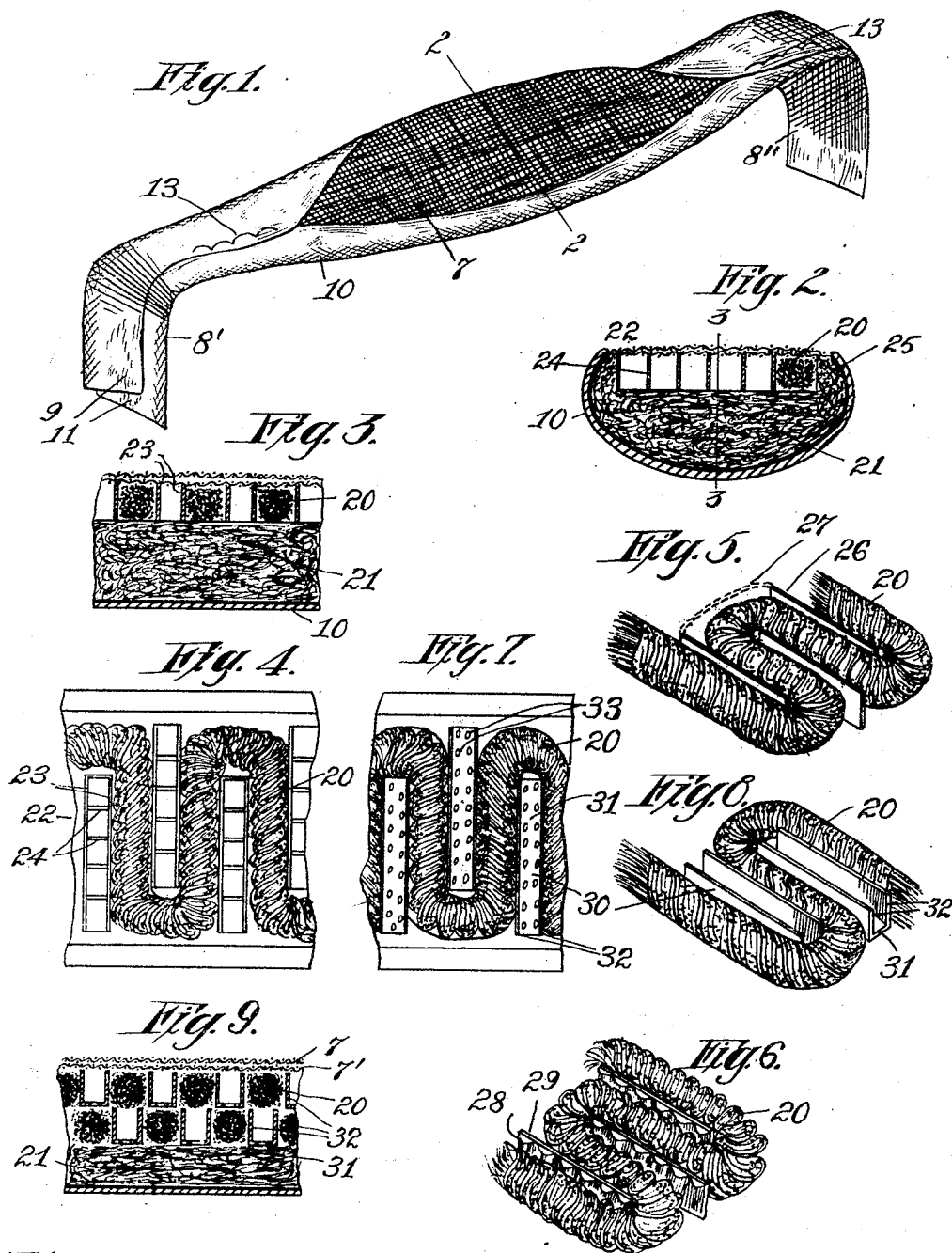


No. 810,132.

PATENTED JAN. 16, 1906.

W. R. GREEN.
 ABSORBENT BANDAGE.
 APPLICATION FILED JUNE 13, 1904.



Witnesses:
 Robert Add
 R. W. Pittman

Inventor:
 Willard R. Green,
 By his Attorney,
 F. H. Richards.

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. 810,132.

Specification of Letters Patent.

Patented Jan. 16, 1906.

Application filed June 13, 1904. Serial No. 212,277.

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 that class of articles commonly known as "absorbent bandages," and has for its object to provide an improved article of this class of simple construction, efficient in action, and adapted to be manufactured at low cost.

In the drawings accompanying and forming a part of this specification, Figure 1 is a perspective view of an absorbent bandage made in accordance with my present improvements. Fig. 2 is a cross-sectional view taken in line 2 2, Fig. 1. Fig. 3 is a longitudinal sectional view of a portion of the bandage, this view being taken in line 3 3, Fig. 2. Figs. 4 to 8, inclusive, represent various forms of arrangement of one of the members of the bandage—namely, the initial receiving and distributing portion; and Fig. 9 is a view on the same section as Fig. 3, but showing a different arrangement of the receiving and distributing portion of the bandage.

Similar characters of reference indicate like figures in all the drawings.

In absorbent bandages designed for taking up relatively thick fluids or semifluids there is a tendency for the thicker portions to clot or coagulate and so impair the absorptive and distributive capacity of the absorbent materials of which the bandage may be built up.

