

917,113.

W. F. OFFORD.
TRUSS AND LIKE SURGICAL APPLIANCE.
APPLICATION FILED FEB. 29, 1908.

Patented Apr. 6, 1909.
3 SHEETS—SHEET 1.

Fig. 3.

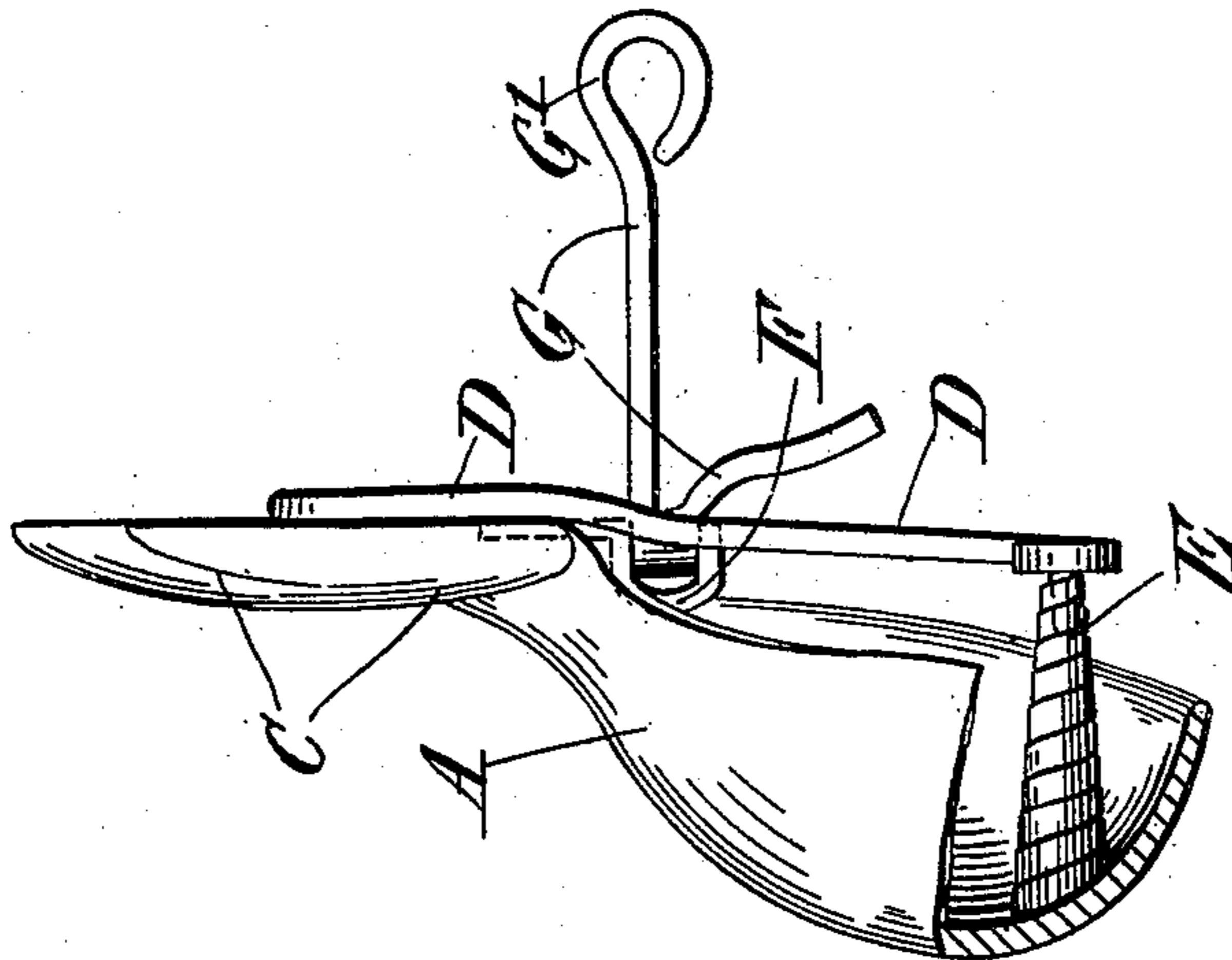


Fig. 2.

