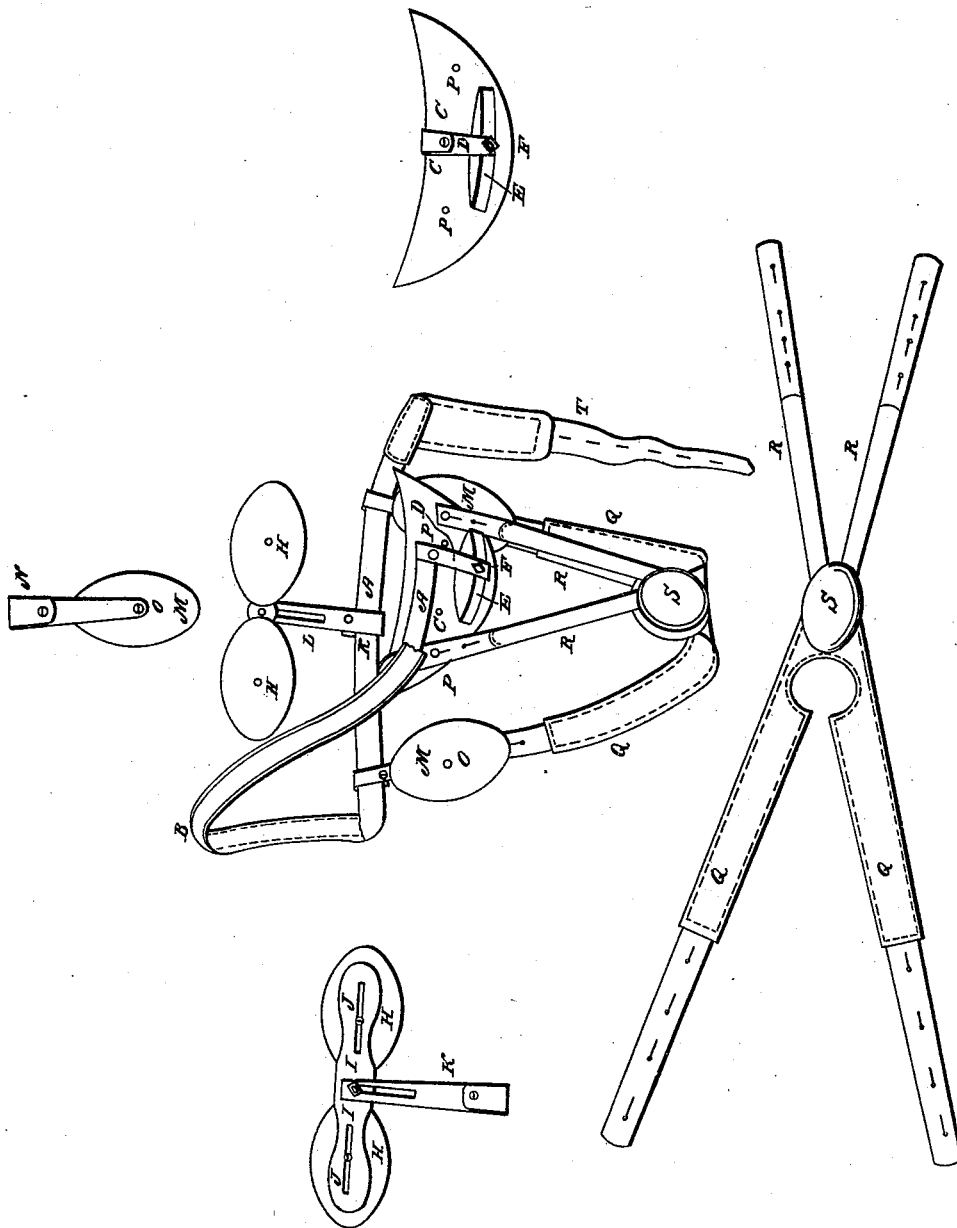


E. P. BANNING.

Truss.

No. 3,026.

Patented April 6, 1843.



UNITED STATES PATENT OFFICE.

EDMUND P. BANNING, OF CRAWFORD COUNTY, PENNSYLVANIA.

TRUSS.

Specification of Letters Patent No. 3,026, dated April 6, 1843.

