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3,384,908

BEDDING COVER

Filed April 15, 1965

FIG. 1.

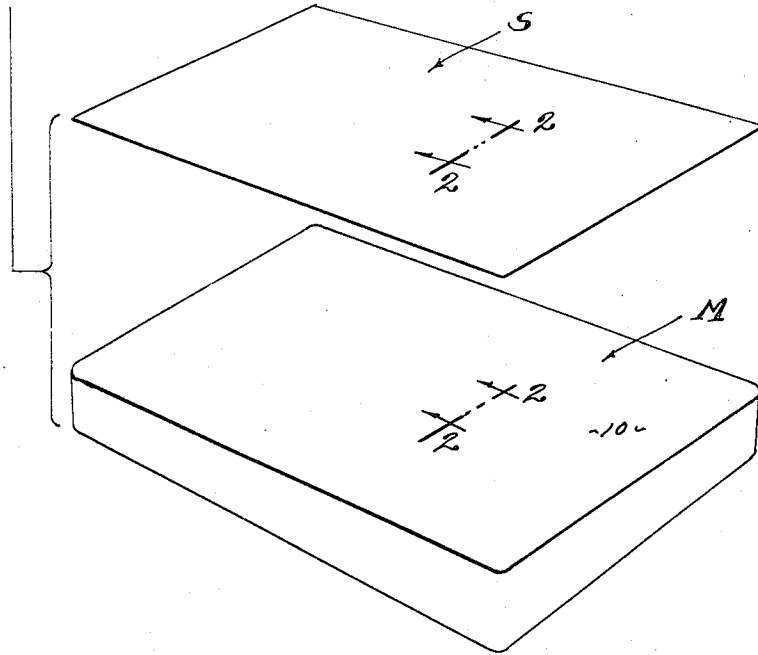
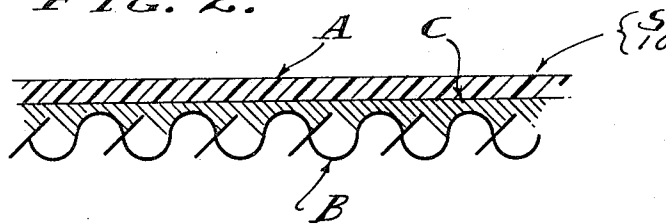


FIG. 2.



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BEDDING COVER

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ABSTRACT OF THE DISCLOSURE

This invention relates to beds and is particularly concerned with hospital bedding, it being a general object of this invention to provide a new and improved cover or draw sheet of heat transferring material for use on hospital beds and the like.

Hospital beds give rise to problems related to sanitation, and to the maintenance of freshness, due to disease and/or infection in the patient. Therefore, the use of draw sheets over mattress covers is standard procedure for the protection of the bedding, thereby preventing liquids from contacting the bedding or mattress per se. Such a draw sheet is usually a waterproof film that is more or less supple and at least flexible so as to conform with body contours that depress into the bedding. Although such draw sheets are successful from the viewpoint of preserving the bedding or mattress for longer life, these common draw sheets are detrimental to the comfort and health of the patient lying thereon. Needless to say, the patient is many times in a helpless and substantially immovable condition and cannot voluntarily control himself so as to compensate for elimination processes, natural or unnatural. For example, a patient's skin must breathe and which requirement is aggravated by the patient's own temperature condition as well as by the surrounding atmospheric conditions. As a result, hospital patients who are bedridden for any substantial time develop bed sores and suffer considerable discomfort, all due to factors related to immobility of the patient coupled with inability of the bedding cover or draw sheet to cope with the unnatural conditions that are imposed upon said patient.

The common and universally employed draw sheet that is used is made of rubber, and these rubber sheets are not satisfactorily heat conductive and which consequently inhibits proper body perspiration. Likewise, the ticking cover of the hospital bedding is often waterproofed, so to speak, with a coating of tough and rather heavy and/or stiff material without discriminate selection of said material, and these covers and/or ticking are not conducive to the dissipation of heat and which also inhibits proper body perspiration. Therefore, it is apparent that protection is ordinarily afforded to the hospital bedding but with adverse conditions imposed upon the patient, namely the imposition of conditions which inhibit perspiration and which ultimately results in bed sores, to say nothing of discomfort. Further, the above said perspiration inhibiting condition is alleviated to some extent by employing a large chamois or sheepskin interposed between the patient and the said bedding, but at considerable expense and which is effective for but a short time.

From the foregoing it is apparent that there is a great need in connection with hospital bedding to provide protection for the mattresses and as well to provide conditions conducive to the natural function of perspiring and without which function the patient is surely to develop bed sores in very short order. To these ends, therefore, it is a general object of this invention to provide a bed-

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ding cover, either as the ticking of the mattress per se or as a draw sheet or the like, which is conducive to the natural body function of perspiring by affording heat transfer and which thereby permits said body function to occur and with a consequent lessening of the development of bed sores.

