No. 882,312. PATENTED MAR. 17, 1908.

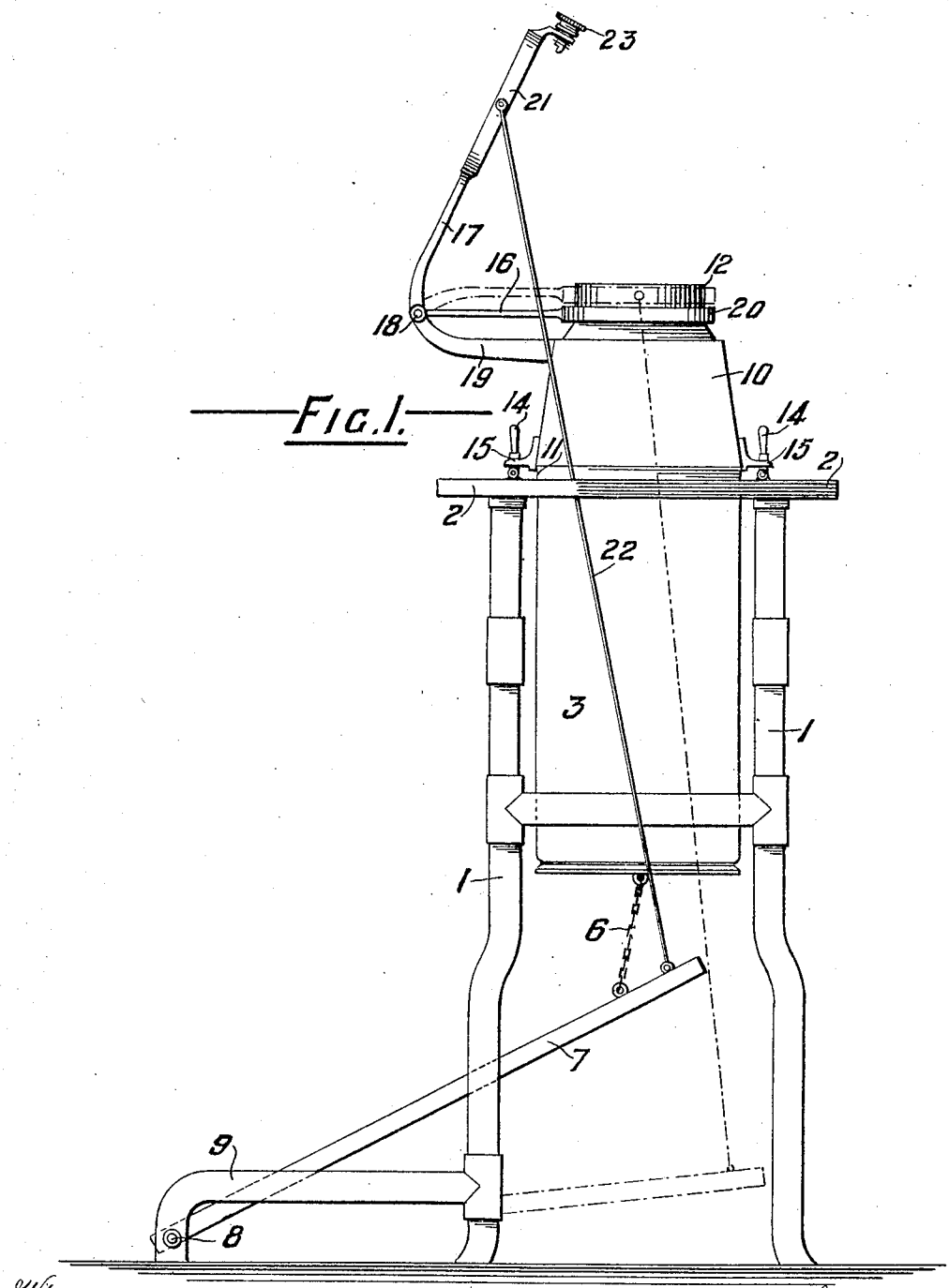
C. A. HOEFFTCKE.

