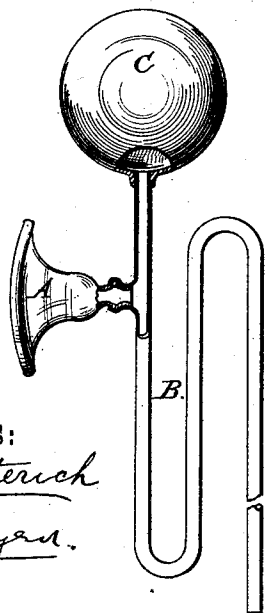
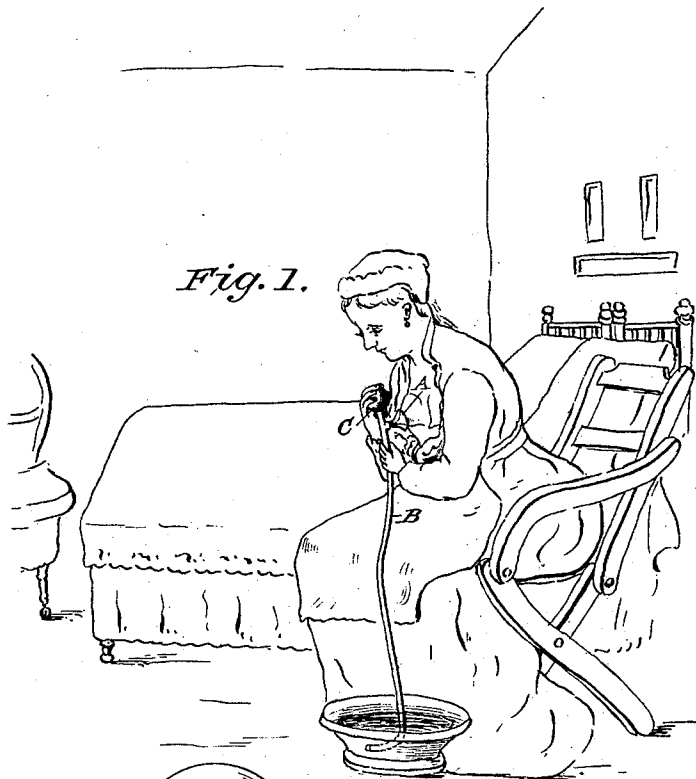


(No Model.)

A. B. TUTTON
BREAST PUMP.

No. 361,910.

Patented Apr. 26, 1887.



WITNESSES:
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UNITED STATES PATENT OFFICE.

ANAXIMANDER B. TUTTON, OF SIOUX FALLS, DAKOTA TERRITORY.

BREAST-PUMP.

SPECIFICATION forming part of Letters Patent No. 361,910, dated April 26, 1887.

Application filed July 8, 1886. Serial No. 207,498. (No model.)

To all whom it may concern:

Be it known that I, ANAXIMANDER B. TUTTON, of Sioux Falls, in the county of Minnehaha, Dakota Territory, have invented an Improved Breast-Pump, of which the following is a specification.

My invention is in the nature of an improved breast-pump.

Numerous forms of breast-pumps have been devised for this purpose, all of which are more or less objectionable in consequence of their severe mechanical action and their irregular pulsating strain. In most cases the vacuum-chamber is a compressible elastic bulb, which in expanding exerts its full suction upon the breast, and this, too, in an intermittent manner.

In my breast-pump the full force of the suction is exerted not upon the breast alone, but partly upon a water-leg or column of water and milk in a long siphon-tube, which modifies its effect on the breast, while the pulsations of the bulb are broken up and rendered more like a uniform suction, the water-leg exerting a pull upon the breast in the interval of compressing the bulb, which makes the suction on the breast continuous and prevents the nipple-socket from becoming detached from the breast in said intervals of compression of the bulb.

Figure 1 is a perspective view illustrating the application and use of my invention; and Fig. 2 is a side view, partly in section, of the breast-pump.

In the drawings, A is a bell-shaped socket or cap, adapted at its larger end to fit against the breast of the woman and to inclose the nipple of that breast. The smaller end of this socket A opens into a tube, B, near one end of that tube. On the end of tube B nearest to socket A is an elastic bulb, C, or suction-chamber, the other (or lower) end of tube B being open. The tube B is a flexible rubber tube, and when in use occupies the pendent position shown in Fig. 1.

