E. ERIK, NÉE RADSTAAKE.

MATTRESS.

APPLICATION FILED JUNE 11, 1919.

1,350,333. **Patented Aug. 24, 1920.**

2 SHEETS—SHEET 1.

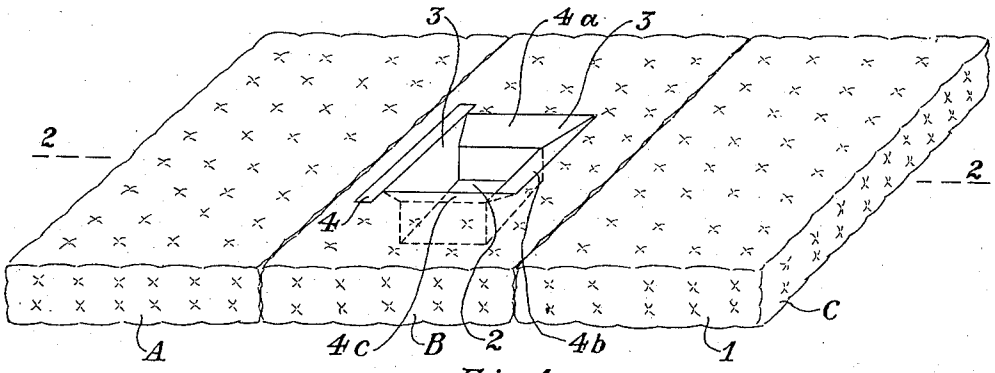


Fig. 1

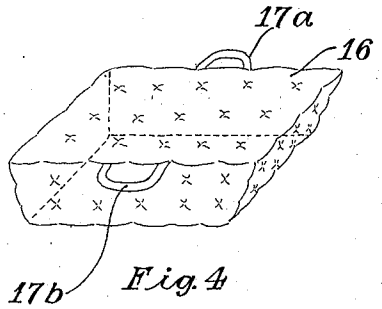


Fig. 4

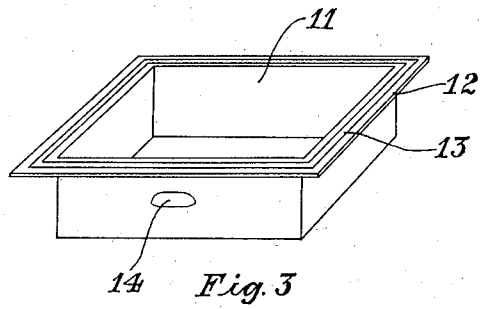


Fig. 3

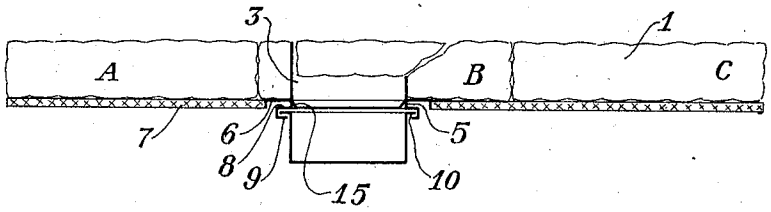


Fig. 2

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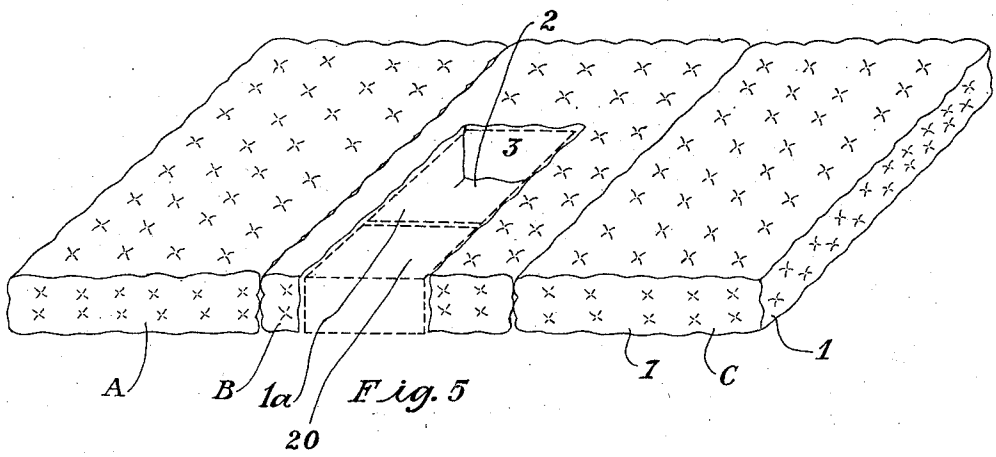


