H. Mellish,

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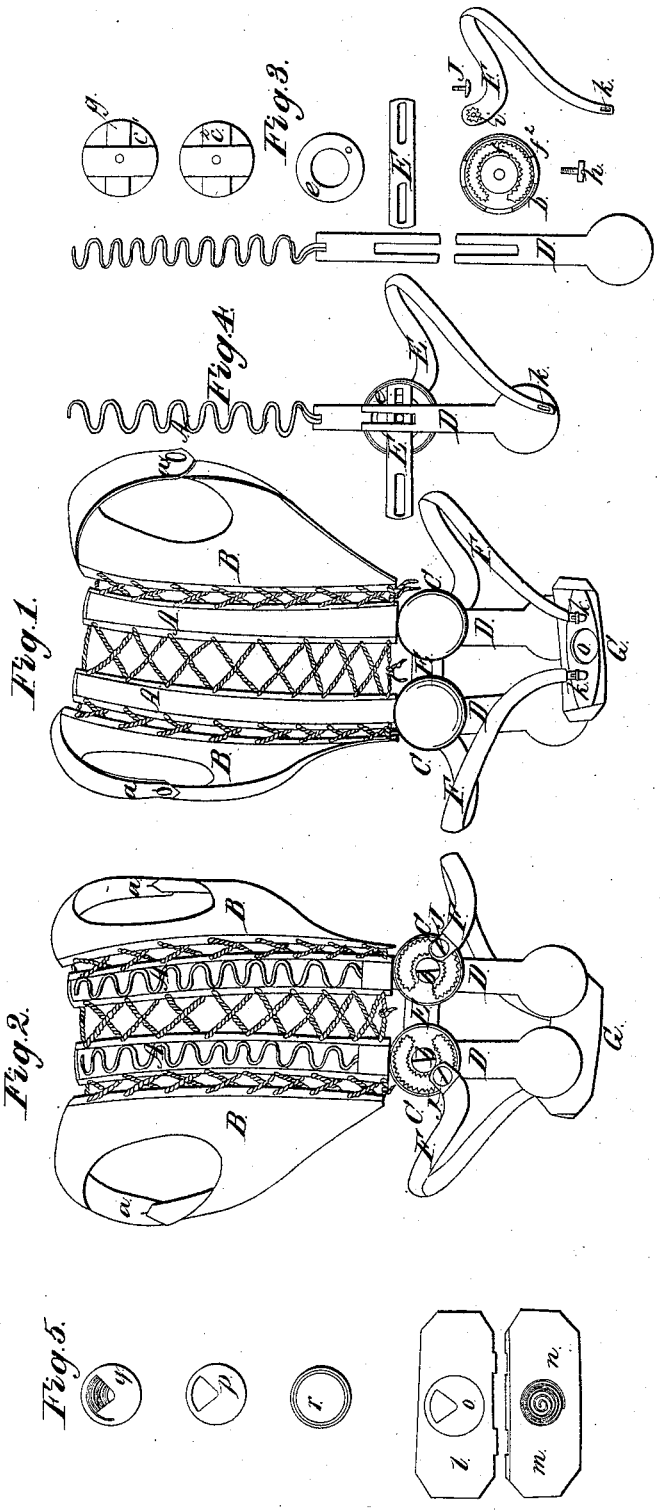
No. 6,023. Patented Jan. 9, 1849.



UNITED STATES PATENT OFFICE.

HENRY MELLISH, OF WALPOLE, NEW HAMPSHIRE.

BODY-BRACE.

Specification of Letters Patent No. 6,023, dated January 9, 1849.

To all whom it may concern:

Be it known that I, HENRY MELLISH, of Walpole, in the county of Cheshire and State of New Hampshire, have invented a new and Improved Mode of Constructing Body-Supporters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1, is a perspective front view of the supporter. Fig. 2, is a perspective back view of the same. Fig. 3, shows distinctly the forms of the parts constituting the back of the supporter and the curved lateral springs without their coverings. Fig. 4, shows the manner of connecting the parts to the back pads. Fig. 5, shows distinctly the forms of the parts constituting the abdominal pad.

Fig. 1, the supporter consists of a pair of serpentine elastic wire spinal springs A, A, (the same letters referring to the same parts in all the figures) which are made by soldering or otherwise connecting one or more pieces of wire and a piece of steel plate of the forms and in the manner represented at A, Fig. 3. These springs are covered with cloth and padded with cotton or other elastic material between the springs and the covering on the side next the body, and have eyelets in the edges of the coverings for the purpose of lacing them to the shoulder straps B, B, Figs. 1 and 2.

The shoulder straps or braces are made of cloth and elastic webbing or other suitable material, having their ends connected with buttons and button holes, *a*, *a*.

The adjustable back pads C, C, Figs. 1 and 2, are made by locking together two swaged plates of metal *b*, and *c'*, Fig. 3, with the ring *e*, between them in the channel *f*, in plate *b*, the ring *e* covering the notched circular slot in the bottom of the channel, see the ring in its place *e*, Fig. 4, and also at *c*, *c*, Fig. 2, from the reversed side of the plate in pads C, C.

Plate *b*, has lips projecting from one of its disks at the periphery to lock on to the edges of plate *c'*, between the cross channels *g*. c^2 in Fig. 3 is the reversed side of plate *c'*, Fig. 3. Thus it will be seen that by placing the plate *c'* within the lips of plate *b*, and locking them together with the ring *e*, in its place, there would be two openings crossing each other between them formed by the cross grooves *g* in plate *c'* for the introduction of the forked ends of the spinal springs A A. The forked ends of the sacral pad springs D, D, and the cross slide E, as represented at Figs. 1 and 2, and as the pieces may be seen crossing each other at Fig. 4. So that the whole may be made fast by passing the center screw *h*, through the plate *b*, turning it into the plate *c'* until the plates are made to bear upon the pieces between them. See *h*, Fig. 2.

