

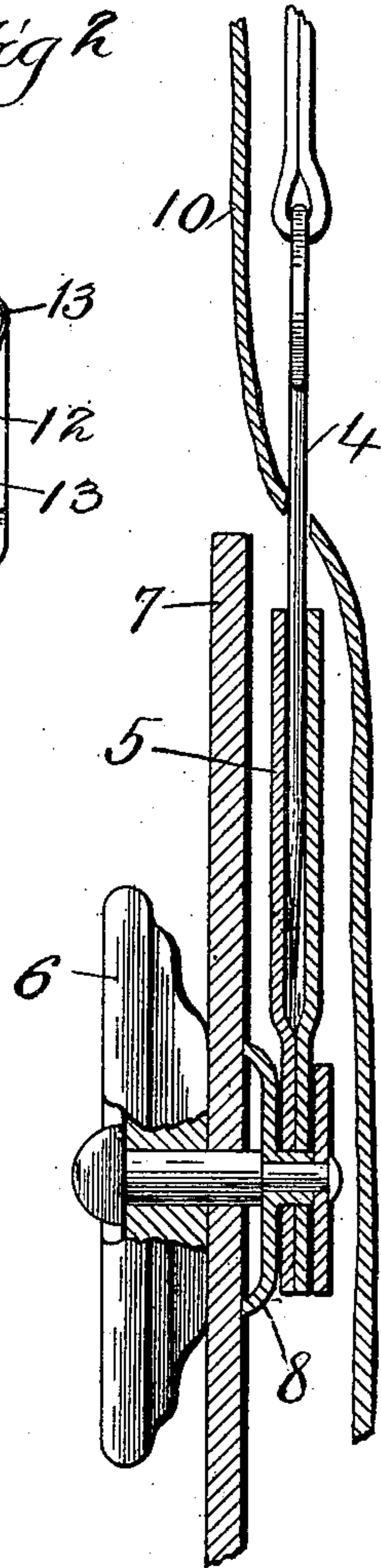
