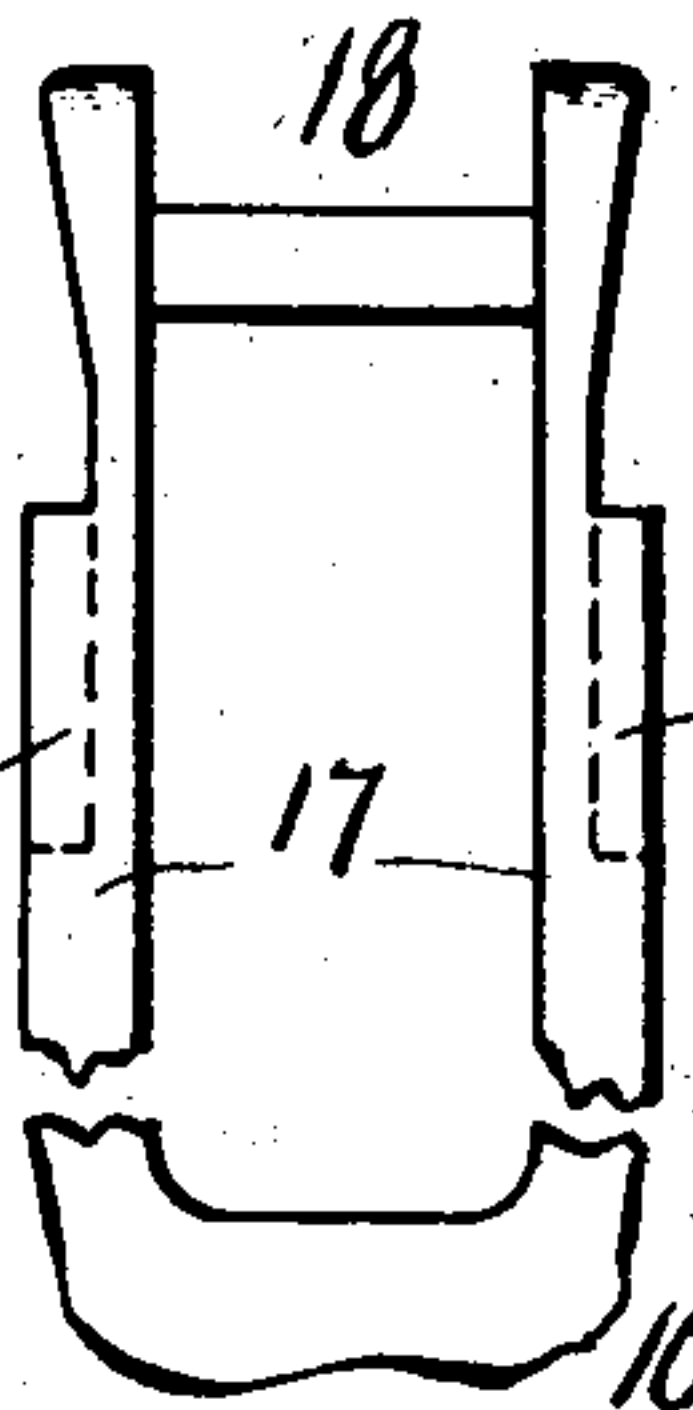
