

C. W. SILLIN.
 ABDOMINOSPINAL SUPPORT OR SPLINT.
 APPLICATION FILED MAY 8, 1912.

1,052,523.

Patented Feb. 11, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

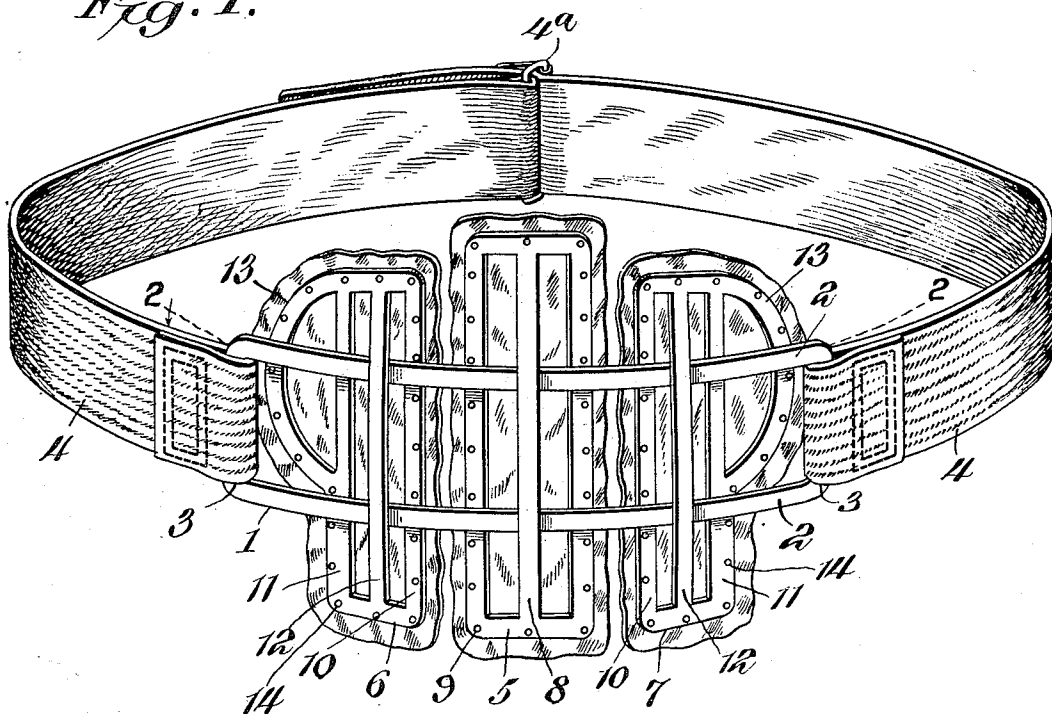
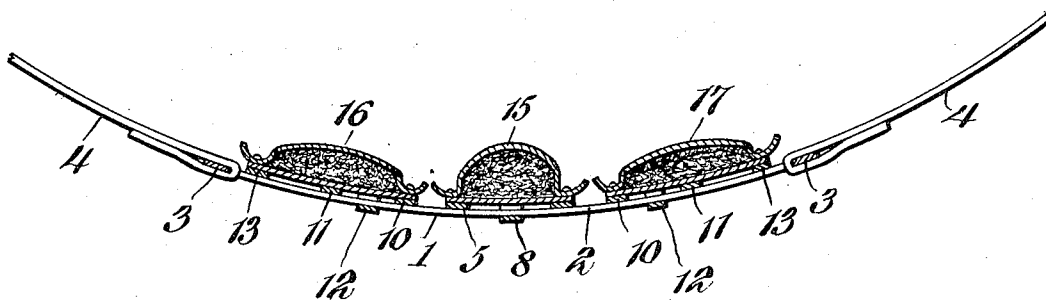


Fig. 2.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3.

