

(Model.)

C. CLUTHE.
TRUSS.

No. 254,865.

Patented Mar. 14, 1882.

Fig. 1.

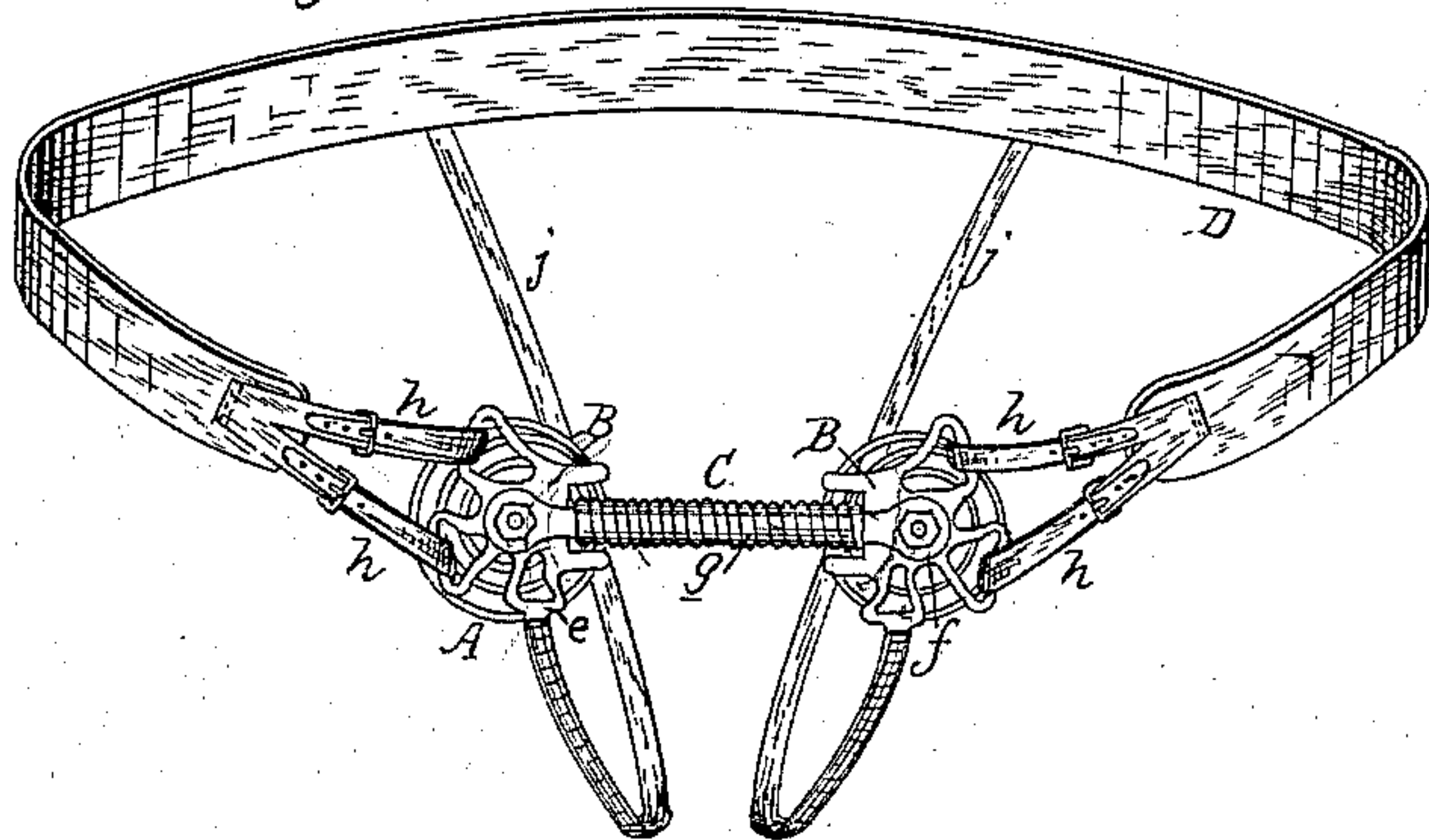


Fig. 2.

