No. 810,133. PATENTED JAN. 16, 1906.

W. R. GREEN.

ABSORBENT BANDAGE.

APPLICATION FILED JUNE 13, 1904.

Fig. 1.

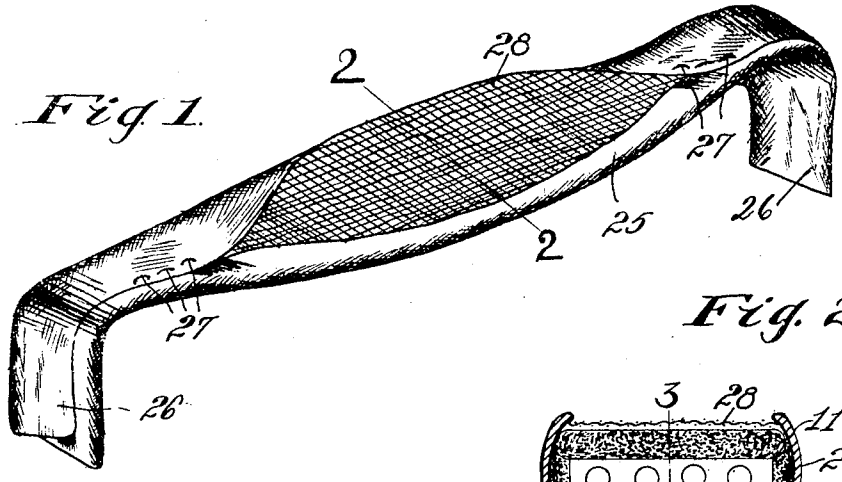


Fig. 2.

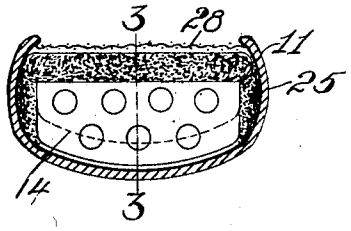


Fig. 3.

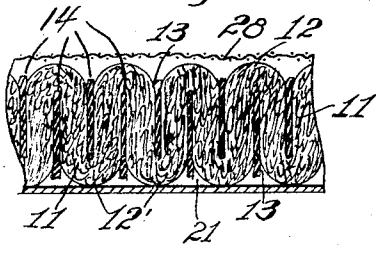


Fig. 4.

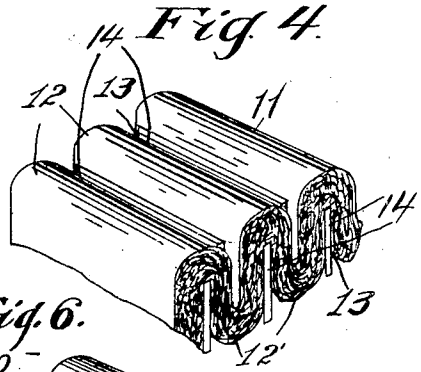


Fig. 5

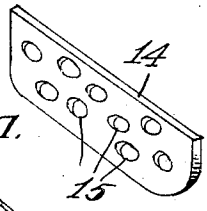


Fig. 6.

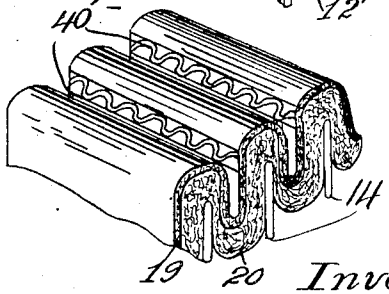
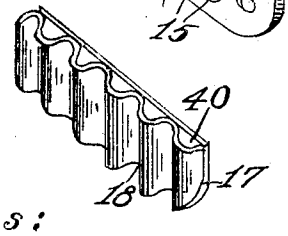


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLARD R. GREEN, OF MUSCATINE, IOWA, ASSIGNOR TO THE AMERICAN ABSORBENT FIBER COMPANY, OF PORTLAND, MAINE, A CORPORATION OF MAINE.