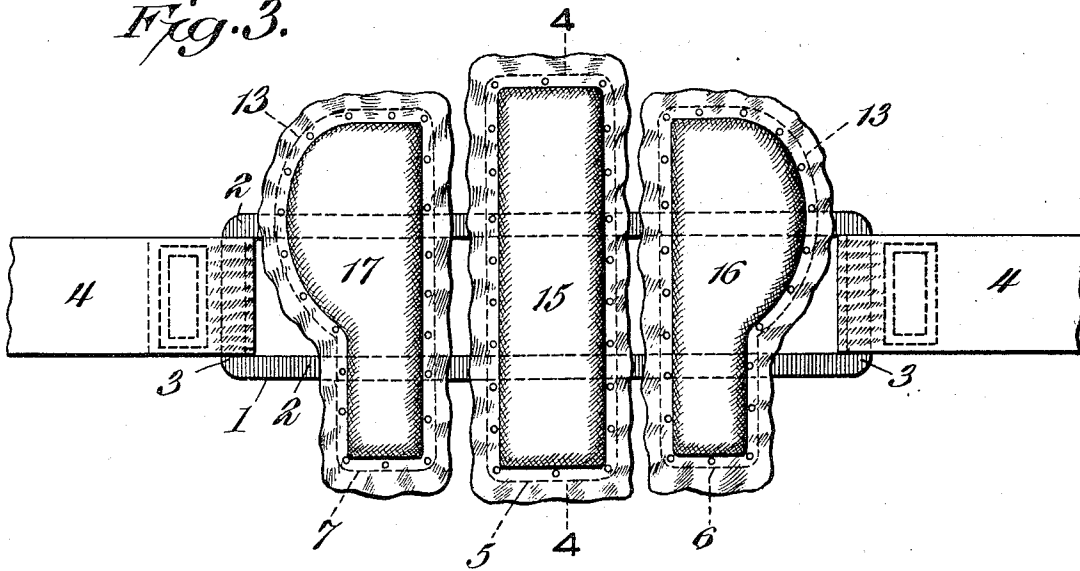


Fig. 4.

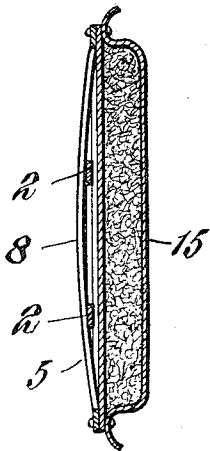
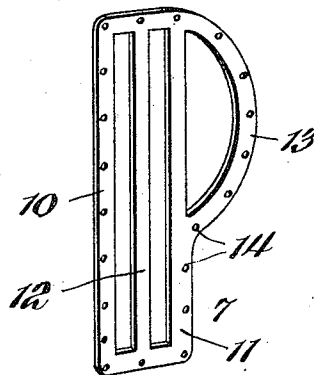


Fig. 5.



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CYRENIUS W. SILLIN, OF STUTTGART, ARKANSAS.

ABDOMINOSPINAL SUPPORT OR SPLINT.

1,052,523.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed May 8, 1912. Serial No. 695,890.

To all whom it may concern:

Be it known that I, CYRENIUS W. SILLIN, a citizen of the United States, residing at Stuttgart, in the county of Arkansas and State of Arkansas, have invented a new and useful Abdominospinal Support or Splint, of which the following is a specification.

This invention has reference to improvements in abdomino-spinal supports or splints, and its object is to provide a device of a wide range of usefulness and which may be readily rendered aseptic.

In accordance with the present invention there is provided an elongated frame of suitable material such as spring steel which may have a normal curve conforming more or less to the shape of the body to which the device is to be applied, and this frame has applied thereto a suitable number of open frame members, of which one or more or all may be used as conditions demand, and these last-named frames, which for convenience may be termed splints, may or may not be provided with thickened pads to engage against the body of the wearer. The splints are freely adjustable within a limited range on the main supporting frame, which latter may receive the ends of a belt whereby the device is made fast to the body of the wearer with such a degree of pressure as may be found advisable.

When the device is employed as an abdominal support it may be used in obesity, for ovarian trouble, hernia, after abdominal operations, and for other like purposes. When employed as a spinal splint or brace or pad, it is useful for different kidney troubles, including floating kidney, as well as providing a flexible, adjustable spinal and lumbar-sacral splint.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming a part of this specification, with the further understanding that while the drawings show the practical form of the invention it may be otherwise embodied than as shown, wherefore the invention is not confined to any strict conformity with the showing of the drawings, but may be variously changed and modified so long as such changes do not mark a material departure from the salient features of the invention.