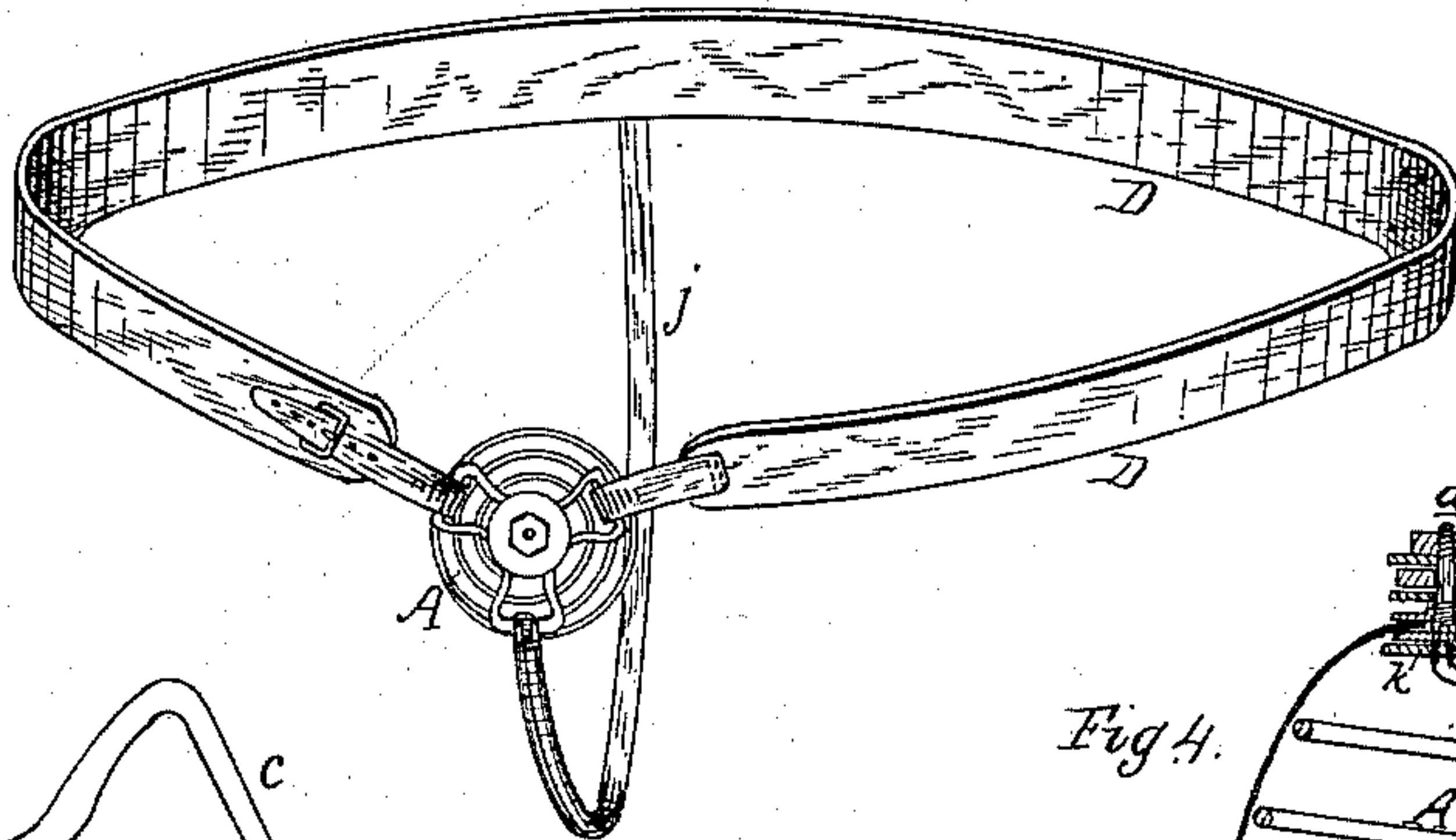


Fig. 3.