ABSORBENT BANDAGE.

No. 810,133. Specification of Letters Patent. Patented Jan. 16, 1906.

Application filed June 13, 1904. Serial No. 212,278.

To all whom it may concern:

Be it known that I, WILLARD R. GREEN, a citizen of the United States, residing in Muscatine, in the county of Muscatine and State of Iowa, have invented certain new and useful Improvements in Absorbent Bandages, of which the following is a specification.

This invention relates to bandages, more particularly to absorbent bandages, and has for its object to provide a bandage wherein an efficient article of manufacture may be produced and one peculiarly adapted for the purposes for which it is intended.

In the drawings accompanying and forming a part of this specification a form of my invention is illustrated, wherein—

Figure 1 is a perspective view of a form of bandage exteriorly considered. Fig. 2 is a cross-section on the line 2 2 of Fig. 1, showing certain features of the present improvement as embodied in a bandage. Fig. 3 is a partial longitudinal section upon the line 3 3 of Fig. 2. Fig. 4 is a perspective view of a portion of the absorptive member. Fig. 5 is a perspective view of a side-bracing member which may be employed. Fig. 6 is a perspective view of a different form of the present invention, and Fig. 7 is a perspective view of a form of cell-space or side-bracing member.

Similar characters of reference designate corresponding parts through the various figures of the drawings.

The bandage may be made up of a suitable cover-sheet 25, surrounding the absorptive and receiving mass or member, and which sheet may have its ends lapped one over the other, forming securing members 26, the ends of the cover-sheet being fastened by suitable stitches 27 or other means, as may be desired. The cover-sheet will leave a suitable opening for the reception of material for absorption, and which opening may be provided with some suitable cover-sheet 28, of suitable material or fabric, which will readily admit the passage of the material for absorption. This opening or receiving cover-sheet may in some instances be omitted, if desired.

In accordance with my present improvements the absorbent mass (designated in a general way by 11) is composed or built up of a series of absorbent units which are disposed transversely of the bandage and which are also disposed vertically of the absorbent mass, whereby the fiber of the mass is so organized as to provide for a high degree of flexibility in the absorbent mass considered as a whole. This mode of organizing the absorptive material is readily effected by first forming the absorbent into a layer or bat of suitable openness of texture of a moderate thickness and then folding the same back and forth in about the manner illustrated, for instance, in Fig. 3. This construction brings alternate folds or bends, as 12 12, to lie side by side transversely of the mass and at the upper side of the same and normally forms relatively open but shallow spaces, as 13, between the successive folds. In some cases, however, the vertical disposition of the successive absorbent units may be obtained by cutting the prepared material into properly-shaped units and then packing these side by side, thus avoiding the folding, but otherwise obtaining a construction and organization analogous to the one especially illustrated in Fig. 3.

For the purpose of increasing the efficiency and permanence of form of the bandage as a whole side-bracing members, as at 14, may be introduced between a plurality of series of the vertically-disposed absorbent units. A suitable form of side-bracing member is indicated in Fig. 5, it consisting, as there represented, of a plate-form member having perforations 15 therein. In practice this member may itself be made of absorbent material. One material suitable for this purpose is paper of the kind designated as "soda-stock," which is highly absorbent, combined with a moderate amount of stability, and at the same time is of low cost. Some grades of strawboard are also suitable for this purpose.

A further feature of the present invention relates to the employment, in connection with the described organization of the absorptive material, of transversely-disposed members 40, (see Fig. 7,) having open spaces or cells of the character of chambers. These members being inserted between successive absorption units, as indicated, for instance, in Fig. 6, operate not only as side-bracing members for the bandage, but also operate as conduits or open channels through

which any fluid received on the surface of the bandage will be immediately conducted downwardly to the absorbent material along the bottom of the absorbent mass. In this way the receptive power and absorbent capacity of the whole mass is modified and improved.

