

UNITED STATES PATENT OFFICE.

HENRY P. WEIDIG, OF NEWARK, NEW JERSEY.

SURGICAL DRESSING.

SPECIFICATION forming part of Letters Patent No. 696,123, dated March 25, 1902.

Application filed April 11, 1901. Serial No. 55,411. (No specimens.)

To all whom it may concern:

Be it known that I, HENRY P. WEIDIG, a citizen of the United States, residing at Newark, New Jersey, have invented a new and useful Improvement in Surgical Dressings, of which the following is a specification.

This invention relates to new material for surgical dressing.

At the present time absorbent cotton, lint, loosely-woven fabrics, &c., are the usual materials for surgical dressings. Where a certain rigidity is required, this is supplied by means of a plaster cast, splints, or other mechanical contrivance.

The object of my invention is to provide a dressing which while perfectly soft when applied may be made plastic, so as to assume the contour of the part of the body to which it is applied, and which will harden in this position, so as to serve at once as dressing material and light and elastic splints.

This improved surgical dressing material consists of a combination of ordinary cellulose and pyroxylin.

The following method I have found the most convenient for producing my new dressing material: I take undyed loosely-woven fabric of vegetable origin—muslin, for instance—and carefully eliminate therefrom any sizing, oily, and resinous matter, so as to bring the fibers of such fabrics as nearly as possible to the condition of absorbent cotton.

The fiber is then subjected to the action of a nitrating acid mixture containing three parts, by weight, of sulfuric acid to one part, by weight, of nitric acid and between fourteen per cent. and 18.5 per cent. of water at a temperature of between 40° to 50° centigrade for a period varying from five to forty minutes, depending upon the thickness of the thread and the percentage of nitration desired. Other acid mixtures and temperatures may be used without departing from the spirit of the invention. By this treatment the exte-

rior portion of the thread becomes nitrated and the inner portion remains as a core of ordinary cellulose. In other words, the exterior portion is soluble in any of the pyroxylin solvents—such as acetone, wood-alcohol, amyl acetate, &c.—while the interior portion is insoluble in said solvents. When such a fabric is used as a surgical dressing, it will when moistened with a solvent of pyroxylin become covered on its surface with a pyroxylin solution which will serve as a cement, unite the fibers, and on evaporation of the solvent form a stiff solid bandage, serving the purpose of a combined dressing and light and elastic splints. As the solvent is not applied until after the bandage has been definitely placed, the nitrated cellulose retains the fibrous and flexible structure of ordinary cotton until the bandage is fastened, when the solvent is applied and the nitrated cellulose becomes colloided and the fibrous structure is destroyed. It is of importance that the dressing is put in place while the nitrocellulose remains non-colloided.

Any suitable antiseptic—such as phenol, creosote, or iodoform—may be applied to the fabric independently or may on use be dissolved in the pyroxylin solvent.

What I claim is—

1. A fabric for dressing wounds consisting of an admixture of non-colloided pyroxylin and common cellulose.

2. As a dressing for wounds a fabric, the threads of which consist of an exterior portion of non-colloided pyroxylin and a core of common cellulose.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 6th day of April, 1901.

HENRY P. WEIDIG.

Witnesses:

C. B. HOYT,
E. T. MIX.