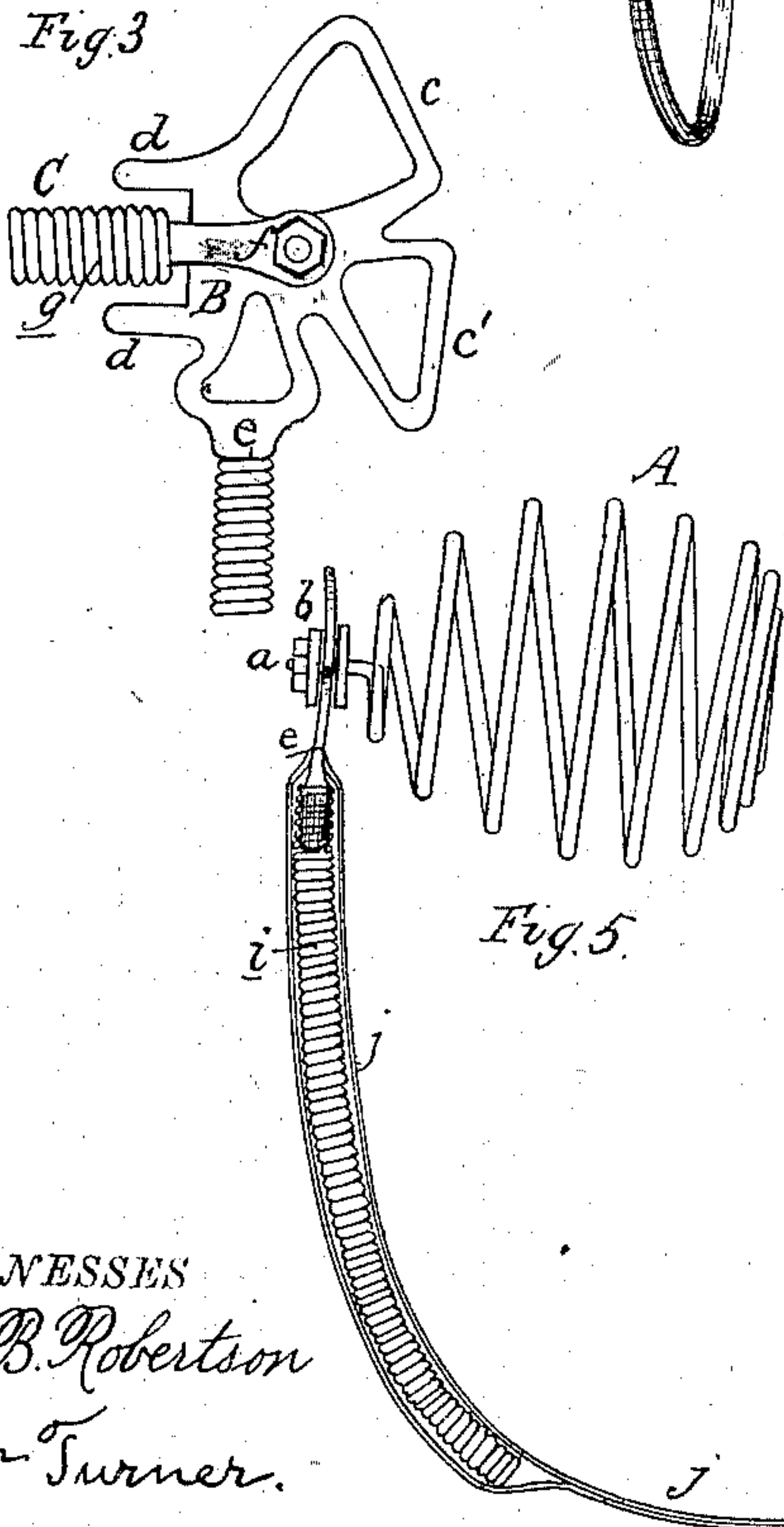


Fig. 4.