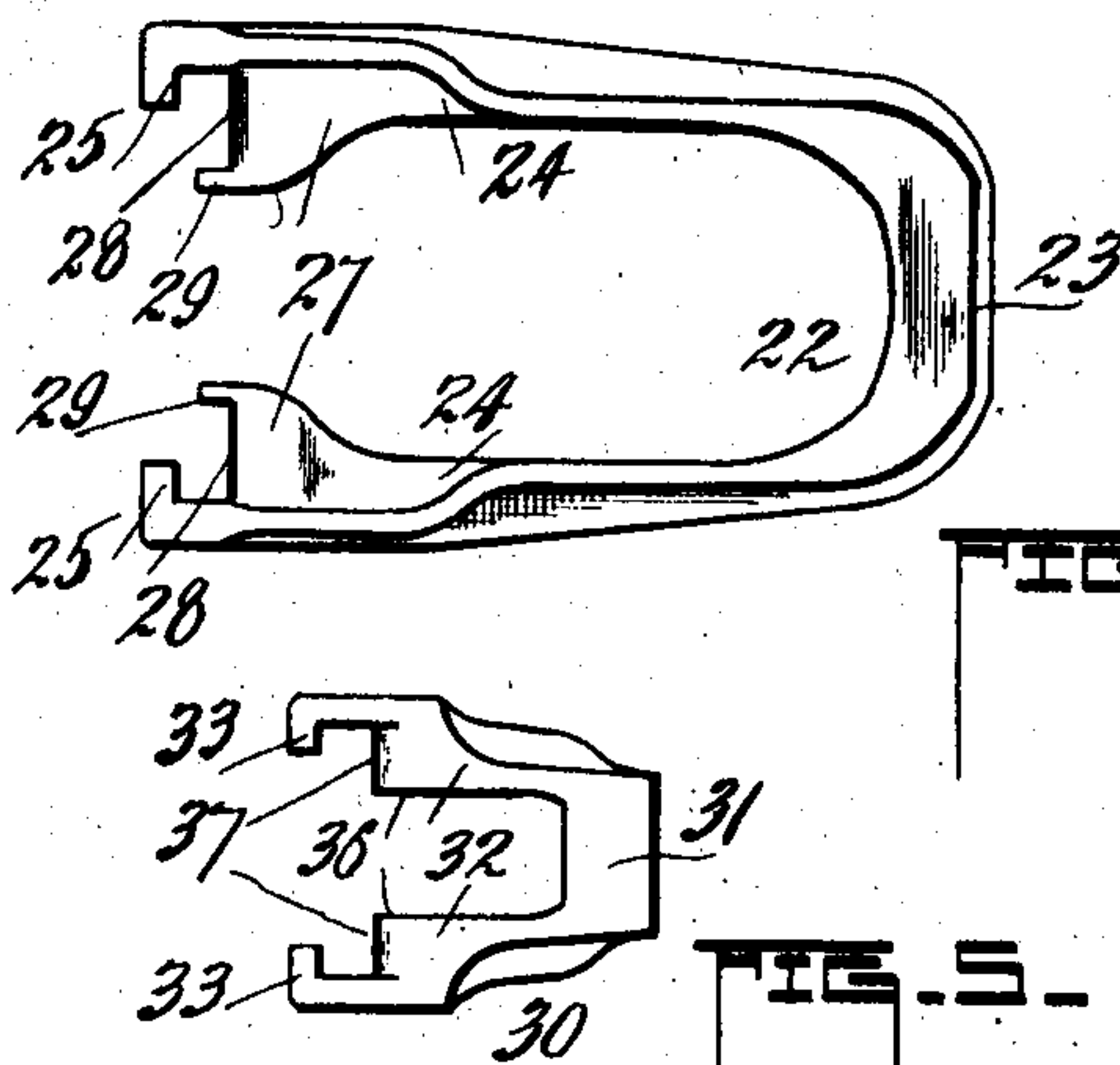
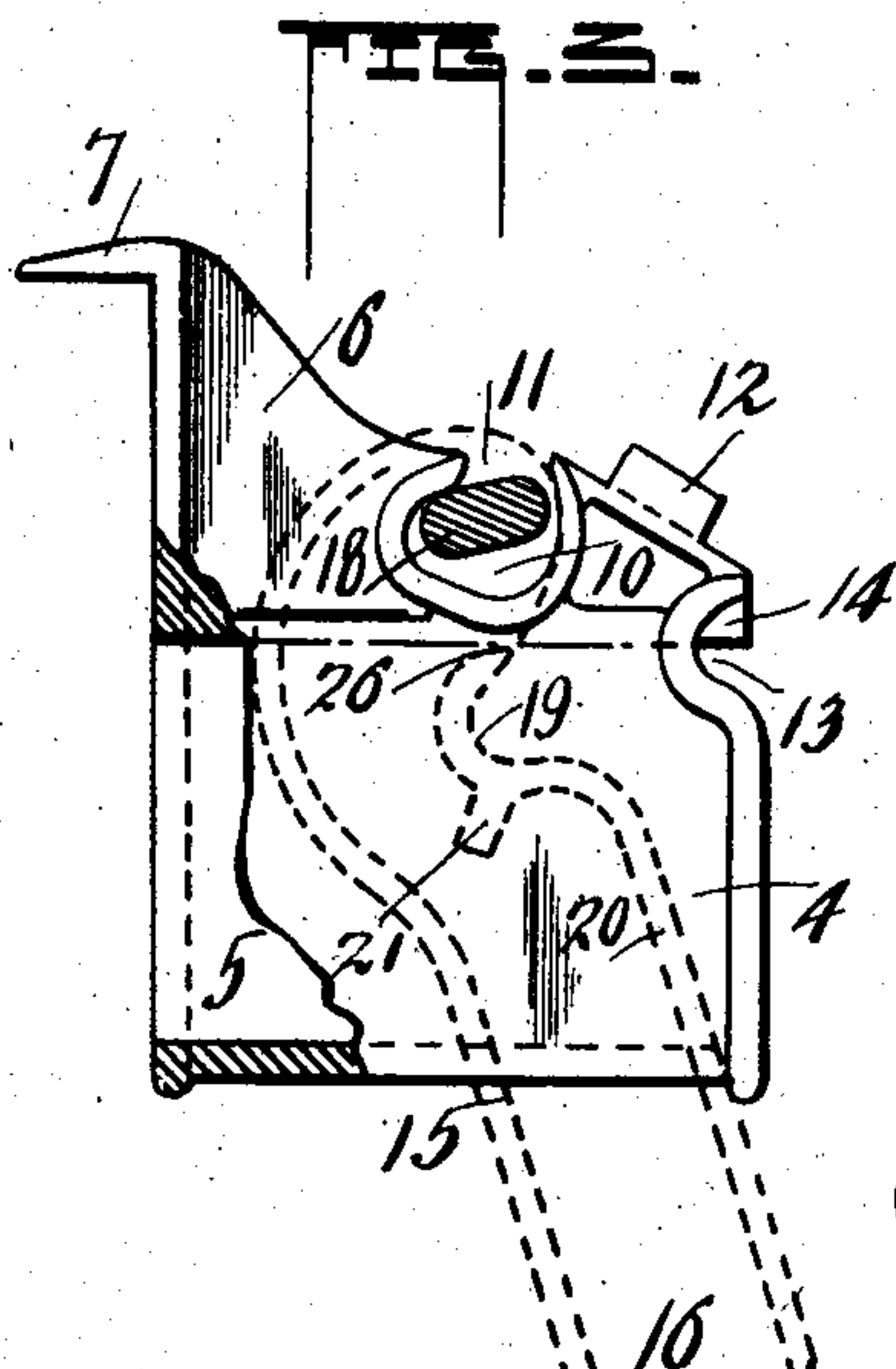
