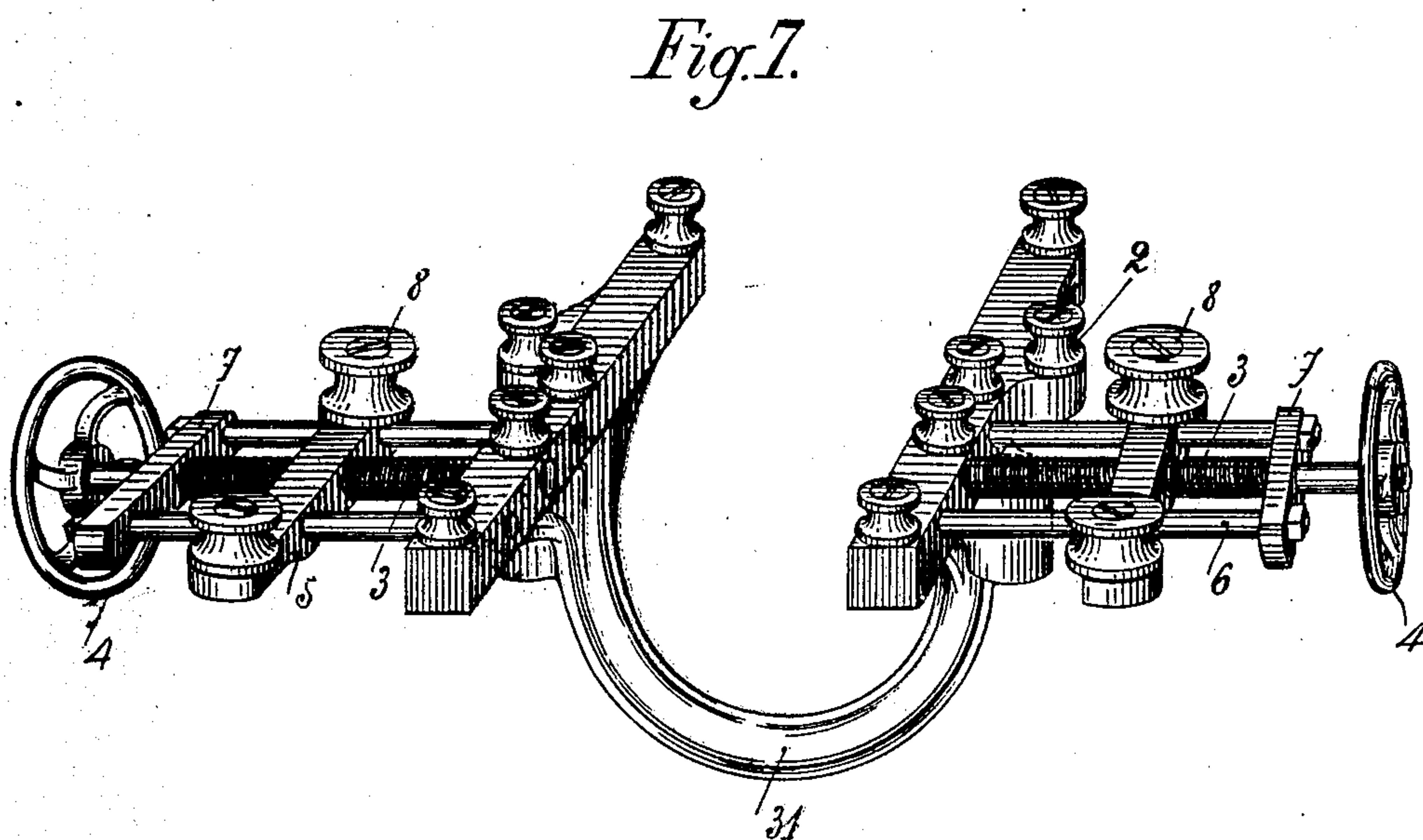
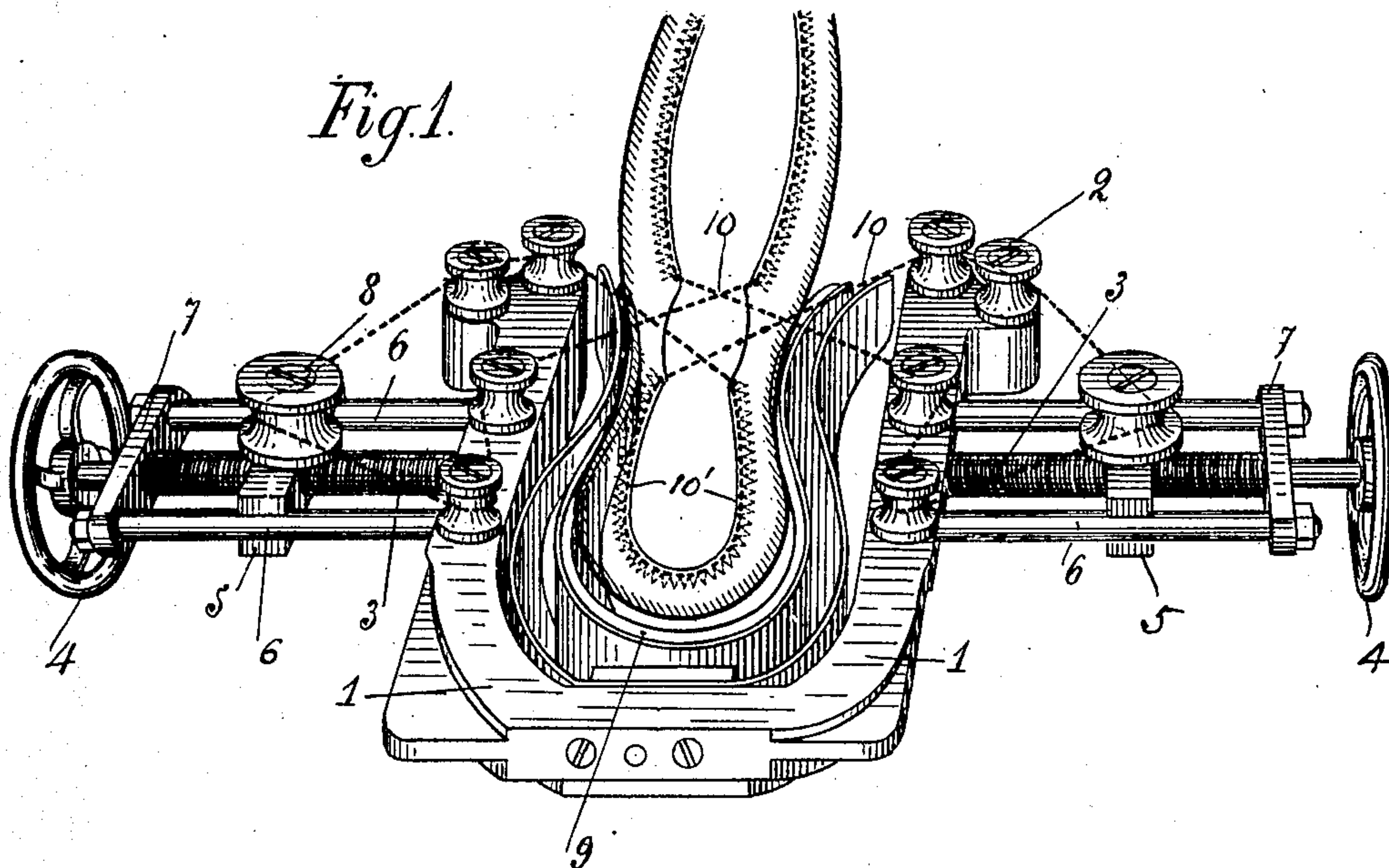


J. D. CASTELLANI.
LASTING DEVICE.
APPLICATION FILED APR. 11, 1905.

919,418.

Patented Apr. 27, 1909.
