

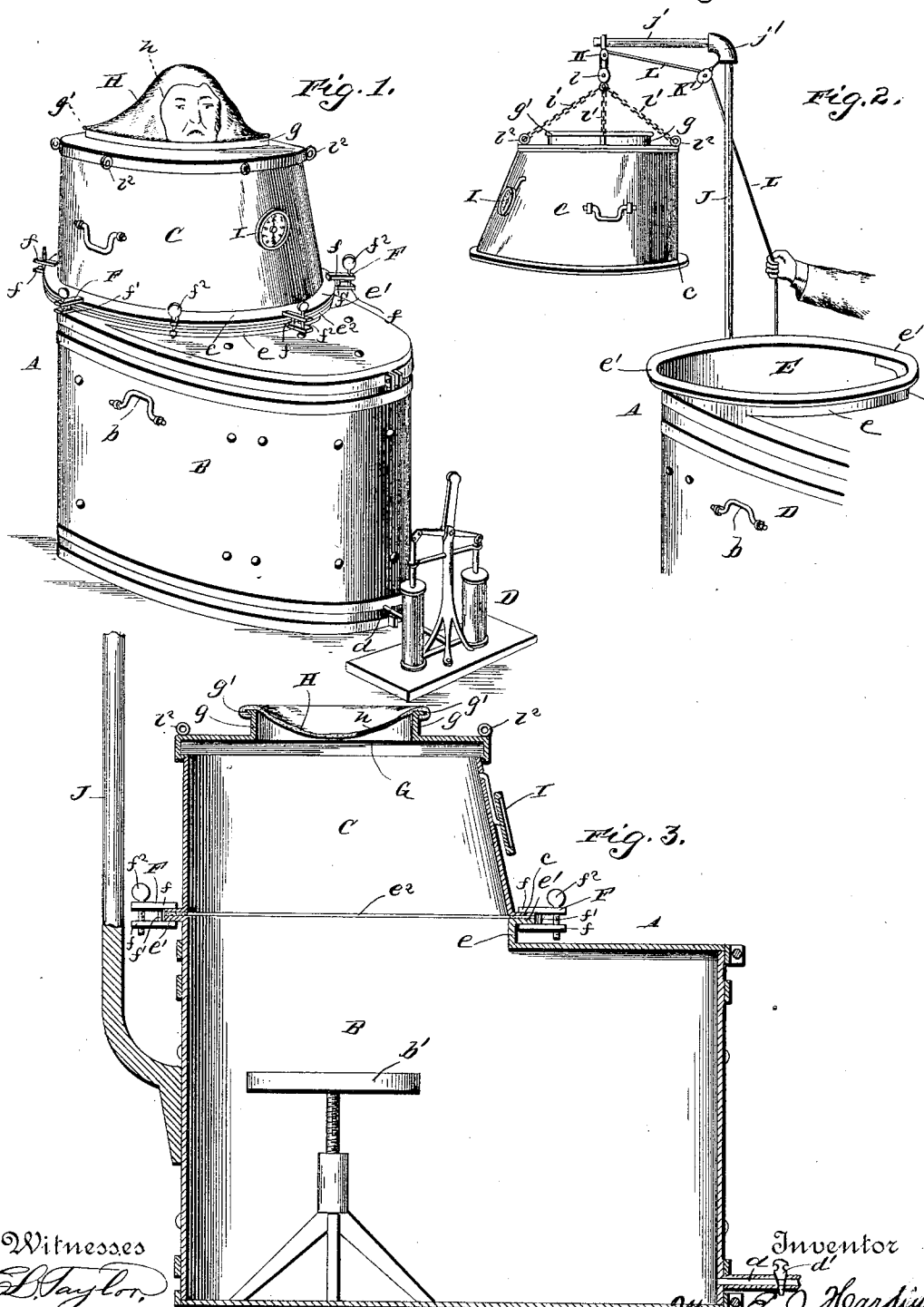
(No Model.)

E. J. HARDING.

DEPURATOR.

No. 368,285.

Patented Aug. 16, 1887.



Witnesses
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UNITED STATES PATENT OFFICE.

ELIZA JANE HARDING, OF DENVER, COLORADO.

DEPURATOR.

SPECIFICATION forming part of Letters Patent No. 368,285, dated August 16, 1887.

Application filed February 16, 1887. Serial No. 227,853. (No model.)

To all whom it may concern:

Be it known that I, ELIZA JANE HARDING, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Improvement in Apparatus for Producing Vacuums, of which the following is a specification.

The invention relates to improvements in apparatus for producing vacuums for the treatment of diseases, and refers to an apparatus in which the whole body, with the exception of the face is subjected to treatment, the objects being to produce a more perfect apparatus and one that can be handled more easily, and in which the patient will be more comfortable and the exhaustion more equable, thus preventing nervous spasm and irregular action of the circulatory system.

In the accompanying drawings, Figure 1 represents a perspective view of the apparatus, a patient being under treatment therein. Fig. 2 represents a perspective view showing the manner of moving the upper section of the apparatus. Fig. 3 represents a vertical longitudinal section of the apparatus, showing the interior thereof and the seat upon which the patient rests while under treatment.

