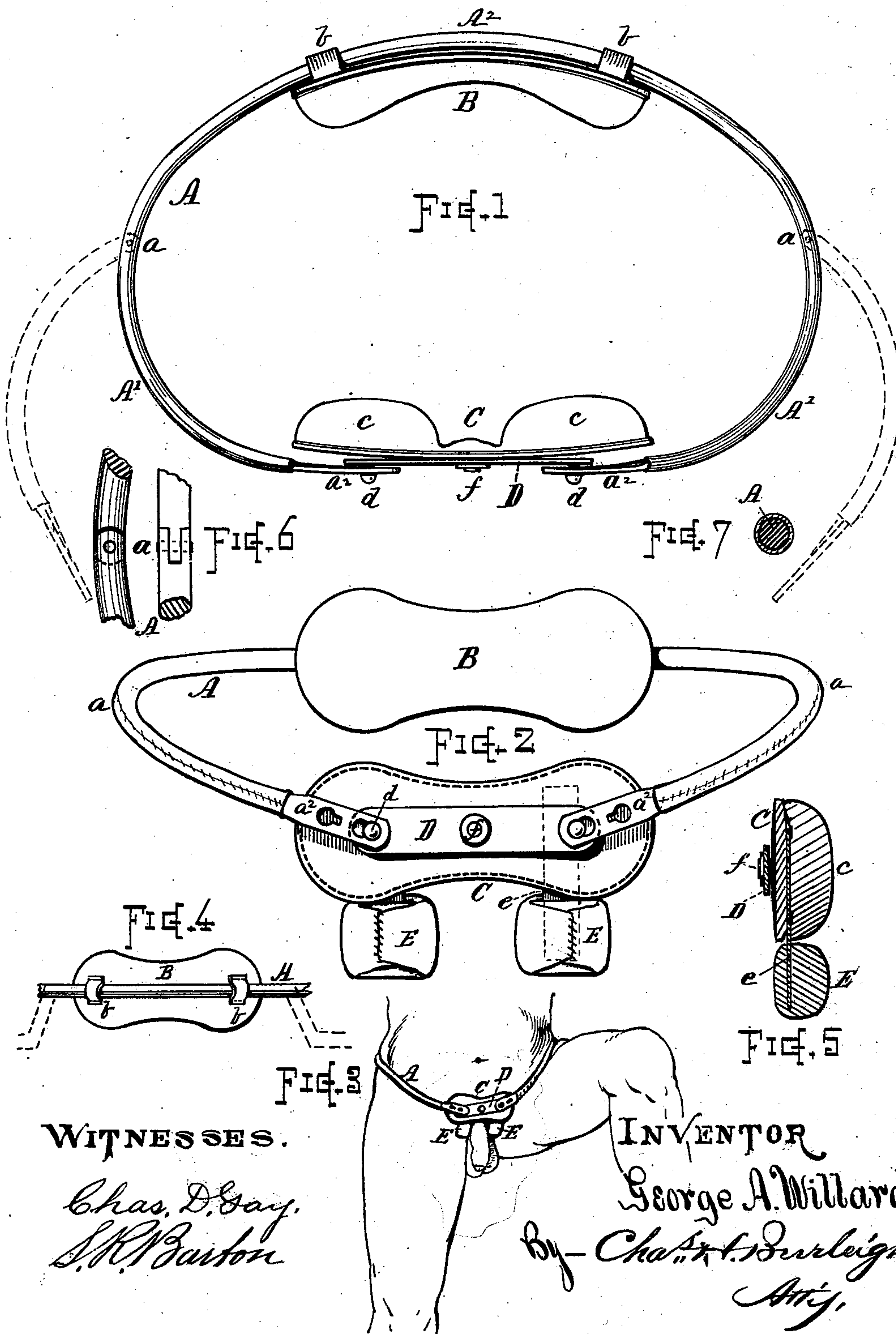


G. A. WILLARD.
Truss.

No. 227,708.

Patented May 18, 1880.



WITNESSES.

Chas. D. Gay.
S. R. Barton

INVENTOR

George A. Willard

By - Chas. F. Burleigh
Att'y.

UNITED STATES PATENT OFFICE.

GEORGE A. WILLARD, OF WORCESTER, MASSACHUSETTS.

TRUSS.

SPECIFICATION forming part of Letters Patent No. 227,708, dated May 18, 1880.

Application filed November 23, 1879.