5 SHEETS—SHEET 1.



Witnesses
Edwin L. Jewell
J. H. Kelt.

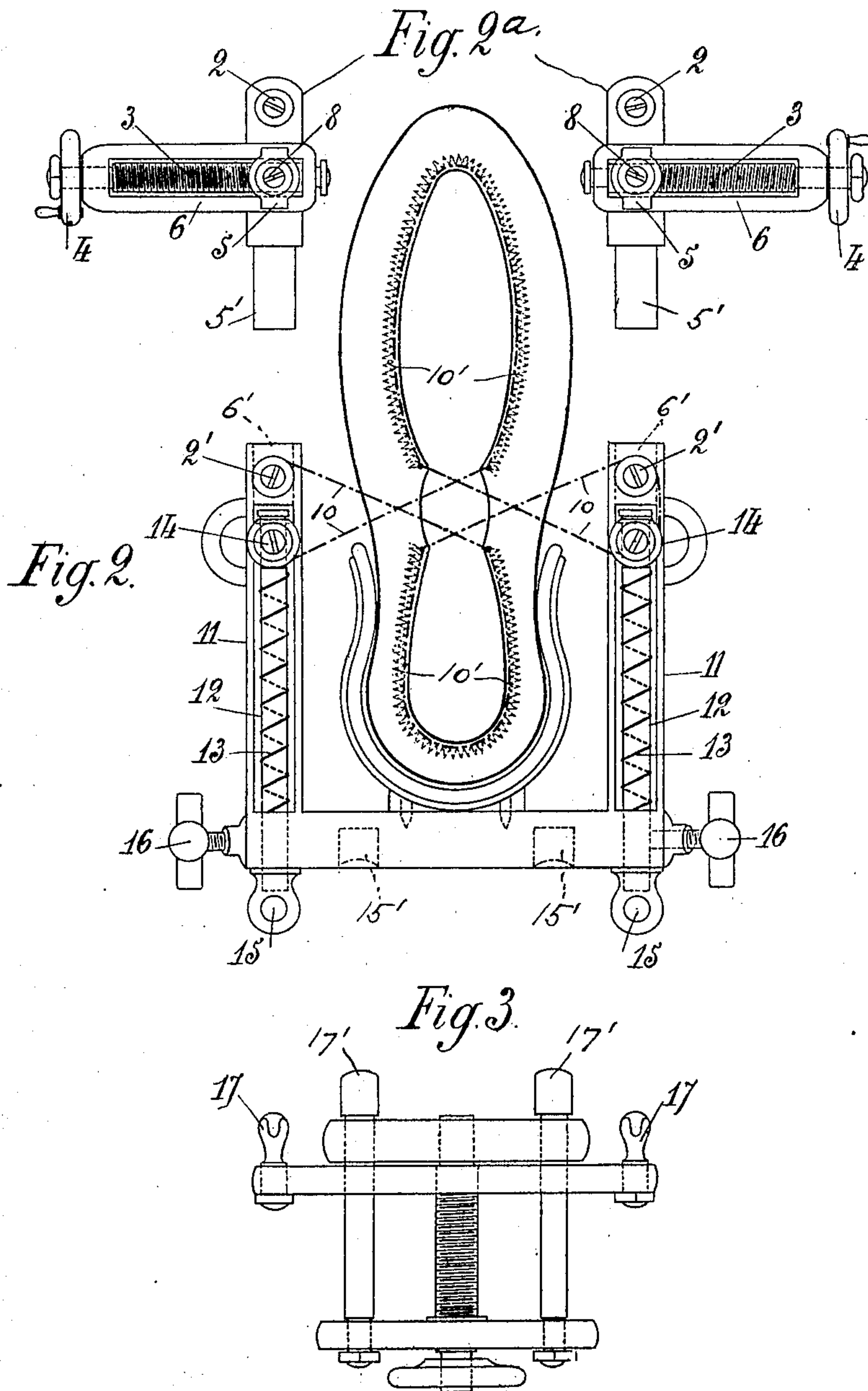
