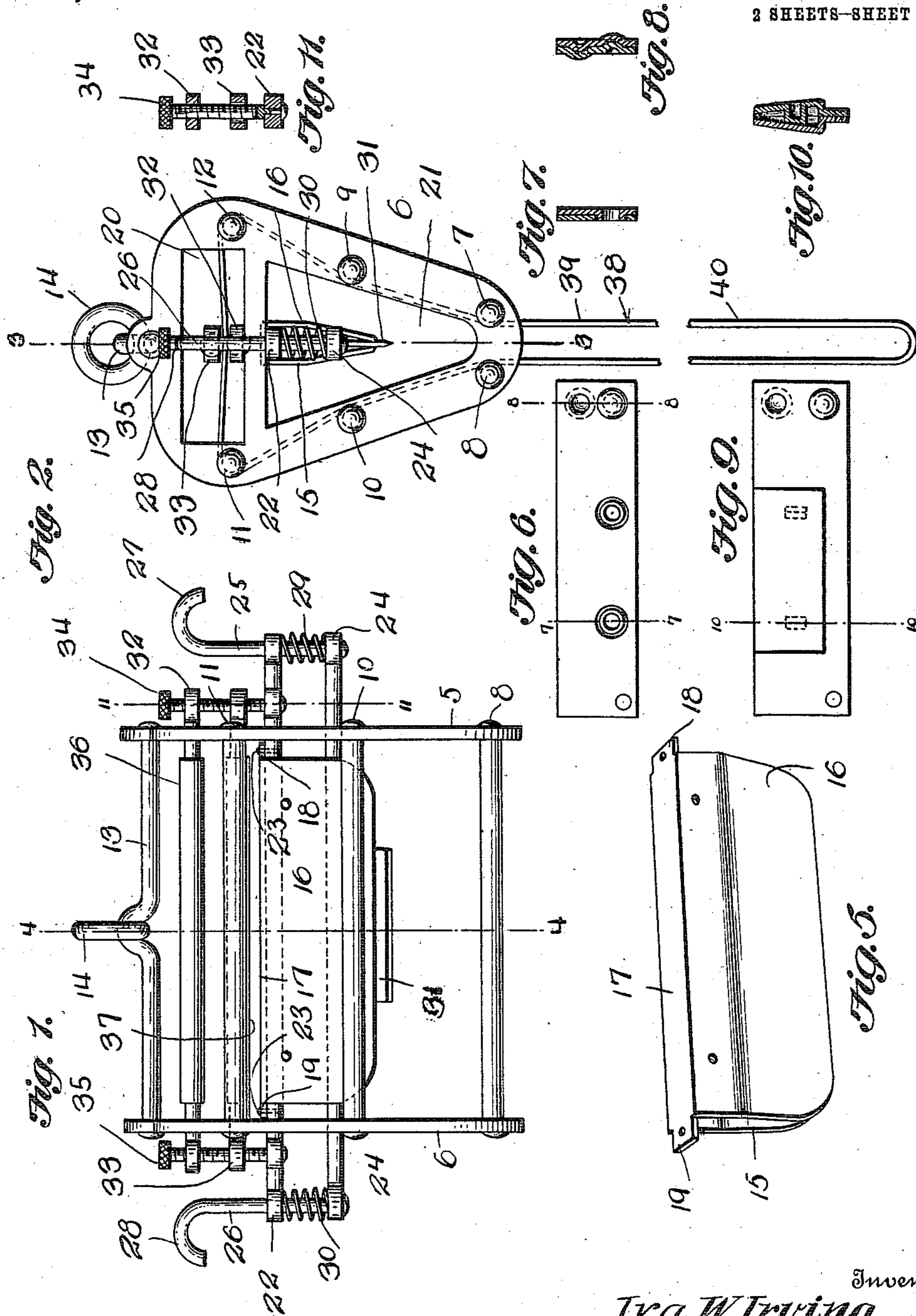


I. W. IRVING.
STROPPER.
APPLICATION FILED APR. 15, 1910.

983,142.

Patented Jan. 31, 1911.

2 SHEETS—SHEET 1.



Witnesses
C. C. Richardson.
M. E. Wood.