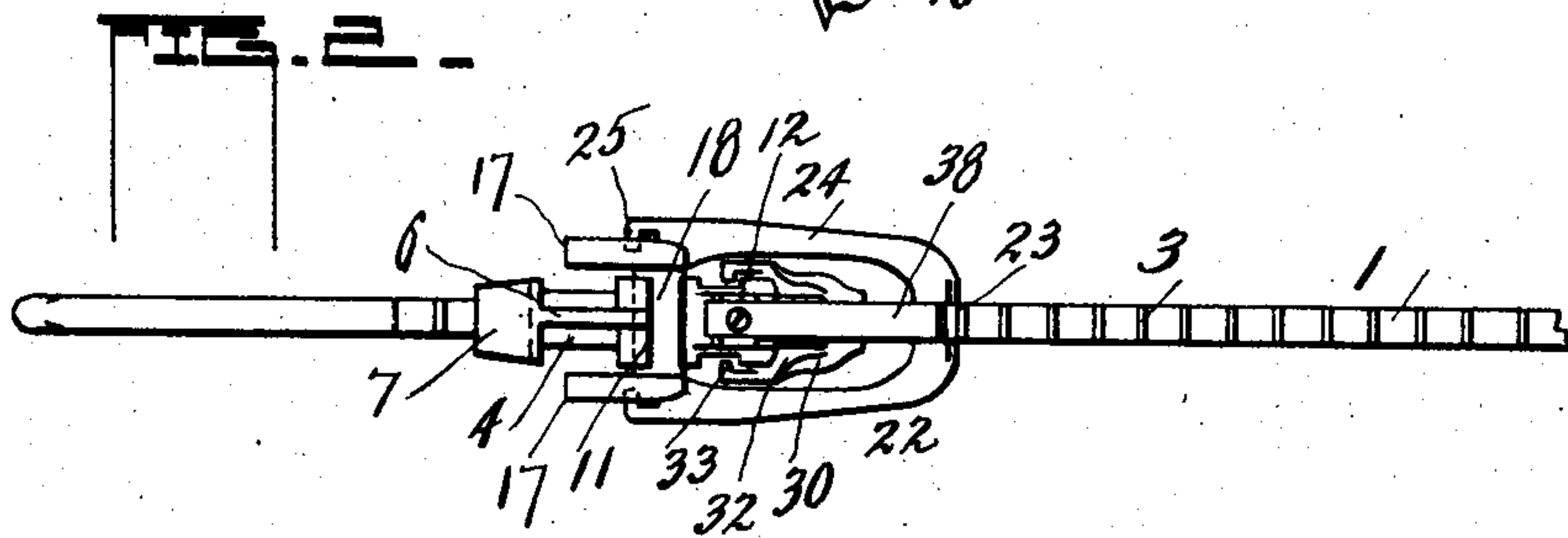