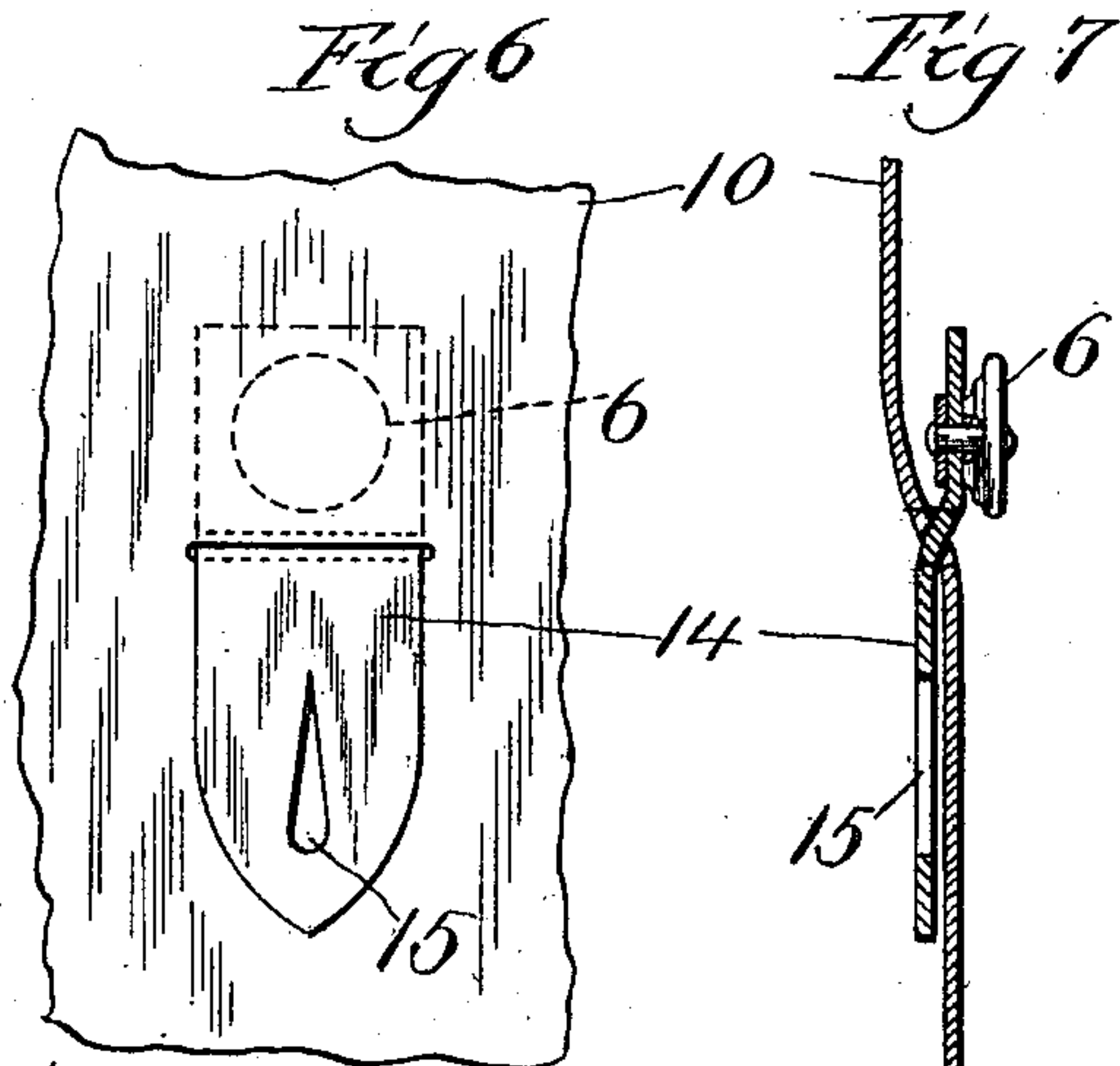
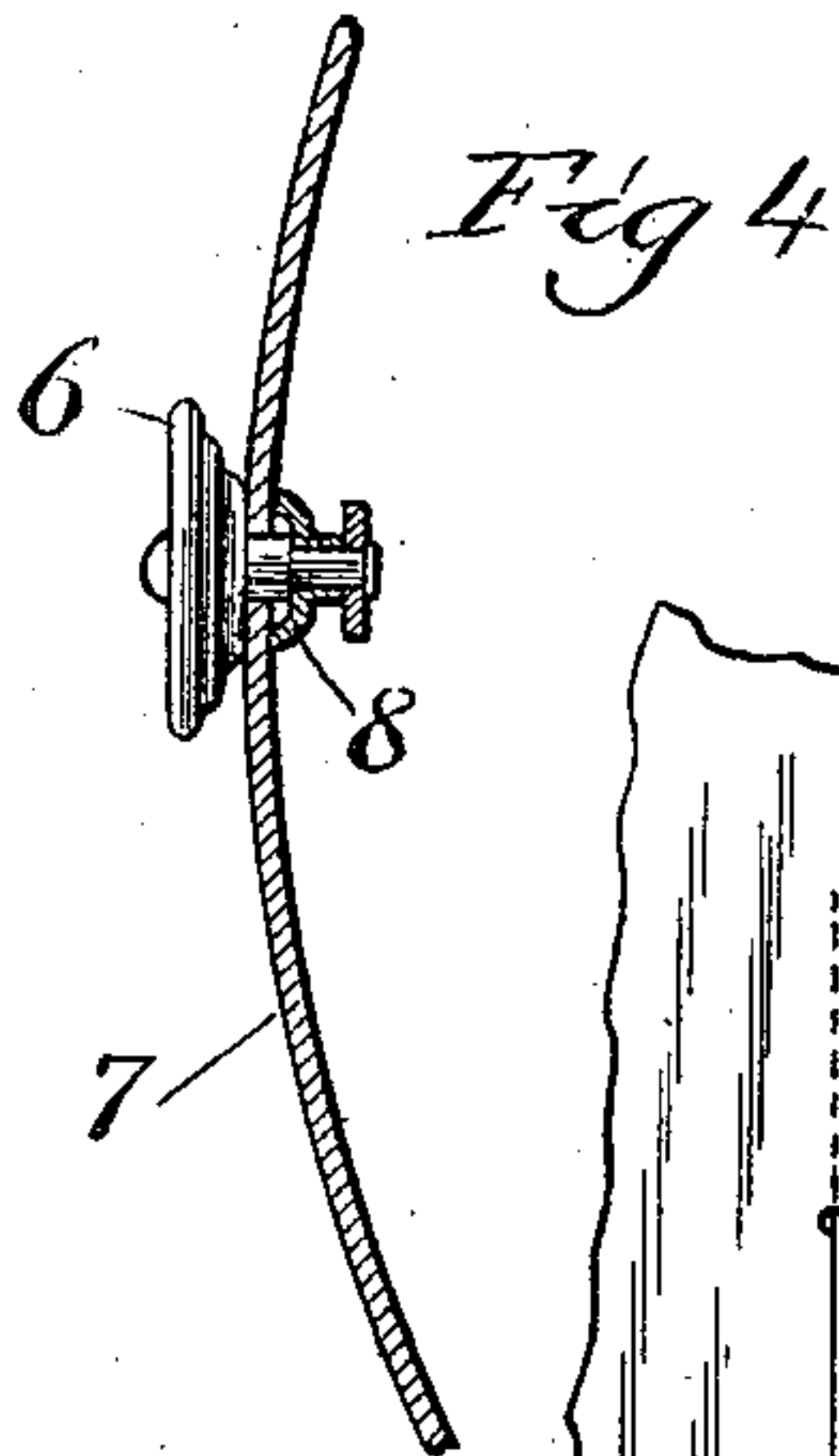