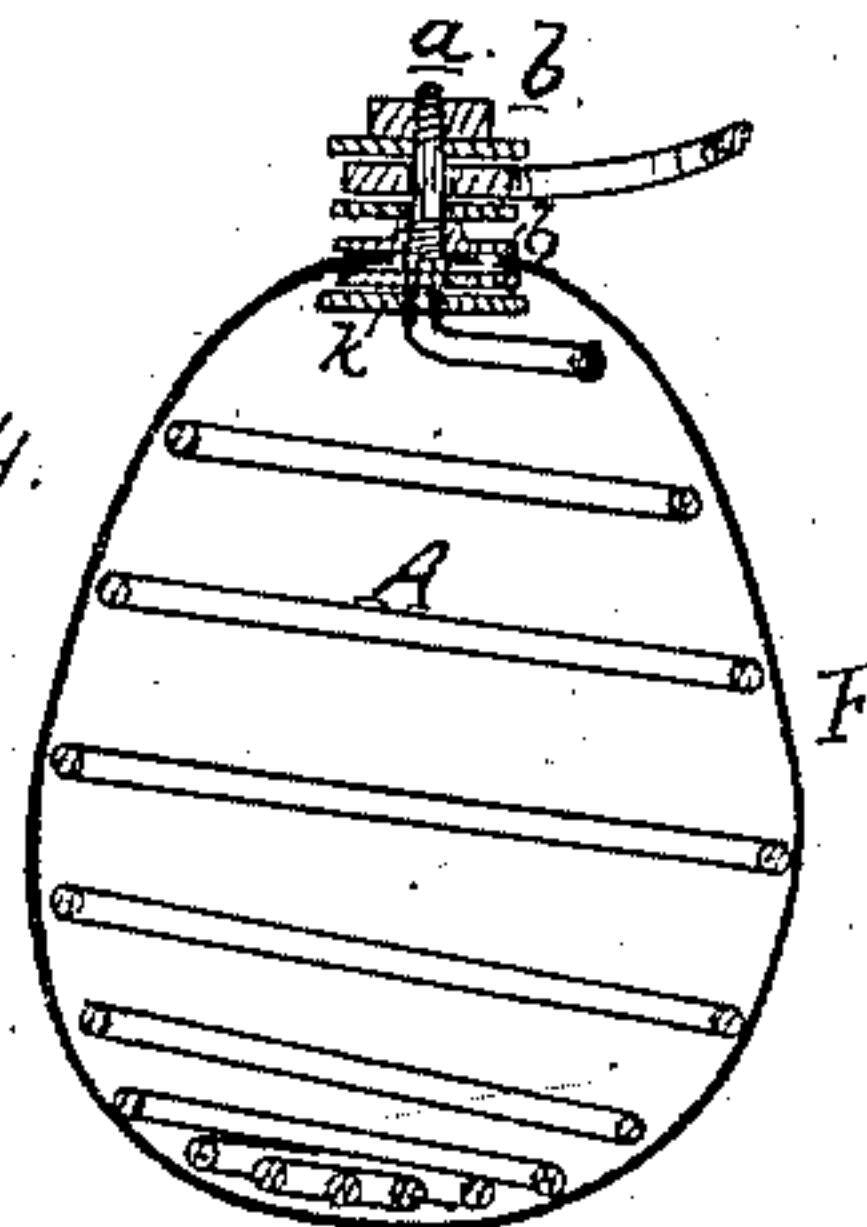
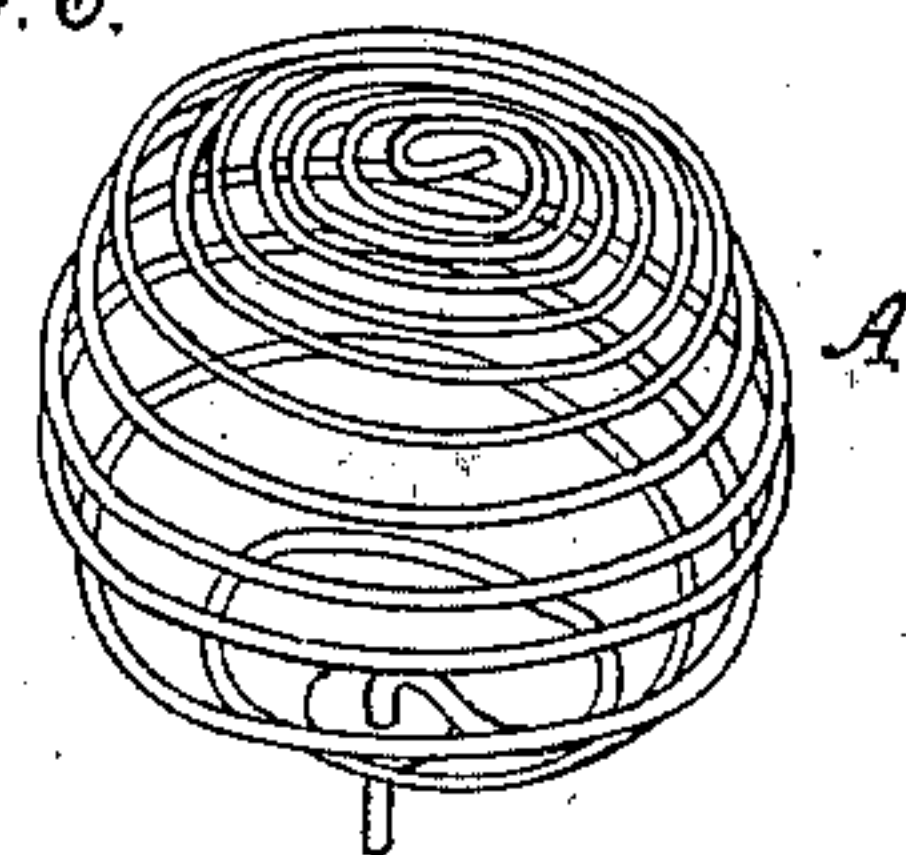


