Sept. 14, 1965 A. M. REYNOLDS 3,205,514

TUBULAR PROTECTIVE COVERING FOR BEDDING

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Fig. 1.

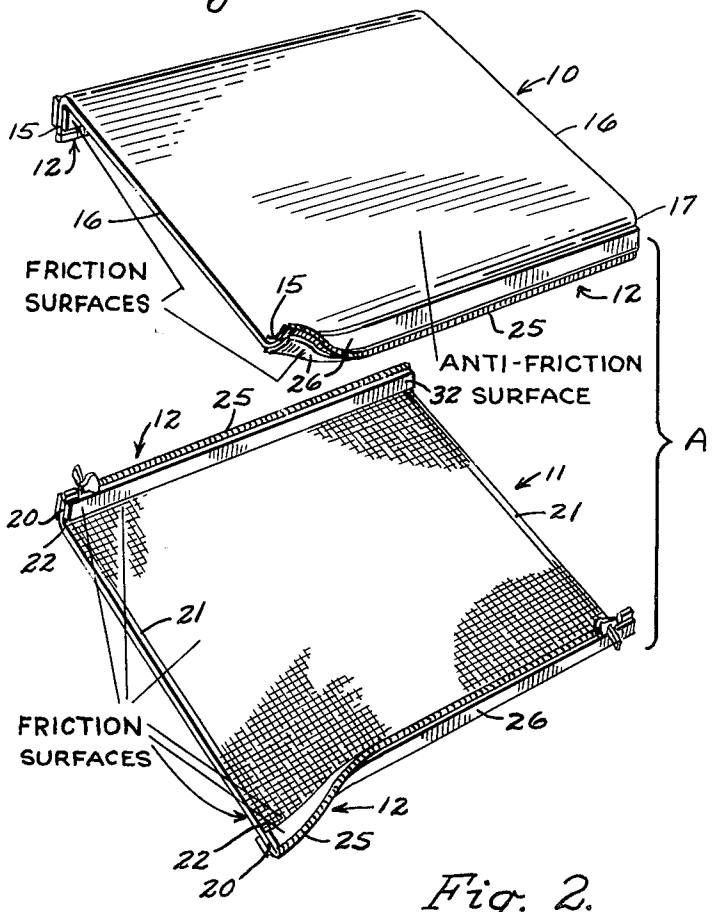
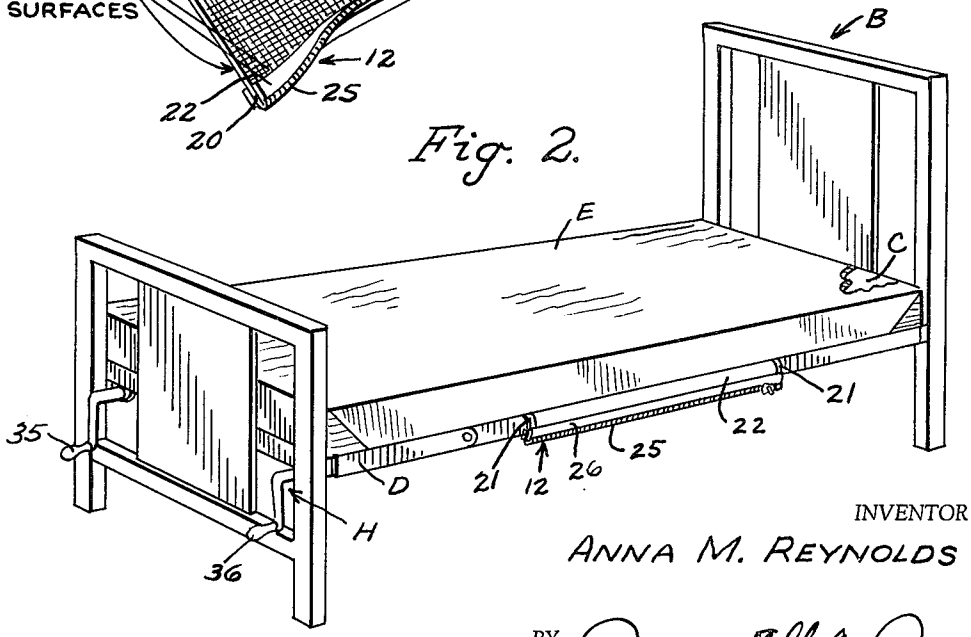


Fig. 2.