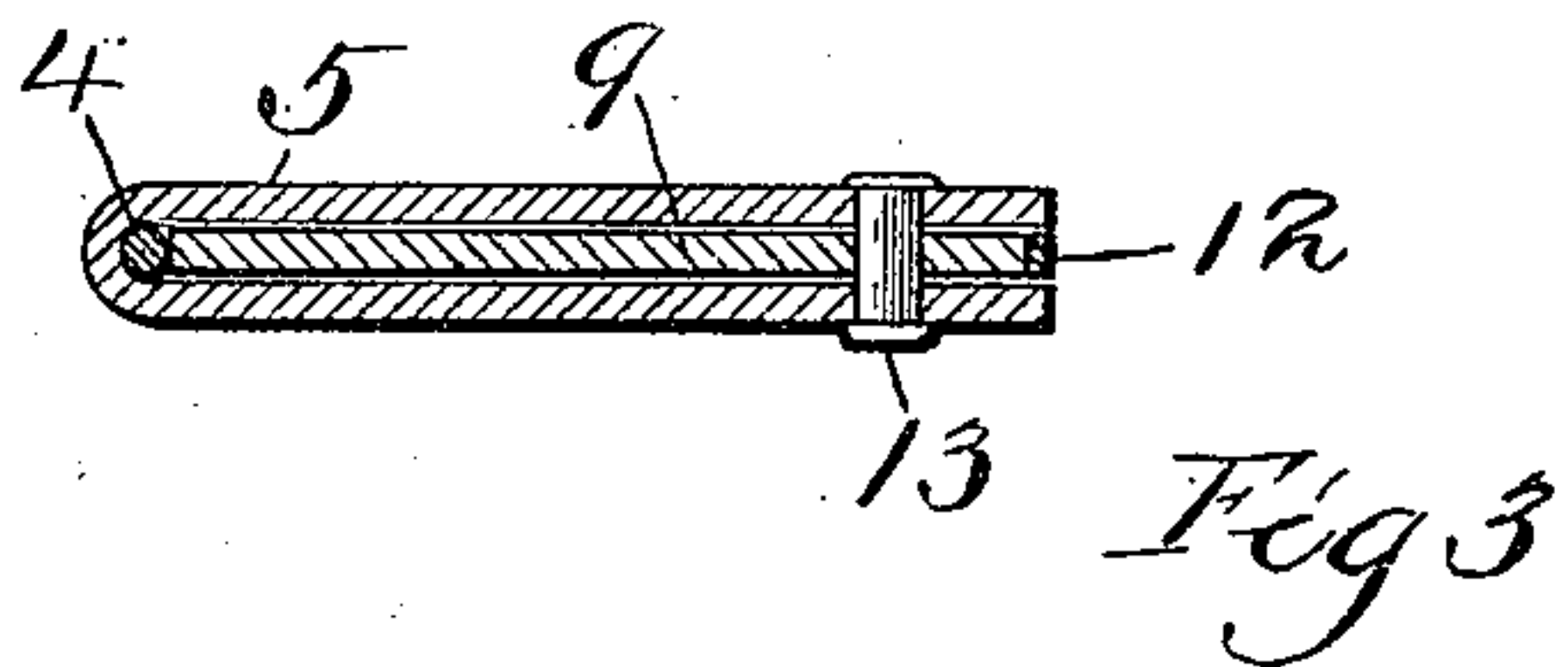
