

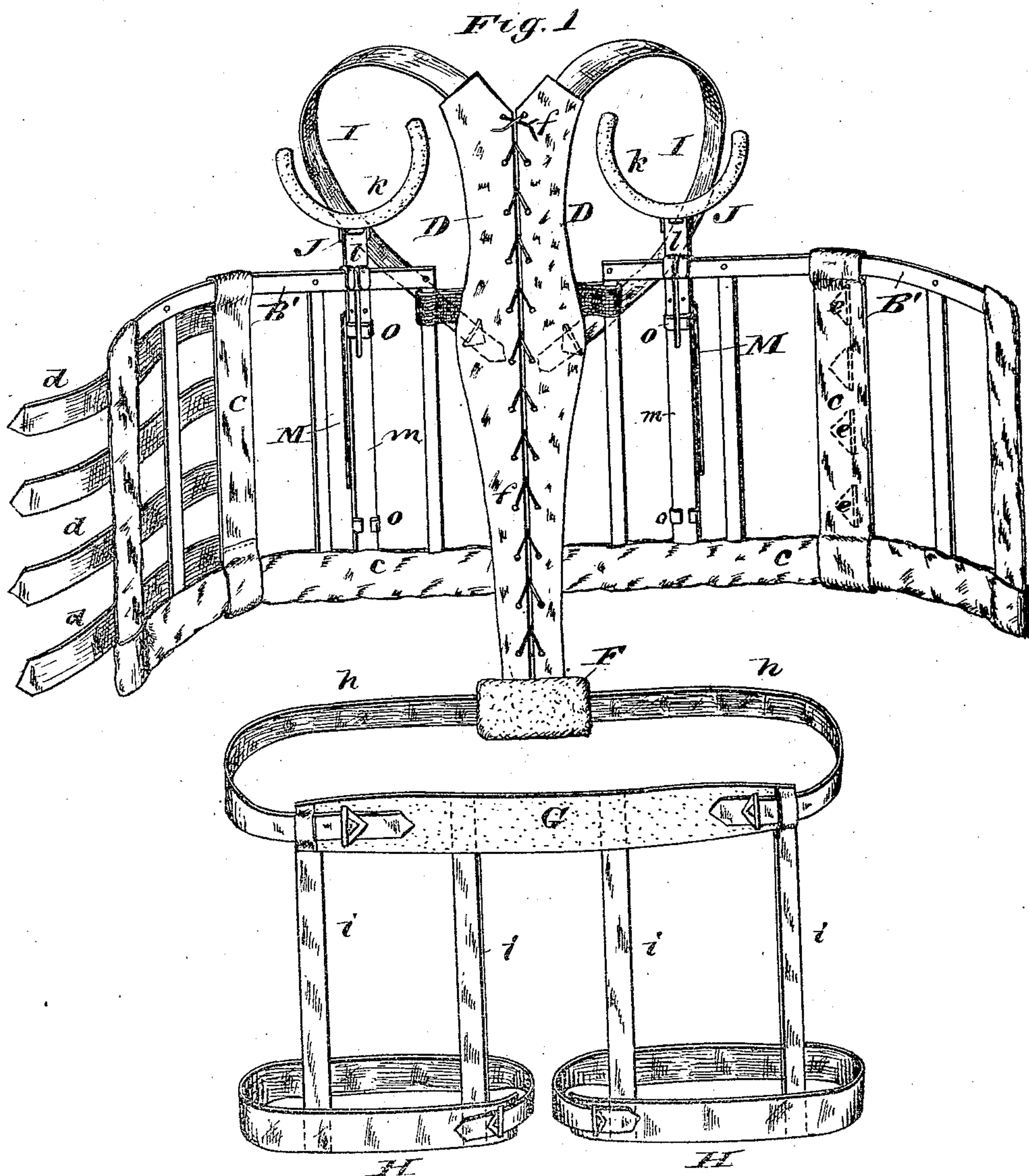
(No Model.)

2 Sheets—Sheet 1

P. B. SHELDEN.
APPLIANCE FOR SPINAL COMPLAINTS.

No. 507,172.

Patented Oct. 24, 1893.