Fig. 6.



WITNESSES

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TRUSS.

SPECIFICATION forming part of Letters Patent No. 254,865, dated March 14, 1882.

Application filed November 4, 1881. (Model.)

To all whom it may concern:

Be it known that I, CHARLES CLUTHE, a citizen of Canada, residing at Toronto, in the county of York and Province of Ontario, Canada, have invented certain new and useful Improvements in Trusses, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to trusses; and it consists in the peculiar construction and arrangement of the parts, as hereinafter more fully described, and then pointed out in the claims.

In the drawings, Figure 1 represents a perspective view of a double truss constructed according to my improvement in the position it would assume when worn; Fig. 2, a similar view of a single truss; Fig. 3, a detail of the top plate for connecting the pad to the belt; Fig. 4, a section of a pad; Fig. 5, a detail of the pad and spring for the thigh-strap; Fig. 6, a perspective detail of the pad.

A represents the pad, which is made by coiling a spring in the form shown in Fig. 6, or in the shape of an egg, with the largest end very much flattened, and with the end of the wire at the smallest end projecting, as at *a*, on which a thread is cut to form a screw. This screw is passed through the top plate, B, and is held there by means of threaded collars or nuts *b* in such a manner as to readily turn therein.

The top plate I prefer to make in the form shown in Figs. 1 and 3, or as shown in Fig. 2, according to whether the pad is for a single or double truss. For the double truss it is made with two loops, *c c'*, (see Fig. 3,) two stops, *d*, and a screw-pin, *e*. Through the center of this plate and through a spring cross-bar, C, is passed the threaded end of the wire *a*, and is held there by the nuts or collars *b*, before referred to, which are screwed up in such a manner as to allow of the pad readily turning on it as a center. The stops *d* allow of a limited movement of the plate B on the cross-bar, but prevent too much movement.

To the loops *c c'* are attached two adjusting-straps, *h h*, which are connected to the belt D, and by adjusting these straps the pressure can be varied to suit circumstances. If the greatest pressure is wanted above, the upper strap is tightened by the strap and buckle; but if

the reverse is the case the lower strap is tightened.