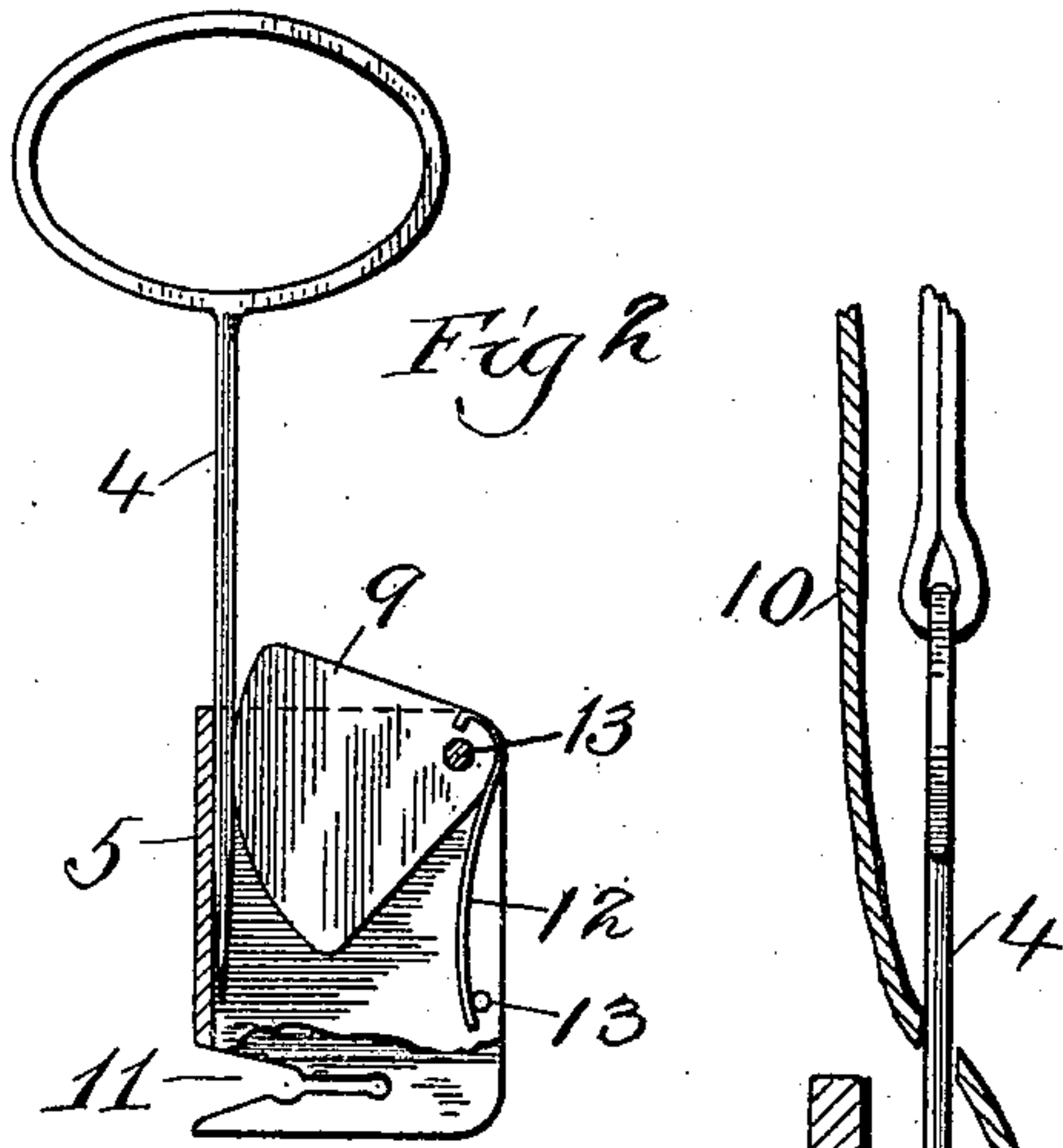