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Fig. 3.

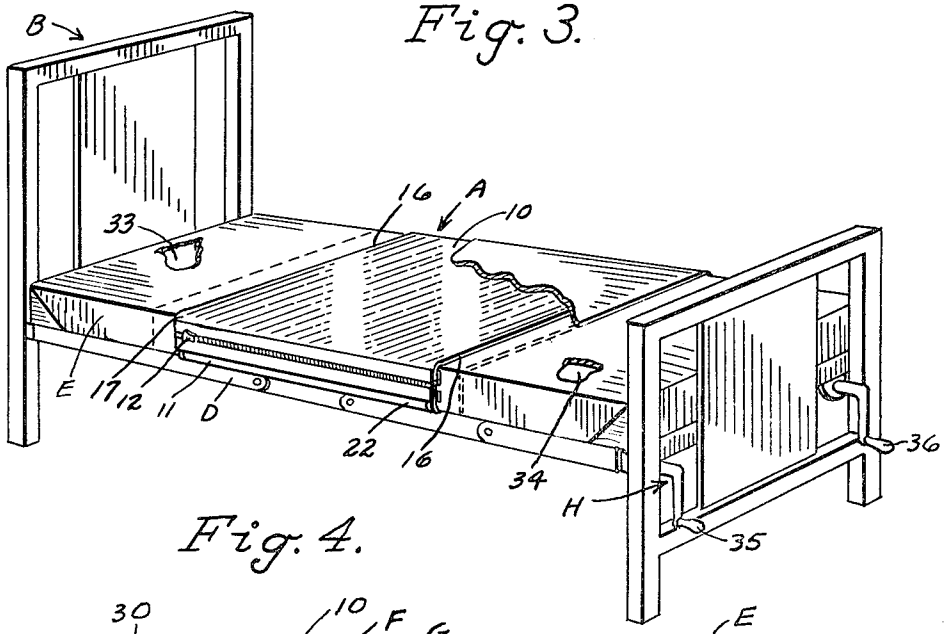


Fig. 4.

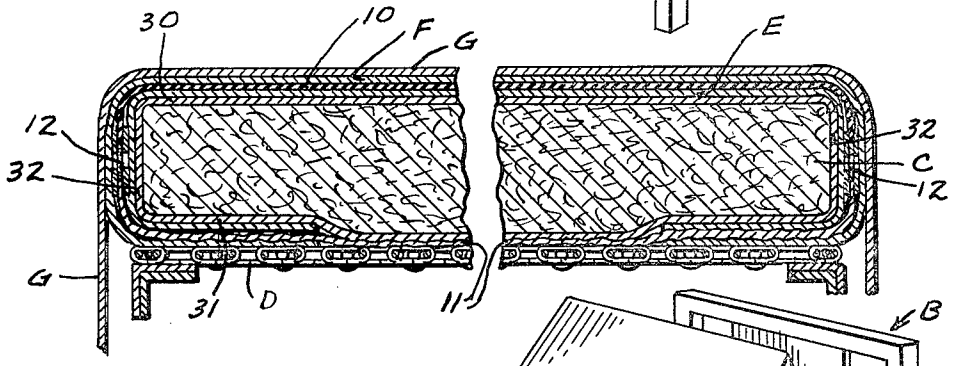
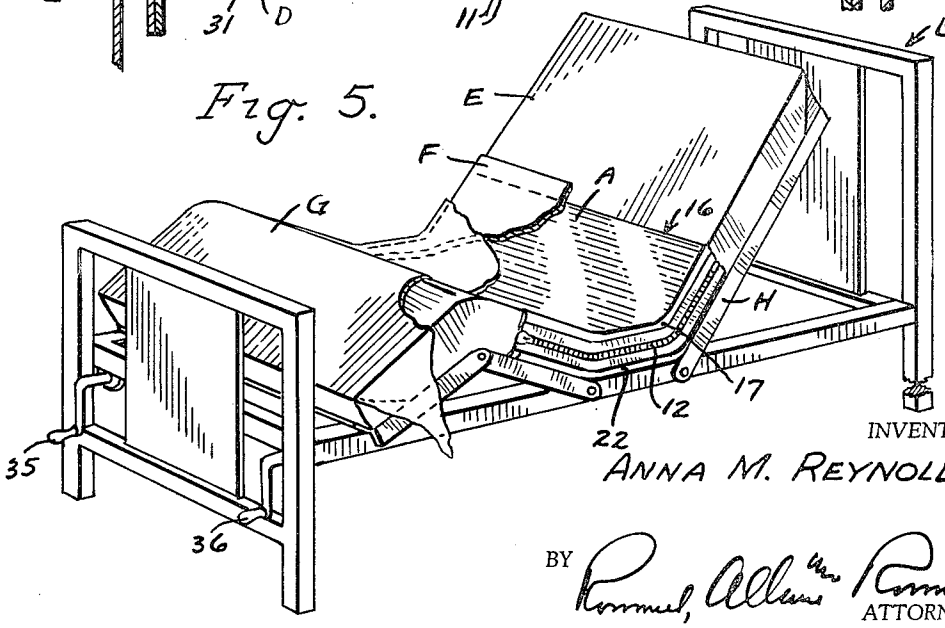