APPARATUS FOR FACILITATING THE PUTTING ON OF INDIA RUBBER GLOVES.

APPLICATION FILED DEC. 9, 1907.

2 SHEETS—SHEET 1.

FIG. 1.



Witnesses
Chas. F. Smith
A. H. Ferrell

Inventor
Carel A. Hoefftcke.
by Harold Ferrell his atty

THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 882,312. PATENTED MAR. 17, 1908.

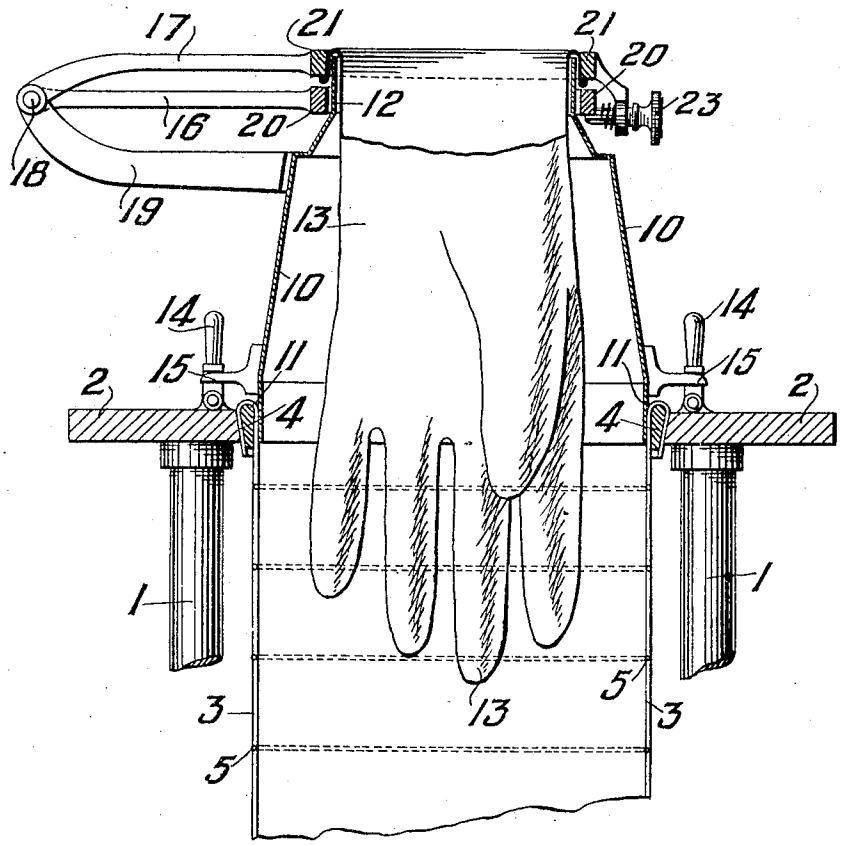
C. A. HOEFFTCKE.

APPARATUS FOR FACILITATING THE PUTTING ON OF INDIA RUBBER GLOVES.

APPLICATION FILED DEC. 9, 1907.

2 SHEETS—SHEET 2.

FIG. 2.



Witnesses
Chas. F. Smith
A. H. Ferrell

Inventor
Carel A. Hoefftcke
by Harold Ferrell
his atty.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CAREL AUGUST HOEFFTCKE, OF LONDON, ENGLAND.

APPARATUS FOR FACILITATING THE PUTTING ON OF INDIA-RUBBER GLOVES.

No. 882,312. Specification of Letters Patent. Patented March 17, 1908.

Application filed December 9, 1907. Serial No. 405,780.

To all whom it may concern:

Be it known that I, CAREL AUGUST HOEFFTCKE, a subject of the Queen of the Netherlands, residing at London, England, have invented certain new and useful Improvements in Apparatus for Facilitating the Putting on of India-Rubber Gloves, of which the following is a specification.

