M. Mattson,

Breast Pump.

No. 69,570. Patented Oct. 8, 1867.

Fig: 1

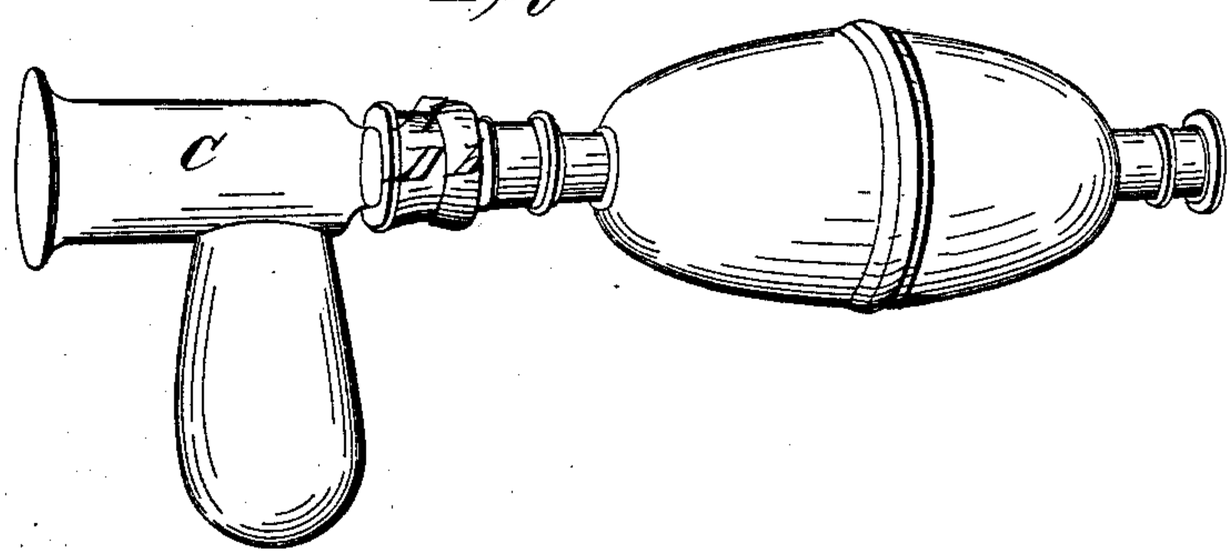

Fig: 2

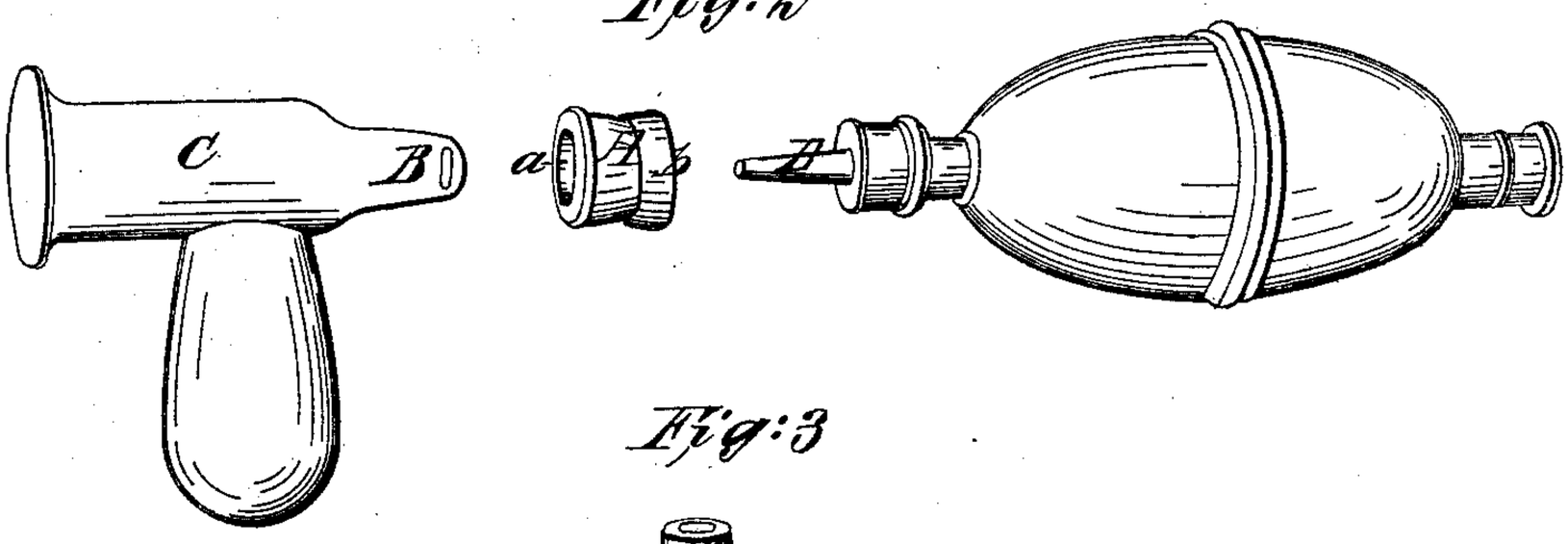

Fig: 3

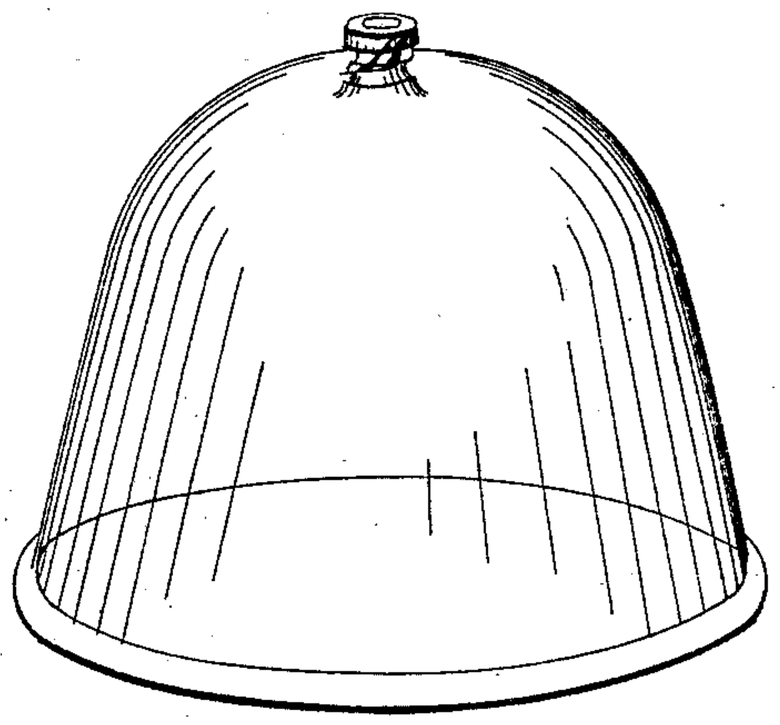

Fig: 4.

Witnesses:

P. D. Laws

Fred B. Sears

Inventor:

M. Mattson.

UNITED STATES PATENT OFFICE.

MORRIS MATTSON, OF NEW YORK, N. Y.

COUPLING FOR VACUUM-CUPS, BREAST-PUMPS, &c.

Specification forming part of Letters Patent No. **69,570**, dated October 8, 1867.

To all whom it may concern:

Be it known that I, MORRIS MATTSON, of the city of New York, in the county of New York and State of New York, have invented a new and Improved Adjustable or Detachable Coupling for Vacuum-Cups, Breast-Pumps, and similar Articles; and I do hereby delare that the following is a full, clear, and exact description thereof, and of its mode or manner of operation, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and making a part of this specification.

