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C. A. PRESCOTT

OBSTETRICAL DEVICE

Filed May 9, 1922

Fig. 1.

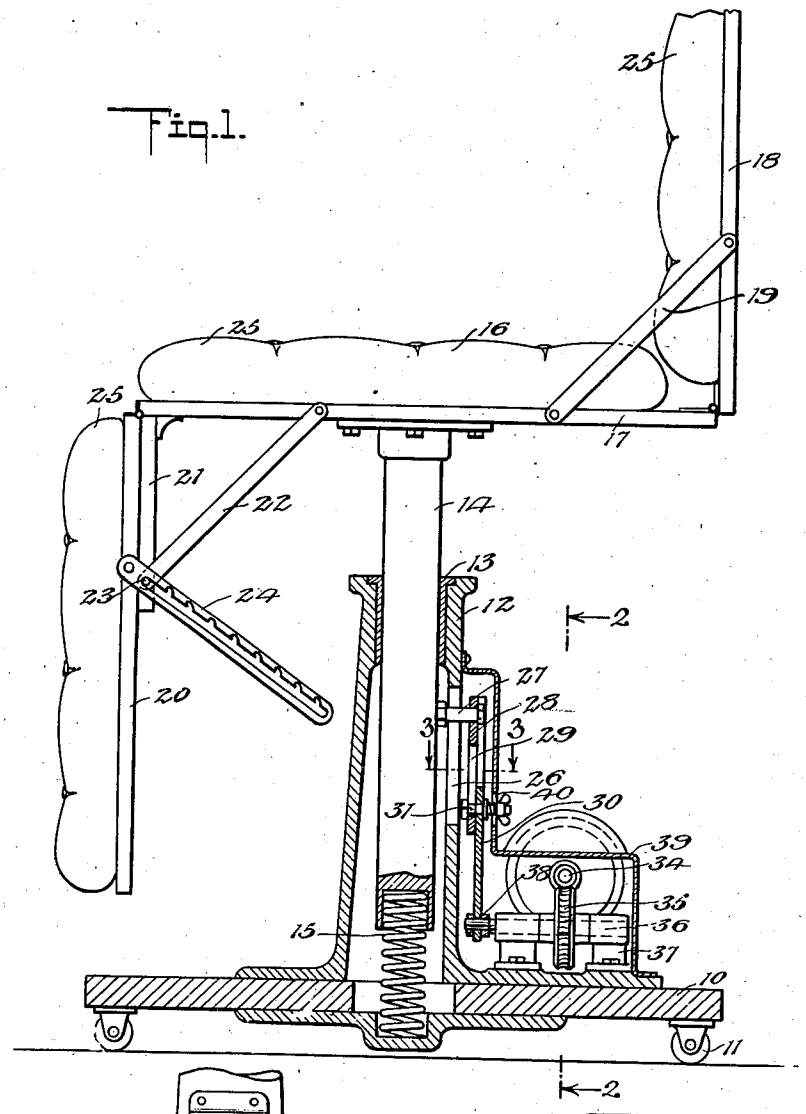


Fig. 2.

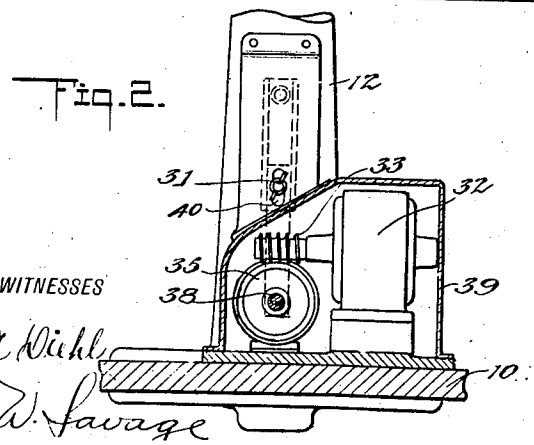
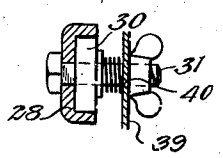


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

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OBSTETRICAL DEVICE.

Application filed May 9, 1922. Serial No. 559,514.

To all whom it may concern:

Be it known that I, CHARLES A. PRESCOTT, a citizen of the United States, and a resident of Hudson Falls, in the county of Washington and State of New York, have invented new and useful Improvements in Obstetrical Devices, of which the following is a full, clear, and exact description.

This invention relates to obstetrical devices.

In the process of childbirth the outlet of the uterus or womb is dilated before the birth by the contractions of the muscles of the womb exerting pressure on the contained child, forcing its head into the pelvic outlet. The greatest portion of the time required by a birth is consumed in this dilating process, which, if long continued, is weakening and painful to the patient. Most drugs given for the relief of the patient during the dilating process have the disadvantage of lessening the frequency and force of the muscular contractions of the womb thus delaying the birth.

The general object of this invention is the provision of a simple and harmless device for assisting the patient during the process of childbirth.

A further object is the introducing of a device for use during the process of childbirth which will allow the use of drugs to give relief from pain without delaying the birth.

These objects are accomplished by providing a suitable rest for the patient and supplying, in conjunction with the rest, means for giving it a vibratory motion.