Inventor
Ira W. Irving
By Victor J. Evans
Attorney

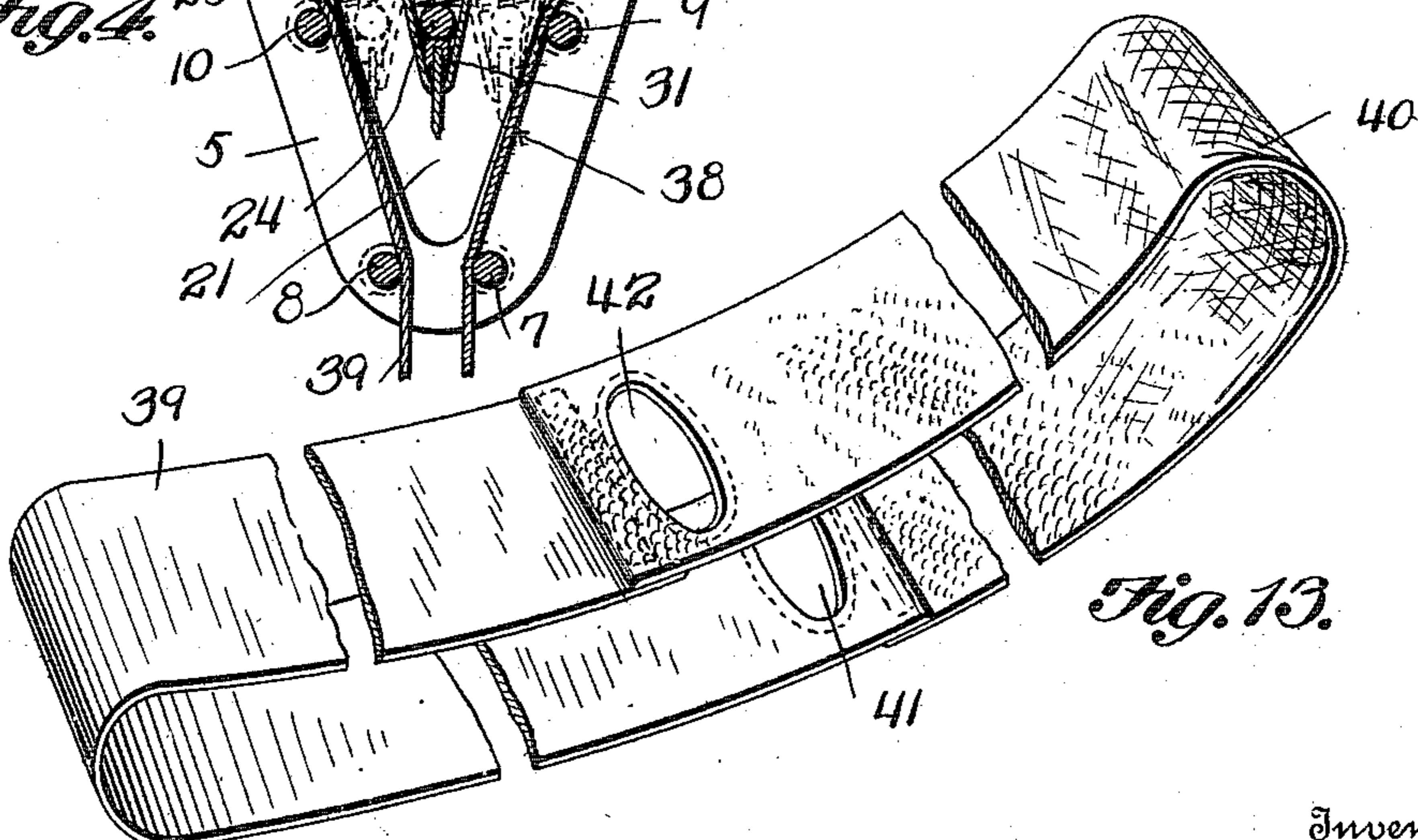
