

E. M. POND.
SURGICAL BANDAGE.
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1,044,817.

Patented Nov. 19, 1912.

Fig. 1.

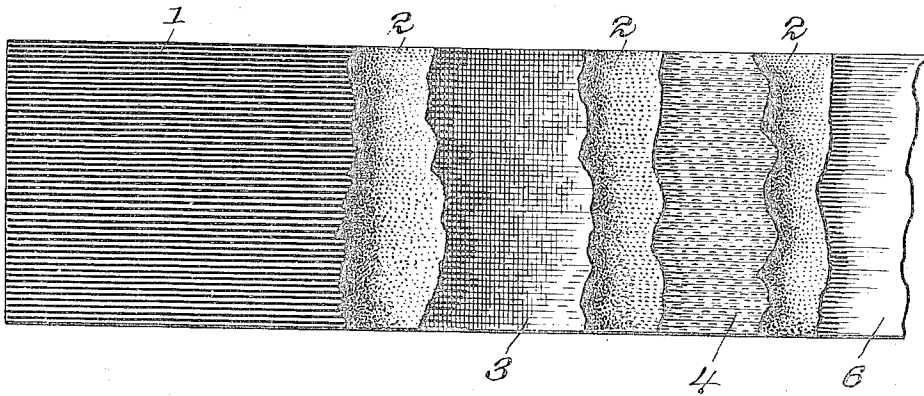
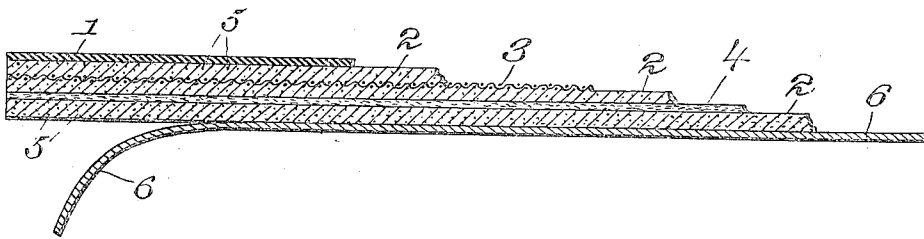


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

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SURGICAL BANDAGE.

1,044,817.

Specification of Letters Patent.

Patented Nov. 19, 1912.

Application filed October 18, 1909. Serial No. 523,218.

To all whom it may concern:

Be it known that I, EDMUND MORSE POND, a citizen of the United States of America, residing at Rutland, county of Rutland, State of Vermont, have invented certain new and useful Improvements in Surgical Bandages, of which the following is a specification.

My invention relates to a composition of materials and arrangement thereof for use as a surgical bandage and a dressing, and more specifically consists of an improvement in certain directions upon the invention disclosed in Letters Patent No. 974,294, dated Nov. 1, 1910. In said Letters Patent I describe a mixture of gelatin and glycerin with waterproof backing, the limiting proportion of the glycerin being 80% of the compound. This limit was established because if the proportion of glycerin were increased above that percentage the compound would become so soft that it would be impracticable to handle it commercially. The medicinal effect of the compound increases with the quantity of glycerin, but the above stated practical consideration limited the proportion of glycerin which could be used.

I have now discovered that by incorporating in the compound a suitable retaining medium, the proportion of glycerin can be increased up to and as high as 90% of the compound without rendering the resulting article too soft for practical use and that the use of such retaining medium is beneficial with compounds having less than 80 per cent. of glycerin.

The preferred arrangement of material embodying my invention is illustrated in the accompanying sheet of drawings, in which:

Figure 1 is a plan view of a portion of my improved bandage with portions of each layer broken away. Fig. 2 is a longitudinal cross section of the structure shown in Fig. 1.

Throughout the drawings like reference numbers indicate like parts.

1 represents a backing of liquid-tight material such as rubber, oiled silk, or oiled paper; 2 represents the compound of gelatin and glycerin or equivalent materials; and 3 is an embedded layer of gauze or other textile material which may be used as explained in my allowed application above referred to. So far described, the construction is the same as that disclosed in my said allowed application. I find, however, that

if I incorporate with the compound of glycerin or gelatin or equivalent compound of healing materials of high solubility a quantity of loose highly absorbent material serving as a retaining medium such as a light film or sheet of cotton wadding or similar flocculent fibrous material, or any fine dry powder such as a very fine clay, the softness or fluidity of the compound at ordinary atmospheric temperatures is reduced to a point such that the resultant structure can be handled practically and commercially. In the drawing, 4 represents a layer of such cotton wadding or equivalent material. By cotton wadding I mean a sheet of cotton fibers superposed but not interwoven, forming a thin, loose sheet of intermingled fibers of little strength but considerable absorptive power. The fibers of such material tend to absorb moisture from the soluble material, separate, and distribute themselves evenly throughout the body of said material, and prevent it from running as a liquid at the temperature of the human body. Such a retaining medium may be used alone, or it may be used with the finely powdered material indicated by the dots 5, 5, or said finely powdered material may be used alone and the fibrous retaining medium dispensed with. As such finely powdered material I may use a fine dry clay, and I may employ as much in quantity of this as equals approximately 25 per cent. by weight of the glycerin and gelatin composition. As a specific arrangement of the above described elements which I have found advantageous in an extensive general and hospital practice I may mention the following. I take a layer of waxed paper waxed on one side only. To this I apply on the unwaxed side a half layer of ordinary commercial cotton wadding. To this is added a layer of coarse gauze the meshes of which allow the treating material to pass through readily to the wadding. This treating material, a mixture of glycerin, gelatin and clay in solution and suspension in water, is then spread on nearly at the boiling point in a large body and thoroughly saturates and assimilates the fibrous material forming a heavy inner coating on the waxed paper in and throughout which coating body the gauze and wadding is embedded and disseminated. In preparing this solution I use about 40 per cent. by weight of water, which afterward

dries out leaving the glycerin, gelatin, clay and any special medication which may be used *in situ*. The purpose of leaving one side of the paper unwaxed is to permit it to adhere more closely to the glycerin and gelatin body, so that it will not peel off in handling. Such a compound remains flexible at atmospheric temperatures, becomes semi-liquid and absorbable at normal body temperature, but will not run even if the body temperature goes up to 105 Fahr.

To facilitate the handling of the completed article, I may put a facing sheet which is of waterproof material such as oiled paper upon the other side of the structure, said facing sheet being removable by a simple pull at one end, stripping it from the body of the bandage.

In operation, the bandage composed of the waterproof backing, the healing compound of high solubility, the retaining medium and the waterproof sheet is distributed commercially and can be handled without in any way damaging its structure. When it is to be applied, the facing sheet 6 is pulled off and the bandage applied to the surface to be treated.

Having, therefore, described my invention, I claim:

30 1. A surgical bandage and dressing com-

prising in combination, a waterproof backing, a compound of glycerin and gelatin, the former in excess, and a retaining medium comprising loose fibers of highly absorbent material and a finely pulverized body of absorbent particles disseminated throughout the mass. 35

2. A surgical bandage and dressing comprising in combination, a waterproof backing, a compound of glycerin and gelatin, the former in excess, and a retaining medium comprising coarse gauze, a layer of cotton wadding and a body of fine clay disseminated throughout the mass. 40

3. A surgical bandage and dressing comprising in combination a waterproof backing, a compound of gelatin and glycerin, the latter consisting of about 80 per cent. of the compound by weight, a layer of textile fabric embedded in the compound and a mass of loose cotton wadding also incorporated in the compound as a retaining medium for the same when rendered semi-liquid by the heat of a body to which the compound has been applied. 45 50

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Witnesses:

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