These and other objects of the invention will be more clearly understood from the following detailed description and accompanying drawings.

Figure 1 is a side elevation of the device with a portion of the casing cut away, showing the operating mechanism;

Figure 2 is a section along the line 2—2, Figure 1;

Figure 3 is a section along the line 3—3, Figure 1.

Referring to the above-mentioned drawings, a carriage, comprising a platform 10 mounted on wheels 11, is shown. A guide frame 12 having a bearing 13 mounted therein is located on the carriage and stands in a vertical position. Slidably mounted in the bearing 13 carried by the guide frame 12 is a plunger 14 supported by a spring 15 carried by the platform 10.

A chair assemblage 16 is attached to the upper end of the plunger 14. In this chair assemblage a seat 17, which extends in a horizontal plane, is mounted on the plunger 14. Hinged to the seat 17 is a back rest 18 supported by braces 19. Hinged to the other end of the seat 17 is a leg rest 20. This leg rest may be supported at different angles to the horizontal and in a horizontal plane. In order to support the leg rest 20 at different angles to the horizontal a depending bracket 21 strengthened by braces 22 is attached to the seat 17. The rod connecting the lower ends of the braces 22 to the bracket 21 projects beyond the braces and bracket, providing projection 23 with which the hinged plates 24, pivotally connected to the leg rest 20, may engage. The back rest 18 may be lowered into a horizontal plane by removing the braces 19. Thus the chair can be converted into an operating table or a bed at will.

A slot 26 is provided in the guide frame 12. Extending through this slot is a bolt 27 which is attached to the plunger 14. Connected to the bolt 27 is a U-shaped plate 28 having a slot 29 extending lengthwise of the same. Slidably mounted in the U-shaped plate 28 is a plate 30. This plate 30 may be connected to the U shaped plate 28 by the bolt 31 which is mounted in the slot 29. A motor 32 is mounted on the platform 10 and drives a worm 33 fixed to a shaft 34. The worm 33 meshes with a worm wheel 35 fixed to a shaft 36 carried by the bearings 37 which are supported by the platform 10, An eccentric pin 38 is attached to the shaft 36. The throw of this eccentric pin is not very great and probably will not be more than a quarter of an inch. The lower end of the plate 30 is connected with the eccentric pin 38 and by this means the plate 30 is operated to move the plunger 14 up and down along its axis. A casing 39 encloses the motor and gear mechanism. The bolt 31 extends through an opening 40 in the casing 39 so that it may be loosened or tightened at will to tightly connect the plate 30 with the U-shaped plate 28.

In the operation of this device the bolt 31 is first loosened; then the patient is placed on the chair. The weight of the patient forces the plunger downward, compressing

the spring. After the patient has come to rest the plunger comes to rest and the weight is carried by the spring 15. The bolt 31 is then tightened, connecting the plate 30 to the U-shaped plate 28. The motor which is connected to the plate 30 through a suitable gearing system may then be set in operation and through the bolt 27 the plunger 14 is given a vibratory motion along its axis. In this particular case the gearing has been so designed that the vibrations of the plunger are about one hundred and twenty per minute. However, it is apparent that any number of vibrations per minute might be obtained by a different train of gears. It does not require a very great amount of energy to vibrate the plunger since it is retained in more or less of a balanced position by means of the spring 15 which tends to force the plunger upward on the slightest decrease in the downward force. Consequently, a very small motor will have sufficient power to operate the plunger.

I would state in conclusion that while the illustrated example constitutes a practical embodiment of my invention I do not limit myself strictly to the exact details herein illustrated since manifestly the same can be considerably varied without departing from the spirit of the invention as defined in the appended claims.

Claims:

1. An obstetrical device, comprising a tubular support, a rest having a member slidable in the support, resilient means in the support coacting with the lower end of the member of the rest for supporting and balancing the said rest, a motor, and means for connecting the motor with the member of the rest to vibrate the same.

2. An obstetrical device of the class described comprising a carriage, guiding means carried by said carriage, a plunger slidably mounted in said guiding means, a chair adapted to be converted into an operating table mounted on said plunger, spring means in alinement with said plunger for balancing the combined weight of the chair and the occupant thereof, a driven shaft, and a connecting rod eccentrically mounted on said shaft and connected to said plunger to give the latter a vibratory motion.

3. In an obstetrical device, a chair adapted to be converted into a table having a depending member on its underside, a tubular pedestal in which the said member reciprocates, a spring in the pedestal and upon which the said member rests, a motor, and means connecting the motor with the said depending member to reciprocate the same, said means including adjustable members, whereby provision is made for permitting the chair to come to rest before being operatively connected with the motor.

4. In an obstetrical device, a chair adapted to be converted into a table having a depending member on its underside, a tubular pedestal in which the said member slides, a spring in the pedestal and upon which the said member rests, a motor, a shaft operated by the motor, and means connecting the said shaft with the member of the chair, said means consisting of a slotted member having a guideway therein and secured to the member of the chair, a second member slidable in the guideway of the first member and operatively connected with the said shaft, and a bolt carried by the second member and working in the slot of the first member.

CHARLES ALBERT PRESCOTT.