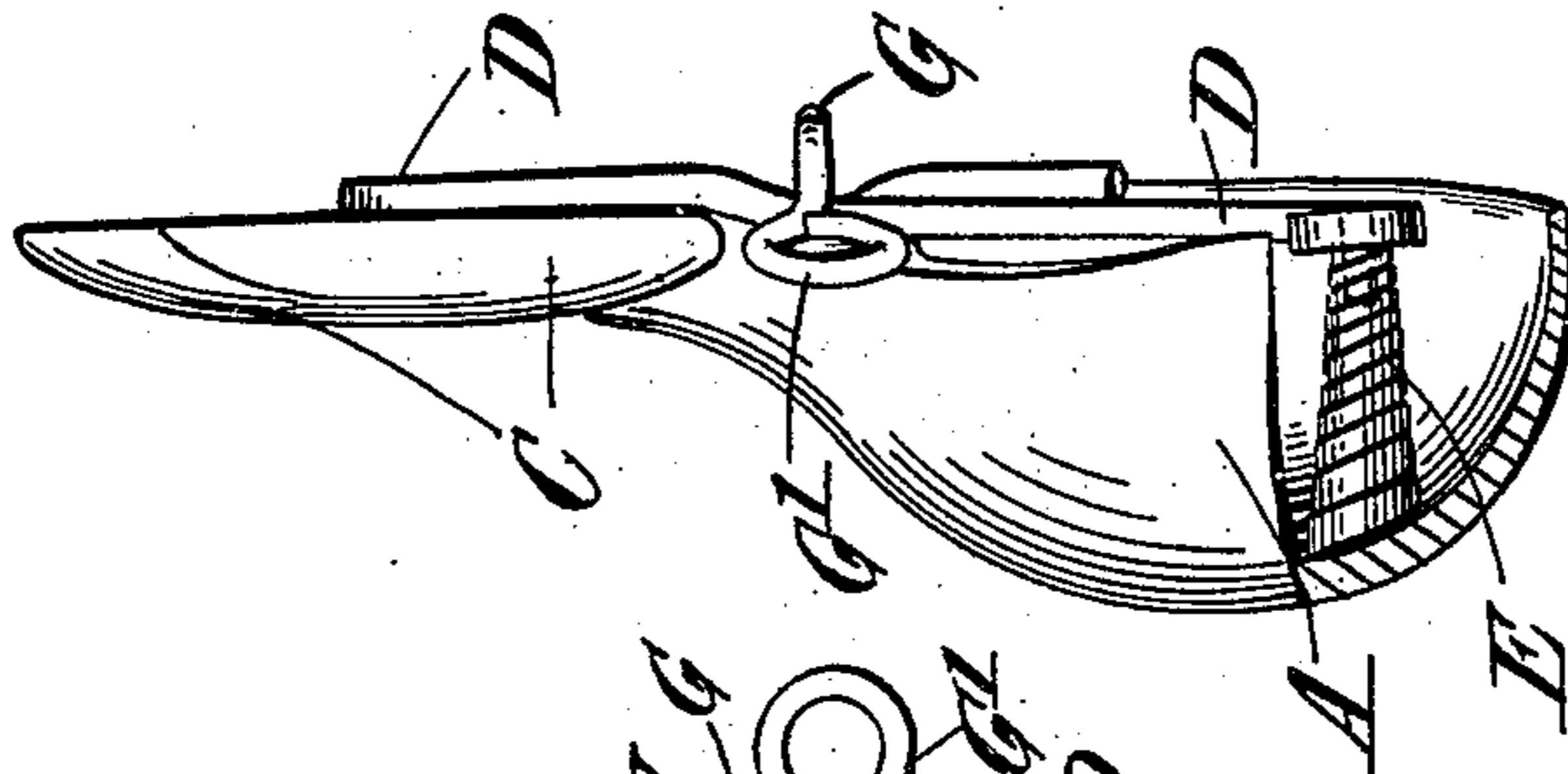
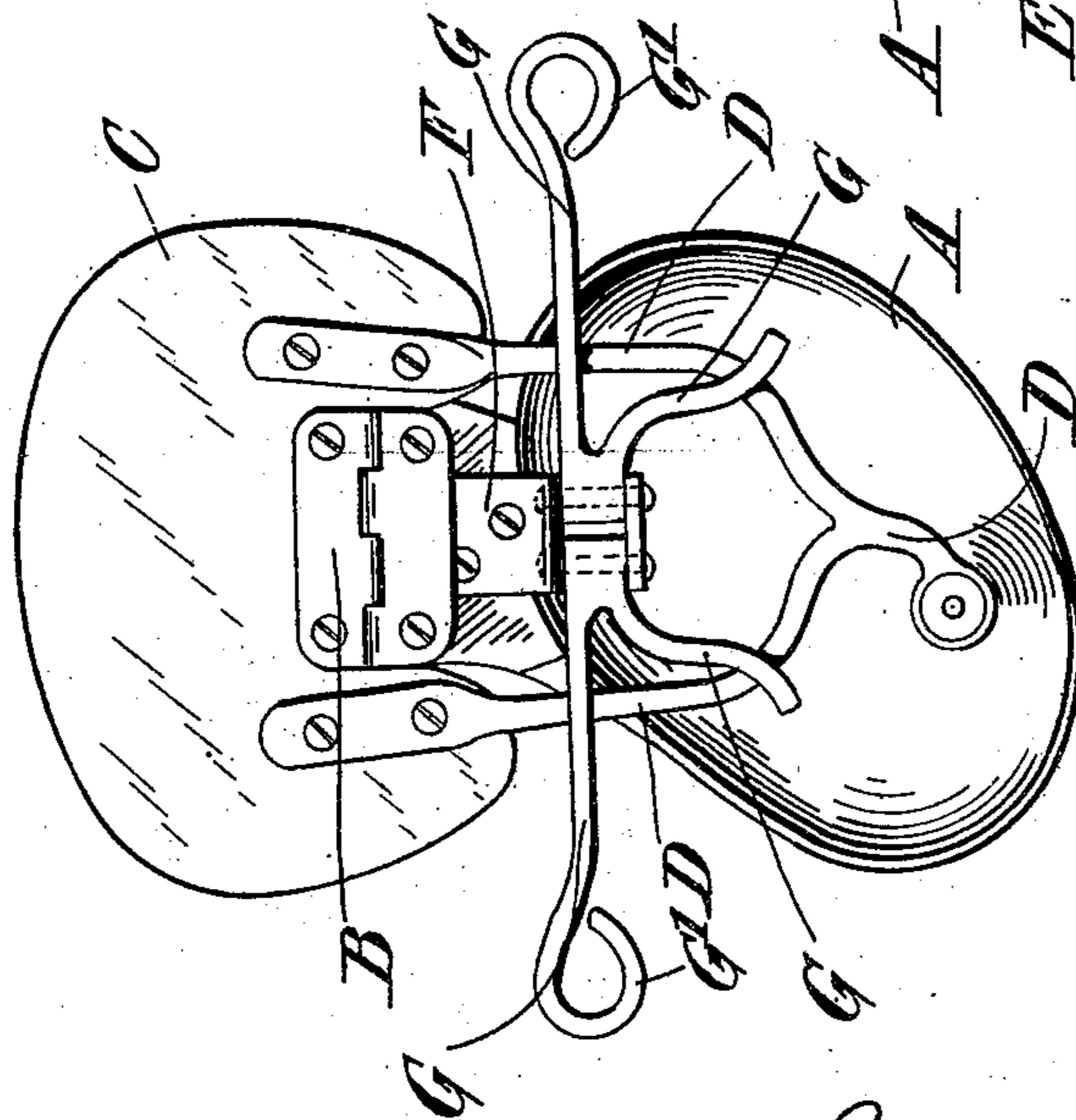