WITNESSES:
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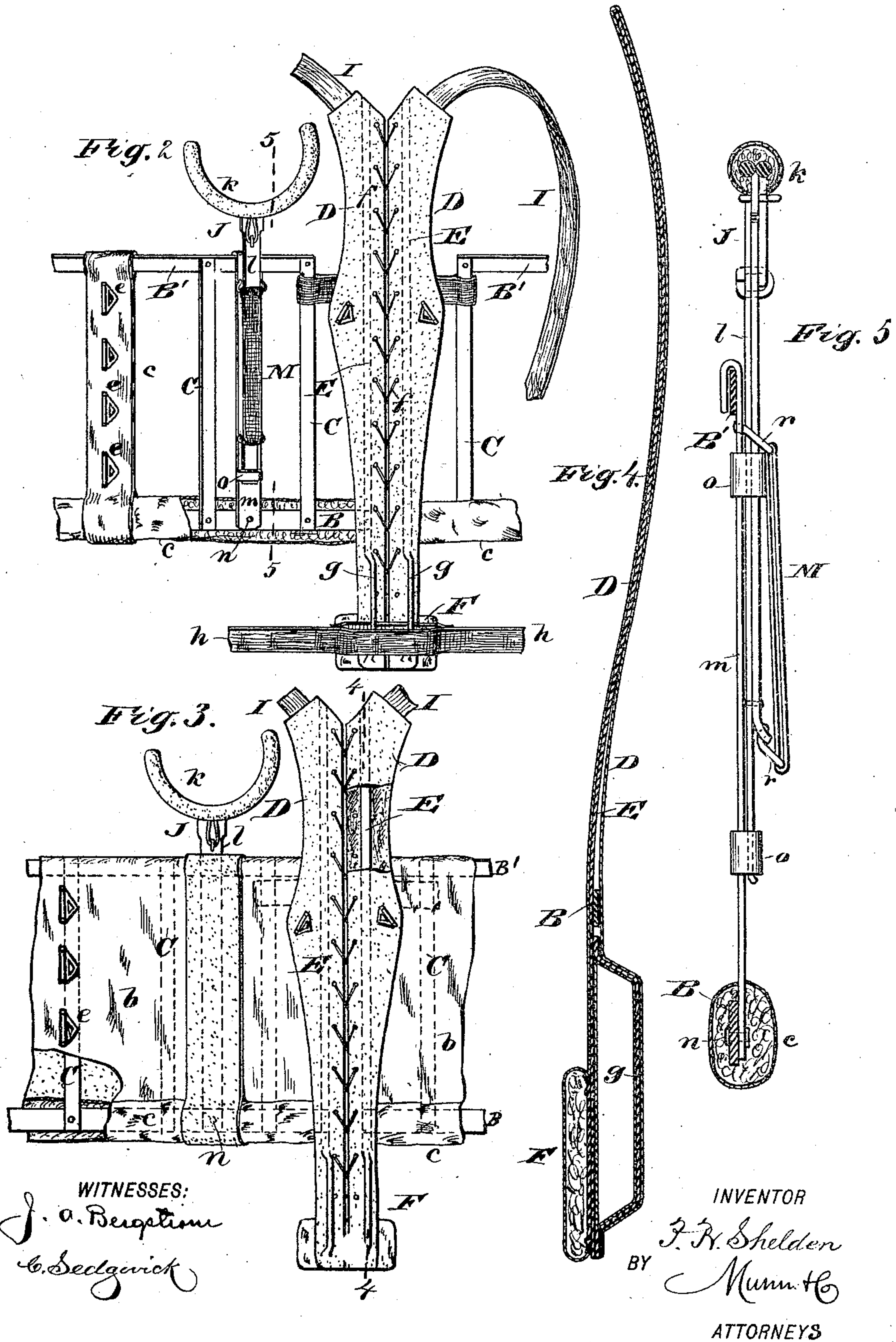
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UNITED STATES PATENT OFFICE.

PHILO B. SHELDEN, OF ERIE, PENNSYLVANIA.

APPLIANCE FOR SPINAL COMPLAINTS.

SPECIFICATION forming part of Letters Patent No. 507,172, dated October 24, 1893.

Application filed January 31, 1893. Serial No. 460,335. (No model.)

To all whom it may concern:

Be it known that I, PHILO B. SHELDEN, of Erie city, in the county of Erie and State of Pennsylvania, have invented a new and useful Improvement in Appliances for Spinal Complaints, of which the following is a full, clear, and exact description.

This invention relates to mechanical appliances for support of the spine, remedying deformities and curing affections thereof, and the invention consists in certain novel constructions and combinations of parts, substantially as hereinafter described and more particularly pointed out in the claims.

The device is mainly in the form of a brace or corset, adjustable in whole or in part, and provided with a steel stayed back pad, the stays extending up the back and being held firmly thereto by means of shoulder straps, also comprising adjustable crutches having combined with them steel body bands or rests, and further comprising an abdominal pad or belt held in place by suspension attachments and bands or webs designed to pass around the legs half way between the knees and hip joints; the whole effect being mainly to relieve the spine of the weight of the upper portion of the body and to avoid those many objections which attach to the use of many other spinal corsets, but especially to the use of stiff jackets for the treatment of spinal complaints.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a perspective view of the whole device, as seen from its front and showing the corset as open. Fig. 2 is a back view, in part, showing the corset as in Fig. 1, of skeleton construction and partly in section. Fig. 3 is a similar view to Fig. 2, but showing the corset skeleton as inclosed by a cloth or other covering. Fig. 4 is vertical section, on a larger scale, upon the line 4—4 in Fig. 3, mainly in illustration of one of the back stays with its attached back pad and lower steel body band or rest for the adjustable crutches; and Fig. 5 is a vertical section, upon the line 5—5 in Fig. 2, mainly in illustration of one of the crutches and its connection with the upper and lower steel

body bands or rests to provide for the support and self adjustment, as hereinafter described, of the crutch.