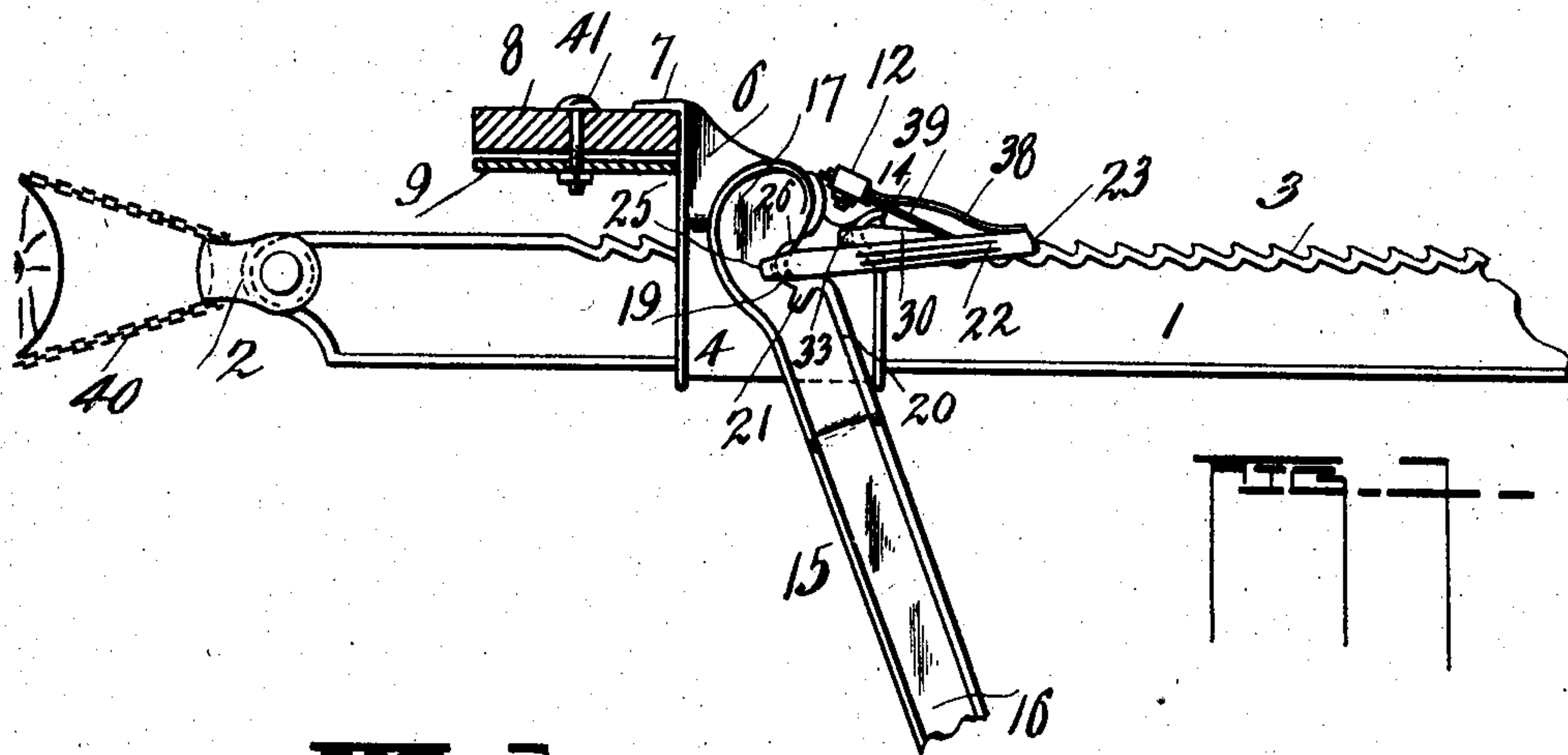


