E. H. ANGIER.

COMPOSITE SHEET.

APPLICATION FILED NOV. 11, 1915.

1,352,774. Patented Sept. 14, 1920.

Fig. 1.

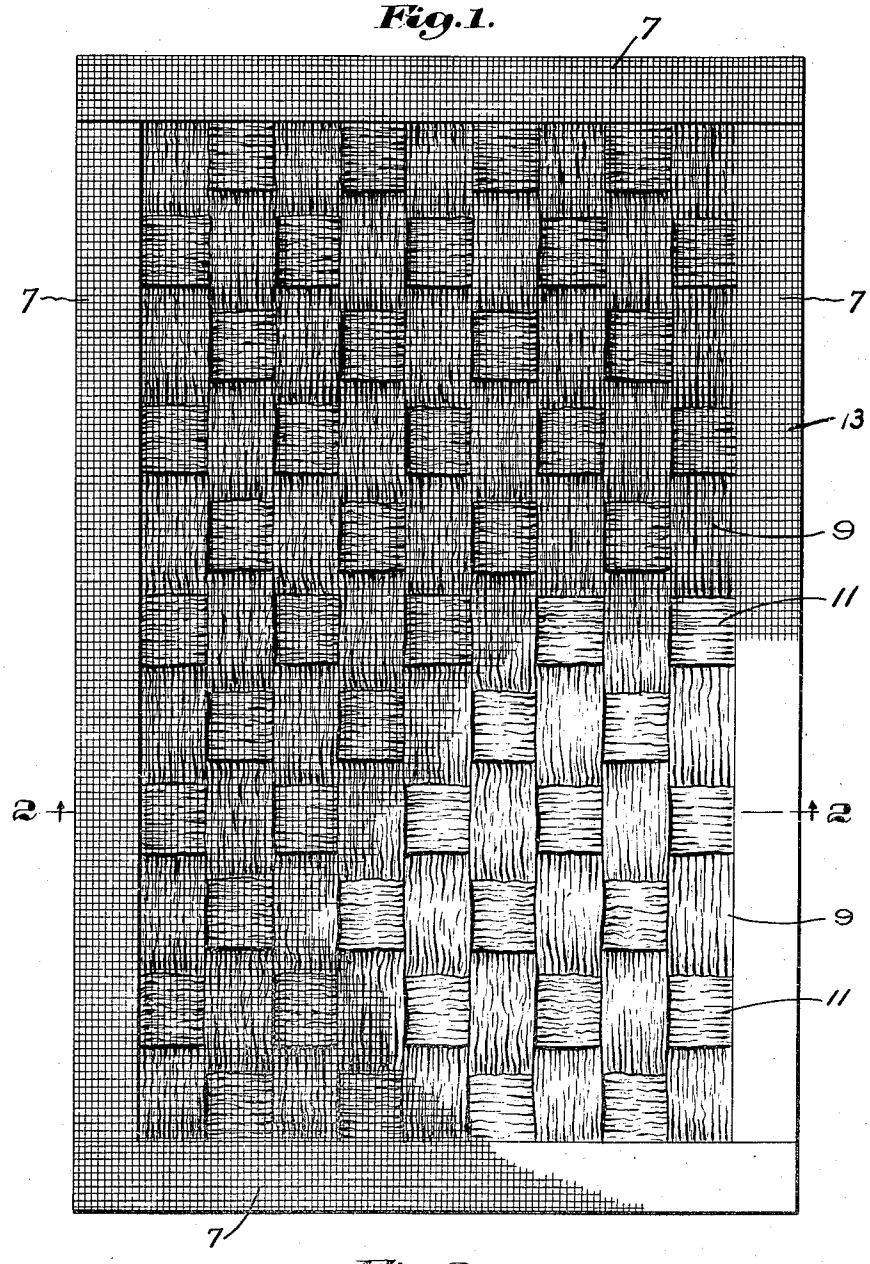
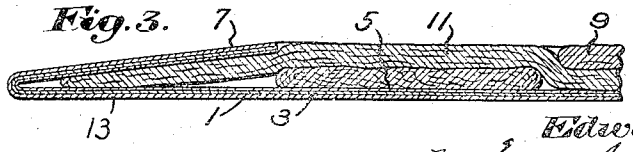


Fig. 2.



Fig. 3.



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UNITED STATES PATENT OFFICE.

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COMPOSITE SHEET.

1,352,774. Specification of Letters Patent. Patented Sept. 14, 1920.

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To all whom it may concern:

Be it known that I, EDWARD H. ANGIER, a citizen of the United States, and a resident of Framingham, Massachusetts, have invented an Improvement in Composite Sheets, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to composite sheets and among other objects aims to provide a cheap, soft, absorbent pad for use in connection with surgical operations.