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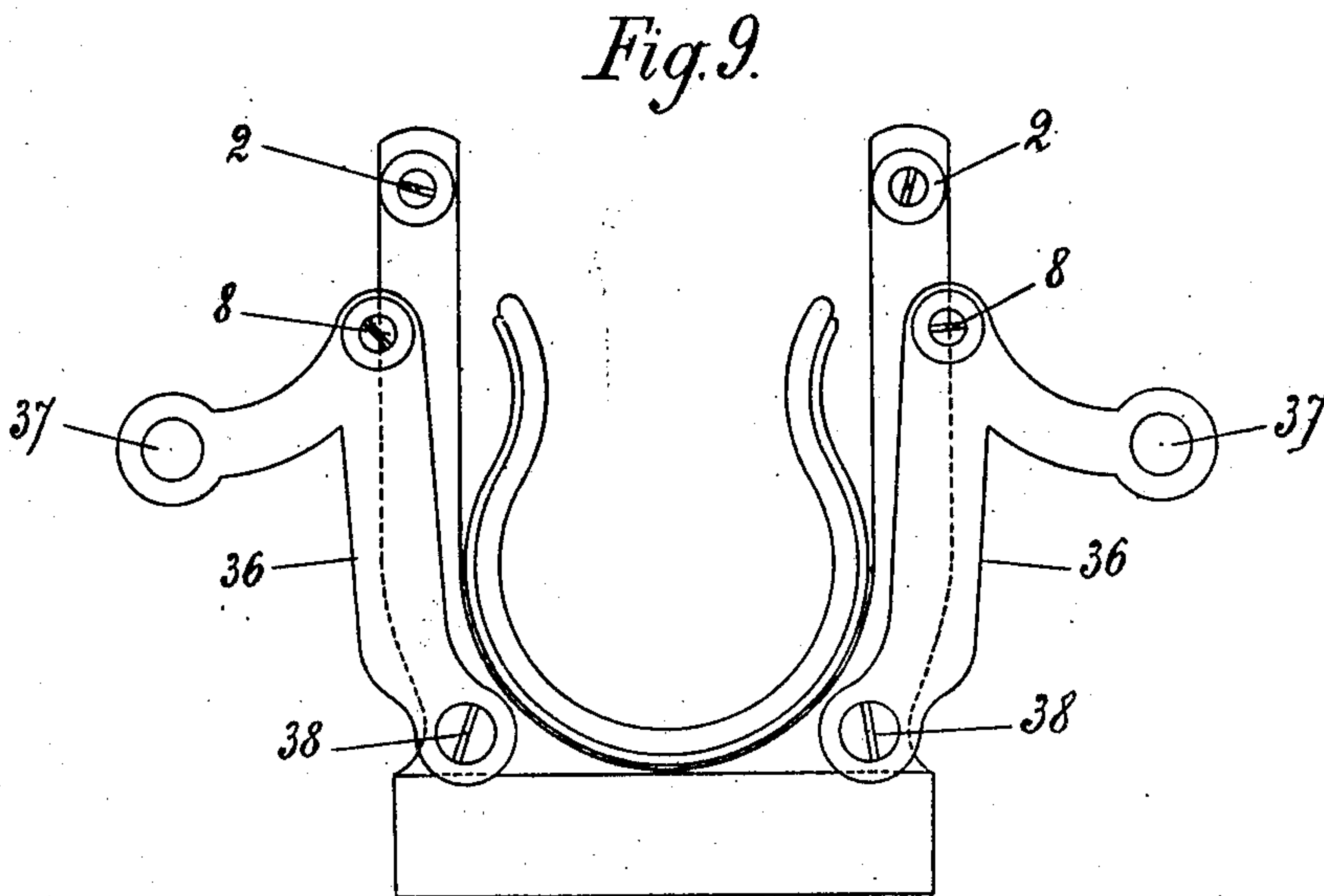
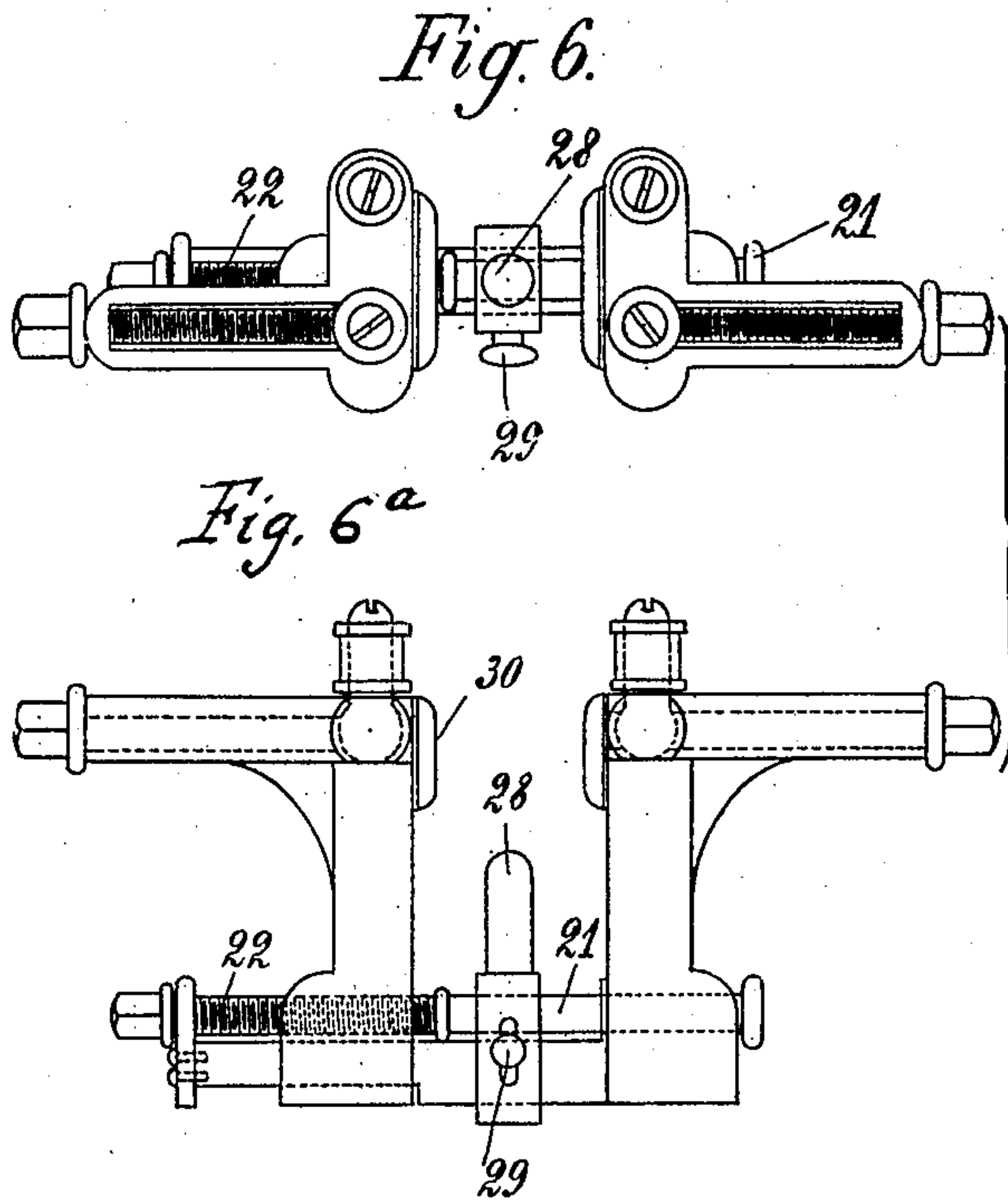
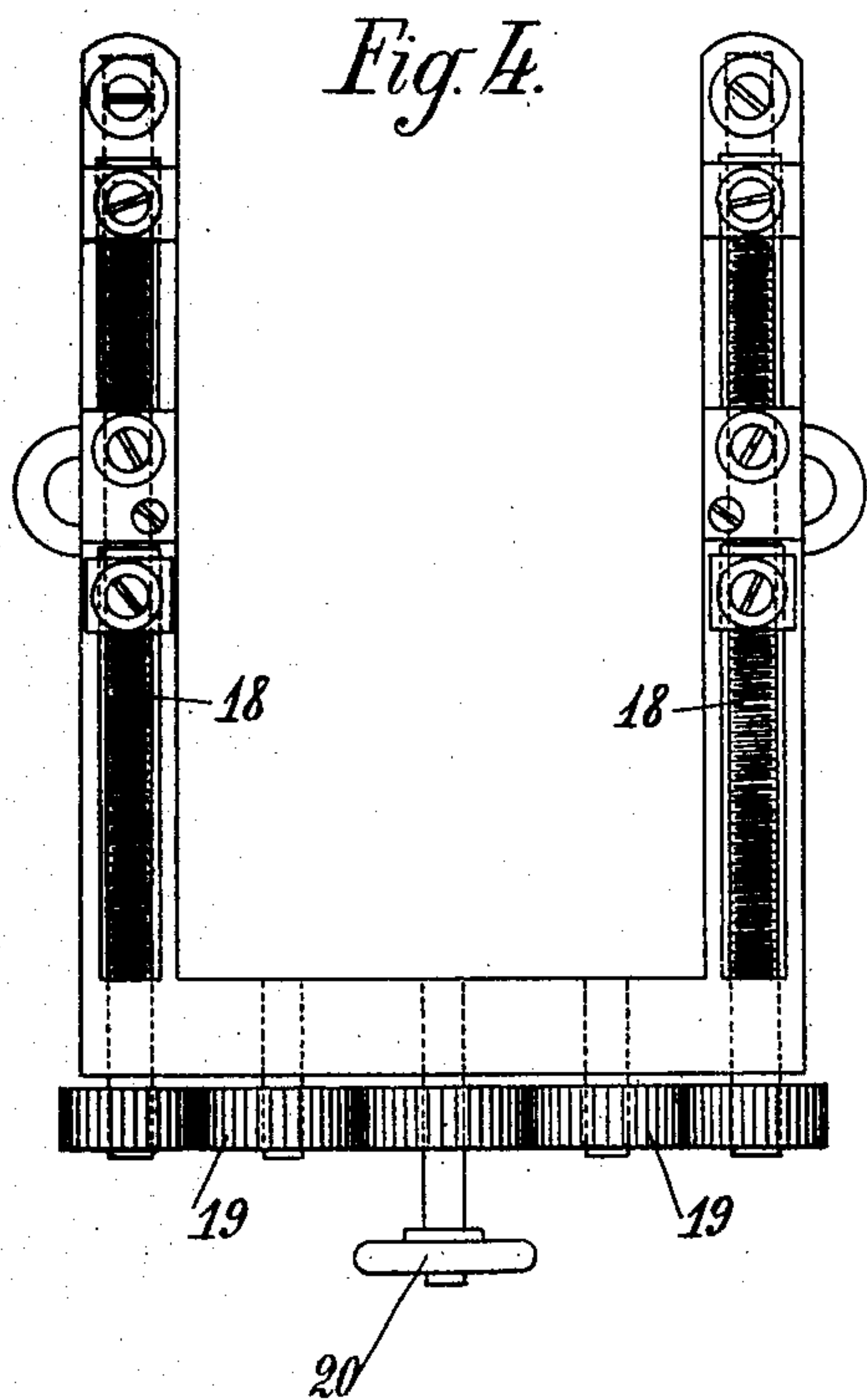
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5 SHEETS—SHEET 3.