Referring to the drawings, A designates the improved apparatus, composed of the lower section, B, and the upper section, C, movable upon the lower section, as hereinafter described. The lower section is oval or elliptical in circumference, and has on the outer surface of its sides the handles *b b* to aid in its transportation. Within, near its rear end, is an adjustable seat, *b'*, similar to a piano-stool, upon which seat the patient rests while under treatment.

D is a double-cylinder air-pump connecting with the lower part of the front end of the section B by the pipe *d*, upon which is the stop-cock or valve *d'*. Upon the upper surface of the said section at its rear end is the man-hole E, surrounded by the upstanding ring or rim *e*, from which projects horizontally outward the surrounding flange *e'*, as seen in Fig. 2.

The sections are constructed preferably of galvanized iron, and the lower section is reinforced and stiffened near its upper and lower edges by surrounding bands, as seen in Figs. 1 and 2.

The upper section, C, has a flange, *e*, stand-

ing out from and surrounding its lower end and of equal size to the flange *e* around the man-hole E. When the two flanges are placed together, a rubber packing-ring, *e''*, is placed between to make the joint air-tight.

F F are clamps for binding the two flanges together, which clamps are each composed of the two short bars *f f*, having pivoted to them at their ends the short rod *f'* and the set-screw *f''*, which passes through a threaded opening in the outer end of the upper bar *f* and impinges on the corresponding lower bar, so that by turning up the screw the inner ends of the clamps will be made to bind upon the flanges.

The sides of the section C are provided with handles for its transportation. The rear portion of its side is vertical, and the front portion thereof inclines backward and upward from the flange *e*.

G is a central opening in the top of the section C, surrounded by an upstanding rim, *g*, from which projects outward the horizontal circumferential flange *g'*.

H is a cap or head piece, of rubber cloth or other suitable impervious material, the edge of which is closely secured to the rim *g*, making an air-tight joint with said rim and the flange *g'*. The cap H has an opening, *h*, in its edge, which surrounds the patient's face, so that he can breathe freely.

The upper section being detached from the lower section by means hereinafter described, the patient enters the man-hole and seats himself. The packing-ring *e''* is then placed upon the flange *e* and the upper section put in place thereon. The cap H is then adjusted to the head of the patient, who adjusts the seat so as to bring his head in proper position. Then upon working the air-pump the exhaustion begins, the joint made by the two flanges and the rubber ring being air-tight; but for fear of the displacement of the upper section the clamps F are attached to the flanges, as described. The degree of exhaustion can be told at any moment by the air-pressure gage I, of common construction, attached to the front of the upper section.

The means for quickly and readily handling the upper section are as follows:

J is a vertical standard rising from the rear end of the lower section behind the upper section, as seen in Fig. 2, and *j* is a horizontal

bar or arm at the upper end of the same, the said arm being connected to the standard by a curved coupling-piece, j' , which allows the arm to swing horizontally on the latter.

- 5 K is a swinging block attached to the end of the arm j , and K' is a similar block attached to the coupling-piece j' .

L is a cord running over sheaves of the blocks K K' and under the sheave of a similar block, l , whence it ascends and is secured to the block K. The cord hangs from the block K' within reach of the operator's hand, and the block l has secured to it the upper ends of the chains l' , the lower ends of which are secured in the rings l'' on the upper edge of the section C.

15 It is evident that by means of the cord and pulley the section C can be quickly and easily raised and lowered, and that by means of the coupling-piece it can be swung to one side to permit the patient to enter the man-hole.

20 The use of the double cylinder air-pump produces a more steady and continuous process of exhaustion than by the use of the single-cylinder pump, and consequently is less liable to produce nervous shocks and spasm or irregular circulation.

I claim—

1. In combination with the lower section, the upper section, C, removable therefrom, and devices for swinging it to one side of the lower section, as set forth.

2. In combination with the lower section,

the upper section, C, the swinging arm or crane j' , and the hoisting attachment connected to the swinging arm, whereby the upper section may be raised from the lower by the hoisting means and swung to one side by the swinging arm, as set forth. 35

3. In combination with the lower section, B, to which the pump D is connected, the upper section, C, the man-hole E at the top of the lower section, the vertical flange e around the man-hole, a horizontal flange, e' , extending outward from the vertical flange, the horizontal flange e , extending out from the section C, the packing between the flanges $e-e'$, and the screw-clamps F, to engage with the flanges $e'e$ and bind the parts together, as set forth. 40 45

4. In the herein-described apparatus, the combination, with the upper section detachable from the lower section and provided with the rings l' around its upper edge, of the standard J, rising from the lower section, the coupling-piece j' , the horizontal arm j , the blocks K K' , the cord L, and the chains l' , all constructed and arranged substantially as and for the purpose specified. 50 55

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ELIZA JANE HARDING.

Witnesses:

GEORGE A. CORBIN,
G. S. RICHARDS.