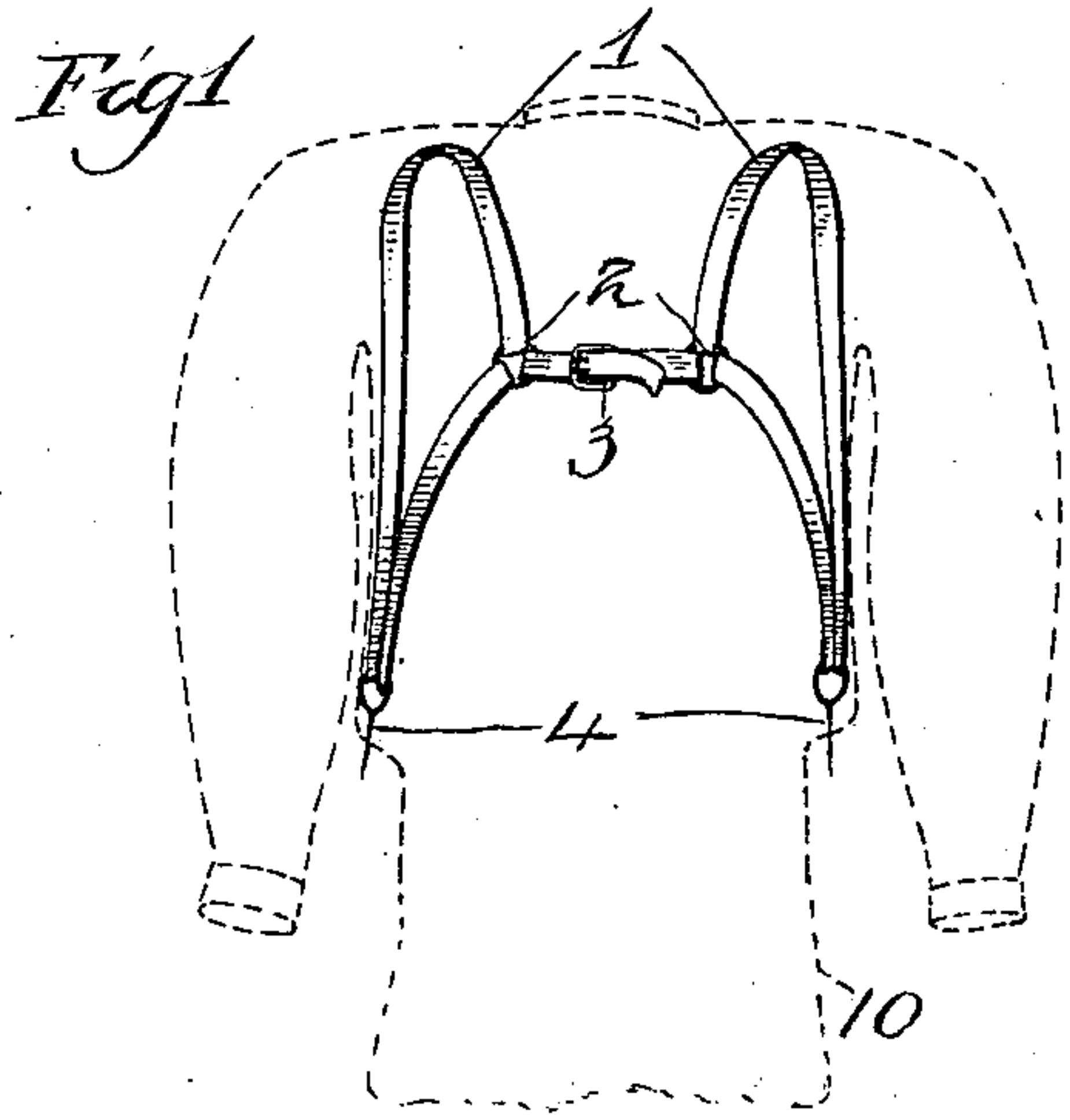
No. 659,620.

