No. 790,051. PATENTED MAY 16, 1905.

H. H. HALSTEAD.

BREAST PUMP.

APPLICATION FILED MAR. 6, 1903.

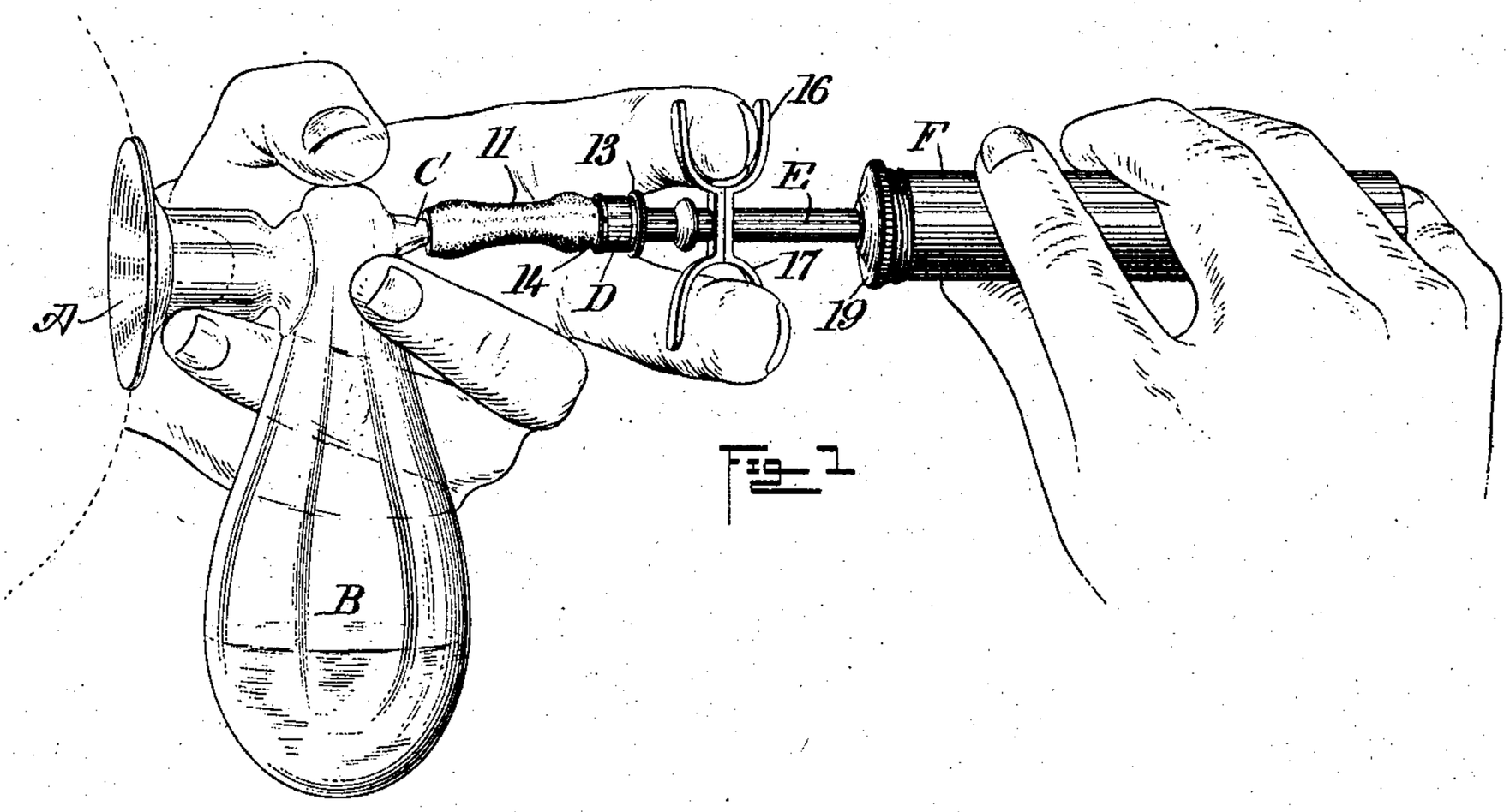
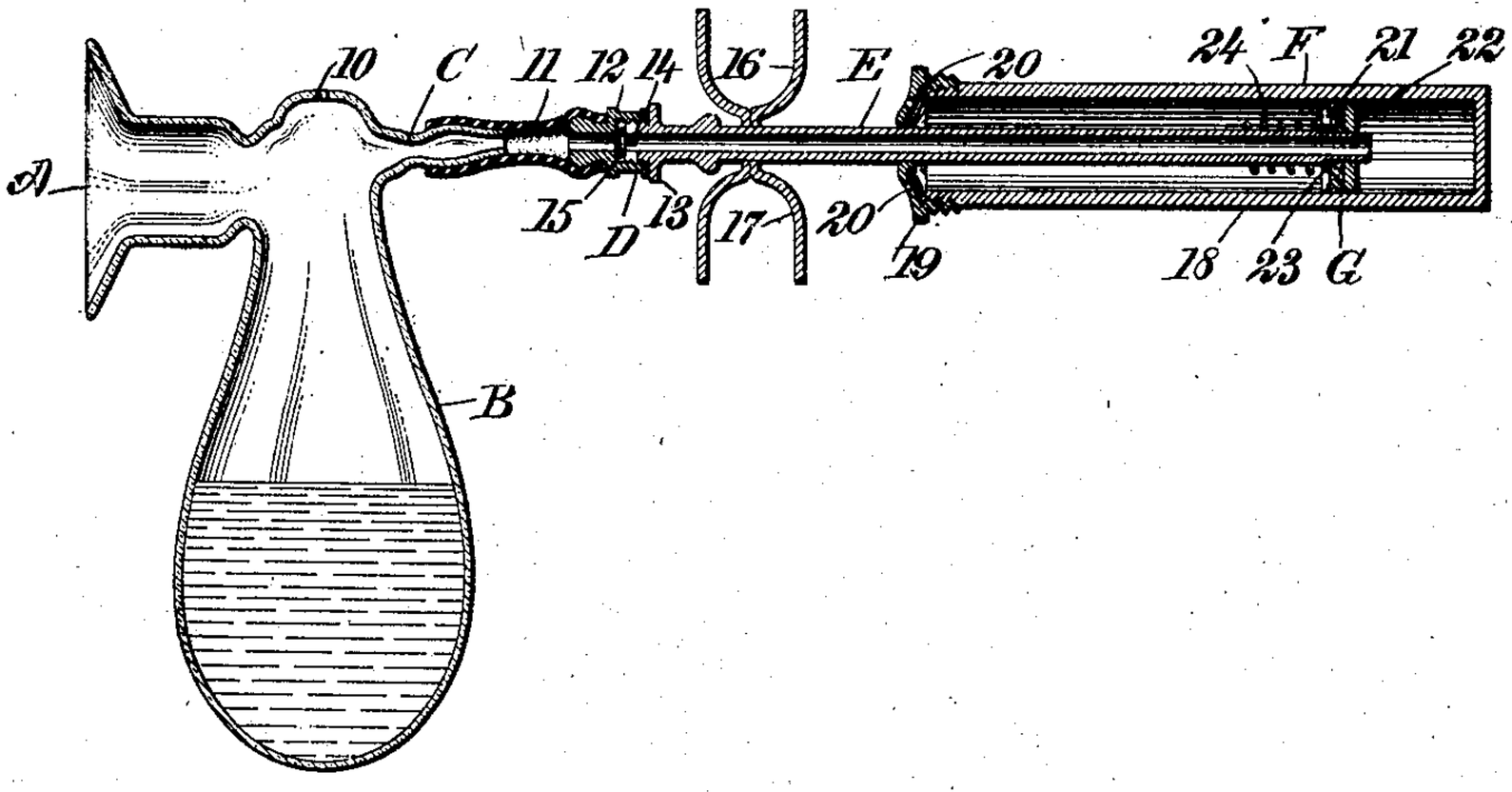