Fig. 1.



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Fig. 4.

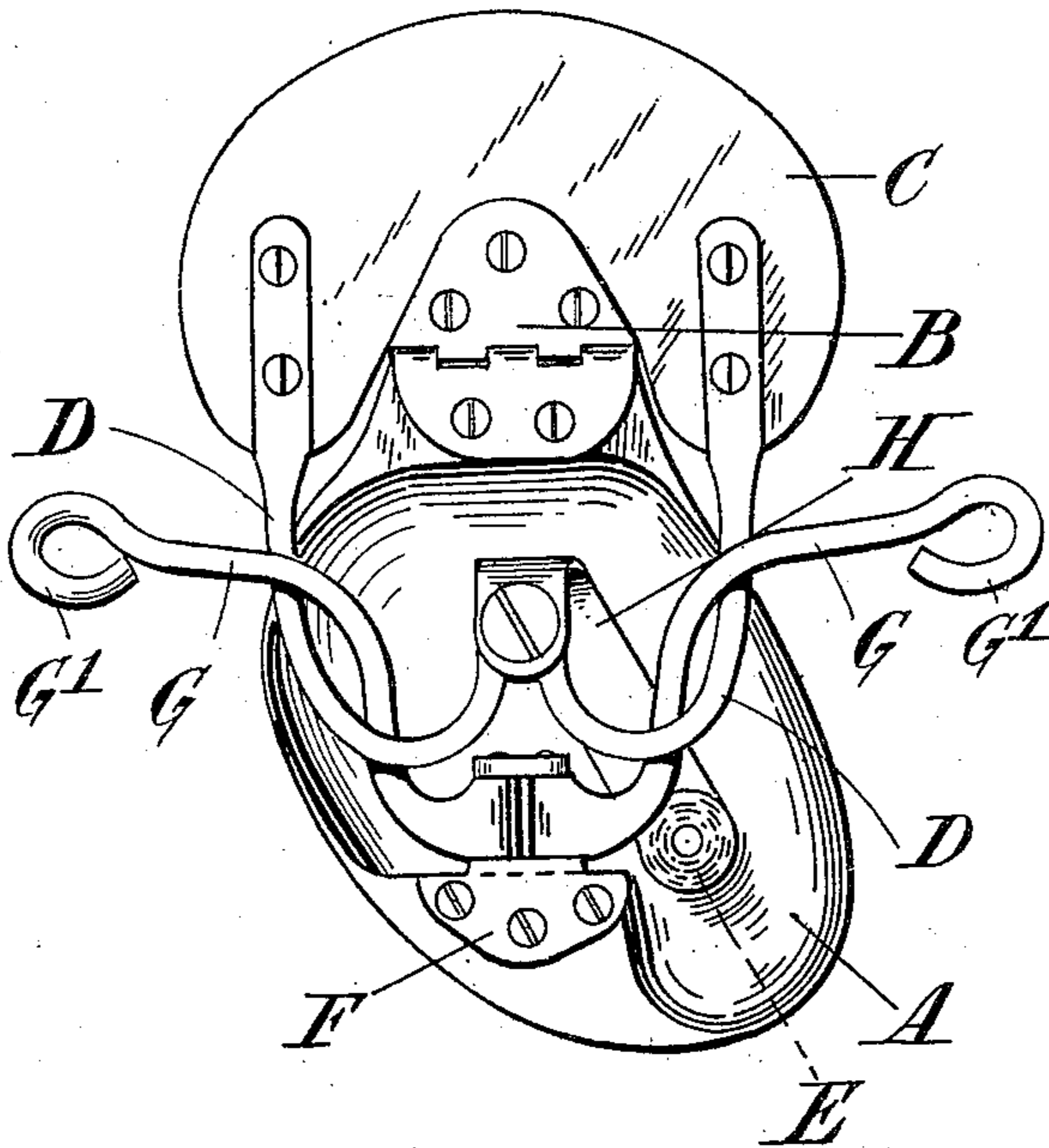
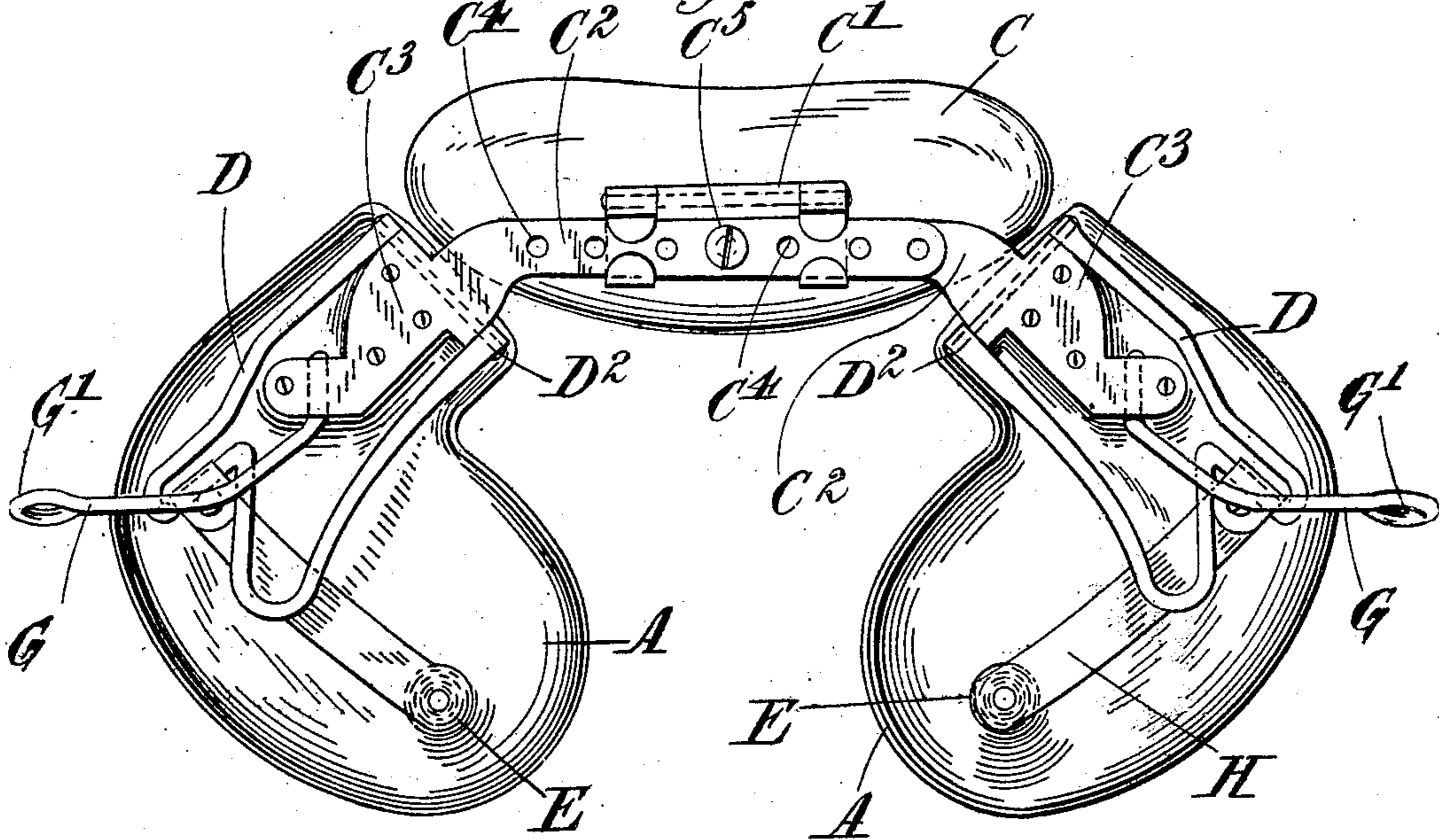


