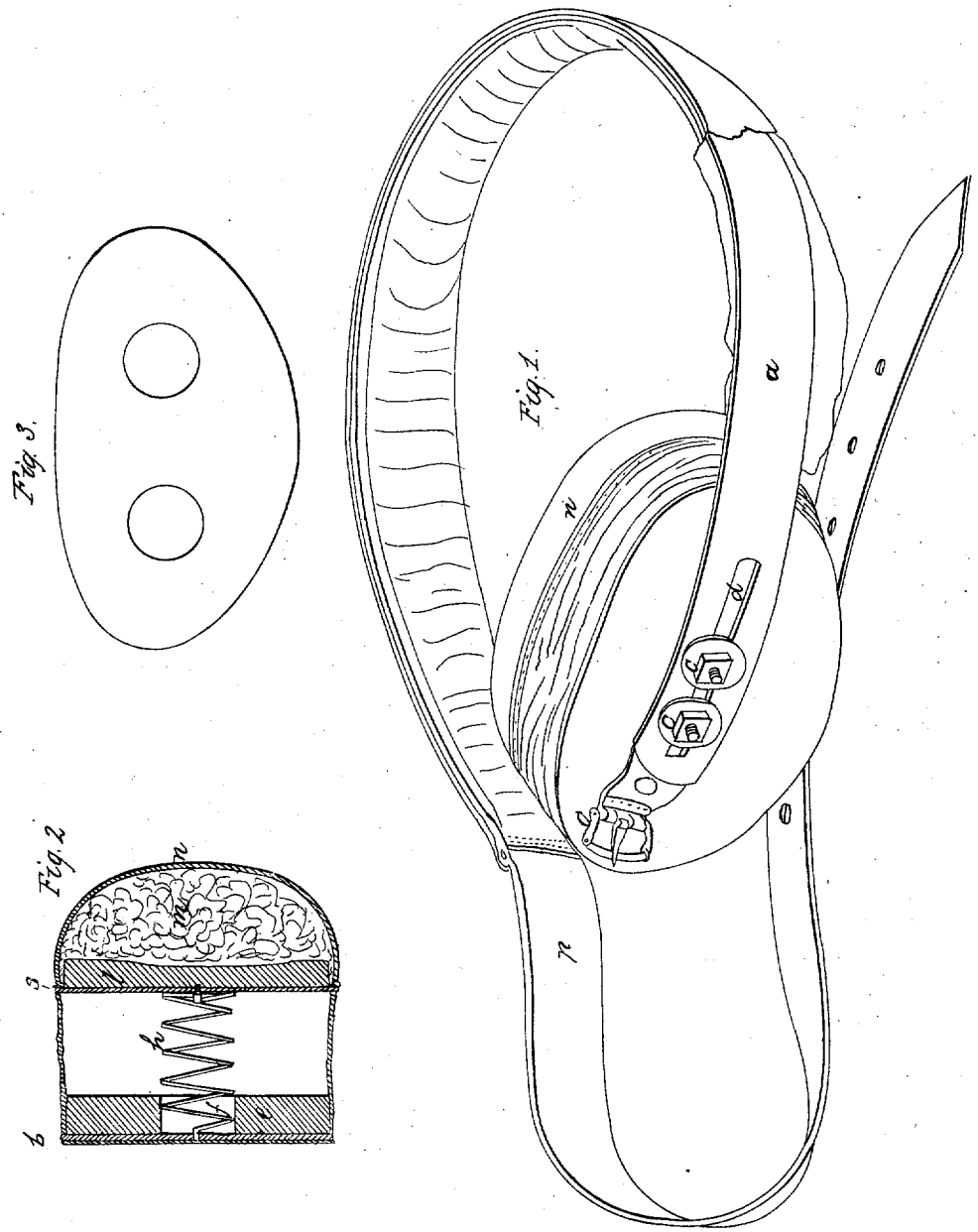
5831X

J. J. Heintzelman,

Truss.

Patented Feb. 16, 1830.



AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

5831x

John V. Heintzelman
Letters Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said John V. Heintzelman himself of his improvement in the "Spiral Spring Truss."

The large portion of mankind who are afflicted with this complaint; the great variety of forms in which it appears; the fatality, which results from improper treatment & the deficiency hitherto experienced for the want of a good Truss to confine the Omentum or intestines which are the most moveable viscera and occupy the front & lower part of the belly within the parietes of the abdomen; are circumstances which combine to render the investigation of Hernia for a radical cure, an instrument to mitigate the distress of those afflicted, by a well adapted Truss peculiarly interesting. Before I describe my Improvement of the Spiral Spring Truss I shall concisely state some of the inconveniences & imperfections of the present construction. They are 1st The one in present use consists of a circular steel Spring about one inch broad with a small steel iron plate rivetted at the extreme end and about four inches in length & about two and a half inches broad in the middle forming part of an oval on the upper extreme end, on the lower side from the middle gradually inclining, oblique to the plane which is rivetted to the circular Spring already described with two small knobs on the outside for fastening the straps of leather which is attached to the covering of the circular Spring, so as to secure it on the body.