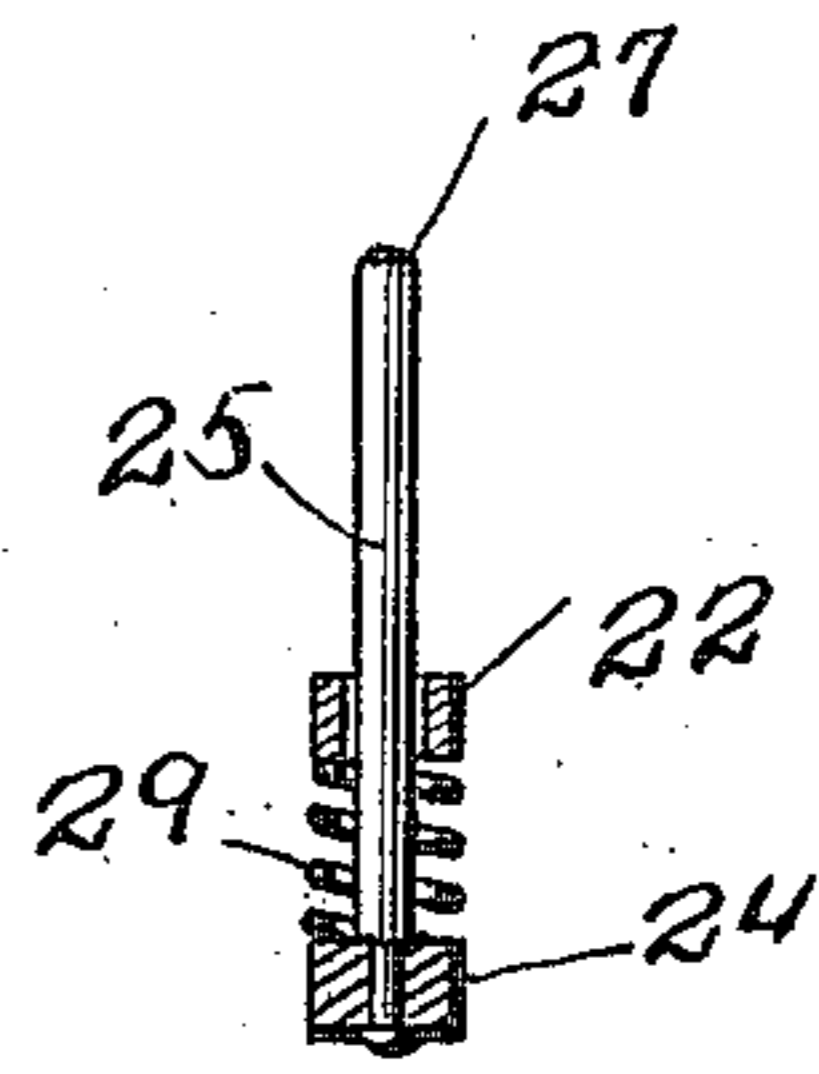
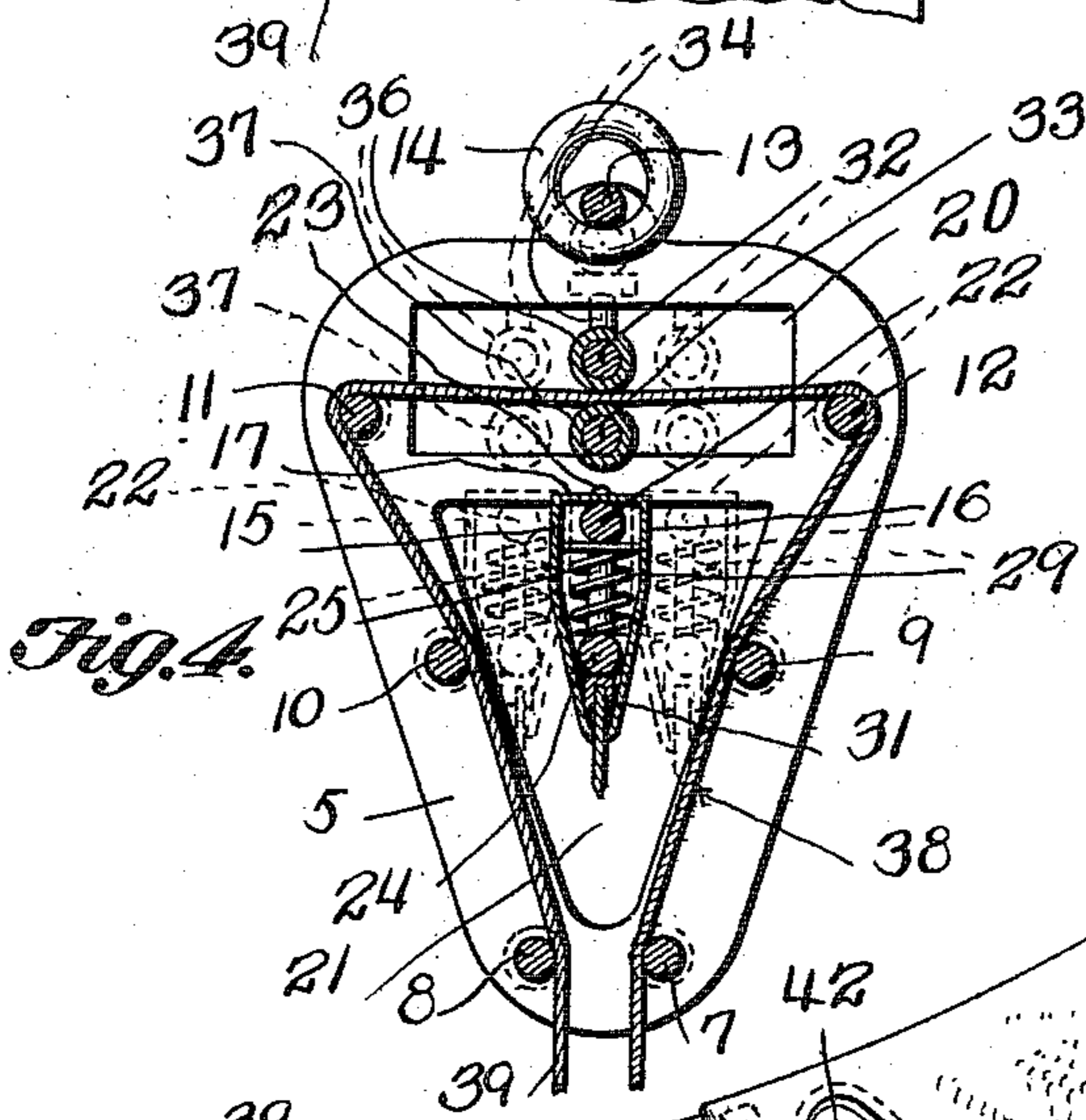
