UNITED STATES PATENT OFFICE.

WILLIAM H. JOHNSTONE, OF PHILADELPHIA, PENNSYLVANIA.

PROCESS OF MAKING SURGICAL JACKETS.

SPECIFICATION forming part of Letters Patent No. 262,597, dated August 15, 1882.

Application filed October 11, 1880. Renewed March 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, WM. HAMPDEN JOHNSTONE, of Philadelphia, Pennsylvania, have invented certain new and useful Improvements in the Process of Manufacturing Surgical Jackets or Envelopes for the Human Body; and I do hereby declare the following to be a full, clear, and exact description of the same.

I have omitted drawings because the apparatus which I use will be fully shown by drawings and description in my United States Patent now applied for by me for a surgical or invalid table, said application's serial number being 1,747.

The nature of my invention will be fully shown by the following specification and claims.

The object of my invention is to form a stiffened jacket or envelope for the human frame or for various parts of it by a process which will permit the body to rest in such a posture as to maintain all the muscles, protuberances, and depressions thereof in their normal positions. This I accomplish by stretching or extending the patient upon a horizontal frame or table. My next step is to obtain a stiffened mold from the body while it is in this position, and this mold is then, after removal from the body, filled with plaster-of-paris or other suitable compound, which, when hard, will be a perfect cast of the human body so treated. After the cast is removed from the mold a shellac-stiffened felt jacket is molded upon or adapted to it, which jacket will fit exactly the form of the patient's body so treated.

The apparatus which I use is a horizontal extension frame or table having a shallow pan below that part of a patient's body for which it is desired to have a stiffened jacket. This table is from two to three feet longer than the average human body, and may be made eight or nine feet long, if desired. Its lower part is extensible in somewhat the same manner as an ordinary extension-table, though the extension is accomplished by means of a crank-shaft and cog-wheel, the latter operating in a cog-rack, or, as I prefer, by a longitudinal screw, whereby the extension may be made very slowly and graduated to a nicety. Loops are attached to the head of the table, which pass under the arm-pits, and other loops are connected with the foot of the table, which pass over or around the ankles of the patient, by means of which mechanism the patient can be gradually stretched to a point desired by the operator. Supporting-cushions are placed under such parts of the patient's body as are not to be operated upon before it is stretched. A shallow pan is placed under the part to be covered by the jacket also before the stretching. This part of the patient's body is then carefully oiled to prevent the subsequent adhesion of the plaster as it dries. Plaster-of-paris is then poured into the pan and gradually built up around the body of the patient, and a cord or wire should be laid along each side of the body and against it just as the building of the plaster reaches up half-way. When the body is covered all the way around, say, with about three-fourths to one inch of the plaster, it is allowed to become just so dry as to be cut without breaking, and at this stage these cords or wires are taken each at the upper end and pulled downward and outward, so as to cut the plaster longitudinally down each side of the patient and divide the mold into two longitudinal halves. The mold is then removed by lifting up the upper half of it, removing the patient, and raising the lower half. The two halves are then set together again, and, when dry, the cylinder thus formed is filled with fresh liquid plaster-of-paris. When this has hardened it is taken from the mold, and around it is carefully fitted a felt cloth or fabric saturated in shellac. This is done before the shellac stiffens. This jacket is allowed to harden upon the cast, and is made to conform to all its inequalities, and so that the edges of its front or back opening just meet, or nearly so. Lacings or flaps and buttons are then placed on these edges, and the surgical jacket is then ready to be worn by the patient. These lacings are passed through the felt jacket or flaps far enough from the meeting edges to permit of the cutting away of the latter when from time to time it may be found necessary to draw the jacket tighter.

I claim—

1. The process of making a mold from the body or part of the body of a patient by stretching the latter by suitable mechanism

for extending the same over a pan or vat containing plaster-of-paris or its equivalent, in which said body is partially immersed, and then piling or passing plaster-of-paris over and upon the same to form a complete mold around the part from which the mold is to be taken, substantially as and for the purposes described.

2. The process of constructing a closely-conforming stiff jacket or envelope for any part of the body of a patient by mechanically extending the latter horizontally, taking therefrom a conforming mold, taking a cast of the interior of the mold, and fitting or conforming the said jacket over the cast thus taken, substantially as and for the purposes described.

W. H. JOHNSTONE.

Witnesses:
GEORGE E. BUCKLEY,
WM. H. CARSON.