L. WITT.

HOSPITAL BED APPLIANCE.

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1,096,981.

Patented May 19, 1914.

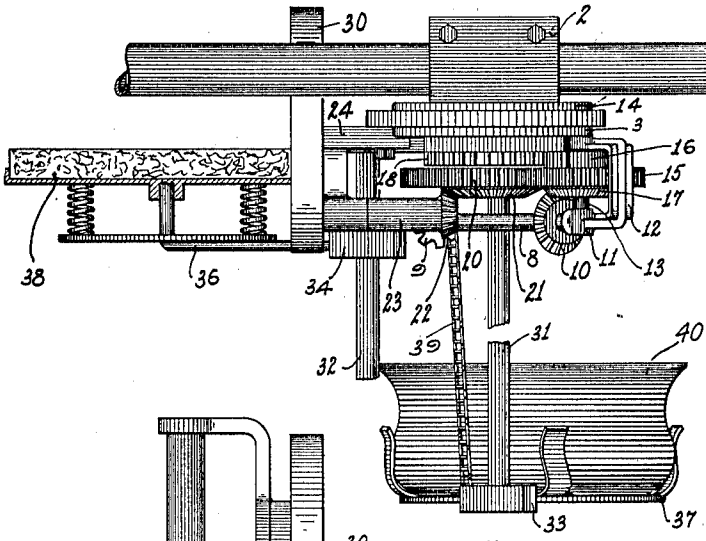


Fig. 1

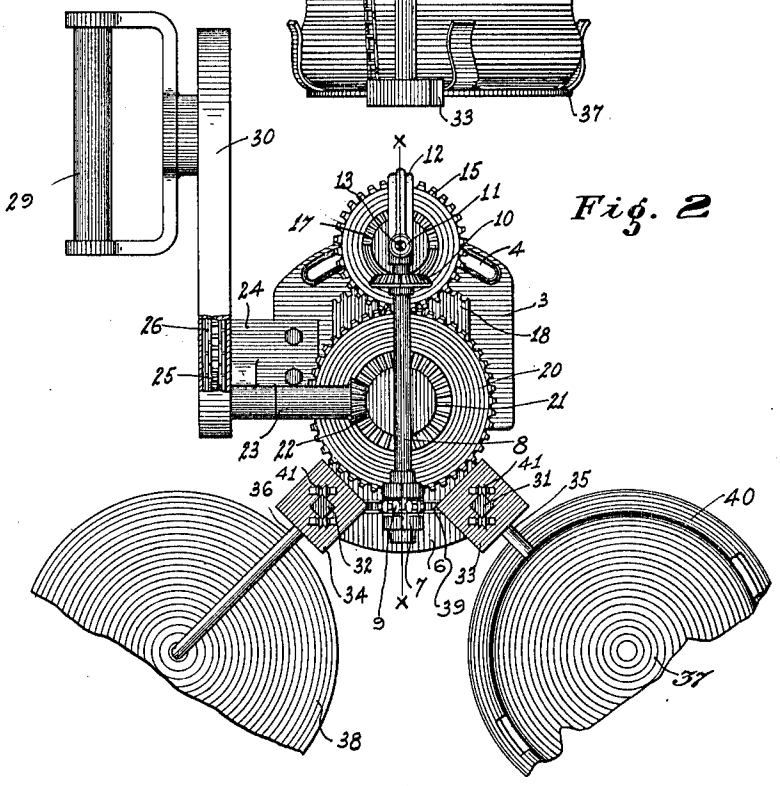


Fig. 2

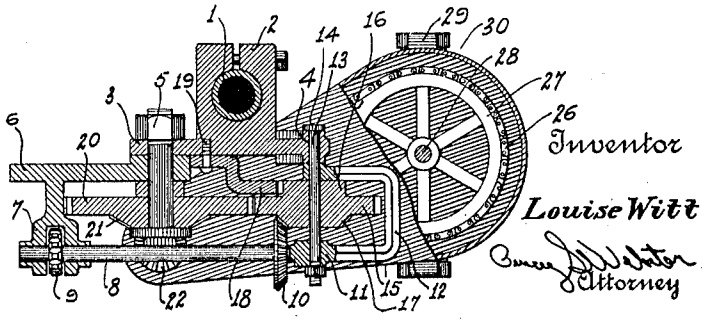


Fig. 3

Witnesses

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HOSPITAL-BED APPLIANCE.

1,096,981. Specification of Letters Patent. Patented May 19, 1914.

Application filed June 10, 1913. Serial No. 772,817.

To all whom it may concern:

Be it known that I, LOUISE WITT, a citizen of the United States, residing at Palo Alto, in the county of Santa Clara, State of California, have invented certain new and useful Improvements in Hospital-Bed Appliances; and I do declare the following to be a clear, full, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in hospital bed appliances and particularly to a commode adapted for use with bed-ridden patients whereby the use of the commode may be easily had without the necessity of moving the patient from or in the bed.

The particular invention here disclosed is designed as an improvement upon my Patent No. 1,037,392, the improvement consisting in a structure adapted to raise and lower the commode and bed pad simultaneously by the operation of one handle and in rotation whereby the commode will fit into the orifice in the bed and when removed therefrom, the plug will, by the same operation fit into said orifice and vice versa.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purposes for which it is designed.

These objects, I accomplish by means of such structure and relative arrangement of the parts as will fully appear by a perusal of the following specification and claims.