Fig. 1

Fig. 2



WITNESSES:

INVENTOR

Hubert H. Halstead

BY

ATTORNEYS.

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No. 790,051. Patented May 16, 1905.

UNITED STATES PATENT OFFICE.

HUBERT H. HALSTEAD, OF POUGHKEEPSIE, NEW YORK, ASSIGNOR OF ONE-HALF TO SMITH L. DE GARMO, OF POUGHKEEPSIE, NEW YORK.

BREAST-PUMP.

SPECIFICATION forming part of Letters Patent No. 790,051, dated May 16, 1905.

Application filed March 6, 1903. Serial No. 146,502.

To all whom it may concern:

Be it known that I, HUBERT H. HALSTEAD, a citizen of the United States, and a resident of Poughkeepsie, in the county of Dutchess and State of New York, have invented a new and Improved Breast-Pump, of which the following is a full, clear, and exact description.

The purpose of my invention is to provide a simple, durable, and economic form of breast-pump capable of being conveniently applied and operated by the person to whom the application is made and which will cling tenaciously to the breast during the operation of drawing the milk, but which may be almost instantly released when desired, and, furthermore, to provide a construction of pump or air-exhausting device which will not have a tendency to make the breast sore.

A further purpose of the invention is to provide a novel construction and combination of an improved bulb having an air-vent and an air-exhausting device, together with a flexible connection between the two parts.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both figures.

Figure 1 is a perspective view of the improved pump, illustrating one manner of its application and its operation; and Fig. 2 is a longitudinal section through the improved pump.

The receptacle for the pump consists of the usual bulb B and mouthpiece A, the latter being adapted to fit snugly to the breast, having its outer portion flaring, together with a neck C, which is continued from the upper portion of the receiver or receptacle, these parts being made of glass or other suitable material—rubber, for instance. Where the upper portion of the bulb connects with the mouthpiece A an air-vent 10 is produced. A short section 11, of rubber tubing or tubing of other suitable material, is detachably connected to the neck C at one end and at the other end to a check-valve D. By the use of this check-valve D a continuous flow of milk is obtained, and the said check-valve also serves when in action to cause the mouthpiece A to remain in close contact with the breast until the operation is completed, which feature is deemed very important in a breast-pump. The check-valve is preferably made in two parts 12 and 13, as is shown in Fig. 2, and the said parts are ordinarily screwed together. In the construction of the check-valve D shown the section 13 is formed with an offset screwed into the section 12 for a portion of its length, and in this offset openings 14 are made. The construction of the valve is completed by the addition of a disk 15, of rubber or other suitable material, which disk is located between the back of the section 12 and the offset from the section 13 of the valve. The section 13 of the valve constitutes a portion of a tubular piston-rod E, the bore of the piston-rod extending from end to end, and preferably the check-valve D is a continuation of the said piston-rod.

Opposing finger-grips 16 and 17 are secured to the outer surface of the said tubular piston-rod E, and these finger-grips are preferably somewhat U-shaped in general contour, as is shown in both figures.

The air-extracting device F consists of a cylinder 18, closed at its outer end and provided with a detachable head 19 at its inner end, at which end air-vents 20 are located, and the said head 19 is further provided with a central opening, through which the tubular piston-rod E is passed into the cylinder. At the end of the tubular piston-rod within the cylinder a piston-head G is formed, and this piston-head consists of a disk 21, of rubber, leather, or other suitable material, which is apertured to receive the hollow piston-rod and fits snugly to the inner wall of the cylinder 18, and two nuts 22 and 23, screwed upon the said piston-head, one at each side of the disk 21. These nuts 22 and 23 are plain or they may be made of skeleton construction, as in practice may be found most desirable. The construction of the air-extracting device F is completed by coiling a spring 24 around

the tubular piston-rod E, the said spring having bearing at one end against the piston-head G, as is shown in Fig. 2.

In operation the receptacle is held by one hand, as is shown in Fig. 1, while the cylinder 18 of the air-extracting device is grasped by the other hand, and in holding the receptacle on the device the fingers are passed into the grips 16 and 17, and the thumb is preferably located over the air-vent 10 to close the same. The air-vent 10 having been closed and the mouth A of the receptacle having been pressed against the breast, when the cylinder is drawn outward that portion of the breast engaged by the mouth A will be sucked close to the mouth of the said receptacle, and at a subsequent forward and back movement of the cylinder 18 the milk will be quickly drawn from the breast and deposited in the bulb B of the device.

This pump is exceedingly simple. It can be quickly applied and may be released immediately from the breast the moment that the air-vent 10 is uncovered. Furthermore, the pump can be readily operated by the person upon whom the operation is to be performed.

The spring 24 serves to cushion the cylinder 18 in its outward stroke and tends to give the cylinder an automatic inward movement.

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

A breast-pump comprising a receptacle having a mouthpiece, a depending body portion and a neck projecting in the opposite direction from the mouthpiece, an air-vent between the mouthpiece and neck, a pump having opposite double finger-grips upon the end of the hollow piston-rod and a short rubber-tube connection between the pump and the neck of the receptacle, the body and neck of the receptacle being so located relatively to the finger-grips of the pump that the receptacle may be grasped in the hand with the fingers of such hand engaged with the finger-grips of the pump and with the thumb upon the vent, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HUBERT H. HALSTEAD.

Witnesses:
ADAM WINTER, JR.,
OSCAR SPERBECK.