One of the objects of my present improvement is to provide a construction and arrangement of the component members of the bandage adapted for overcoming in a large degree the objections referred to and at the same time provide for the employment in the making of the bandages of absorptive materials of low cost and to organize these materials in such manner as to develop and maintain a high degree of receptivity and conductivity for the absorbed fluids and semifluids.

In the drawings the absorptive or receiving members are shown carried in some suitable cover-sheet, which is indicated in a general way by 10. This covering or holder may consist of a suitable fabric, preferably waterproofed of light weight which may, if desired, be specially woven for the purpose. The

ends of the sheet are shown folded to form attaching portions 8' and 8'' for the bandage. In practice this fold may be made as indicated, for instance, in Fig. 1, the edges 9 and 11 being folded one over the other and held in place by stitching or by a metallic or other suitable connecting means, as indicated, for instance, at 13.

In the drawings the absorbent mass of material is represented as divided into two principal portions, an upper receiving member 20 and a lower retaining member 21. It is one of the advantages of my present improvement that both of these members may be made of the same kind or of an analogous mass of absorptive fibrous material, especially of wood in the form of small and narrow shavings or fiber-like strands, these being preferably substantially flat in section and mingled together in miscellaneous directions and suitably compressed or compacted to a proper density for making them have a substantial degree of capillary capacity for taking up and retaining the fluids.

The absorptive material, including the two portions 20 and 21 thereof, are shown contained in and supported by some suitable cover-sheet, as 10, the end portions of which may be suitably extended in folded form or otherwise, as represented, for instance, in Fig. 1, for providing a means for attachment.

In the form of construction shown in Fig. 4 the cell-space or receiving-space members 22 comprise elongated bodies having sides 23 and intermediate compartment-forming portions 24, whereby the members are built up of a number of cells, as it were, the member as a whole comprising a cell-space structure. These may be open at the top and bottom to permit ready flowage of the fluid there-through. 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. The bending of the stands about such spacing members will bring a fold and one of the spacing members at each side of the bandage, and in practice the absorbent material 21 will come against such end portion of the fold and the spacing member and form the pad 25, which

pad may, as was before stated, be of the same material as the absorbent mass or may be of a different material or of a different quality of the same material, as the case may demand.

The receiving-space between the strands may be reduced down to a narrow limit—as, for instance, shown in Fig. 5—wherein some strips of material 26 are employed to lie between the various folds, and such material may be fastened together at the ends, as illustrated by the dotted lines 27. This will afford stability to the bandage in certain directions, if found desirable in practice.

In Fig. 6 the spacing members are shown as comprising bodies 28 of corrugated stock, having a stay 29, secured to the summits of the corrugations, whereby the corrugations will be maintained from collapsing and will also maintain the cell-space from intrusion of the fibrous material of which the strand is constructed.

In Figs. 7 and 8 the spacing member 30 comprises elongated troughs having bottom portion 31 and sides 32. These troughs open at the end to distribute the material received laterally and carry it away from the point of reception. The troughs may be provided with perforations 33 to permit the fluid in its lateral flow to also pass through such perforations and find access to the absorbent mass below, thereby facilitating the even distribution over the entire mass.

In the construction and arrangement illustrated in Fig. 9 it is contemplated to employ a plurality of layers or tiers of the character illustrated in Fig. 8, which said tiers are respectively represented as being composed of fiber stock and chamber-space and together forming a flexible mass adapted to quickly receive and hold a relatively large amount of fluid. The lower layer may, as illustrated, have its fiber stock lying below the chamber-spaces of the upper tier and its chamber-spaces below the fiber stock, thus facilitating the ready disposition of a flood of material for absorption and providing means for retaining unabsorbed portions at regions relatively near its initial reception.

The feature of the rope-like strand of absorbent extending around and passing the sides of the bracing member and illustrated herein is claimed in my copending applica-

tion, Serial No. 211,935, filed June 13, 1904, and the feature of the rope formation of absorbent is claimed in my copending application, Serial No. 212,897, filed June 16, 1904, and the feature comprising one or more strands folded upon itself, and means located between the folds for separating them constitutes in part the subject-matter of my copending application, Serial No. 211,937, filed June 10, 1904.

Having thus described my invention, I claim—

1. In a bandage, the combination with a supporting member, of an absorptive member comprising a rope formed of fibrous absorbent, and a series of troughs about which the rope is folded.

2. In a bandage, the combination with a supporting member, of an absorptive member comprising a rope formed of fibrous absorbent, and a series of perforated troughs about which the rope is folded transversely of the bandage.

3. In a bandage, the combination with a cover-sheet, of a body of absorptive material therein in the form of a rope folded upon itself a number of times, side bracing members in the form of troughs between some or all of the folds of the rope, and a body of absorptive material below such rope and side-bracing members.

4. In a bandage, the combination with a supporting member, of a body therein comprising a rope folded upon itself and trough-like receiving and distributing chamber-space-forming members between the folds, and a similarly-formed body imposed thereon.

5. In a bandage, the combination with a supporting member of a mass of absorbent therein, a rope folded upon itself and lying upon such mass and having trough-like receiving and distributing chamber-space-forming members between the folds and a similarly-formed body imposed thereon, having the absorbent members overlying the chamber-space-forming members in the first-mentioned series.

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

WILLARD R. GREEN.

Witnesses:

FRED. J. DOLE,
JOHN O. SEIFERT.