No. 834,232.

PATENTED OCT. 23, 1906.

J. L. CLAUDIN.  
STRETCHER.

APPLICATION FILED JAN. 29, 1904.



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# UNITED STATES PATENT OFFICE.

JOHN L. CLAUDIN, OF MORTON, ILLINOIS, ASSIGNOR TO INTERLOCKING FENCE COMPANY, OF MORTON, ILLINOIS, A CORPORATION OF ILLINOIS.

## STRETCHER.

No. 834,232.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed January 29, 1904. Serial No. 191,098.

*To all whom it may concern:*

Be it known that I, JOHN L. CLAUDIN, a citizen of the United States, residing at Morton, in the county of Tazewell and State of Illinois, have invented certain new and useful Improvements in Stretchers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has reference to a stretching apparatus, and relates particularly to wire-fabric-stretching mechanism.

The invention has for its object a ratchet-bar with its teeth arranged only on one side thereof, a sleeve, housing, or casing slidably arranged upon the bar engaging clamping plates or bars for the purpose of advancing the same in a step-by-step movement, a lever fulcrumed in the sleeve, and a pair of ratchets or pawls, one fulcrumed in the sleeve and the other having its fulcrum-point in the lever and each engaging teeth of the ratchet-bar and coöperating to advance and hold the sleeve during its movement, the pawls or ratchets yieldingly held to their work.

A further object of the invention is to combine with a ratchet-bar a sleeve and pawls, a lever having its fulcrum in the sleeve, the fulcrum-point, a stem substantially oval in cross-section and having its center movable in the sleeve as the lever is swung for the purpose of advancing the pawls in a step-by-step movement during the oscillation of the lever.

Further objects and aims of the invention will be more fully understood from the following specification and drawings, forming a part thereof, in which—

Figure 1 is a top plan view of the apparatus as the same would appear in working position stretching a fence fabric. Fig. 2 is an edge view of the device from one side. Fig. 3 is an enlarged detached view of the sleeve in plan, showing the fulcrum-point of the sleeve. Fig. 4 is an enlarged detached plan view of one of the ratchets or pawls. Fig. 5 is an enlarged detached plan view of the other ratchet or pawl. Fig. 6 is a detail of the end of the lever.

Like numerals of reference indicate corresponding parts throughout the figures.

In the drawings, 1 indicates a ratchet-bar

of desirable length, to one end of which is pivotally attached the clevis 2, and upon one side or edge of the bar is provided the ratchet-teeth 3.

4 denotes a sleeve or housing provided with the rectangular open way 5, through which extends the bar 1, enabling the sleeve to be slidably carried on the bar. It has the extended portion 6 terminating in the L-shaped portion 7, adapted to engage the clamping-bar 8 and the clamping-plate 9, between which a fence fabric is placed and firmly held, which facilitates in stretching the same. The extended portion 6 of the sleeve is provided with the transverse tubular opening 10, having the slotted open face 11, and further provided with the ears 12, forming a groove or recess between them, and 13 denotes semicircular seats or sockets in one of the edge walls of the sleeve having the shelf or base portions 14, all of which features will be further described as combined with operative parts for moving the sleeve or housing on the bar, and thereby result in a stretching of the fabric engaged by the clamping parts described.