2nd On the iron plate above described there is a small convex block secured by several nails on which there is placed a parcel of wool or cotton & the whole Truss covered with Buckskin or some other kind of leather with a view of rendering it soft and elastic.

3. Now it must naturally follow that the Truss just described possesses no elasticity, besides the cavity in which the Spring is

5831 x

is frequently prepared paying neither attention nor regard to the keeping of the steel, or frequently allotted to some inexperienced workmen or apprentice, or even the formation of the head & cutting which is frequently by custom left to some female for a consideration by no means adequate for the trouble, they are put into the market without inspection may scarcely, even by the manufacturer himself. 4th. That the very construction of the above trusses renders it necessary preserving no elasticity by whatsoever (will at once be admitted by every man of ordinary capacity) thereby irritating the parts on which it is worn & naturally endangers the life of him who has the misfortune of being afflicted with so distressing & dangerous disease, by not keeping it confined within its proper place but on the contrary by causing irritation of the parts & the frequent repetitions of protrusions, eventually suffer strangulation & close the distressing scene by death. By my improvement which I am about now to describe many if not all of the above dangers & difficulties are obviated which I feel satisfied the most enlightened inexperienced will admit. 5th. The spring and pad are how elastic, an iron plate rivetted to a circular spring or convex blank nailed thereon, or pad stuffed to a degree, the hardness thereof equal to the back of which are to be found in the "Spiral Spring Truss." On the contrary a circular spring the length thereof depends on the size of the person with an opening at one end about one & a half inch long, by which means it is attached to a steel iron plate about four inches in length & about two & a half inches broad in the middle forming part of an oval on the extreme end & opposite part, on the lower side from the middle gradually inclining in an oblique manner to one end of the circular spring with the opening as described above, by this means the spring is fastened on the above described plate by two stationary screws passing thro' the said opening into the plate, should it be at any time necessary to lengthen or shorten the circular spring it is easily accomplished by loosening the screw & pushing the circular spring forwards or backwards as the person may find it necessary & again fastening the screw as that any position of ordinary pressure is able at once to give it the

the requisite length, which is of great importance. To the inside of the small plate as described above there is fastened a flat piece of cork with two round holes thereon to admit the spiral springs, which I shall presently describe which confines them in a fair position when they are loaded with pressure more than ordinary & in no degree impairs the elasticity thereof in the least which has been the great consideration hitherto so anxious to obtain. It will easily be perceived from the position in which these spiral springs are placed which is in a direct line from the former described plate & inserted in another two plates of the same size and shape which bears immediately on the pearls, so that when the spiral lines are not worn lowering the springs, five thirty pounds will force the two plates about one and a half to two inches apart & contract in ratio as force is applied, being evident, the greater exertion is made by the person it naturally follows, the greater the action should be on the pearls & vice versa & which I believe is happily combined in the principles of the spiral spring lines. In relation to the spiral springs they consist of steel wire of the requisite length to the size of the lines made into a spiral form terminating at each end into the centre, the points turned outwards, the whole being finished, these points are inserted into a small hole expressly made in each plate in a straight line for the reception of the points affixed at the extremity of each spring as just described, by which means they are kept in their proper places; on the other side of the two plates facing the body there is another piece of cork the edge of the two plates about a quarter of an inch thick, the centre of which is rather depressed, on this there is placed wool to the thickness of an inch or more, the whole lines is now carefully covered with soft buckskin leather forming, as it were an even surface over the whole pads; having the edges of the leather secured the pad firmly, sewed to the edges of the two plates covering to which the circular spring is fixed, the whole in appearance when the spiral springs are at rest, a bellows in shape, on the back of the pad where the circular spring joins the outside plate there is a square bracket fixed which with a leather strap combining

&c.

from the covering of the other end of the circular spring is hooked on the body of a moderate lightness which must be during calls the spiral spring into action producing great elasticity & rotary motion, as the springs are governed altogether by the motion of the body whatsoever position it is placed in or under strength imposed on the pants, at the same time not impairing the mobility of the Jacks in the least degree which has been the deficiency of the former one described.

By this improvement I claim every mode of junction of the Trusses formed on any version of the spiral or other springs professing elasticity or rotary motion with a slide in the circular spring for lengthening or shortening the same together with a hook & eye for fastening the same around the body which I find to answer perfectly well

Witnesses

Henry Dellenjean

Wm Ste Amant

John J. Heintzelman