Fig. 5.



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TUBULAR PROTECTIVE COVERING FOR BEDDING

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Filed June 18, 1963, Ser. No. 288,778
3 Claims. (Cl. 5—335)

This invention relates to bedding and more particularly to protective coverings which form portions of bedding.

Bedding, particularly hospital bedding, may include a protective sheet of moisture impervious material laid over a portion of the upper face of a mattress. It may also extend over portions of the side faces of the mattress and have its side edge parts tucked between portions of the lower face of the mattress and facing portions of the bed spring structure. Such sheets are generally of less length than the length of the mattress, whereby only the tucked-in side edge parts of the protective sheet retain the same from lateral and longitudinal movements. As a consequence, whether the protective sheet is tucked in or not, body movements of the occupant of the bed, and elevation and lowering of portions of the mattress, in the case of a hospital bed, tend to cause the protective sheet to creep, fold, wrinkle or bunch which, in turn, causes discomfort to the occupant since a portion of his body lies upon the protective sheet. Frequently, also, more or less vigorous pulls are required upon the protective sheet in order to straighten the sheet so it will lay flat beneath the patient or the latter must be moved from the sheet in order to effect smoothing thereof. If the sheet develops tears or cracks, the entire sheet must be discarded.

An important object of this invention is to provide a tubular protective covering for stretching substantially smoothly over and continuously underneath a mattress, whereby no part of the covering can pull out from beneath the mattress and the covering will remain in place and will be free of wrinkles, folds and the like.

Another important object of the invention is to provide a tubular protective covering including an uppermost sheet of pliable and moisture-impervious material, having a good anti-friction surface, and a lowermost sheet of pliable material having a defined friction surface, which is adapted to grip the under face of a mattress from one side edge thereof to the other side edge thereof, so as to tend to prevent creeping, folding, creasing, wrinkling, bunching or the like of the protective covering.

Still another important object of the invention is to provide a tubular protective covering, as described above, in which the two sheets mentioned may be detachably connected as by separable fasteners along lines which extend longitudinally of the side faces of a mattress, intermediate the horizontal planes of the upper and lower faces or surfaces of the mattress and the detachable connection means includes portions of material having friction surfaces tending to add to the ability of the tubular protective covering to remain in place and not creep, fold, wrinkle, bunch or the like.

Additionally, another important object of the invention is to provide a tubular protective covering for beds, such as hospital beds which include means for elevating and lowering selected portions of the bedspring structure and mattress thereabove, with such portion of the mattress encircled by the tubular protective covering. Because of its structure, the latter will not creep during such raising or lowering, and neither will it tend to bunch, fold, wrinkle or the like.