Fig. 5

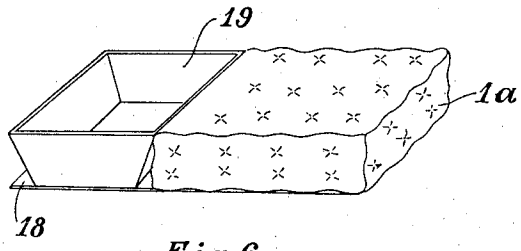


Fig. 6

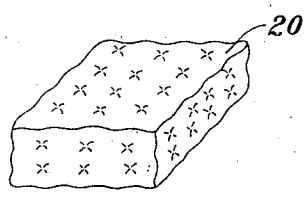


Fig. 7

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UNITED STATES PATENT OFFICE.

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MATTRESS.

1,350,333. Specification of Letters Patent. Patented Aug. 24, 1920.

Application filed June 11, 1919. Serial No. 303,418.

To all whom it may concern:

Be it known that I, EMILIE ERIK, *née* RADSTAAKE, a citizen of the United States of America, residing at New York, in the county and State of New York, have invented a certain new and useful Improvement in Mattresses, of which the following is a specification.

This invention relates to mattresses and more particularly to mattresses for hospital use.

It is the primary object of the invention to provide a mattress which may be readily applied without putting the patient to any inconvenience as may be caused when changing his position.

It is a further object of the invention to render the patient independent from the presence of the attendant and to relieve the latter from work when otherwise his presence is not urgently necessary. With these objects in view the invention consists in certain combinations, constructions and arrangements of parts described in the following specification and shown in the accompanying drawing, in which Figure 1 is a perspective plan view of the mattress illustrating by way of example one way of carrying out my invention. Fig. 2 is a longitudinal sectional view of Fig. 1 along line 2—2. Figs. 3 and 4 represent a more detailed illustration of some parts, and Figs. 5 and 6 show a modification of my invention as will be more fully explained below, Fig. 7 showing a part of said modification.

Referring to the accompanying drawings 1 denotes a mattress made in the usual way of the usual fabric in which preferably a square hole 2 is provided. The walls 3 of the mattress where the hole is cut, are covered with a lining of material impervious to moisture, for instances rubber, waterproofed cloth like oil cloth, etc., likewise a rim 4 of same material is provided around hole 2. At the lower rim of hole 2 a frame 5 of suitable material preferably metal is attached to the lining 3, the frame 5 projecting through an opening 6 in the spring mattress 7 supporting mattress 1. All along the lower rim of frame 5 a flat strip 8 is attached, which on three sides holds an angle iron 9 so as to form a groove 10. On one side, preferably on one of the long sides of the mattress 1 the angle iron 9 is omitted, whereas the parallel angle irons, being in the right angle to this particular side, are extended to the edge of the spring mattress 7 and secured thereto by suitable means.

A further part of my invention is a pan 11 registering with hole 2 which is preferably of rectangular form. In regard to its width this pan 11 is slightly narrower than the width of hole 2. Pan 11 is also provided at its top with a flat rim 12, and a layer 13 of rubber or felt or some other tightening material is affixed to this rim 12. The groove 10 is just wide enough to let rim 12 and the layer 13 thereon pass along and as pan 11 is slightly narrower than hole 2, its rim can be inserted into said groove 10 and the pan moved along same to eventually register with hole 2.

The pan can be conveniently moved forth and backward by means of a stick provided at one end with a hook which is introduced into a noose 14 provided in the middle of the one side of the pan located on that particular side where the angle iron 9, forming the groove 10, is omitted.

In about the middle of the height of the frame 5, on the inside of same, vanes 15, preferably of suitable metal, are provided, said vanes connecting with each other and slanting toward the center of the hole.

Hole 2 is to be closed by a cover 16 which in its form corresponds to the shape of the upper rim of hole 2. It is obvious that the closing of hole 2 by a cover, such as 16, may be made in many different ways, but I prefer to accomplish this end as described below.