To all whom it may concern:

Be it known that I, GEORGE A. WILLARD, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Trusses; and I declare the following to be a description of my said invention sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan view of a truss embracing the feature of my invention. Fig. 2 is a front view of the same. Fig. 3 illustrates the position of the truss-pads upon the body. Fig. 4 is a back view of the back-pad. Fig. 5 is a vertical sectional view through the front pad and auxiliary pad. Fig. 6 shows the construction of the joint in the frame, and Fig. 7 is a sectional view of the frame.

This invention relates to certain improvements in the construction of hernia trusses or supporters with a view to provide a more efficient and comfortable device than those heretofore in use.

I attain these objects by the truss mechanism hereinafter described.

In the drawings, A denotes the frame, which is formed of round metal of sufficient size to render it comparatively stiff and rigid, though having a certain degree of elasticity due to the quality of ordinary steel or iron, but not formed especially as a spring. Said frame A is shaped to pass around the hips of the wearer without pressing against the body, and is provided with laterally-swinging hinges *a*, located and formed as illustrated, so that the forward parts, A' A', may be swung outward, as indicated by dotted lines, Fig. 1, but are retained stiffly against any vertical movement independent of the back portion, A², while said hinges *a* are made flush or without enlargement or protuberances beyond the surface of the frame. The forward extremities of the parts A' are flattened and furnished with suitable openings for attachment to the holding-studs *d*.

The frame may be incased with leather or

other suitable covering, as desired, and the metal of the frame may be previously tinned, to prevent rusting.

B indicates the back pad for sustaining the frame A in position. Said pad is connected to the back portion, A², in such manner that, while the pad is held securely and closely to the bow A² and in a position parallel therewith, it is free to have a rolling action against the frame-rod or to move longitudinally along said bow A², so that the cushion of the pad will rest easily against the person regardless of any action or pressure tending to change the position of the frame relatively to the point of support on the body. In the present instance the pad is provided with loops *b b* near its ends, which embrace the bow A², as shown.

C indicates the hernia-pad, formed with two cushions, *c c*, to press the places or place of rupture. Said pad is centrally pivoted to a connecting-bar, D, constructed of a flat bar of metal about three-fourths of an inch in width and about two-thirds of the length of the pad C, as shown, the pivot *f* being arranged centrally in the bar D, while fastening-studs *d* project from its ends and connect said bar D to the forward ends *a*² of the frame A, thereby producing a comparatively-stiff metallic hoop about the person, which sustains the pad C against inward or outward pressure.

E E indicate small auxiliary pads arranged close to and immediately below the cushions *c*, and which serve for giving gentle pressure against the front of the pelvis at either side of the genital organ, as indicated in Fig. 3, for preventing any tendency of the hernia passing down toward the scrotum.

The pads E consist of soft cushions supported by flexible metal springs *e*, which are secured entirely within the pads and without external metal attachments or projecting parts liable to give cold or rough contact with the person. By connecting the double supporting-pad C to the frame A in the manner shown, by means of the pivot *f* and connecting-bar D, action is permitted between the parts, while the pad is held securely and easily in position, and the inclination of the frame when taking

high or low steps, or when one leg is raised higher than the other, simply inclines the bar D without tending to change the position of the pad C against the person, and no strain or irritation is thereby brought upon the place of rupture.

Proper inclination may be imparted to the pads C E by twisting the flattened front ends a^2 of the frame inward or outward, as desired.

10 The truss is fitted to the person by bending the frame to the required shape, so that the pads will give just the amount of pressure required for holding the rupture, which is held by the rigidity of the frame and not by a continually-following spring-pressure.

15 The truss can be made with or without the auxiliary pads E, or a single pad, E, may be used, as desired.

20 The back of the frame A may be offset upward, as indicated in Fig. 4, if desired, so that the pad B will occupy a higher position on the back of the wearer.

I am aware that truss-frames have heretofore been made with hinges; also that round

metal has been employed for truss-frames; 25 also that auxiliary pads have been combined with the main pads of trusses; and I do not desire to herein make claim, broadly, to such features.

What I claim as of my invention, and desire 30 to secure by Letters Patent, is—

1. The truss-frame A, composed of the parts $A^2 A'$, constructed and formed, as described, with flush side hinges, a , in combination with the connecting-bar D, pivoted centrally at f 35 and provided with suitable fastenings, and the supporting-pads B C, as set forth.

2. The pad or pads E, constructed with an internal supporting-spring, and arranged, in connection with the pad C, relatively, in the 40 peculiar manner hereinbefore described, for the purpose set forth.

Witness my hand this 26th day of November, A. D. 1879.

GEORGE A. WILLARD.

Witnesses:

CHAS. H. BURLEIGH,
OSGOOD BRADLY, Jr.