Fig. 5.



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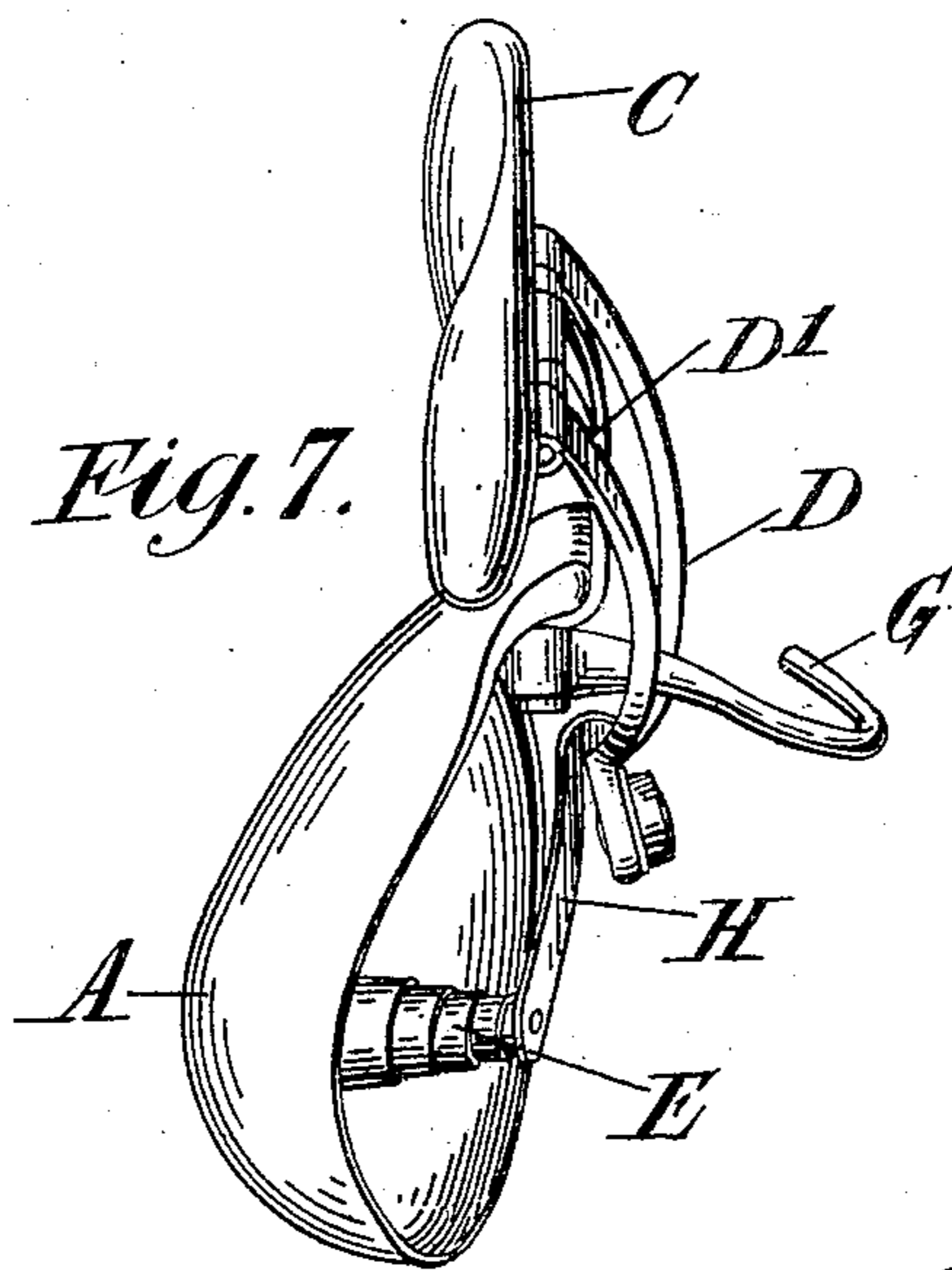