India-rubber gloves which are now commonly employed by surgeons during the performance of surgical operations, are formed of very thin elastic india-rubber and closely fit the hand of the wearer when applied. There is consequently difficulty experienced in inserting the hand into the glove, and particularly is this so, in view of the fact that the exterior surface of the glove should not be touched by the hand, because if the hands were allowed to come in contact with the outer surface of the glove, their aseptic condition would be detrimentally affected and the advantage of the employment of such gloves nullified.

The object therefore of this invention is to provide apparatus wherein the glove can be suspended by the wrist part and then temporarily enlarged or expanded so that the hand can then be inserted into the glove quite easily and without touching the exterior surface of the said glove; and then the glove can be allowed to contract upon the hand of the wearer.

To this end according to the present invention, the glove is held by its wrist part being clamped to the otherwise open mouth of a chamber into which the glove hangs so that it forms the top closure of such a chamber, and means are provided, such as an air pump, by which the air can be partially exhausted from the interior of the chamber, and the glove thereby stretched in all directions by the difference between the air pressure in the interior of the chamber and the air pressure upon the exterior. It is in this stretched condition of the glove that the wearer inserts his hand into same, and then the air pressure in the chamber is allowed to become equalized with the air pressure on the exterior, and the glove automatically closes upon the wearer's hand.

An example of construction of the invention is shown in the accompanying drawings, whereon

Figure 1 is a side elevation, and Fig. 2 a vertical section of the upper part of Fig. 1 but drawn to a larger scale and showing the glove in position.

The apparatus illustrated consists of a framework 1, adapted to stand upon the floor and supports a ring 2. A sack or tube 3 of elastic india-rubber is provided open at the top and closed at the base, by for instance a metal disk. The top of the tube is fixed to the interior edge of the ring 2 of the framework 1, by for instance being turned over a wedge-shaped annulus 4, which is fitted into the ring 2 and holds the top of the tube 3 by its wedge-like action.

The tube 3 may be composed of a double thickness of india-rubber sheet, and it is in the construction shown maintained in its cylindrical form by means of metal rings 5 located between the thicknesses of material of which the tube 3 is composed.

The rigid base of the tube 3 is connected by a flexible connection 6 to a foot-treadle 7 pivoted at 8 to an extension 9 of the framework 1, so that when the treadle is depressed the tube 3 will be stretched longitudinally and its interior cubical capacity thereby increased.

A chamber or case 10, is provided open at the top and bottom and composed for example of spun metal and its lower edge 11 is somewhat coned to fit into the annulus 4, where it forms an air tight joint between the tube 3 and the lower edge 11 of the case.

The upper part of the case 10 is formed with an upstanding collar 12 of sufficient diameter to permit a person's hand being easily inserted or withdrawn and it is through the collar 12 that the glove 13 (see Fig. 2) is inserted and the wrist portion turned over the edge of the collar 12 as shown. The case 10 is secured in position by any convenient clamps or fastenings which will connect it to the framework ring 2, those shown at 14 being simply pivoted levers passing in between the slots of brackets 15. The device for clamping and releasing the wrist of the glove consists of two arms 16, 17 both pivoted at 18 to a bracket 19 extending from the case 10. Each arm 16, 17 is formed with a ring 20, 21, the ring 20 being free and being placed in the position shown at Fig. 1 before the glove is placed as shown at Fig. 2.

The glove having been so placed in position, the ring 21 of the arm 17 is brought down, this being effected by means of two rods 22, one upon each side, pivoted at their

upper ends to the ring 21 and at their lower ends to a rod upon the treadle 7.