The character of the invention may be best understood by reference to the following description of an illustrative embodiment thereof shown in the accompanying drawing, wherein,—

Figure 1 is a plan view of the illustrative pad shown herein as embodying the invention with a part broken away;

Fig. 2 is a transverse section taken on line 2—2 of Fig. 1; and

Fig. 3 on an enlarged scale is a sectional detail to be referred to.

Referring to the drawing, the illustrative pad shown therein as embodying the invention comprises a backing 1 of paper or other material which may have its upper face coated with a layer 3 of asphaltum or other suitable waterproof material. To protect this layer and present a smooth surface, a thin paper layer 5 may be superposed thereon.

Margins 7 may be bent upward and inward from the body of the composite sheet formed as described, and have their ends at the corners of the pad overlapped and secured together by an adhesive.

The backing with its upturned margins forms a waterproof receptacle which may receive any liquid or liquid-containing matter which may be deposited thereon and prevent the escape thereof past the edges of the pad. The margins may be bent upward more or less according to the capacity desired.

An important feature of the invention relates to the provision of absorbent means which may be superposed upon the backing or container described. This absorbent means is typified herein in the form of a woven layer made up of paper strands 9 extending in one direction, and similar strands 11 extending transversely thereto. Each strand may be made of a large sheet of tissue paper which may be crumpled or compacted by drawing the same through a funnel. For example, a sheet of thin tissue paper thirty-six inches in width may be drawn through the funnel and compacted to form a strand three inches in width. When thus compacted, the strand will present considerable fullness and have an extended surface capable of absorbing a large amount of liquid and having a desirable cushion effect.

Obviously, the strands may be assembled with a varying closeness or tightness according to conditions of use. Substantial interstices may occur at the juncture of the crossing strands and present depressions into which liquids deposited on the pad will quickly gravitate owing to the fact that the surfacing of the paper usually has a sizing or finish which would offer a slight resistance to the absorption of the liquid thereby. This resistance, however, is quickly overcome and the water enters the paper if it is allowed to rest thereon. The water on gravitating from the high spots of the crossing strands into the depressions between them, may spread and flow beneath said strands, along the smooth surface of the backing and thereby be distributed to a substantial part of the pad and prevent over-saturation thereof locally.

In drawing or compacting the large sheets into relatively small strands as described, sufficient air may be pocketed within the strands which will contribute to their fullness and add to the cushion effect thereof.

The absorbent layer may have its edges inserted beneath and secured to the backing margins as by an adhesive. In some cases the absorbent layer may be secured to the backing by an adhesive and the longitudinal and transverse strands may have their crossing points in adhesive engagement.

To contribute to the desirability of the pad for surgical purposes, the paper forming the absorbent cushion strands may be treated with any suitable sterilizing agent.

A sheet 13 of gauze or netting may be spread over the upper surface of the absorbent layer and have its margins secured to the edges of the backing. This sheet will serve to protect the absorbent layer and contribute to the smoothness thereof.

While for purposes of illustration the

strands of the absorbent sheet have been shown as woven, they may be otherwise arranged. For example, they may simply cross without being woven or they may be stretched across the backing parallel to one another. Obviously any number of layers of the absorbent material may be provided to produce more or less absorbent the cushion effect as desired.

The pad described may be of any area or made up into any form desired. One important use would be as a substitute for the cotton sheets now placed on the operating table beneath patients. From the above description the advantages of the pad in this use will be obvious. It serves as a soft, clean cushion for the patient to rest on and its high absorbent quality will materially add to the comfort of the patient. The pad is so cheap that after once used it may be rolled or folded up, removed and destroyed.

While the pad has been described more particularly as adapted for use in connection with surgical operations, it will be understood that its field of use is not restricted thereto.

Having described one illustrative embodiment of the invention without limiting the same thereto what I claim as new and desire to secure by Letters Patent is:—

1. An absorbent pad for surgical and like uses, comprising a tray having upturned edges and formed of paper having a waterproof coating and an absorbent body formed of separate crumpled pieces of paper set side by side.

2. An absorbent pad for surgical and like uses, comprising a tray having upturned edges and formed of paper having a waterproof coating and an absorbent fabric in said tray woven with strands formed from crumpled sheets of absorbent paper.

3. An absorbent pad for surgical and like uses, comprising a liquid receiving tray having inturned edges and formed of paper having a waterproof coating and an absorbent foraminous body in said tray confined by said edges.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

EDWARD H. ANGIER.

Witnesses:
ROBERT H. KAMMLER,
HENRY T. WILLIAMS.