Another object of this invention is to provide heat transfer conditions between a patient and a mattress by permitting the natural function of perspiring and which eliminates the usual requirement for intermediate layers of absorbent materials and/or elements otherwise provided to prevent chafing and the like.

The various objects and features of this invention will be fully understood from the following detailed description of the typical preferred form and application thereof, throughout which description reference is made to the accompanying drawings, in which:

FIG. 1 is an exploded perspective view showing both a mattress and a draw sheet therefor.

FIG. 2 is an enlarged detailed sectional view taken as indicated by lines 2-2 on either the cover or draw sheet as indicated by the section lines on FIG. 1.

The present invention is concerned primarily with hospital bedding which is subjected to abnormal and continuous use and which involves contamination from body fluids. Therefore, the bedding cover as well as the interior structure of the bedding must be protected, and according to usual practice this protection is afforded by provision of an impervious layer of supple and pliant material over the bedding, preferably applied to the outside of the mattress ticking. However, in addition to the factor of protecting the mattress per se the function of heat transfer is to be considered in accordance with this invention.

In FIG. 1, I have illustrated both a mattress M with a cover 10 and a draw sheet S. Both the mattress M and draw sheet S are constructed according to the present invention and each comprises, generally, a fabric base B, a film A and an adhesive C. The base B is the underlying ticking which makes up the envelope containing the mattress construction, while the film A is the material which is discriminately employed in order to gain the desired function and effect of the cover 10 or draw sheet S, as the case may be.

The fabric base B can be any good quality ticking and in practice can be rayon, a synthetic cellulose fiber, of ribbed and plain weave and for example rayon faille. Such a fabric is produced in 54 inch width and in the present instance weighs 6.1 ounces per yard. Therefore, the base B is ordinary and is used as it is presently accepted in the bedding art.

In accordance with this invention the adhesive C is applied in a thin layer to the fabric base B, wetting the fabric for the reception of the film A. The adhesive can vary and in the present instance is a material similar to and/or at least compatible with the film hereinafter described. For a fabric width as specified above the adhesive weighs 1.25 ounces per yard.

The film A which characterizes the bedding cover 10 and/or draw sheet S is a heat transferring film which is discriminately employed for its heat transfer ability. Various film materials can be employed and preferably a vinyl film which has proven to be most satisfactory, being supple and/or pliant and impervious to liquids involved and capable of substantial heat transfer from the body of the patient lying thereon. The said film A is, for example, of 4.5 mil thickness and for a fabric width as specified above the film A weighs 7.0 ounces per yard. More specifically, this preferred film is a vinyl chloride material with ester type plasticizers such as dioctyl phthalate (DOP) and epoxy tallates with color pigments and

stabilizers added thereto as circumstances require. In practice, the film A is laminated onto the fabric base B to be coextensive therewith and is cemented thereto by the suitable intermediate adhesive C.

From the foregoing it will be seen that a bedding cover and/or draw sheet is provided which is conducive to the continuation of the natural body function of perspiring, without inhibiting the same. It has been found, in actual practice, that bedding constructed as hereinabove described permits said body function to occur with a substantial lessening of the tendency toward bed sores in those patients who are bedridden for any appreciable length of time. Further, the instant bedding cover is relatively inexpensive and avoids the resort to expensive alleviating elements such as a chamois or sheep skin. And, by using the materials as specified herein sterilizing of the bedding is carried out without adversely affecting the same.

Having described only a typical preferred form and application of my invention, I do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to myself any modifications or variations that may appear to those skilled in the art and fall within the scope of the following claims:

Having described by invention, I claim:

1. A mattress cover for protecting the mattress from liquids and conducive to the heat dissipation function of a person lying upon the same, and including, a flexible fabric base to overlie the mattress, and a film of supple and impervious heat conductive vinyl plastic coextensively adhered to said fabric base and upon which the person lies, whereby heat radiated from the person's body is conducted therefrom through said cover.

2. A mattress cover for protecting the mattress from liquids and conducive to the heat dissipation function of a person lying upon the same, and including, a fabric

base to overlie the mattress, and a film of impervious heat conductive vinyl chloride with an ester type plasticizer superimposed on said fabric base and upon which the person lies, whereby heat radiated from the person's body is conducted therefrom through said cover.

3. A mattress cover for protecting the mattress from liquids and conducive to the heat dissipation function of a person lying upon the same, and including, a fabric base to overlie the mattress, and a film of supple and impervious heat conductive vinyl chloride with an ester type plasticizer coextensively adhered to said fabric base and upon which the person lies, whereby heat radiated from the person's body is conducted therefrom through said cover.

4. A mattress cover for protecting the mattress from liquids and conducive to the heat dissipation function of a person lying upon the same, and including, a flexible fabric base to overlie the mattress, and a film of supple and impervious heat conductive vinyl chloride with an ester type plasticizer coextensively adhered to said fabric base and upon which the person lies, whereby heat radiated from the person's body is conducted therefrom through said cover.

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