A further important object of the invention is to provide a tubular protective covering as referred to above,

wherein the lowermost sheet may remain in place under the mattress while the uppermost sheet is detached therefrom, removed, cleaned and replaced, or a damaged uppermost sheet removed and replaced by another uppermost sheet. Of course, in the event the lowermost sheet becomes unuseable, it may be removed, laundered and/or replaced by another lowermost sheet without sacrificing the uppermost sheet.

Still another important object of the invention is to provide protective sheets for bedding which will conserve the time of those making up beds, particularly hospital beds, since the uppermost sheet may be readily removed from under an occupant either by sliding it out or by moving (as by drawing or rolling) the occupant to one side of the bed, detaching the uppermost sheet from the lowermost sheet, rolling up the exposed portion of the former, drawing the occupant over and beyond the rolled-up portion and thus freeing the protective sheet so that another may be substituted by reversing the technique just described. During the time the uppermost sheet is detached from the lowermost sheet, the side edge portions of the latter hang down from the sides of the bed, readily available for connecting a substituted uppermost sheet thereto.

Other objects and advantages of the invention will be apparent during the course of the following detailed description of the invention, taken in connection with the accompanying drawings, forming portions of this disclosure, and in which drawings:

FIG. 1 is a perspective view of the two sheets and their detachable connection means constituting the tubular protective covering.

FIG. 2 is a perspective view of a bed, with mattress thereon and the lowermost sheet disposed below the mattress but with side edge portions exposed.

FIG. 3 is a perspective view, somewhat similar to FIG. 2 but with the uppermost sheet disposed on the mattress and connected with the lowermost sheet.

FIG. 4 is a transverse vertical sectional view of the tubular protective covering in place, associated with the mattress and other bedding, this being on a scale enlarged over that of FIG. 3.

FIG. 5 is a perspective view of the bed of FIGS. 2 and 3, but with a portion of the spring structure, mattress and tubular protective covering raised.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of the invention and wherein similar reference characters designate corresponding parts throughout the several views, the letter A designates the preferred embodiment of the tubular covering; B, a bedstead; C, a mattress therefor; D, a conventional jointed bedspring structure supporting the mattress C; E, an under bedsheet; F, a drawsheet; G, an upper bedsheet; and H means for raising and lowering portions of the bedspring structure.

The tubular protective covering A comprises an uppermost sheet **10**, a lowermost sheet **11** and detachable connection means **12** for connecting together the sheets **10** and **11** to form a tubular structure, closed peripherally but open at both ends.

Specifically, the sheet **10** is of pliable material, with at least a smooth anti-frictional upper surface or face, and having opposite substantially parallel side edges **15** and opposite substantially parallel end edges **16**, normal to the edges **15**. Preferably, the material of the sheet **10** is smooth rubber, although a synthetic plastic material may be used provided it is adapted to be formed in sheets, is pliable smooth-surfaced and non-toxic.

The sheet **11** is of pliable material, with at last a defined friction surface on one side thereof, which will provide the mattress-facing-and-contacting surface. It

has substantially parallel side edges **20** and its end edge portions may be overturned to provide substantially parallel hems **21**, which may be stitched or adhesively held in place. The sheet **11** is preferably of duck, such as ten-ounce duck or other like material having a defined friction surface. Duck of this weight has a very definite friction surface feel. Canvas with a decided friction surface may be substituted, but duck is preferred.

Both sheets **10** and **11** are preferably of the same overall area and the sheet **10** is adapted to cover, for example, substantially one-third of the area of the uppermost face or surface **30** of the mattress C and have an overhang **17** at the opposite side faces of the mattress, as will be more fully described later in this specification. The sheet **11** may cover, for example, substantially one-third of the area of the lowermost face or surface **31** of the mattress C and have an overhang **22** at the opposite side faces of the mattress, also as will be fully described later in connection with the detachable connection means **12**. Of course, the sheets **10** and **11** may be provided to cover less or more of the mattress areas referred to above but there would be no point in tucking them in at the head **33** and foot **34** of the mattress C. A desirable distance for the edges **16** from the head **33** and foot **34** of the mattress is shown in FIG. 3.