A further feature illustrated in the drawings relates to the employment, in the general construction, of transversely-disposed absorbent units and located underneath the upper folds 12 of said units and above the lower folds 12′ thereof. The member illustrated in Fig. 5 is deemed to be of suitable construction therefore. The members shown in Figs. 5 and 7 are similar in that they each carry or provide a cell or chamber space, the member 40 in Fig. 7 being comprised of a corrugated body 17, having stays 18 secured to the summits of such corrugations.

A further feature of the improvement is particularly illustrated in Fig. 6, in which the absorbent material is represented as being prepared in two thicknesses or layers 19 and 20, these layers being formed separately, or, as I prefer, in direct connection, so as to be used as one member. This mode of preparing the material can in practice be readily carried out in the factory, a form of which is shown and described in my copending application, Serial No. 212,280, filed June 13, 1904. When this kind of an absorbent layer is employed, I prefer to make the larger portion of the material—as, for instance, the lower layer 20—of relatively coarser woody strands mingled together and suitably connected.

In Fig. 6 the form of cell-space member represented in Fig. 7 is shown as employed in connection with the cell-space member shown in Fig. 5. The latter being for the purpose of side-bracing and in communication between the various parts, although the parts will in the final disposition of the material for absorption doubtless retain coagulated portions thereof, yet its primary functions are side-bracing and distributing, whereas the corrugated members, having the elongated cell-spaces, will immediately receive the material for distribution and pass the same into the body of the bandage, it being apparent that by such means the material will be carried downwardly toward the bottom part of the bandage to be there absorbed and that other portions will be absorbed by the material at the various locations where it may lodge after passing through the receiving-sheet of the bandage, if in practice a receiving-sheet is employed. It may of course be omitted in certain cases. It will also be noticed that in this form of bandage chamber-spaces 21 exist between the lowermost folds of the absorbent mass, which chamber-spaces will be useful in the distribution of the material and in the final disposition thereof.

Having thus described my invention, I claim—

1. A bandage comprising a sheet of absorptive material folded upon itself in lines transversely disposed to the length of the bandage, and having its various layers disposed perpendicularly to the bandage.

2. A bandage comprising a sheet of absorptive material folded upon itself in lines transversely disposed to the length of the bandage, and having its various layers disposed perpendicularly to the bandage, and side-bracing members between some or all of the layers.

3. A bandage comprising a sheet of absorptive material folded upon itself in lines transversely disposed to the length of the bandage, and having its various layers disposed perpendicularly to the bandage, and chamber-spaces between some of the folds.

4. An absorptive bandage, having means to support the same, of a body of absorptive material therein, comprising a sheet, one portion of which is made of relatively coarse compacted wood strands, and the other portion of which is made of a relatively fine compacted stock, the sheet being folded upon itself to form a number of folds, the planes of the layers whereof are perpendicularly disposed to the bandage and transversely thereto, and corrugated cell-space members between the folds.

5. In a bandage, the combination with a body of absorptive material, comprising a sheet of woody strands folded upon itself and having corrugated members interposed between the folds at the receiving-face of the bandage.

6. A bandage comprising supporting means, and a sheet or layer of absorbent material folded upon itself with its several layers perpendicularly disposed with relation to said supporting means.

7. A bandage comprising supporting means, a sheet or layer of absorbent material folded upon itself with its several layers perpendicularly disposed with relation to said supporting means, and means for separating some or all of the folds.

8. A bandage comprising a cover-sheet having an opening, and a sheet or layer of absorbent material folded upon itself transversely to the length of the cover-sheet, with its various layers disposed perpendicularly to the cover-sheet and with some of the folds thereof toward the opening of the cover-sheet.

Signed at Nos. 9 to 15 Murray street, New York city, New York, this 11th day of June, 1904.

WILLARD R. GREEN.

Witnesses:
FRED. J. DOLE,
JOHN O. SEIFERT.