In the drawings:—Figure 1 is a perspec-

tive view of a support or splint constructed in accordance with the invention. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is an elevation of a portion of the structure shown in the foreground of Fig. 1 but viewed from the opposite side thereof. Fig. 4 is a section on the line 4—4 of Fig. 3. Fig. 5 is a perspective view of one of the elements detached from the remainder of the bandage or splint.

Referring to the drawings there is shown an elongated frame 1 having side members 2 spaced apart by end members 3, the side members being substantially parallel one with the other, and the whole frame having a longitudinal curve conforming approximately to the curvature of the human body to which the bandage is to be applied. The end members 3 of the frame 1 have straps 4 applied thereto and the ends of the straps remote from the frame 1 may be connected by a buckle 4^a or in any other suitable manner, the straps 4 serving as a means for the application of the device to the body of the wearer. While the frame 1 may have a normal curvature approximating that of the body of the wearer, it may have a degree of elasticity which will permit the bending of the frame into close approximation to the shape of the body of the wearer. By making the frame 1 of spring steel of suitable gage, the desired stiffness and flexibility may be readily attained.

Applied to the frame 1 are other frames 5, 6 and 7, respectively. The frame 5 is an elongated substantially rectangular frame with a longitudinal center strip 8 substantially parallel with and spaced from the long side bars of the frame, while the marginal portions of the frame 5 are provided with perforations 9. The frames 6 and 7 are substantially alike, and comprise three longitudinal parallel strips 10, 11 and 12, while branched off from the strip 11 in substantially the plane of the strips 10, 11 and 12 is a curved strip 13 united at the ends to the strip 11 and bowed away from said strip. The curved portion or loop 13 extends from one end of the frame 6 to about or a little beyond the middle portion of said frame. Each frame 6 and 7 has its marginal portions provided with perforations 14 like the perforations 9 of the frame 5. The length of the frames 6 and 7 is less than that of the frame 5 and all the frames

may have pads 15, 16 and 17, respectively, secured thereto, the perforations 9 and 14 being provided for the passage of stitching or rivets or other suitable fastening devices.

5 The pads may be formed of sheets of suitable material whether of leather or fabric, and may have a lateral extension which will prevent any of the metal of the device from coming into contact with the body of the wearer.

10 The strip 8 of the frame 5 and the strip 12 of the frames 6 and 7 serve as clamping strips for the frame 1, the latter being threaded between the strip 8 and the side members of the frame 5 and between the strip 12 and the side members 10 and 11 of the frames 6 or 7, as the case may be.

15 The frames 5, 6 and 7 may be made of spring steel of such gage as to present the desired stiffness and flexibility, so that the frame members 5, 6 and 7 may be placed upon the frame 1 and by frictional engagement therewith due to the resiliency of the holding strips may be adjusted in various ways and will hold the adjustment against ordinary disturbing influences.

20 So far as the framework or body of the structure is concerned it comprises four parts, namely, the frame 1, which may be about ten inches long by three and one-half inches wide; the right and left hand kidney or lateral splints each about five and one-half inches long and about two and one-half inches wide at the widest point, and the spinal splint about six inches long and two inches wide. The pads 15, 16 and 17 applied to the several splints are formed in accordance with the work demanded, and, therefore, may differ considerably from the showing of the drawings, which showing is to be taken as more or less indicative of any suitable protection avoiding metallic contact with the body of the wearer.

40 Any other arrangement besides the belt 4 may be used for holding the metallic parts to the body of the wearer, but usually the belt 4 made of elastic webbing is to be preferred.

50 The device may be used when the parts are in the position shown in Fig. 1 where the body portions of all the frames or splints 5, 6 and 7 are in line with each other or on a level, it being considered that the device is attached to the body of the wearer.