The manner of operation is as follows: The socket A is held against the breast of the woman so as to inclose the nipple, and with sufficient pressure to prevent air from entering between the rim of A and the skin of the woman's breast. The lower end of tube B is then submerged in water or other liquid of proper temperature contained in a basin or other vessel. The bulb C is then compressed and allowed to

expand, which action of expansion sucks water (preferably warm) or other liquid from the basin into the tube B, and through it into socket A and into bulb C. The water or other liquid thus furnished to socket A fills that socket and immerses the woman's nipple inclosed therein. Then bulb C is alternately compressed and allowed to expand, the lower end of tube B being during the operation always submerged in the liquid in the basin, and the socket A being during the operation always pressed against the breast with sufficient pressure to prevent air from entering socket A between its rim and the skin of the woman's breast. It is obvious that if the socket A were a perfect bulb or chamber, or had its larger end closed with an inflexible material and were then filled with water, the tube B and the bulb C at the same time containing water, then neither the compression nor the expansion of bulb C could remove by suction any of the water from such a bulb or chamber, although the stress of the suction would apply upon the water in such a bulb or chamber and through the water upon the sides of the inside of such a bulb or chamber. This principle, acting in my device, serves to keep socket A (when once filled) full during the entire operation, thus providing a constant immersion of the woman's nipple in water or other fluid during the entire operation, for in my device the compression and expansion of bulb C and the flow of water or other liquid through tube B, together with the weight of the column of water or other fluid in siphon-tube B, creates a suction force acting upon the water or other liquid in socket A, and through that liquid upon all parts interior to socket A, and therefore upon the nipple and ends of the lactiferous ducts of the woman. This suction force draws milk from the lactiferous ducts into socket A, releases a corresponding quantity of water or other liquid from socket A, which flows therefrom into tube B, and, mixing with the water or other liquid in tube B, is finally discharged therefrom into the basin; and this operation continues as long as the device is in position and in operation, socket A, however, remaining filled.

It is obvious, in the operation of my device, that, however strong the expansive force of bulb C may be, its force, acting upon the

nipple and the human parts inclosed in socket A, is measured and tempered by the height of the column of water or other liquid in tube B, and this height may be increased or diminished by lowering or raising the basin and the end of tube B therein, and this tempering of the expansive force of bulb C to suit various degrees of tenderness in the human parts is one of the advantages of my device. If, however, at any time it be desirable to allow bulb C to exert its whole force upon the human parts, it is only necessary (after compressing bulb C) to pinch or otherwise close tube B, and while tube B is so closed to allow bulb C to expand, and this, too, while the woman's nipple is submerged in the water or other liquid in socket A.

Another advantage is in the use of warmth and moisture in the operation of milking a woman where there is no child or where the child is incompetent, and in cases where, although there is a competent child, yet, the mother being diseased, it is desirable to waste the milk, for the application of warmth and moisture to the nipple closely simulates the natural warmth and moisture of a child's mouth, and brings the nipple and the milk-organs into the natural conditions for milk-giving, because such warmth and moisture dissolves the dry accumulations of pus or fever product, softens the hardened openings, and relaxes the strictured lactiferous ducts and prepares them for the easier extraction of milk.

I am aware that other breast-pumps are known and used—such, for instance, as are shown in Patents Nos. 72,604, 11,135, and 71,459. In the first of these the valves preclude the oscillation of the liquid column. In No. 11,135 the suction-chamber is at the bottom, and cannot lift or oscillate the liquid column, and in No. 71,459 there is no such relation of siphon-tube and suction-chamber which could permit the same action to occur as in my invention.

Instead of the expansible and compressible bulb C, any other form of suction-chamber may be used.

Having thus described my invention, what I claim as new is—

A breast-pump consisting of a relatively long tube, B, a nipple-socket, A, opening into the same, and a compressible and expansible bulb or suction-chamber communicating with the nipple-socket and tube at the upper end of the latter, the said tube, nipple-socket, and bulb being always in free and open communication, without valve or obstructions to interfere with the oscillation of the liquid column, substantially as shown and described.

ANAXIMANDER B. TUTTON.

Witnesses:

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WILLIS H. BOOTH.