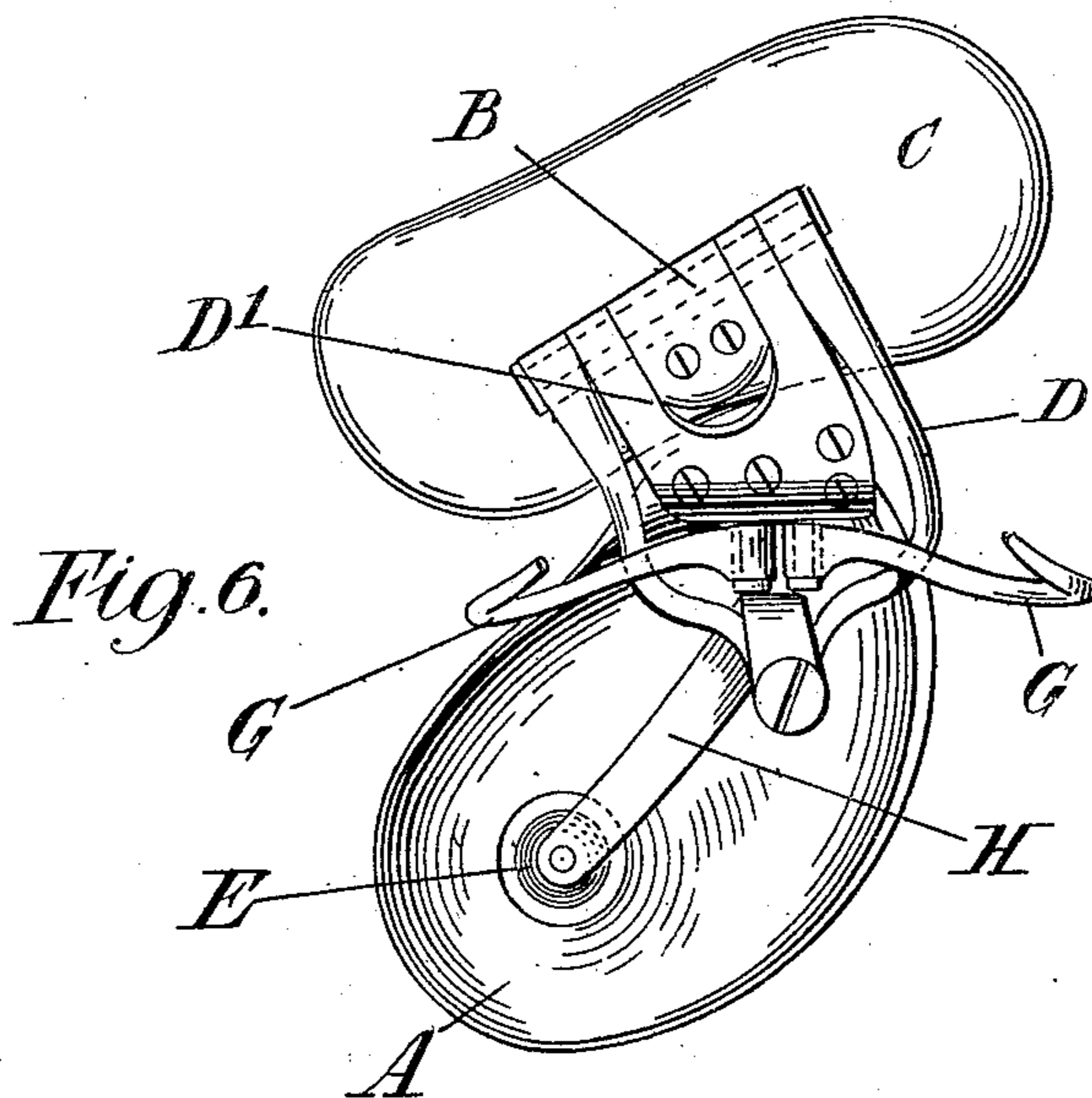
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE

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TRUSS AND LIKE SURGICAL APPLIANCE.

No. 917,113.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed February 29, 1908. Serial No. 418,543.

To all whom it may concern:

Be it known that I, WILLIAM FREDERICK OFFORD, a subject of the King of England, residing at Cambridge, in the county of Cambridge, England, have invented certain new and useful Improvements in Trusses and Like Surgical Appliances, of which the following is a specification.

This invention relates to trusses and like surgical appliances, its object being the construction of a simple and efficient truss, easily washed and rendered aseptic and capable of application without some of the springs or straps generally necessary.

A truss according to this invention comprises a pad of vulcanite or other suitable material shaped to suit the part to which it is to be applied and hinged to what may be termed a fulcrum plate. To this plate is attached a lever—preferably of metal—with its free end extending to a point conveniently over that part of the pad which is intended to lie over the hernia or other injured spot. At that portion of the pad is a spring preferably spiral and let into a recess in the back of the pad, the free end of the lever resting upon the end of the spring. Another arm or lever conveniently hinged or pivoted to the pad is so disposed that it can be pulled down by a strap or band which passes around some adjacent part of the body of the wearer. The arm then crosses and presses upon the first lever, thus transmitting pressure to the spiral spring and thence to the pad.

Figure 1 is an elevation of one construction of truss according to this invention. Fig. 2 is a view taken at right angles to Fig. 1 with portions removed. Fig. 3 is a view similar to Fig. 2 but with the parts in a different position. Fig. 4 is an elevation of another construction of truss. Fig. 5 is a similar view of a double truss also according to this invention. Figs. 6 and 7 are views similar to Figs. 1 and 3 respectively but illustrating another construction of truss also according to this invention.

Like letters indicate like parts throughout the drawings.

With reference first to Figs. 1, 2 and 3, A is the pad, preferably made of celluloid or some other smooth, washable material and formed to suit the part to which it is to be applied. Hinged as at B to the top of the pad A is a plate C which may be termed a "fulcrum

plate." It supports a bifurcated or two-armed lever D which, at its free end engages with one end of a spiral spring E. The other end of this spring rests within the hollow pad A and may be secured thereto in any suitable way.

Pivotally mounted on a bracket F attached to the top of the pad are two cross arms or levers G. These are so placed that a portion of each one bears upon the adjacent part of the lever D, and they are furnished with loops G¹ into which a band may be hooked or threaded and passed around the body of the wearer.

