

UNITED STATES PATENT OFFICE.

CHARLES PENCE, OF GALENA, KANSAS.

TRUSS.

SPECIFICATION forming part of Letters Patent No. 474,402, dated May 10, 1892.

Application filed November 27, 1891. Serial No. 413,861. (No model.)

To all whom it may concern:

Be it known that I, CHARLES PENCE, of Galena, Cherokee county, Kansas, have invented certain new and useful Improvements in Trusses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to that class of surgical appliances which are designed to relieve and cure extrusions of the abdominal viscera through the walls of abdomen, such abnormal condition being known as "hernia" or "rupture;" and the objects of my invention are to produce a truss which shall be simple, durable, and inexpensive in construction, easy of application and removal, and which shall be adapted to be worn both day and night without discommoding the wearer or interfering with the natural movements of his body or with his natural position during repose. Furthermore, to produce a truss which, in addition to the above-specified advantages, shall be readily adjustable, so as to properly fit persons of various abdominal measurements and which shall serve to speedily relieve and cure the hernia or rupture.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a front elevation of my improved truss in proper position upon the wearer's body. Fig. 2 is a side elevation of the same. Fig. 3 is a rear elevation of the same. Fig. 4 is a rear elevation of the front part of the truss, showing the means for attaching the pads to the truss-frame. Fig. 5 is a sectional view, on an enlarged scale, of one of the truss-pads, the section being taken on the line 5 5 of Fig. 4.

The frame 1 of the truss is composed of a single piece of metal in the form of a stout rod or wire, which is of iron, steel, copper, or any other suitable or preferred metal or compositions of metals which possess strength and rigidity combined with resilience. This frame may be coated with or formed of any

metal—such as silver, nickel, &c.—which will resist corrosion by contact with perspiration or other moisture exuded by the body. The frame 1 is bent into the following curvatures and contours, which constitute one of the essential features of the invention: Beginning at the rear of the frame, each end thereof is bent, as at 2, into approximately C-form or, in other words, into two spiral-like convolutions. From the front termini of these C-formed or spiral-like curvatures the arms of the frame are curved upwardly and then downwardly in approximately inverted-U form, as shown at 3 in Fig. 2. From the front termini of these U-shaped curvatures the truss-frame extends obliquely downward and inward in practically straight lines, as indicated at 4, and the front termini of these straight portions 4 are connected by a portion 5, which is either straight or bent more or less into approximately V form, as indicated in dotted lines in Fig. 4, and for a purpose to be presently explained.

In order to protect the body of the wearer and his clothing from direct contact with the metal frame, a pair of tubular sheaths 6, of leather, rubber, cloth, or any other suitable fabric or material is provided. Each of these sheaths is of such length as to extend from the rear extremity of each arm of the truss-frame to the point of union of the straight portions 4 with the front ends of the inverted-U-shaped portions of the arms of the truss-frame. At the points of union of the portions 4 with the portions 5 of the truss-frame said frame is bent into one or more coils 7, which surround two knobs 8, which are attached to two pads 9, to be presently described. Now by reference to the first three figures of the drawings the purposes of these curvatures and contours of the truss-frame will be understood.

When the truss-frame is properly adjusted upon the wearer's person, the C-formed or spiral-like portions 2 rest directly upon the rumps, (indicated at 10,) while the U-formed portion 3 extends across the thighs from front to rear at points between the hip-joints (indicated at 11) and the hip-bones. (Indicated at 12.) This position of the truss-frame is such as to render it secure in its adjustment upon the wearer's body and at the same time

prevents any inconvenience to the wearer whether standing, sitting, or lying down, the U-shaped portions resting between the hip-joints and the thigh-bones and being held by the projections of said anatomical parts from slipping either upward or downward. At the same time the C-shaped portions 2 press the front of the truss firmly inward, so as to hold the pads 9 securely upon the external surface of the abdomen, thus retaining the ruptured wall in closed position and preventing the extrusion of the abdominal viscera. The truss-frame is further retained in position by an endless elastic band 13, which embraces the bends of the C-shaped portions 2, and thus draws said portions toward each other, at the same time yielding sufficiently to permit free natural movements of the body.

The pads 9 are of the elliptical form shown, having convex inner surfaces to come into contact with the abdomen and having, also, flat outer surfaces, as shown. These pads are formed of porous rubber or of any other suitable absorbent material and are each formed with an internal cavity 14, for a purpose to be hereinafter explained. To the front of each pad is detachably secured, by screws 15 or other equivalent means, a plate 16, which closes the cavity 14 and to the middle of which is secured by a bolt 17 a knob 8, having a groove 19, formed in its side. The coils 7 of the truss-frame embrace these grooves, as before stated, and within the cavities 14 of the truss-pads are placed suitable quantities of lint, sponge, or other absorbent material, which is saturated with a suitable medicament in liquid form. This medicament is preferably composed partly of a gentle irritant and partly of a healing substance, and is thoroughly absorbed by the pads, and thus transferred to the surfaces of the rupture.

In order to properly fit the truss to the person of the wearer, it is only necessary to bend the portions 5 of the truss-frame more or less out of a straight line and into approximately V form, as shown in Fig. 4 in dotted lines, and it will be obvious that this can be quickly and easily accomplished.

From the above description it will be seen that I have produced a simple, durable, and inexpensive form of truss, which is readily applied to and removed from the person of the

wearer and readily adjusted for a perfect fit, and which, furthermore, offers no restraint or inconvenience to the wearer, whether the latter is awake or asleep, or whether standing, sitting, or lying down. If desired, the pads 9 may be removed and a common cloth pad substituted therefor.

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

1. A truss comprising a frame composed of two arms having each at its rear extremity an upwardly-extending C-shaped or spiral-like portion, said portions being separate from each other and arranged to rest upon the sides of the rump, substantially as set forth.

2. A truss comprising a frame composed of two arms having each at its rear extremity an upwardly-extending C-shaped or spiral-like portion and an elastic band surrounding said portions, the said C-shaped or spiral-like portions being separate from each other and arranged to rest upon the sides of the rump, substantially as set forth.

3. A truss comprising a frame composed of two integral arms each having its extremities of C shaped or spiral-like form, having inverted-U-shaped bends united to the said C-shaped or spiral-like portions, straight oblique portions united to the U-shaped portions, and an elongated portion uniting the oblique portions and adapted to be bent for adjusting the measurement of the frame, substantially as set forth.

4. A truss comprising a frame composed of a resilient rod or wire having two integral arms the extremities of which are of C form or spiral-like shape, U-shaped portions united to said portions, straight oblique portions united to said U-shaped portions, coils to surround pad-knobs at the ends of the straight portions, an elongated portion connecting the straight portions and arranged to be bent for adjusting the frame, and a sheath surrounding the rod or wire, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES PENCE.

Witnesses:

C. C. MOORE,
J. SHAW.