15 designates a lever having the handle portion 16 and the bifurcated end portions 17, the free ends of which are joined by the stem 18, substantially oval in form and integral with the portions 17. The ends 17, which are of peculiar formation, are shaped to have the substantially semicircular seats or sockets 19, backed by a wall having the raised flanged portions 20 and the ear or fingers 21 for a purpose to be described. To place the lever in its working position on the sleeve 4, the lever is placed at an angle, with the stem 18 turned so as to enable it to be passed through the slotted face 11 of the tubular opening 10 and then into the opening, somewhat as seen in Fig. 3, the position of the pivot varying according to the angle in which the lever is swung, as will be apparent, the bifurcated ends 17 of the lever straddling the sleeve and bar, as seen in the figures.

22 denotes a pawl or ratchet having an acting face or end, as at 23, adapted to coöperate with the teeth 3 of the bar 1. The pawl 22 has the rearwardly-extended parallel members or arms 24, with the intumed studs or fingers 25, which are carried over the flange portions 20 of the lever, being placed in position by slipping over the ends



of the flanges which terminate, as at 26, on the lever, and at a given point in the movement of the lever the fingers 25 and the ears or studs 21 of the lever abut, limiting the movement of the lever and pawl. From the inner faces of the members or arms 24 are projected the lugs 27, whose outer curved portions 28 are seated in the semicircular seats or sockets 19 of the lever, with outwardly-turned studs or projections 29 lying against the inner faces of the ends 17 of the lever serving to retain the lever in operative connection with the sleeve and to prevent its lateral displacement.

30 indicates a pawl or ratchet which while similar in most respects to the pawl 22 is much smaller, having the acting face or end 31 adapted to coöperate with the teeth 3 of the bar 1 in advance of the engagement of the pawl 22 with the ratchet-teeth, as seen in Fig. 1, working within the arms 24 of said pawl 22, as seen in Fig. 1. The pawl 30 has the rearwardly-extended parallel members or arms 32, with the inturned studs or fingers 33, which operate over and adjacent to flanges 34 of the sleeve and are placed by slipping the same over the ends of said flanges, as at 35. From the inner faces of the members or arms 32 are projected the lugs 36, whose outer curved portions 37 are seated in the semicircular seats or sockets 13 of the sleeve, with the matching inner faces of the edges of the lugs 36 seated on the shelf or base portions 14 of the sleeve, holding the pawl 32 to its proper pivotal position and preventing displacement thereof.

The pawls 22 and 30 are each held to their work in a yielding manner by the spring plates or arms 38 and 39, which at their free ends bear against the acting ends of the pawls and having their opposite ends secured to the extension 6 of the sleeve between the lugs 12, as seen in the figures, retained so by a bolt passing through the plates and a web of the sleeve and secured by a nut, as shown.

When applying the apparatus to stretching a fence fabric, a chain 40 is passed through the clevis 2 and around a post to which the fabric is being stretched and the ends of the chain connected in a suitable manner. The fabric is secured between the clamping bar and plate 8 and 9, which may be in height equal to the height of the fabric which is being stretched, and the bar and plate are secured together by the bolts 41, spaced at intervals the length of the bar and plate. The arrangement of the movable parts on the bar 1 is such that the same may be moved close to the post, insuring the fabric being stretched taut. The bar 1 in working position (see Fig. 1) lies flat, while the position of the clamp-bars 8 and 9 is vertical. Thus the fabric is supported in a vertical position, the line-wires thereof parallel with the bar 1.

The aim in this particular apparatus is to produce a simple and conveniently-operated stretcher having great power and durable, the several parts constructed with a view of doing away with bolts and other such parts usually employed in assembling a stretching apparatus by combining in a stretcher detachable parts for the purpose of enabling those least skilled in the art to assemble the device and make it easy for shipping.

The advantages in constructing an apparatus of the class described, with the lever having its pivotal point at its forward end and constructed with a fulcrum-point which is movable, so as to change its pivotal center during the oscillation of the lever, insures the ratchets or pawls 22 and 30 being alternately drawn forward in engagement with the teeth 3 of the bar and gives great leverage in a short stroke of the lever, which may be in length shorter than is usual in levers attached to this class of apparatus.