55 This gives the central splint 5 an inch higher projection than the side or kidney splints, and the spine of the wearer, considering the metallic parts as being at the back of the wearer, is covered to a correspondingly high point. If the splint 6 be moved upwardly with relation to the other splints to the extent permitted by the frame 1 and the splint 7 be moved downwardly to a corresponding extent, the left kidney is supported at the upper part and the right kidney

at the lower part, this being useful in certain kidney diseases. Of course, the two kidney splints may be moved in the reverse directions to those just mentioned. The central frame or splint 5, which may be termed the spinal splint, may be moved upwardly when the kidney splints are in the position first named, to the extent of about an inch, so that pressure may be applied to the spine to a corresponding high point, and, of course, the spine splint may be moved downwardly to a corresponding extent. If the kidney splints be moved upwardly to the full extent and the spinal splint be moved downwardly to the full extent, then the spinal pressure may be applied two inches lower than is possible with devices of like character, whereby pressure may be brought over the lumbar-sacral joint with full efficiency. Again, the kidney splints may be moved close together or as far apart as the length of the frame 1 will permit, so that pressure may be applied over a wide range and just where it is desirable, further adjustments being permitted by up and down, as well as lateral movements, of any or all of the parts.

The whole structure so far as the metal parts are concerned is readily constructed by stamping with each element integral throughout and without the necessity of screws, bolts or rivets. The whole structure is of extreme simplicity with regard to adjusting and applying equal pressure forwardly and inwardly over lumbar muscles toward the spine, and in fact uniform pressure is possible over any of the parts to which the device is applied. The elasticity or flexibility of the structure makes it self molding to the parts to which it is applied.

105 The structure is adapted for use with or without pads and may be comfortably worn at any season of the year, and does not cause chafing. Moreover, the device is readily applied over chamois, silk, or other like covering for the abdomen or back and may be readily applied to any region of the abdomen or spinal column. The device fits by equal pressure and flexibility to the parts and holds them at rest, thus doing away with the necessity of a plaster cast.

110 The device is particularly valuable for the support of the kidneys by equal pressure at the points where needed and because of the flexibility of the device the adjustments are retained. The device is also valuable for treating parts that have been sprained or otherwise affected by immobilizing the parts, thus facilitating natural cure by holding the parts at rest. The steel frame itself may be applied over any medicinal application without discomfort to the patient.

115 The device is particularly valuable as a skeleton splint or pad affording equal pressure

sure to all parts to which it is applied and has the added advantage of being perfectly aseptic.

Where the conditions do not necessitate the use of all the splints or frames one or more may be omitted.

While the adjustments of the device have been described with more particular reference to the spinal region, the device is equally applicable as an abdominal support for obesity and other troubles and one or two or all of the splints may be employed as found necessary.

What is claimed is:—

1. In a device for the purpose described, a member adapted to be positioned transversely with respect to the portion of the body of a patient to which the device is applied, and a plurality of other members carried by the first-named member and movable thereon in directions longitudinal to the body of the patient or along the first-named member transversely to the body of the patient, or to angular positions with respect to said first-named member, said second-named members being each provided with a part resiliently yieldable to embrace the first-named member in frictional engagement therewith and to permit the stated adjustments at will.

2. In a device for the purpose described, a member adapted to be positioned transversely with respect to the portion of the body of a patient to which the device is applied, and other members carried by the first-named member and movable thereon in a direction longitudinal to the body of the patient and transverse to the first-named member, the second-named members being provided with engaging means for holding them to the first-named member for sliding movements either longitudinally or transversely or angularly with reference to the first-named member.

3. In a device for the purpose described, an elongated carrying member and other members each provided with a frame having an intermediate resilient bar between which and the frame the first-named member may be threaded.

4. In a device for the purpose described, an elongated carrying member and other members each provided with a frame having an intermediate resilient bar between which and the frame the first-named member may be threaded, the second-named members having means for the attachment thereof of pads.

5. A device for the purpose described comprising an elongated carrying member, body encircling means secured to the ends of the carrying member, and frames adapted to the carrying member, each frame having an intermediate resilient strip in spaced relation to the side portions of the frame for the

threading of the body member between the side portions of the frame and intermediate strip, said frames being also provided with means for the attachment of pads thereto.

6. A device for the purpose described comprising an elongated carrying member, body encircling means secured to the ends of the carrying member, and frames adapted to the carrying member, each frame having an intermediate strip in spaced relation to the side portions of the frame for the threading of the body member between the side portions of the frame and intermediate strip, said frames being also provided with means for the attachment of pads thereto, said frames being related to the carrying member for sliding movement both transversely and longitudinally thereof.