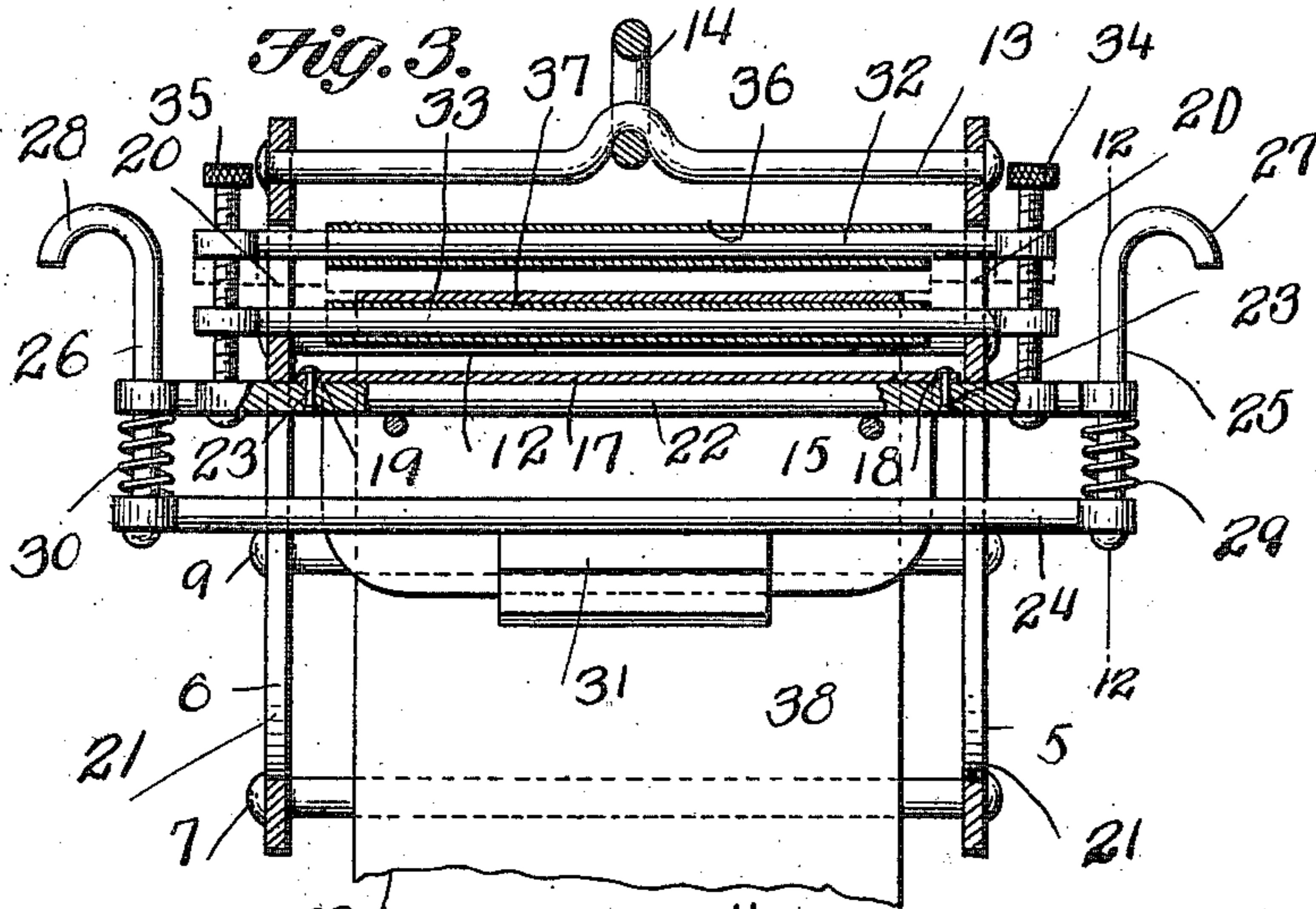
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M. L. Wood.