The detachable connection means **12** are preferably of the separable-fastener type in which the plurality of cooperating separable fasteners **25** may be zippers or those described in United States Patent 2,717,437 dated September 13, 1955, for Velvet Type Fabric and Method of Producing Same. The separable fasteners **25** may be attached to narrow strips or edgings **26** of the same material as that of the sheet **11** and these may be secured, as by stitchings, to the side edge portions of the sheets **10** and **11**, where they provide additional friction means. As may be appreciated from FIGS. 3, 4 and 5, the widths of the overhangs **17** and **22**, plus the widths of the strips or edgings **32** and their separable fasteners **25** should be such that the total widths mentioned will extend tautly over the side faces of the mattress C and cause the sheets **10** and **11** to assume the shapes shown in FIGS. 3 and 4 and to assume the shapes shown in FIG. 5, when the bedspring structure D is manipulated to the position shown by way of example.

With the sheets **10** and **13** temporarily separated and the bedstead B unoccupied, the under bedsheet is positioned over the upper face **30** of the mattress and the edge portions of the bedsheet tucked in, the mattress C is raised in order to place the lowermost sheet **11** in place upon the upper face of the bedspring structure D but with the two overhangs **22** and their detachable connection means **12** depending, and the mattress is lowered. The overhangs **22** and their detachable connection means **12** are, however, exposed, as may be appreciated from FIG. 2. The uppermost sheet **10** is then positioned such as shown in FIG. 3 and connected to the sheet **11** by the means **12**, whereupon the drawsheet F and upper bed sheet G are spread as is believed obvious.

In the event there is an occupant of the bed, who should not be relieved therefrom, the upper bed sheet G is removed and the occupant is moved to the extreme one

side of the bed, the means **12** manipulated in order to detach the sheets **10** and **11**, and the drawsheet F, sheet **10** and under bed sheet E folded (so as to occupy an area of the mattress close to the occupant's body, leaving an area of the mattress exposed), and a folded clean drawsheet F, folded substituted sheet **10** and clean under bed sheet E, laid over this last-named area, all folded so that, when the occupant is moved to the extreme other side of the bed, the soiled drawsheet, uppermost sheet **10** and under bed sheet may be removed, the clean drawsheet **10** and under bed sheet spread out, the last tucked in, and the sheet **10** connected with the sheet **11**, which has remained in place throughout all these operations.

Various changes may be made to the form of the invention herein shown and described without departing from the spirit of the invention or scope of the claims.

What is claimed is:

1. In combination, a removable under bedsheet and a removable tubular cover for stretching over and under said bedsheet, said removable under bedsheet having an uppermost portion for stretching loosely over the upper surface of a mattress, an edge portion for tucking loosely under the lower edge portions of said mattress, said removable tubular covering comprising an uppermost sheet of pliable moisture-impervious material having an anti-friction surface over its entire area, a lowermost sheet of pliable material having a defined friction surface over the entire upper area, each of the sheets having end and side edge portions, and detachable connection means along the side edge portions of each sheet for detachably connecting the sheet together at their side edge portions.

2. In combination, a removable under bedsheet and a removable tubular cover for stretching over and under said bedsheet, said removable under bedsheet having an uppermost portion for stretching loosely over the upper surface of a mattress, an edge portion for tucking loosely under the lower edge portions of said mattress, said removable tubular covering comprising an uppermost sheet of pliable moisture-impervious material having an anti-friction surface over its entire area, a lowermost sheet of pliable air-pervious material having a defined friction surface weave over its entire area, each of the sheets having end and side edge portions, and detachable connection means along the side edge portions of each sheet for detachably connecting the sheet together at their side edge portions.

3. The combination as defined in claim **1** characterized in that the side edge portions of the uppermost sheet are provided with anti-friction material to which portions of said detachable connection means are fixedly connected.

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FRANK B. SHERRY, *Primary Examiner.*