The cross bar C, as shown in the drawings, consists of three pieces—viz., two screw-eyes, *f f*, and a spiral spring, *g*, the coils of which correspond with the thread of the screw—by which construction a very strong yet flexible cross-bar is formed, which can be readily adjusted as to length to suit the position of the ruptures, as the screw-eyes can be screwed in or out to suit circumstances, and if the bar is too long a few coils can be readily cut off from either end and the screw-eye again screwed in.

The screw-eyes may sometimes be dispensed with by making the spring long enough to bend the ends into eyes, through which the screw *a* on the end of the pad may be passed.

Screwed onto the screw-pin *e* is a spiral spring, *i*, around which is secured a tube, *j*, of any convenient or suitable material, and which tube is carried around to the back of the belt D, where it is securely fastened, thus forming a thigh-strap. In lieu of this tube there may be a piece of webbing or other suitable material sewed to the lower end of the spring *i*.

If a single truss is used, it should be provided with the plate E with three loops, arranged as shown in Fig. 2, or the lower loop may have substituted for it the screw-pin *e* and a spring thigh-strap like that shown at *i j*.

I propose to generally use the truss-pad in the form shown in Fig. 6, without covering; but I sometimes cover it with an air-tight rubber bulb, F, the mouth of which is secured by the collars or nuts, as shown in Fig. 4. For convenience in filling with air I sometimes fasten a disk of rubber, *k*, on the inner side of the collar, and by making a hole through the collars air can be blown through a tube inserted in the hole, and the rubber disk *k* will act as a valve, and will be held close by the pressure of the air within.

By the construction of the pad of coiled wire as shown a very easy pad is formed, with perfect ventilation. As the coils on the top of the pad are nearly close together, a covering may be dispensed with, as the coils will form a good face for the pad without covering, although any form of covering may be used—such, for instance, as that shown in Fig. 4. Owing to

the peculiar formation of the pad, the coils on the face become depressed by the pressure, and the outer coils tend to close up the hernia.

The base B, being loosely attached to the coupling-bar C, allows it to turn with ease when the arm is raised without chafing the wearer, and the stops *d*, touching against the cross-bar, prevent too much motion to allow of the straps getting out of position. In addition to this motion the pad can turn on its center to accommodate the motion of the body sidewise; and as the coils of which the pad is formed render it very flexible, every motion of the body is accommodated.

By the peculiar arrangement of the spring in the thigh-strap neither the spring nor its covering ever touches the body, as there is sufficient tension in the spring to keep it from touching, and it can be easily set with any required curve to suit the wearer.

By the construction of the truss-pad in the manner shown it is believed that the lightest strongest, coolest, and most perfect truss ever made is produced, and one that can be used with the greatest satisfaction to the wearer.

What I claim as new is—

1. A pad for trusses consisting of a coiled wire having close coils extending across its face and approximately flattened at the point of contact with the body, whereby it is adapted to press on the hernia with or without an intervening covering and to exert its greatest pressure at its exterior circumference, substantially as described.

2. In a double truss and in combination with the cross-bar connecting the pads, the plates B, turning on the same centers which hold the cross-bar, and provided with stops *d d* to limit their motion, substantially as and for the purpose specified.

3. The top plate, B, for trusses, provided with the loops *c c'*, stops *d*, and screw *e*, constructed and arranged substantially as and for the purpose set forth.

4. The combination, with a double truss, of the stiff spiral-spring cross-bar C, provided with eyes at each end for pivotally attaching it to the pads, substantially as described.

5. The combination, with a double truss, of the stiff spiral-spring cross-bar C, provided with adjustable screw-eyes *f*, substantially as and for the purpose specified.

6. The combination, with a truss, of a thigh-strap consisting of a stiff spiral spring rigidly secured to the pad-plate at one end and flexibly connected with the belt at the back, whereby said spring assumes a curve when applied to the body to prevent contact with and chafing of the skin, substantially as described.

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

CHARS. CLUTHE.

Witnesses:

GEO. F. GRAHAM,

T. J. W. ROBERTSON.