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By Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

IRA W. IRVING, OF RICHMOND, VIRGINIA.

STROPPER.

983,142.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed April 15, 1910. Serial No. 555,738.

To all whom it may concern:

Be it known that I, IRA W. IRVING, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented new and useful Improvements in Stropers, of which the following is a specification.

This invention relates to improvements in razor stropers and has for its object the provision of a device of that kind adapted to hold a razor blade of the ordinary or safety type in such position that it will be effectively sharpened by a strop held by the device.

A further object is the provision of a reciprocating blade holder mounted in a frame and movable by a strop passing through the frame, whereby a blade held by the holder will be moved into and out of engagement with the adjacent faces of the strop.

A still further object is the provision of a tensioning means for the strop serving to vary the frictional coefficient between the strop and blade during the operation of stropping the latter.

A still further object is the provision of means for yieldingly holding the razor blade within the holder during the stropping operation.

With these and other objects in view, which will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claim; it being understood that various changes in the form, proportion, size and minor details of the device may be made within the scope of the appended claim without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, forming a part of the specification:—Figure 1 is a front elevation of the device. Fig. 2 is an end view of the same. Fig. 3 is a vertical sectional view, taken on the line 3—3 of Fig. 2. Fig. 4 is a sectional end elevation taken on the line 4—4 of Fig. 1. Fig. 5 is a detail perspective of the blade holder. Fig. 6 is a side elevation of the blade clamping members. Fig. 7 is a sectional end view on the line 7—7 of Fig. 6. Fig. 8 is a similar view on the line 8—8 of Fig. 6. Fig. 9 is an elevation of the opposite side of the blade

clamp to that shown in Fig. 6. Fig. 10 is a sectional end view on the line 10—10 of Fig. 9. Fig. 11 is a sectional end view on the line 11—11 of Fig. 1. Fig. 12 is a similar view on the line 12—12 of Fig. 3. Fig. 13 is a detail perspective of the strop.

Similar numerals of reference are employed to designate corresponding parts throughout.