Patented Oct. 9, 1900.

E. S. HALSEY.
INVISIBLE SUSPENDERS.

(Application filed Aug. 13, 1900.)

(No Model.)



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EDWARD S. HALSEY, OF CHICAGO, ILLINOIS.

INVISIBLE SUSPENDERS.

SPECIFICATION forming part of Letters Patent No. 659,620, dated October 9, 1900.

Application filed August 13, 1900. Serial No. 26,691. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. HALSEY, of Chicago, in the county of Cook and State of Illinois, have invented new and useful Invisible Suspenders, of which the following is a specification.

The object of my invention is to supply a means of supporting a man's trousers from the shoulder by an invisible suspender in such a manner as to relieve all strain and distortion from the shirt, also relief from the hips, and giving the wearer greater comfort and a neat and tidy appearance when wearing an outing shirt without coat or vest.

The device consists, essentially, of a pair of suspenders adapted to pass over the shoulders beneath the outer shirt and combined with a multiple of suitable couplers communicating the strain of the trousers at the waist-line through said shirt to the shoulder-straps on the inside.

Referring to the accompanying drawings, which illustrate my invention, similar numerals refer to similar parts throughout the several views, in which—

Figure 1 shows the form of shoulder-strap I prefer, with needle-couplers passing out through the shirt, which is designated by the dotted line, at the waist-line. Fig. 2 shows the clasp-snap 5 in side elevation with part of one side broken away. It engages the end of said needle-coupler and is intended to snap onto the inside shank of a button in the waist-band of the trousers. Fig. 3 is a plan cross-section of Fig. 2 through the line of the cam-pivot. Fig. 4 is a fraction of trousers-waist-band with button, in which will be seen a washer collar part 8 for preserving a space for the snap. Fig. 5 shows the clasp snapped onto the button of the band and a fraction of the shirt with the needle-coupler passing through it and the clasp engaging the point of the needle. Fig. 6 is introduced to show another means of carrying out my invention and represents a small fraction of a shirt at waist-line, with a short strap 14 passing through and stitched permanently into it, having a button 6 on the inside and upper end to engage an ordinary pair of suspenders and a buttonhole 15 in the lower and outside end to be buttoned to a button on the inside of the trousers-waistband, Fig. 7 being a

cross-section through the fabric of Fig. 6. By means of a multiple of said straps passing through the shirt and coupling the trousers to the suspenders passing over the shoulders beneath the shirt the trousers can be supported by an invisible means without throwing the weight of their support upon and straining the outer shirt.

On account of simplicity and also freedom from straining the shirt at the point of coupling in bending over the body I prefer the form of suspenders shown in Fig. 1, which consists of two loops of elastic shoulder-straps 1 and 1 and being coupled together by the adjustable cross-strap 3 through the medium of the rings 2 and 2. The two pendent ends of each shoulder-loop are joined together in the ring of the needle-coupler 4, which consists of a ring with a needle of spring-wire about one and three-fourths inches long projecting down from it and being somewhat sharpened at the ends, so as to be easily passed down through the shirt 10 at the waist-line by one hand inserted in the shirt from in front. The needle is then thrust down into the cam-clasp 5, which automatically grips it, in which condition the clasp can be snapped off from or onto the inner shank of the button in the band of the trousers by the notched snap 11 without releasing the needle from the clasp, and thus the needle is preserved from being jerked up inside the shirt by the elastic when released from the button, and thus reengagement is more easily accomplished. The clasp 5 is constructed of three main parts and two rivets—namely, from the cam 9, spring 12, and the outer casing or frame, which is a brass stamping, rectangular, with rounding corners, and is folded back on itself in book fashion, so as to form the two similar sides, being parallel with each other and leaving a narrow space between them just wide enough for the cam to work freely between them on its pivot, formed by the upper rivet 13. The other or bottom rivet 13 is provided for a stop for the cam-spring 12, the purpose of which spring is simply to overcome the weight of cam 9 and keep it in such a position as to always come in contact with and engage the needle 4 when it is thrust into said clasp. The action of said clasp is automatic and is a clamping action of said cam