To all whom it may concern:

Be it known that I, EDMUND P. BANNING, of the county of Crawford, in the State of Pennsylvania, have invented a new and useful improvement in machinery designed to relieve and to cure spinal affections and various other diseases of the human trunk, which I denominate "Banning's patent lace," and that the following is a full and exact description of the same, and for the purpose of rendering the description more intelligible I refer to the drawings hereto annexed and declare them to be a part of this specification.

I construct a main spring of such length as nearly to encircle the body of the patient, making the same about half an inch wide, and of a thickness and strength correspondent to the size and strength of the subject, for whom it is intended. It may be made in various forms. It is most advisable to make it of the best spring or shear steel or other suitable material drawn or rolled of a proper width, say from half to three fourths of an inch, and of the required strength. It should be a little curved so as to conform, when used, as nearly as possible to the human body, presenting the flat surface of the spring to the surface of the body. The front end of it, when adapted to the body, begins about three inches from the left hip; it then passes horizontally around the abdomen to about the same distance from the right hip; then curving upward in a circular form to a sufficient height to pass above the hip, and thence downward and backward in a circular form to a level with the horizontal part in front before described, thence in a right angle horizontally around the back to the left side, and terminating at or near the left hip bone.

I construct and attach to the above described main spring three or more arms or springs having thereon pads made of horn or other suitable material; but I consider five arms or springs with pads attached thereto to be the best number to effect the desired object. The arm or spring in front should be about two and a half inches long attached to the main spring in the form of a clasp, and secured by a screw or other convenient method, and extending downward with a slight curve inward toward

the body. To the lower end of this arm or spring, by means of a small nut and screw, I attach a small elliptic spring about three inches long in a horizontal position, and to this I attach a pad horizontally by means of a screw or rivet at a point near the center of its length and about half an inch above its lower edge, so as to admit of a rocking and rolling motion of the front pad, whereby it is accommodated to the motion of the body. This pad is about two and a half inches broad in the center and about six inches long, more or less according to the size of the patient. It is made in a circular form, corresponding as nearly as may be to the shape of the body, and having the lower edge a little rounding or circular, with two knobs on the outside about four inches apart, for the purpose of attaching thereto the straps of a perineum pad when required. To the main spring on the back part thereof, I attach two small arms or springs secured by turning the end over the main spring in the form of a clasp fastened by a screw, or in any other convenient mode, and extending downward about three inches. To the lower end of each of these arms or springs I attach a pad by means of a knob, screw, or rivet, passing through the center of each pad. The knobs on the outside of these pads are for the purpose of attaching thereto the straps of a perineum pad to be used when such a pad is required; and it is invariably required when there is a prolapsus or weakness of the perineum. These arms or springs should be placed from about three inches to five inches on each side of the spine so that the pads may press slightly on the dorsal muscles upon the hip.

I next make a spring of thin steel or other suitable material about five or six inches long and one inch broad to be placed horizontally with a slot cut lengthwise near each end about one inch long and one eighth of an inch broad, extending to within about one fourth of an inch of each end. The edges of this spring should be scalloped a little on each side of the center and rounded at each end; and the spring should be made in a form somewhat circular, so as to correspond to the shape of the back of the patient. To this spring I attach two pads by means of screws or rivets passing through the slots into the center of each pad, so that

the pads being movable in the above described slots may be brought nearer to or extended farther from the spine, as the comfort and convenience of the patient may demand. The center of the pads should be placed about two inches above the main spring. The best mode of doing this is by means of an upright arm or spring made of a piece of flat steel half an inch wide and about one sixteenth of an inch thick, with a slot near the upper end about one inch long and one eighth of an inch wide, connected with the said horizontal spring by a nut and screw, so that the spring and pads may slide up or down at pleasure without moving the main spring. The lower end of this upright piece of steel is to be attached to the main spring by doubling it over the main spring and securing it by a screw, or in any other convenient mode.

These pads may be attached to arms or springs in various other modes, if desirable, and secured to the main spring permanently or otherwise.

In case of ruptures, one or more arms or springs from three to five inches in length, with pads to each, may be attached to the main spring extending downward over the front pad on either side of the elliptic spring and curved inward in such a manner as to be properly adjusted and applied to the ruptures.

All the small arms or springs, except the elliptic spring, are so attached to the main spring, that they may be moved to any desired part of the main spring at pleasure in such a manner as may best promote the comfort and convenience of the patient. At or near each end of the main spring is a knob or screw, to which a strap should be attached to fasten the machine about the body. About three inches of the longer end of the main spring should be covered with cloth or other suitable material, and stuffed, if desired.