Figs. 1 and 2 show the truss with its parts in the position which they assume when the band is tightened, and it will be seen that the arms G are pressed against the lever D, which is consequently forced down and compresses the spring E. Thus a firm but elastic pressure is brought to bear upon the pad A. The arms G are so shaped that when the band is tightened, they lie back as in Fig. 1 and 2, and thus are not noticeable under the clothing of the wearer.

The truss shown in Fig. 4 is similar in its construction and operation to the one hereinbefore described, but in this form the lever D, instead of bearing directly upon the spiral spring E, is connected to one end of a flat plate-spring H, the other end of that spring bearing upon the spiral spring E. Another feature of the construction shown in Fig. 4 is that the bracket F to which the arms G are pivoted is mounted upon the lower part of the pad A and not at the top part as in the other form.

Fig. 5 illustrates a double truss according to this invention. The fulcrum plate C has hinged to it a clip C¹ holding bars C², each of which is attached to a pad A by a plate C³ forming part of the bar. Levers D are hinged or pivoted to the plates C³ as at D², and are connected through plate-springs H to spiral springs E. A pivoted cross arm G bears upon each of the levers D and a supporting band can be engaged in the loops G¹ of the cross arms and tightened to give the necessary pressure. As in the other constructions of truss previously described, this double form can be held in place solely by the supporting band.

It will be seen from Fig. 5 that the bars C² are adjustable by means of the holes C⁴ and

the engaging screw C⁵; this permits of the distance between the pads being varied. When the bars C² are in the required position they are rigidly held in that position and

5 form a functional part of the fulcrum plate C.

A modified form of single truss is shown in Figs. 6 and 7. It resembles the double form illustrated in Fig. 5 in that the lever D is hinged or pivoted as at D¹ instead of being

10 rigidly connected to the member whereon it is mounted as in the single trusses previously described. It will be seen that in the form shown in Figs. 6 and 7 the axis of the pivots coincides with that of the hinge B; hence it

15 is possible for the fulcrum plate C to turn upon its hinge without materially altering the pressure put upon the pad A through the cross arms G. This movement of the plate C is of great advantage in increasing the

20 adaptability of the truss. No other straps or springs are necessary, and when the truss is used for the treatment of hernia, the pelvic spring or perineal strap often used in other hernia trusses is dispensed with.

25 Although described as a truss and intended primarily for use as such, it is to be understood that the appliance can be used for other purposes than the cure of hernia. For example, the invention might be applied to ap-

30 paratus for keeping a bandage in place or used in other similar ways.

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

35 1. In a truss the combination with a fulcrum plate or support and a pad having hinged or pivoted connection therewith of a pressure lever, a spring interposed between the pressure lever and the pad and means for applying pressure to the lever.

40 2. In a truss the combination of a fulcrum plate or support, a pad having hinged or pivoted connection therewith, a pressure lever mounted on the plate, a spring interposed

between the pressure lever and the pad and means for applying pressure to the lever. 45

3. In a truss the combination of a fulcrum-plate, a pad having hinged or pivoted connection therewith, a lever attached to the plate, a spring between the free end of the lever and the pad and a cross arm operated by

50 the ordinary supporting band and bearing upon the lever.

4. In a truss the combination of a fulcrum-plate, a pad having hinged or pivoted connection therewith, a lever attached to the plate, a plate-spring attached to said lever, a

55 second spring interposed between the plate-spring and the pad and a cross arm operated by the ordinary supporting band and bearing upon the lever.

5. In a truss the combination of a fulcrum-plate, a pad having hinged or pivoted connection therewith, a two-armed or bifurcated lever mounted upon the plate, a spring be-

60 tween the free end of the lever and the pad and cross-arms pivotally mounted upon the pad and adapted to be pressed upon the lever by the action of the ordinary supporting band.

6. In a truss the combination of a fulcrum-plate a pad having hinged or pivoted connection therewith, a two-armed or bifurcated lever pivoted upon the plate, a spring be-

70 tween the free end of the lever and the pad and cross arms pivotally mounted upon the pad and adapted to be pressed upon the lever by the action of the ordinary supporting band.

In testimony whereof I have signed my name to this specification in the presence of

80 two subscribing witnesses.

WILLIAM FREDERICK OFFORD.

Witnesses:

HARRY B. BRIDGE,
PERCY W. HIGGINSON.