The corset portion of the device may either be and preferably is of skeleton construction as shown in Figs. 1 and 2, or be provided with a cloth or other covering *b* as shown in Fig. 3, and is made up for the most part of two, that is upper and lower, steel or elastic opening and closing and encircling body bands or rests *B B'*, and steel or elastic uprights *C*, connecting said bands. These uprights or certain of them may be provided with soft covering *c*, as also the lower body bands or rests *B*. Said corset portion of the device, as shown, is divided down the back and up the front or made in two halves which close in front by straps *d*, attached to the one section and buckles *e*, attached to the other section. The two sections or halves are united in the rear by a lacing or cord *f*, applied to eyeleted soft coverings or strips *D, D*. This connection of the two halves or sections provides for an easy adjustment of the corset portion to the body. I do not, however, confine myself to the employment of a strictly full-laced corset, as the corset portion of the device may be cut so as to be entire at the upper part and divided and laced at the lower part. The soft coverings or strips *D D* extend up above and below the body of the corset portion and are fitted internally with upright steel or elastic back stays *E E*, capable of being flexed to conform to the shape or curvature of the spine under treatment. Said stays *E E* are connected to a back pad *F*, which sits over or against the lower end of the spine and they are each constructed with a stirrup or vertical loop-like projection *g*, which receive through them flexible buckling body bands *h h*, that connect in front with an abdominal pad or belt *G*. The stirrups or loop-like projections are designed to have the body bands *h* pass through them, in order to insure a pressure that is sure to hold the back pad tight to the body, the effect or object being to make the most permanent bearing against that body portion of the body for the weight to rest on. This abdominal pad or belt is held in place and free, by the passage of the body bands through the vertical stirrup like projections *g* on the stays *E E*, to adjust itself up or down, by suspension

straps *ii*, connected below with bands or webs H H, which are designed to pass around the legs half way between the knees and hip joints. The upper ends of the vertical strips D D have attached to them shoulder straps I I, which buckle below as shown in Fig. 1 and which serve to keep the back stays E E firmly to their place.

The steel body bands may, if found desirable, be riveted fast to the steel stays in the back pad.

The upper and lower steel body bands B B' may be arranged to pass partly on the outside and partly on the inside of the corset and serve to carry or support crutches J J, of which *kk* are the arm seats and *ll* the legs or uprights connected by staples and wires or otherwise with the arm seats. These legs *ll*, which are represented as of two thicknesses for the greater portion of their length riveted together, are each fitted to slide up and down outside of or against an upright metal bar or strip *m*, which virtually forms a portion of each crutch and which is hinged or pivoted, so as to swing laterally either way, as by a pin or rivet *n*, to the lower body band B and is hooked or bent at its upper end to rest on and slide to the right or left upon the upper body band B'. The leg or upright *l* of each crutch is connected with and fitted to slide up and down the lower pivoted metal strip or bar *m* by means of clips or guides *oo*, through which the leg *l* is free to slide up and down subject to the control of a rubber strap spring M, connected as by upper and lower arms *r r*, attached respectively, the upper one to the bar or strip *m* and the lower one to the leg *l*, although I do not restrict myself to this manner of attaching the spring nor yet to the kind of spring shown, as a different or metallic spring might be used, so long as it will exert a tension to force the leg *l* and arm seat *k* of the crutch upward in order to give the necessary elastic support to the arm resting upon it.

By making the crutches J J self-adjusting both up and down and to swing laterally in either direction, an increased freedom of

movement is afforded for the body, and yet by the crutches being supported by the steel body bands and by the lower body band B to which the crutches are pivoted or attached being fast to the back pad F, the weight of the upper part of the body is largely thrown below or transferred to the hips, thus relieving the spine, and the abdominal pad or belt G holds the lower portion of the back pad F in place and tight to the back as well as subserves other useful purposes. The vertical stirrup or loop-like projections *g* on the stays E E also serve as handles to adjust the back pad F and make it fit snugly to its required place on the back.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In mechanical appliances of the character described, for the treatment of spinal affections, the combination of the vertically yielding spring supported crutches with the upper and lower steel body bands forming rests therefor, substantially as specified.

2. In combination with the upper and lower steel body bands or rests B B', of the adjustable crutches J J, supported by said bands and pivoted to the lower one, said crutches being constructed in sections fitted to slide the one up and down or against the other and being provided with a spring controlling said movement, whereby said crutches are both free to rock laterally on their pivots as well as to be self-adjusting up and down, essentially as described.

3. The combination, with the corset portion of the appliance having steel back stays and a back pad attached to the lower ends of said stays, of the abdominal pad or belt G, with its attached straps *h h*, connecting said belt with said stays, substantially as described, the suspension straps *ii*, and the leg bands or webs H H, as herein set forth.

PHILO B. SHELDEN.

Witnesses:

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