Modifications and mechanical equivalents may be employed and substituted for the elements herein, and the arrangement changes to a more or less extent without departing from the spirit and scope of the invention, and I do not wish to be confined to the details as herein illustrated and described.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In an apparatus of the character described, the combination of a bar having ratchet-teeth along one of its sides, a sleeve slidable on the bar, clamping parts engaged and movable by said sleeve, a lever having bifurcated ends straddling the sleeve with a spindle forming the fulcrum of the lever passed through the sleeve and connecting the ends of the lever, a pawl its free end coacting with the teeth of the bar having parallel portions straddling the sleeve and fulcrumed on the lever, a second pawl its free end coacting with the teeth of the bar operating between the parallel portions of the first pawl, and having parallel portions engaging and fulcrumed in opposite sides of the sleeve, and means for yieldingly holding the pawls to their work with the teeth of the bar.

2. In an apparatus of the character described, the combination of a ratchet-bar, a sleeve slidable on the bar provided with a tubular opening having a slotted face, a lever provided with a stem serving as a fulcrum which is normally disposed in the tubular opening in the sleeve, and having a detachable connection therewith, and a pair of pawls engaging the teeth of the bar, adapted to be actuated by the said lever.

3. In a device of the character described, the combination of a ratchet-bar, a sleeve slidable on said bar provided with a transverse tubular opening, a lever having portions straddling the sleeve, a stem operating



in the tubular opening of the sleeve connected at its opposite ends with the portions of the lever, forming a pivotal point for the oscillation of the lever and changeable during such oscillation, and a pawl having its free end working in the ratchet-teeth of the bar and in pivotal connection with the lever.

4. In a device of the character described, the combination of a ratchet-bar, a sleeve slidable on said bar, provided with a transverse tubular opening, a lever having portions straddling the sleeve, a stem operating in the tubular opening of the sleeve connected at its opposite ends with the portions of the lever, forming a pivotal point for the oscillation of the lever and changeable during such oscillation, a pawl having a pivotal connection with the lever, a second pawl having a pivotal connection with the sleeve, means for holding the pawls in engagement with the bar, and means for preventing the displacement of the pawls with the lever and sleeve, substantially as specified.

5. In an apparatus of the character described, the combination of a ratchet-bar, a sleeve slidable on the bar provided with a tubular opening having a slotted face, a lever provided with bifurcated portions straddling the said sleeve, a stem forming a fulcrum-point for the lever connecting the free ends of the bifurcated portions and having a detachable relation with the tubular opening in the sleeve, and a pair of pawls engaging the teeth of the bar, adapted to be actuated by the said lever.

6. In a device of the character described, the combination with a ratchet-bar, a sleeve slidable thereon, a lever having bifurcated ends connected by a spindle having a detachable connection with a tubular opening through the sleeve and forming the pivotal

point for said lever, a pawl having parallel members adapted to have a detachable relation with the bifurcated ends of the lever and fulcrumed thereon, a second pawl having parallel members adapted to have a detachable relation with opposite walls of the sleeve and fulcrumed thereon, and springs for holding the free ends of the pawls to their work, substantially as specified.

7. In an apparatus of the character described, the combination of a ratchet-bar, a sleeve slidable on said bar, a two-part clamping member independent of the bar and adapted to be engaged by the sleeve, a lever having a changeable fulcrum-point through the sleeve, a pawl detachably pivoted on the sleeve, a second pawl detachably pivoted on the lever, and means for yieldingly holding said pawls in contact with the teeth of the bar.

8. In an apparatus of the character described, the combination of a ratchet-bar, a sleeve slidable on the bar, a two-part clamping member independent of the bar and adapted to be engaged by the sleeve, a lever having portions straddling the sleeve which are connected by a stem forming a fulcrum for the lever in the sleeve, a pawl detachably pivoted on the lever, engaging means of the sleeve and aforementioned pawl for limiting the movement of the lever and play of the said pawl, a second pawl detachably pivoted on the sleeve, and means for yieldingly holding said pawls in contact with the teeth of the bar.

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

JOHN L. CLAUDIN.

Witnesses:

SAMUEL MOSIMAN,  
BENJAMIN HAUTE.