Witnesses
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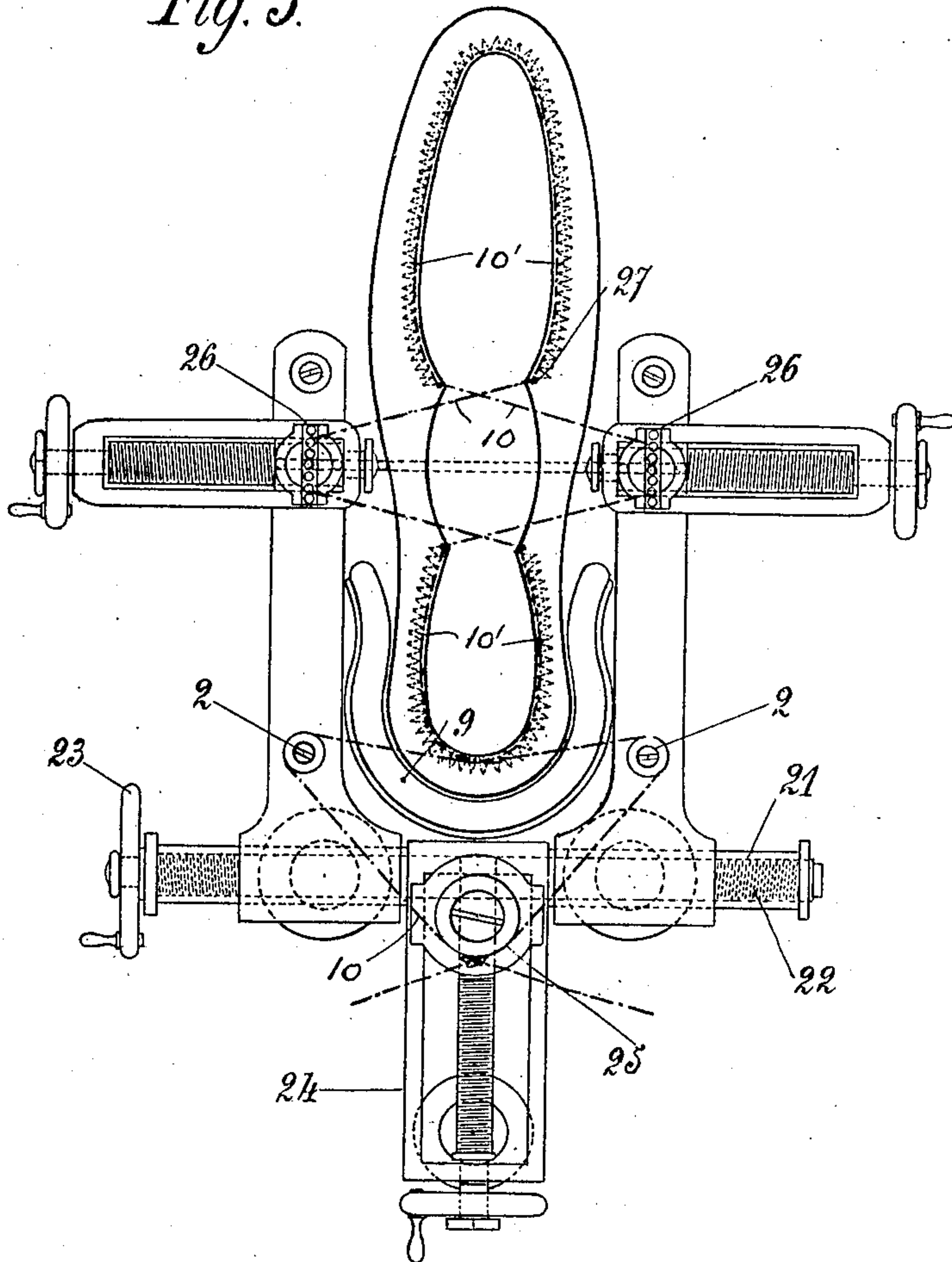
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5 SHEETS—SHEET 4.

Fig. 5.