On the drawings similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a side elevation of the complete device shown attached to the side rod of the bed and showing the parts in such position as they assume when the bed pad is in the orifice in the bed. No showing of the bed is here entered into as the same is set forth in detail in the above mentioned patent. Fig. 2 is a bottom plan view of the device but showing the parts in the positions they assume when the commode and the bed pad are an equal distance from the bed during the operation. Fig. 3 is a sectional view taken on a line X—X of Fig. 2 showing the same partly broken out to show the main operating gear.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 designates the side rod of the bed. My improved device is attached to the said side rod 1 by means of a lug 2 bolted thereto, said lug being provided with a plate 3 on its lower end having a semi-circular slot 4, at one end for a purpose as will appear.

The numeral 5 designates a bolt or pin projecting through one side of the plate 3 and turnably mounted on which is another plate 6 having a downwardly depending yoke 7 in which is journaled a shaft 8 carrying a sprocket wheel 9 on one end and a beveled gear 10 on the other end. The end of the shaft 8 on which is disposed the gear 10 is journaled in a journal box 11 on a yoke 12, which yoke is fixedly disposed at both ends upon a pin 13 which projects through the slot 4 and has a flanged top 14 adapted to bear against the top edges of said slot 4.

Turnably mounted on the pin 13 is a pinion gear 15 having disposed, as an integral part thereof, an upper pinion 16 and a lower beveled gear 17, which gear 17 is partly blank as shown, the geared portion being adapted to engage the gear 10. The upper gear 16 is also partly blank, the geared portion being adapted to engage a gear rack 18 rigidly secured to the plate 3 as at 19. The gear 15 intermeshes with a pinion gear 20 turnably disposed on the pin 5 and having formed, as an integral part thereof, a beveled gear 21 on its underside. The beveled gear 21 intermeshes with a beveled gear 22 on a shaft 23 suitably journaled on a plate 24 secured to the plate 3. The other end of said shaft 23 is provided with a sprocket wheel 25 connected by a chain 26 with a sprocket wheel 27 mounted on a shaft 28 having an operating handle 29. The said sprocket wheels and chain are inclosed in a suitable casing 30 secured as a component part of the plate 24.

The numerals 31 and 32 designate vertical guides secured to the plate 6 and movable on which are plates 33 and 34 respectively each having a projecting arm 35 and 36 respectively. Said arm 35 is adapted to carry a commode holder 37 and said arm 36

is adapted to carry a spring pressed bed plug 38 adapted to fill the orifice in the bed when the commode is removed therefrom.

A chain 39 projects over the sprocket wheel 9 and connects at one end with the plate 33 and at the other end with the plate 34.

The operation of the device is as follows: Presuming the bed plug 38 is in position in the orifice in the bed and the patient desires to use the commode for any purpose, the handle 29 is turned which actuates the gear 27 and causes the chain 26 to drive the gear 25. This operation drives the gear 22 and turns the gear 21 and the gear 20. The gear 20 then drives the gear 15 which of course drives the gear 17 and causes it to operate the gear 10. The blank space of the gear 16 then moves over the face of the gear rack 18. The said movement of the gear 10 then turns the sprocket wheel 9 to cause the chain 39 to move the bed plug 38 downwardly and the commode holder 37, carrying the commode 40, upwardly until the said bed plug and the said commode are both in a position equally spaced from the bed. Then the blank portion of the gear 17 passes over the face of the gear 10 which ceases the operation of said gear 10 and the geared portion of the gear 16 engages the gear rack 18 and as will be seen, since said gear rack 18 is stationary with respect to the plate 3, this operation will turn all the operating gears which are used for raising and lowering the commode and plug on the pin 5 as an axis, the pin 13 moving through the slot 4 for the purpose and this operation continues until the commode 40 is disposed under the orifice in the bed. Then the geared portion of the gear 17 engages the gear 10 and rotates the shaft 8 and the sprocket wheel 9 and the chain 39 and continues to lower the plug 38 and raise the commode 40 until said commode is in position in the orifice in the bed and then after the same is used, the above operation is reversed which lowers the commode, turns the plug into position under the orifice and then raises the plug to fill the orifice. The plates 33 and 34 have small guide rollers 41 which engage the members 31 and 32 to insure perfect action.

In addition to the foregoing structure, I also provide, if desired, a covering mechanism for the commode which covering mechanism comprises a plate 66 having a hinged lid 67 thereon adapted to be closed down over the commode when the commode is in its lower position by means of the following structure, namely: A lever 68 is slidably connected with the lid 67 as at 69, which lever is fulcrumed as at 70 to the plate 66. A link 71 then extends to a bell crank handle 72 from the free end of the lever 68. Hence by the operation of the handle 72, the lid 67 will be closed over or raised away from the commode 40.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfils the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice, such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:—

1. A device of the character described comprising a commode holder and a bed plug, a frame, depending members on said frame, means for moving said plug and said holder each on one of said depending members, and means for turning said frame, as described.

2. A device of the character described comprising a supporting plate, a pin disposed in said supporting plate, another plate turnably mounted on said pin, guides on said turnable plate, a bed plug and a commode holder movable vertically on said guides, means for moving said plug and said holder on said guides, and means for turning said turnable plate on said pin, as described.

In testimony whereof I affix my signature in presence of two witnesses.

LOUISE WITT.

Witnesses:
J. A. SCHUTTE,
M. J. FAIRFIELD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."