7. A device for the purpose described, comprising an elongated carrying member and elongated frames adapted to the carrying member for movement longitudinally and transversely thereof, one of said frames being substantially rectangular and longer in one direction than the other to serve as a spine pressing member and the other frames being each substantially rectangular and longer in one direction than the other and having a lateral offset or extension on one side near one end, each of said last-named members serving as a kidney pressing member.

8. A device for the purpose described comprising an elongated carrying member and elongated frames adapted to the carrying member for movement longitudinally and transversely thereof, one of said frames being shaped to serve as a spine pressing member and the other frames being shaped to serve as kidney pressing members, the kidney pressing members each having a lateral extension at one side near one end.

9. A device for the purpose described comprising an elongated carrying member, an elongated spine pressing member extending transversely of the length of the carrying member and movable both longitudinally and transversely thereof, and kidney pressing members each adapted to the carrying member and elongated in a direction transverse thereof, and also movable laterally and longitudinally of said carrying member, each kidney member having a lateral extension near one end thereof.

10. A device for the purpose described comprising an elongated carrying member, an elongated spine pressing member extending transversely of the length of the carrying member and movable both longitudinally and transversely thereof, and kidney pressing members each adapted to the carrying member and elongated in a direction transverse thereof and also movable laterally and longitudinally of said carrying member, each kidney pressing member hav-

ing a lateral extension near one end thereof, the spine and kidney pressing members being each provided with means for the attachment of a pad thereto.

5 11. A device for the purpose described, comprising an elongated carrying member, an elongated spine pressing member extending transversely of the length of the carrying member and movable both longitudinally and transversely thereof, and kidney pressing members each adapted to the carrying member and elongated in a direction transverse thereof, and also movable laterally and longitudinally of said carrying member, each kidney member having a lateral extension near one end thereof, the spine pressing member being of greater length than the kidney pressing members.

12. In a device for the purpose described, 20 an elongated supporting member, a spine pressing member having an elongated frame with a central strip spaced from the sides of the frame, and kidney pressing members each comprising an elongated frame with a 25 central strip spaced from the sides of the frame and with a lateral extension to one side of the frame near one end thereof, the carrying member being adapted to be threaded through the frames between the side members thereof and the intermediate strips.

13. In a device for the purpose described, an elongated carrying frame having sides spaced apart and end members joining the 35 side members, another elongated frame having sides spaced apart and provided with an intermediate longitudinal strip, other elongated frames each having side members spaced apart and an intermediate strip, and 40 also with a lateral extension, each frame being formed of a single piece of resilient metal and the carrying frame being adapted to be threaded through the other frames between the intermediate members and the 45 side members thereof.

14. In a device for the purpose described, an elongated carrying frame having sides spaced apart and end members joining the

side members, another elongated frame having sides spaced apart and provided with an intermediate longitudinal strip, other elongated frames each having side members spaced apart and an intermediate strip, and also with a lateral extension, each frame being formed of a single piece of resilient 55 metal and the carrying frame being adapted to be threaded through the other frames between the intermediate member and the side members thereof, the marginal portions of the frames adapted to be traversed by the 60 carrying member being provided with perforations for the passage of fastening means to secure pads thereto.

15. In a device for the purpose described, an elongated carrying frame having sides 65 spaced apart and end members joining the side members, another elongated frame having sides spaced apart and provided with an intermediate longitudinal strip, other elongated frames each having side members 70 spaced apart and an intermediate strip, and also with a lateral extension, each frame being formed of a single piece of resilient metal and the carrying frame being adapted to be threaded through the other frames between the intermediate members and the 75 side members thereof, the marginal portions of the frames adapted to be traversed by the carrying member being provided with perforations for the passage of fastening means 80 to secure pads thereto, one of the frames of the carrying frame being shaped to serve as a spine pressing member and the others of the frames on the carrying frame being located on opposite sides of the spine pressing frame and shaped to serve as kidney pressing members and the device being provided with body encircling means connected at the ends to the ends of the carrying frame.

In testimony that I claim the foregoing 90 as my own, I have hereto affixed my signature in the presence of two witnesses.

CYRENIUS W. SILLIN.

Witnesses:

JOHN W. WEBB,

WILLIAM A. RICHARDSON.