The four back pads may be made either round or of an oval shape about two or two and a half inches in diameter; and the inside of each of the pads may be made flat or, if preferred, a little concave.

The circular part of the main spring passing around over the hip should be covered with cloth, leather, or some other suitable material; and each of the pads should have a number of holes drilled through it for the purpose of being covered with leather or cloth, and stuffed, if desired.

The four back pads are placed, two above and two below the main spring not only for the purpose of producing pressure at four different points, but of dividing the pressure in such a manner as to make the operation of the machine comfortable in cases of spinal irritation, or other affections and weakness of the back. The said four back

pads also serve to keep the main spring steady in its appropriate place, and to prevent the front pad from rising, as it might otherwise be inclined to do in certain cases.

The perineal pad is small, and made of cork, or other convenient material neatly covered, and rests on the perineum alone; and, is so arranged as not to interfere with either the urinal or fecal dejections. To this pad, at the front and rear extremities are attached straps for its proper adjustment. The rear straps pass obliquely to the right and left, from the pad, and run over the fleshy part of the buttock, and loop on the studs on the lower back pads. The front straps are round and pass between the parts and the thigh and loop onto studs on the front pad.

Explanation of the drawings.—A, A, front and rear extremity of the main spring. B, the curve, passing over the hip, avoiding pressure on that bone. C, C, front pad, to support the abdominal contents, looking obliquely upward and backward. D, perpendicular curved spring, connecting the front pad with the main spring, and assisting to increase the flexibility of the pressure and turn the inner face of the pad upward. E, elliptical spring, attached to the front pad, and connected with the perpendicular spring, by a nut and screw. This spring doing away the arbitrary tendency of the main spring, making the lace always comfortable in all positions and circumstances. F, nut and screw, connecting the perpendicular spring and front pad. G, G, studs, with screw shafts and heads, to render them movable on the extremities of the main spring. H, H, upper back pads, resting on, and supporting the small and weak part of the back. I, I, horizontal flexible curved spring supporting the upper back pads and curved so as to perpetually but gently grasp and support the weak back. J, J, slots at each end of the horizontal flexible curved spring, through which the pads are attached to it by a screw allowing them to be separated from or approximated to the spine, as the patient's sensitiveness may demand. K, perpendicular spring are standard, attached to the rear branch of the main spring, supporting the upper back pads and is movable to the right or left. L, slots in the standard spring, through which the horizontal flexible curved spring is connected with, and fastened to the standard, allowing of its depression or elevation as the tenderness or sensitiveness of the patient may require. M, M, lower back pads, resting on each hip, dividing the counter pressure, giving a fixed position to the front pad, and relieving pain in the hip. N, N, flexible subsidiary springs, connecting the lower back pads to the main spring which are movable to any point on the back,

thereby avoiding all irritation and giving great flexibility to the pads. O, O, screw studs, connecting these pads and springs, on which may be looped the posterior straps of the perineal pad; so constructed as to make the center of the pad, the center of pressure, in every degree of rotundity. P, P, studs, at each extremity of the front pad, on which may be looped, the front straps of the perineal pad. Q, Q, rear straps to the perineal pad, looping on to the studs on the lower back pads passing over the most fleshy part of the buttocks obliquely. R, R, front straps of the perineal pad passing between the labia and the thigh, and looping on to the studs on the front pad. S, perineal pad, resting only on the space between the anus and meatus externus; not interfering with either the urinal or fecal dejections. T, strap connected to each extremity of the main spring embracing the body and fixing permanently the lace.

Remark.—Should the patient wish to increase the proportion of pressure of either of the back pads or to make the pressure

softer, he can make cushions of any dimensions and sew them to the inner face of the pads by means of holes in these pads.

What I claim, is—

1. The combination of the main spring of the form described, with the abdominal pad as described.

2. I claim the four dorsal pads as described in, in their arrangement and construction; or any other arrangement effecting their uses essentially the same.

3. I claim the combination of the main-spring with the four dorsal pads, and the abdominal pad, all as described or any other arrangement and construction essentially the same.

4. I claim the manner as described, or any other manner essentially the same, in which I arrange, and give a proper direction, accommodation and flexibility to the front pad.

E. P. BANNING.

Witnesses:

CHAS. G. PAGE,
HENRY STONE.