. The form 23 is in the shape of an enlarged hand and is perforated so that it will not interfere with the free removal of the air about the exterior of the glove. This form 23 may be made in any suitable manner. As illustrated the form 23 is made with a large number of closely spaced apertures. It can also be formed from a close meshed wire gauze.

It has been found that the fingers of the glove do not expand as readily as the body of the glove and therefore in some cases a satisfactory form 23 can be constructed by merely providing a restraining means about the body of the glove and leaving the fingers free to expand as they will.

The operation of my improved device should be apparent from the above description but by way of recapitulation it may be stated that when the chamber 12 is in its uppermost or normal position the user may by grasping a glove at the cuff direct it into the form 23 with the fingers and thumb of the glove in their proper positions. After the glove has been thus inserted the cuff thereof may be turned down over the rim 13 of the chamber 12 so as to form an air-tight seal between the glove and the wall of the chamber 12 at this point.

When the glove is thus disposed in the chamber 12 the operator can then cause the glove to be expanded by simply turning the operating handle 19 to establish a connection between the chamber 12 and the pump or other vacuum producing apparatus. This will reduce the pressure within the chamber 12 and about the exterior of the glove and as a result air at atmospheric pressure will enter the interior of the glove and cause it to be expanded into the form 23.

After the glove has been thus expanded the user can easily insert his or her hand and push the chamber 12 inwardly to a point where the valve 17 will cuff off the vacuum producing apparatus and admit air to the chamber 12. As soon as the chamber 12 has thus been opened to the atmosphere the glove will immediately contract upon the hand inserted therein so that the hand with the glove applied thereto can be easily withdrawn.

While I have, for the sake of clearness and in order to disclose my invention so that the same can be readily understood, described and illustrated a specific device and arrangement, I desire to have it understood that this invention is not limited to the specific means disclosed. It is believed that this invention is broadly new and

it is desired to claim it as such so that all changes as come within the scope of the appended claims are to be considered as part of this invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. A device for applying rubber gloves comprising a movably mounted chamber open at one end into which a glove may be disposed with the cuff of the glove sealing the open end of said chamber, a perforated form disposed in said chamber corresponding to an enlarged human hand, means for exhausting the air from said chamber to cause said glove to expand into said perforated form where the user may easily insert a hand, a valve for permitting air to reenter said chamber, whereby the glove will be released and permitted to engage the hand placed therein, and means responsive to a movement of said movably mounted chamber for operating said valve.

2. In a glove applying device, the combination of a support, an open ended member movably mounted upon said support, said member being adapted to receive a glove with the cuff in sealing engagement across its open end, means for exhausting the air from said member when a glove is disposed therein, whereby the glove will be expanded by air entering through its cuff to permit the insertion of a hand, and means operable by movement of said open ended member for permitting air to reenter said member after the hand has been inserted into the expanded glove to permit the glove to assume its normal shape and the withdrawal of the hand with the glove properly applied thereto.

3. In a glove applying device, the combination of a support, an open ended member movably mounted upon said support, said member being adapted to receive a glove with its cuff in sealing engagement across the open end, means for exhausting the air from said member when a glove is disposed therein to expand the glove and permit the insertion of a hand, a valve for admitting air to said member after the hand has been inserted into the expanded glove, and means controlled by the hand within the glove for operating said valve, whereby the glove will assume its normal shape and permit the withdrawal of the hand with the glove properly applied thereto.

4. In apparatus for applying an elastic covering to objects, the combination of an open ended member into which a similarly shaped elastic covering may be placed, said member having a rim over which the open end of an elastic covering may be stretched, a support for said open ended member permitting a limited axial movement thereof, means for temporarily withdrawing the air from said open ended member, whereby said elastic covering will be expanded in said member by atmospheric pressure, and means operable by axial movement of said open ended member for again admitting air to said member.

5. In apparatus of the character described the combination of a cabinet, an open ended member disposed within said cabinet and movable with respect thereto, said member having a rim projecting out of said cabinet over which the cuff of a glove may be stretched when said rim is in its outermost position, and means disposed about the projecting rim of said member for displacing the cuff of the glove from said rim when said open ended member is moved inwardly into said cabinet.

6. In a rubber glove applying device, the combination of a support, an open ended glove support—

ing member movably mounted upon said support, said member being adapted to receive a glove with its cuff in sealing engagement across the open end thereof, means for exhausting the air from said member when a glove is disposed thereon to expand the glove and permit the insertion of a hand, a valve for connecting the interior of said member to the means for exhausting the air therefrom when in one position and admitting air into

said member when in another position, and means cooperating with said member for operating said valve when said member is moved upon its support by the hand within the expanded glove, whereby the air exhausting connection will be broken and air will be admitted to said member and permit the glove to contract upon the hand inserted therein.

DONALD T. HINCHEN.