The device includes in this construction a frame, the opposite ends of which are designated by the numerals 5 and 6. The ends 5 and 6 are preferably formed of single pieces of sheet metal and are substantially triangular in marginal contour. The end plates 5 and 6 are connected together by a plurality of rollers. These members are preferably formed of single pieces of cylindrical steel and are arranged in pairs and directly opposite to each other. The lower pair of rollers are designated by the numerals 7 and 8 and are arranged adjacent to the narrowed ends and on opposite sides of the vertical centers of the blades 5 and 6. The intermediate rollers are designated by the numerals 9 and 10 and are located between the widened and narrowed ends of the plates, while the upper rollers are designated by the numerals 11 and 12 and are located at points between the widened ends and intermediate portions of the plates 5 and 6.

A supporting rod is designated by the numeral 13 and has its opposite ends secured to the central portions of the widened ends of the plates 5 and 6. The intermediate portion of this rod 13 is curved and receives an eye 14, which is adapted to engage a hook or other support.

It might here be stated that the opposite ends of the rollers are journaled in the end plates 5 and 6 and are adapted to be rotated by the strop during the stropping operation, in a manner to be described later.

By reference now to Figs. 1 to 4 inclusive, it will be seen that arranged between the end plates 5 and 6 is what will subsequently be termed a blade holder. Reference to Fig. 5 discloses the fact that this member is formed of a single piece of sheet metal, oblong in contour and bent upon itself at its longitudinal central portion whereby sides 15 and 16 are provided. The sides 15 and 16 as shown in Figs. 2 and 4 converge, and at their connected ends the metal is flattened as shown at 11 and extended in advance of

the opposite ends of the sides, as shown at 18 and 19.

It will be further observed by reference to Figs. 2 and 4 that the end plates 6 and 7 are provided with upper and lower openings designated by the numerals 20 and 21. The upper of these openings, 21, is oblong in contour and is located above the intermediate rollers 9 and 10 with its lower side in a plane with the upper rollers 11 and 12 or substantially so. The lower opening 21 corresponds in contour to the contour of the end plates 5 and 6 and extends from a point adjacent to the upper rollers 11 and 12 to a point adjacent to the lower rollers 7 and 8.

Extending through the blade holder is what will subsequently be termed a supporting rod designated by the numeral 22. This member is considerably greater in length than the distance between the end plates 5 and 6 and is fixedly secured to the inner surface of the flat plate 17 connecting the sides 15 and 16 of the blade holder by means of rivets 23 or the like. By virtue of the length of the rod 22, its opposite ends will extend considerably in advance of the outer faces of the end plates 5 and 6, and these extending ends are provided with vertical openings, for a purpose to be presently described.

Extending through the blade holder and located below the supporting rod 22 is what will subsequently be termed a keeper 24. This member corresponds in length to the length of the supporting rod 22, and also in diameter equals the diameter of the supporting rod or approximately so. The opposite terminals of the keepers 24 are provided with vertical openings which receive the lower ends of a pair of finger rods 25 and 26. The lower ends of the said finger rods are fixedly secured in the extremities of the keeper 24 while the upper end portions extend through the openings in the supporting rod 22 and terminate in outwardly curved finger holds 27 and 28. In the normal position of the parts the keeper 24 bears on the inner surfaces of the sides 15 and 16 of the blade holder and at a point adjacent the lower ends of the said sides and is maintained in this position by means of helical compression springs 29 and 30 surrounding the rods 25 and 26 and with their opposite terminals bearing on the extremities of the keeper and supporting bars. With this construction, it will be evident that the keeper will be placed downwardly between the sides 15 and 16 so that an object placed therebetween such as a razor blade as shown in the drawings, will be held against upward movement between the plates. It might here be stated that the holder is constructed to receive the blade of an ordinary razor and when so receiving a blade of this type the edge portion of the blade will extend through

the lower end of the holder and the keeper will bear on the back of the blade, it being understood that the holder will have sufficient rigidity to prevent the sides parting. As shown in Fig. 4, the holder contains what is known as a one-edged safety blade, and as usual, a blade of this type is provided with a channeled back, as shown at 31, the thickness of the back being considerably greater than the space between the lower ends of the sides 15 and 16 and to form a bearing surface of the keeper 24. When safety blades having a double-edge are to be sharpened, a specific form of clamping plate such as shown in Figs. 6 to 10 inclusive will be employed and the description of which will appear later.

It is evident that some means must be provided for moving the holder while in the frame in order that the blade contained therein may be brought into engagement with the adjacent faces of the strop.