In the instruments heretofore used for dry or wet cupping, breast-pumps, &c., the connection between the cups or glasses in which the exhaustion is produced and the exhausting mechanism, which may consist of a suitable piston-syringe or some equivalent contrivance, is usually by a metallic collar or ring made in two parts, which generally screw one over the other, and which are also severally fastened to the cup or other part of such instrument by means of some cement—such as melted wax, or by plaster-of-paris moistened with water and afterward dried. Such modes of connection have many objections, among which are the trouble and expense attending their application, the frequent or occasional fracture of the glass from heating it when the wax is melted and applied, and the use of a screw by which the different parts of the metallic coupling are attached to each other. In such kind of connection it is also necessary to have a vent-hole situated in the cup or glass below the exhauster, which has to be covered and controlled by the finger, and is a source of considerable trouble, as such hole must be tightly closed before the air can be exhausted, and the finger cannot be removed so long as it is necessary to continue the exhaustion. To remedy these and other defects I have invented what may be called an "adjustable" or "detachable" connection or coupling, by which the use of cement or similar attaching medium is dispensed with, the uniting of the several parts by male and female screws is rendered unnecessary, and a vent-hole is not required.

Figure 1 represents a breast-pump, the receiving-vessel and the exhausting mechanism connected by my improved coupling. Fig. 2 represents the same pump, the several parts slightly separated from each other. Figs. 3 and 4 represent vacuum-cups of different sizes with such improved coupling.

Such improved coupling is made of vulcanized elastic india-rubber or similar material, and consists of a sort of hollow cap or cover, A, which can be instantly and properly applied by even the most unskillful person to the neck B of any cup, vessel, or breast-pump, C, to which it is adapted. Such cup or cap may be of any convenient size, but as at present used by me its cavity *a* is about three-eighths of an inch in diameter with a depth of about half an inch. The perforated neck B which takes such cap is a little larger in diameter than the cavity *a* in the elastic cap, so as to cause such cap, when placed over the neck, to hug closely the neck, and thereby produce a tight joint. Through the top of such cap A is a perforation, *b*, about an eighth of an inch in diameter, for taking the rigid slightly-tapering tube or plug D, which is a part of the exhausting-bulb E, or a part of that portion of the instrument which is to be connected to the cup or vessel C through the cap A. The cap A being placed over the neck B, the plug or tube D is inserted into the hole *b* far enough to secure an air-tight joint, and the connection between the cup C and exhausting-bulb E is at once effected and is complete. Such connection can be made much more quickly than by the screw before mentioned and is greatly preferable.

Another advantage of such method of connection is that it obviates the necessity for a vent-hole requiring to be controlled by the finger, as above described, as it is only necessary, when the exhaustion has continued long enough, to withdraw the plug D from the orifice *b*, when the air is at once admitted into the cup or vessel C, permitting it to be removed easily and without pain. This is a great convenience and adds much to the value of the invention.

It will be at once apparent that the cap or connection A can be easily and quickly attached to or detached from any cup or vessel C, and that the same cap or connection can be applied to cups or vessels of different sizes; that such cap will fit tightly and closely about

the neck of any such vessel without the use of cement or its equivalent; that the connection between the vessel to be exhausted and the exhausting apparatus is effected without the use of screws to secure one part to the other, and that the use of a vent-hole connecting with the exhaus'ed vessel is rendered wholly unnecessary.

The exhausting-bulb E may be any syringe-bulb in ordinary use; but I prefer the bulb like that patented to me November 19, 1861, and reissued October 18, 1864, and fitted with loose floating valves, such as were also patented to me April 4, 1854. Such plan of connection by means of the elastic cap or tube A may also be applied to syringes and to other articles than vacuum-cups or breast-pumps, and may be used for connecting parts through which gas or fluid is to be passed instead of air.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The use and application of the elastic collar and cap A for coupling or connecting the different parts of vacuum-cups, breast-pumps, and other instruments, substantially as described.

2. The arrangement of the rigid plug D, or its equivalent, in combination with such elastic and adjustable coupling, substantially as set forth.

M. MATTSON.

Witnesses:
S. D. LAU,
FRED. B. SEARS.