

(No Model.)

H. F. HARDING.
INVALID MATTRESS.

No. 509,081.

Patented Nov. 21, 1893.

Fig. 1

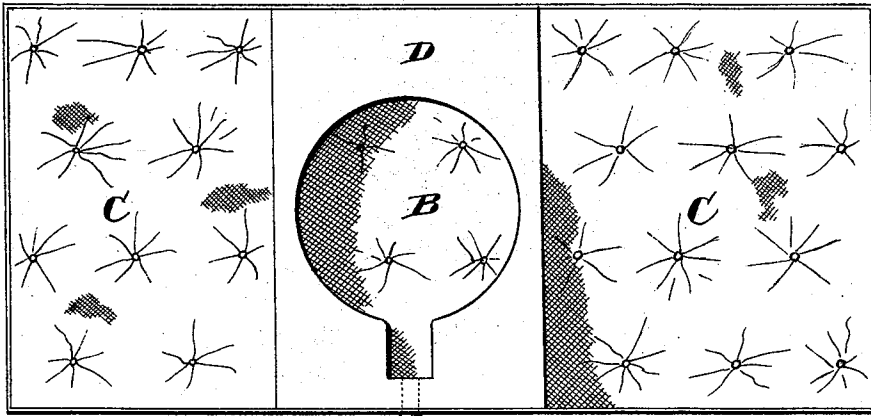


Fig. 2

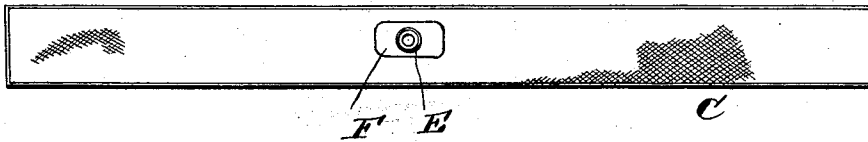


Fig. 3

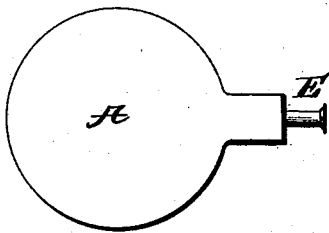


Fig. 4



Witnesses
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UNITED STATES PATENT OFFICE.

HANNAH FOX HARDING, OF SYDNEY, NEW SOUTH WALES.

INVALID-MATTRESS.

SPECIFICATION forming part of Letters Patent No. 509,081, dated November 21, 1893.

Application filed September 24, 1892. Serial No. 446,828. (No model.) Patented in New South Wales September 30, 1891, No. 3,298, and in England March 7, 1893, No. 8,369.

To all whom it may concern:

Be it known that I, HANNAH FOX HARDING, a subject of the Queen of Great Britain, and a citizen of Sydney, residing at Sydney, in the Colony of New South Wales, have invented certain new and useful Improvements in Invalid-Mattresses, (for which I have obtained Letters Patent No. 3,298 in New South Wales, dated September 30, 1891, and in Great Britain, No. 8,369, dated March 7, 1893;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain improvements in mattresses for invalids, and consists in certain details of construction and arrangements of parts hereinafter more particularly described in the specification, illustrated in the drawings and pointed out in the claims. Its object is to facilitate the use of a bed pan, with the least discomfort and fatigue to the weak or bed ridden patient; to afford facilities for conveniently administering enemas; performing surgical operations; sponging or bathing certain parts, or the use of syringes or catheters; to prevent or minimize bed sores and to afford ease and comfort to the patient not derived from the use of mattresses as ordinarily constructed.

To this end, I provide a mattress of ordinary construction with a depression or recess in its face or upper side of suitable or convenient size and depth, and adapted to receive an air cushion of rubber or other suitable material, which, when fully inflated, will conform to and fully occupy the depression or recess in the mattress, its upper face being flush with the upper face of the mattress. This cavity or recess is preferably formed with perpendicular sides and also preferably located near the center of the mattress. The air cushion is provided at one side with a neck or tube, adapted to project through an opening leading from the cavity to the side of the mattress, its outer end being provided with a nozzle or air valve by means of which the cushion may be readily inflated or its contents exhausted.

In the accompanying drawings, Figure 1, is a plan view of my improved mattress, show-

ing the cavity or recess adapted to receive the air cushion. Fig. 2, is a side elevation of same; Fig. 3, is a plan view of the air cushion; Fig. 4, a side elevation of the cushion.

Referring more specifically to the drawings by letter, A represents the rubber bag or air cushion; B, the cavity or recess in the upper face of the mattress adapted to receive same; C, the mattress.

D, is a square of water proof material or sheeting, provided with a central opening, corresponding in form with the recess or cavity in the mattress and designed to be placed upon the mattress and used in connection with the air cushion for the purpose of protecting the mattress.

E, is the screw valve or nozzle of the air cushion.

F, is the opening in the side of the mattress through which the screw valve or nozzle of the air cushion projects.

The operation of my invention is as follows: The air cushion is placed within the recess B and inflated by a bellows or other suitable means, and the water proof sheeting D is placed over the same. The patient is then placed upon the bed with the hips or lower portion of the body resting upon the air cushion. When the bed pan is required, the valve is opened, the air released, and the cushion allowed to collapse, when, by slightly raising the patient with the left hand, the bed pan may be readily inserted in the recess beneath the patient, after which it may be readily raised to any convenient or desired height by again partially inflating the air cushion. For facilitating the operation of sponging, administering enemas, &c., the air cushion is exhausted in the same manner and the perpendicular sides of the recess serve to support the body over the cavity and afford room for the operation.

While I have described the cushion A, as an air cushion, I do not confine myself to the use of air, as it is obvious that any other suitable fluid as water or gas may be employed either hot or cold as may be deemed desirable.

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

1. The combination with a mattress, pro-

vided with a recess or cavity in its upper face, of a fluid tight bag or cushion located within said cavity, capable of being inflated or collapsed at will without removal corresponding in size when inflated with said cavity substantially as and for the purpose described.

2. In an invalid bed, the combination with a mattress provided with a recess or cavity in its upper face, having perpendicular walls, of an inflatable cushion adapted to permanently occupy and fill said recess when inflated and to be exhausted when in position within the mattress, substantially as and for the purpose described.

3. In an invalid bed, the combination with a mattress having a recess or cavity in its upper face, and an opening from its side communicating with said cavity, of an inflatable bag or cushion adapted to occupy and fill said cavity when inflated, and a neck or tube connecting with said bag or cushion and projecting through the opening to the side of the

mattress, whereby said cushion may be inflated or exhausted without removal substantially as and for the purpose specified.

4. In an invalid bed, the combination with a mattress having a recess or cavity in its upper face and an opening connecting said recess with its side, of an inflatable bag or cushion adapted to occupy said recess, having a neck or tube projecting through the opening to the side of the mattress whereby said cushion may be inflated or exhausted without removal and a waterproof sheet or covering, having a central opening and adapted to cover the edges of the mattress around the recess, substantially as and for the purpose specified.

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

HANNAH FOX HARDING.

Witnesses:

W. H. DAWSON,

D. A. RUTHERFORD.