By reference to Figs. 1 to 4 inclusive, it will be seen that arranged in a vertical plane with respect to the length of the end plates 5 and 6 are a pair of rods 32. These members are equal in length and extend through the openings 20 in the plates 5 and 6. The rods 32 and 33 are somewhat less in length than the length of the keeper and supporting rod and at their outer ends are provided with openings. By reference to Figs. 1 and 3, it will be seen that formed in the supporting rod 22 and in advance of the outer faces of the end plates 5 and 6 are a pair of openings in alinement with the openings of the rods 32 and 33. The openings in the upper rod 32 are screw-threaded while those in the lower rod are plain. Extending through the openings of the rods 32 and 33 and having their lower ends journaled in the supporting rod 22 are a pair of set screws 34 and 35, the function of which is to move the upper rod 32 to and from the lower rod 33. A pair of tubular rollers 36 and 37 encircle the rods 32 and 33 and are arranged between the end plates 5 and 6.

From the construction thus far described, it will be seen when a belt 38 such as shown in Figs. 3 and 4 has its intermediate portion arranged between the tubular rollers 36 and 37 and thence trained over the top rollers 11 and 12 and over the inner sides of the intermediate and lower rollers with its terminals extending between the lower rollers that by pulling one end of the belt will result in moving the blade holder and the parts connected thereto, to one side of the end plates, it being understood that the lower bar 33 bears on the lower sides of the openings 20, and when the said belt is pulled in the opposite direction the holder and its parts will be moved to the opposite sides of the end plates. It will be evident now that a blade placed within the holder as above de-

scribed will have its cutting edge brought into engagement with that face of the strop which is passing downwardly through the frame.

5 It will be evident, by turning the set screws 34 and 35 so as to cause the roller 36 to bind tightly on the belt that a greater throw will be necessary to move the belt between the rollers whereby the blade will
10 be forced into closer engagement with the surfaces of the strop, thus making it possible to sharpen a comparatively dull blade in a short space of time.

In Fig. 13 I have shown a specific form
15 of strop to be employed in my device. In this connection the strop is formed of different materials preferably leather and a good quality of canvas. The leather portion of the strop is designated by the numeral 39
20 and is shown to be a band of leather while the convex portion is designated by the numeral 40 and is shown to be a band of canvas. The ends of the bands are secured together in any preferred manner and in the
25 secured ends transverse openings 41 and 42 are formed which receive the fingers of the operator. The strop is trained over the rollers of the frame and between the tension rollers in the manner before described and
30 when it is desired to sharpen or hone the razor, the strop is pulled through until the medial portion of the convex band is arranged between the tension rollers. By now placing the fingers of both hands
35 through the openings 41 and 42, the blade will be brought into engagement with the adjacent sides of the convex portion of the strop. After the blade has been sufficiently honed by again pulling the strop until the
40 medial portion of the leather is between the tension rollers, the process of completing the stropping operation on the leather surface of the belt may be consummated

From the foregoing, it is evident that I have provided a device which is compara- 45 tively simple in structure and inexpensive to manufacture, embodying few parts and these so arranged that the danger of derangement will be reduced to a minimum.

Having thus described the invention, what 50 is claimed as new, is:—

A razor stropper comprising oppositely positioned and connected plates provided with alining oblong openings, a supporting rod extending through certain of said open- 55 ings, and having its opposite ends extending beyond the outer faces of the plates and provided with openings, a blade holder fixed to said rod, a keeper corresponding in length to the rod and arranged in the blade holder, 60 and provided adjacent to its opposite ends with openings in alinement with the openings of the rod, operating handles slidingly fitted in the openings of the rod and secured at one end in the openings of the 65 keeper, thrust springs surrounding the handles and having their opposite terminals bearing on the rod and keeper, a pair of rods of less length than the first-named rod, extending through certain other openings of 70 the plates and having their opposite ends extending beyond the outer faces of the plates and provided with alining screw-threaded openings, adjusting screws screwed into the openings of the said pair of rods 75 and journaled at one end in opposite end portions of the first-named rod, and tubular rollers encircling said pair of rods and arranged between said plates.

In testimony whereof I affix my signature 80 in presence of two witnesses.

IRA W. IRVING.

Witnesses:

W. J. READY,
D. D. WRIGHT.