which is disposed to increase its pressure on the needle in proportion with the increase of pull on the needle by rocking on its pivot, being formed as it is, being about one-fourth
 5 part of the arc of a circle, pivoted a little closer to the circle at the point of entrance of the needle. The withdrawal of the needle naturally tends to carry the curved surface of the cam with it as it rocks freely on its pivot,
 10 thus engaging a part of the circle of increasing distance from the pivot and forcing the needle more firmly against the wall in the bend of the outer casing. In order to release the needle, it is simply necessary to press down
 15 the cam with the finger at the top, which increases the distance between the clamping edge of the cam and the opposing wall, whereupon the needle is jerked out by the elastic attached to it. The bottom edge of the clasp-
 20 casing, about one-fourth inch wide, is formed by being pinched together on itself and having a hook or notch 11 cut into one side, with a slot back of it to give to its lower fork sufficient spring to retain the stem of the
 25 button when snapped onto it by the pressure of the fingers, said stem being slightly larger than the notch-entrance of said snap. I find that with the two supports at or slightly back of the two outside seams of the trousers and
 30 by a proper adjustment of the cross-strap the trousers can be made to hang very well. The tightening of the cross-strap 3 makes the pull of the suspenders incline more backward, thus making the trousers hang smooth
 35 in front, adjustment being made in each case as it may require.

To keep the shirt from wearing out at the point of penetration and also to mark the proper location of same, a small patch of reinforcing-cloth may be sewed on the interior of
 40 the shirt at each point of penetration.

It is obvious that a different number of coupling devices or different forms of coupling devices or different forms of shoulder-
 45 straps from those shown could be used without departing from the main spirit of my invention.

Having described my invention, what I claim is—

1. In a trousers-supporting device, a cam 9; 50 a stem or needle 4; a frame or yoke for said parts binding said stem against said cam.

2. In a trousers-supporter, a device for penetrating the shirt and coupling the suspenders on the inside of the shirt to a garment on the 55 outside thereof and consisting of the shaft or needle 4 and the clasp 5.

3. In a trousers-supporter, a device for penetrating a shirt and coupling the suspenders on the inside of the shirt to a garment on the 60 outside thereof, consisting of the shaft 4 the cam 9; the spring 12; and an outer frame or yoke therefor.

4. In a trousers-supporter, a device for penetrating the shirt and coupling the suspenders 65 on the inside of the shirt to a garment on the outside thereof, consisting of the shaft 4 the cam 9; the spring 12; an outer frame or yoke therefor and a device 11 for detachably connecting the device composed of the other 70 parts, to an outer garment.

5. In a trousers-supporter, a device for penetrating the shirt and coupling the suspenders on the inside of the shirt to a garment on the 75 outside thereof; a device 5 engaging the end of said penetrating device, that is protruded out of said shirt, thus preventing it from receding into said shirt when disengaged from the trousers.

6. In a trousers-supporter, a device for penetrating the shirt and coupling the suspenders 80 on the inside of the shirt to a garment on the outside thereof, combined with a pair of shoulder-straps 1 and 1 being two loops one over each shoulder; a pair of garment-cou- 85 plers 4 and 4, one under each arm and supported respectively by the two said loops and an adjustable cross-strap 3, joining said shoulder-loops together in such a manner as to adjust the angle of their pull. 90

In testimony that I claim the above I hereunto set my hand, this 8th day of August, 1900, in the presence of two subscribing witnesses.

EDWARD S. HALSEY.

Witnesses:

JOHN W. ELLIS,
RALPH C. BENNETT.