The several spring pads D, D, are made by covering pieces of steel plate of the form represented at D, Fig. 3, with cloth and stuffing the sides next the body or as much of them as is not inserted into the pads C, C, Figs. 1 and 2.

The cross slide E, is a piece of steel plate cut in the form represented in Fig. 3, having a slot near each end for the center screws *h*, *h*, to pass through. See Fig. 2.

The lateral curved springs F, F, are made of steel plate bent in proper shape to pass from the back pads C, C, over the hips and down onto the abdomen; these springs have each a pinion, or notched wheel, *i*, on one side at the back end, see *i*, Fig. 3; the teeth of which fit the notches in the circular slots in plates *b*, see f^2, Fig. 3. The springs F, F, are made fast to the pads C, C, by placing the pinions into the notched slots and making them fast to the rings *e*, *e* with the screws J, J. See Fig. 2. Each of these springs has a slot *k* at the lower end, by which they are attached to the abdominal pad, see *k*, *k*, Fig. 1, by means of the oblong buttons on the front of the abdominal pad G.

The abdominal pad G Fig. 1, consists of two metallic plates hinged together at their upper edges. See the plates distinctly at *l*, *m*, Fig. 5. Between these plates (to keep them apart,) there is a spiral conical spring *n*, the end of the wire at the base of the spring is made fast to plate *m*, and its apex or small end passing into a cavity in the circular revolving plate *o*, Figs. 1, and 5.

The revolving plate, *o*, has a channel in its edge to take onto the edge of the circular opening in plate *l*, in which it revolves, so that when the plate *o*, is turned in one direction the spring *n*, is taken into its cavity, and the hinged plates are brought together, and by revolving it in an opposite direction the spring will be thrown out of its cavity and the plates thrown apart. This revolving plate is made by riveting two circular

plates together, one of them *r* having a rib projecting from its disk near the periphery, for the purpose of making a hollow between them to receive the spring *n*, and to make a groove around its edge, and the other plate P, Fig. 5, has an opening through it in the shape represented in the drawing, for the spring *n*, to pass through into the cavity between them, see P, Fig. 5. These plates *l*, *m*, are covered with cloth, or other suitable material, and the side next the body paded with cotton or other elastic stuffing.

The object of this arrangement of the parts is to form a supporter that will admit of the greatest possible degree of adjustability to the different sizes and forms of body and; also that different kinds of support may be given with the same instrument; which may be done, by detaching parts and retaining other parts in combination; thus enabling the wearer to adjust the supporter as the circumstances of the case may require.

To alter the supporter to different forms and sizes of body, liberate the curved lateral spring screws J, J, from the rings *e*, *e*, turn the rings until the screw holes are at such point in the slot as is desired, and there place the pinions on the springs F, F, in the slots making them fast with the screws J as before; in this way the springs may be set farther apart, as desired, or lowered.

The instrument may be made wider or narrower by letting out or taking up the lacings and fastening the pads C, C, at different points on the slide E. And it may be made longer or shorter by placing the pads C, C, at different points on the spinal springs A, A.

The instrument as represented in the drawing Fig. 1, serves the purpose of a shoulder brace, and spino-abdominal supporter, supporting the whole length of the body.

By detaching the spinal springs A, A, and retaining the parts below in combination it becomes a spino abdominal supporter supporting the lower part of the body merely. And by detaching the sacral pads D, D, from the whole combination the dorsal pads C, C, will give a greater support to the small of the back.

To put on the supporter, put the arms through the shoulder braces B, B, in the manner of putting on a vest, or button the shoulder straps over the shoulder, then spread the lateral springs F, F, and bring them over the hips and place the oblong buttons on the front of the abdominal pad G, through the slots *k k*, in the lower ends of the springs, shove the pad down upon the lower part of the abdomen.

To adjust the pad to any protuberance of the abdomen, turn the plate *o*, in front of the abdominal pad, by which means the lower edge of the side of the pad next the body will be thrown back or brought forward as the case may require.

It is intended that the materials may be varied to suit the views and purposes of the constructor.

I disclaim the invention of parallel spinal springs used in combination with shoulder braces, ilium springs, and abdominal pads; but

I claim as my invention and improvement—

1. The employment of combined serpentine and straight slotted springs with the shoulder straps B B and back pads C C when constructed as described. Said elastic serpentine springs being formed and arranged as set forth, admitting of a more easy, lateral, and twisting motion of the body of the wearer than can be obtained by the use of the flat dorsal spring as now used. Said serpentine springs having likewise a constant tendency to extend themselves longitudinally which causes them to have a continuous upward bearing against the shoulder braces which relieves the spine of a portion of the weight of the upper part of the body by a constantly lifting action.

2. I likewise claim the manner of constructing the back pads C, C, as described— that is to say, each with a revolving ring to which the ilium spring is attached and circular notched groove in which the pinion and axle (attached to the ring and ilium spring) play around freely during the operation of adjusting the abdominal pad—the teeth of the pinion being constantly engaged with the teeth of the circular groove—the use of said circular groove allowing the abdominal pad to be changed to a variety of positions, horizontally, vertically, obliquely.

3. I also claim the manner of constructing the abdominal pad G—that is to say with a hollow revolving plate *o* for the purpose of taking in the spring *n* and letting it out by turning plate *o* and thus graduating its length and pressure upon the inner plate *m* of the abdominal pad G—thereby fitting the pad to different protuberances of the abdomen.

HENRY MELLISH.

Witnesses:
LUND WASHINGTON, Sr.,
A. E. H. JOHNSON.