Carried by a bracket on the ring 21 is a spring plunger 23 which is inclined at the lower part of its inner end and notched as shown at Fig. 2, so that when the ring 21 is brought down by the treadle 7, the plunger 23 will take under the ring 20. When the treadle is released it will immediately assume the position shown at Fig. 1 by the elastic return of the tube 3, and the ring 21 will rise to the position shown at Fig. 1 and carry with it the ring 20, so releasing the wrist of the glove and forcing the same off the collar 12.

With such an apparatus when the glove is to be applied to the hand of the wearer it can be seized by the wrist portion on each side by means of two pairs of forceps and the hand of the glove can be dropped through the collar 12 when the apparatus is in the position shown at Fig. 1 and the wrist portion turned over the edge of the collar as has been done at Fig. 2. The treadle 7 is then depressed, the tube 3 elongated, and simultaneously the clamping ring 21 brought down into the position shown at Fig. 2, whereby the wrist of the glove is firmly held, and at the same time the releasing ring 20 is connected with the clamping ring 21. The operator then inserts his hand into the glove which is then in an expanded condition owing to its surfaces being exposed to differences of pressure.

Upon releasing the treadle 7, the tube 3 contracts and the atmospheric pressure in the chamber is increased to its normal, the glove contracts upon the hand of the wearer, while the ring 21, carrying with it the ring 20, releases the wrist of the glove from off the collar 12.

What I claim as my invention and desire to secure by patent is:—

1. An apparatus for facilitating the application of indiarubber gloves to the hands of the wearer, consisting of a chamber having an annular opening at the top sufficiently large for the insertion of the hand, an annular collar around said top opening over which the wrist of the glove is stretched, so that it depends into said chamber and forms a closure therefor, means for securing the wrist portion of the glove to said collar, and means for temporarily reducing the pressure of air in said chamber, whereby the glove is stretched to admit the wearers hand, substantially as set forth.

2. In an apparatus for facilitating the application of indiarubber gloves to the hands of the wearer; the combination of a chamber having an open top, an annular collar around said opening over which the wrist of the glove is stretched while the body of the glove depends into said chamber, an expansible bellows connected to the lower part of said chamber, said bellows being closed at its lower end, means for clamping the wrist of the glove onto said collar of said chamber, and means for expanding said bellows to reduce the atmospheric pressure in said chamber to cause the glove to expand, substantially as set forth.

3. In an apparatus for facilitating the application of indiarubber gloves to the hands of the wearer; the combination with a chamber having an open top, an annular collar around said opening over which the wrist of the glove is stretched while the body of the glove depends into said chamber, an expansible bellows connected to the lower part of said chamber, said bellows being closed at its lower end, and means for expanding said bellows to reduce the atmospheric pressure in said chamber; of a release ring to pass over the collar of said chamber and to be located below the turned-over portion of the wrist of the glove, a clamping ring to pass over the collar to clamp the wrist of the glove to the release ring, and means for temporarily connecting the clamping ring to the release ring, substantially as set forth.

4. In an apparatus for facilitating the application of indiarubber gloves to the hands of the wearer; the combination with a chamber having an open top, an annular collar around said opening over which the wrist of the glove is stretched while the body of the glove depends into said chamber, an expansible bellows connected to the lower part of said chamber said bellows being closed at its lower end, a framework to support said chamber, and a treadle pivoted to said framework at one end and connected to the lower end of said bellows at its other end for extending said bellows to reduce the atmospheric pressure in said chamber; of a bracket extending from said chamber, a release ring passing over the collar of said chamber and an arm pivoted to said bracket to carry said release ring, a clamping ring adapted to pass over said collar of said chamber above said release ring, an arm to carry said clamping ring pivoted to said bracket, a spring bolt on said clamping ring to temporarily connect the latter ring to said release ring, and connecting rods pivoted to said clamping ring and extending to said treadle to bring said clamping ring to its clamping position upon the depression of said treadle, substantially as set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

CAREL AUGUST HOEFFTCKE.

Witnesses.

THOMAS WILLIAM ROGERS,

GRIFFITH BREWER.