Assuming that rim 4 is adjoining the upper part of the body of the patient, I prefer to have the wall 3 connecting with rim 4 absolutely vertical, so that rim 4 is horizontal, on the other sides I prefer to have rim 4^a, 4^b and 4^c slightly slanting toward the center of hole 2 and as cover 16 corresponds in its shape to that of the upper rim of hole 2 it is obvious that it will sit fast until pulled out, handles 17^a and 17^b being provided for this purpose.

It is obvious that if a patient lies upon the mattress that the hole 2, and the appurtenances described in connection therewith, is located below the center of his body, the patient will be able to pull cover 16 to the side and to replace it by pushing it back to its original place; it is also obvious that any aqueous and solid waste will collect in the receiving pan 11 registering with hole 2.

Metal vanes 15 will direct all waste so as to avoid that the grooves 10 will be clogged; they also serve, if desired, to hold a paper collar entirely surrounding the walls 3 so as to facilitate keeping these walls 3 clean. By means of tightening layer 13 upon rim 12 sliding within grooves 10 it is prevented that any obnoxious odor penetrates the room until pan 11 can be taken out to be cleaned.

It is of course understood that the thickness of mattress 1 will change parts of my invention as far as their dimensions are concerned, but such changes will not entail any deviation from the spirit of my invention.

I may modify, however, my invention, in regard to the location of the receiving can 11. In order to relieve the patient of the occasional great danger caused by lifting his body to use a pan, I can accomplish this purpose by making the mattress of two separate parts, for instance the mattress 1 and its movable part in the form of cushion 1ª. In this case the part 1ª, if inserted into mattress, is not sufficiently long to completely fill the cut made into the mattress 1, but leaves a hole 2 which preferably is made of square shape.

Mattress 1ª is provided with a sheet of metal 18 to prevent the fabric of mattress 1ª from rubbing on the spring mattress 7. This sheet 18 has also the further purpose of carrying a square pan 19, which in this case has no flat rim. The walls 3 of the mattress 1, and those of mattress 1ª are, at least as far as they adjoin hole 2, also made of any waterproof material like rubber, oil cloth, etc. The pan 19 is in this case not higher than the mattress 1. A plug 20, is provided to entirely fill hole 2 if the pan 19 is taken out.

All the time the patient is resting he lies on mattress 1 and 1ª fully inserted into the former, the side of mattress 1ª where pan 19 is to be inserted, being located outside and covered with plug 20 as diagrammatically indicated in dashed lines by Fig. 5. In case the patient calls for the pan the nurse pulls out mattress 1ª, turns it around and after exchanging plug 20 for the pan 19, as indicated by Fig. 6, shoves it back into the mattress to bring pan 19 into the middle of same. It is of course understood that that particular part of sheet metal 18 should have some reinforcing elements to carry safely the weight of pan 19, but as these parts are unessential to my invention and can easily be supplied by anybody skilled in the art of making mattresses or similar upholstery, I refrain from describing same in this application.

I have stated for convenience sake, that pan 11 is slightly narrower than the width of hole 2; it is of course understood that no restriction can be imposed upon this measurement for pan 11 can be of same or greater width than hole 2; in the latter case hole 2 should not be of rectangular shape, but should extend downwardly to connect with frame 5 which is of the same width as pan 11. This frame 5 is not necessarily fixed stationary to the walls 3, but may be arranged in a detachable way to the outside of walls 3 so as to have walls overlap inside.

Finally I wish to state that the consideration for the applicant's comfort necessitates covering the mattress with linen and that this end may be well achieved in connection with my mattress by dividing the mattress proper in 3 different sections, A, B and C, as indicated in Figs. 1 and 5. By resorting to such a division of the mattress one can easily cover A and C with sheets or slips, etc., and cover B with pads or any similar material at hand.

What I claim is:—

A sanitary appliance for invalids, comprising in combination a properly supported mattress provided with an opening having a vertical wall at the upper end and the other walls tapering upwardly from approximately the middle of their height, a metallic frame, having a groove on three of its sides and a rim on the one remaining side, secured to the lower edge of aforesaid opening, a pan adapted to slide within aforesaid groove and to register with aforesaid opening, and a cover corresponding in shape to the upper part of the opening in the mattress.

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