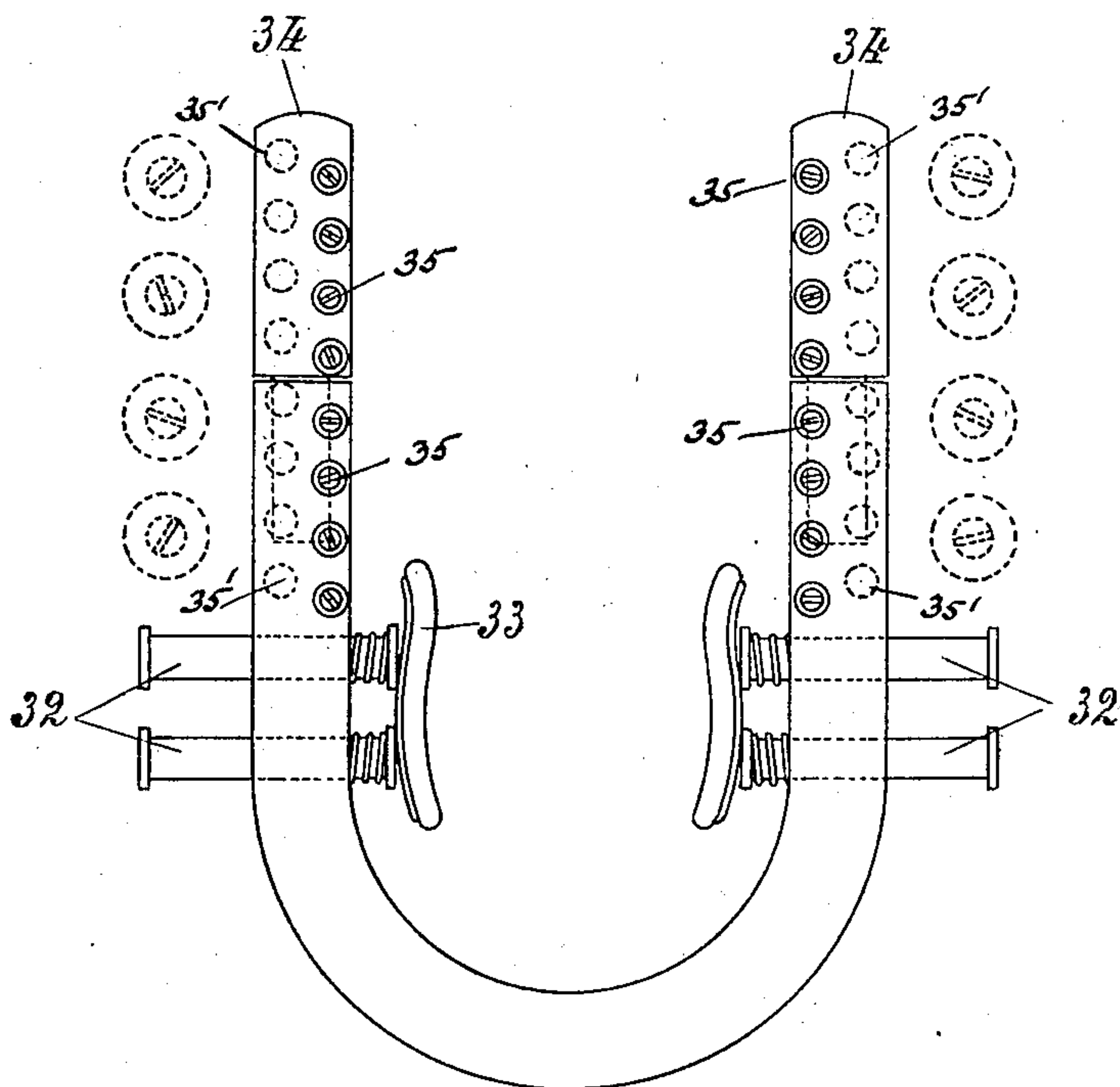
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5 SHEETS—SHEET 5.

Fig. 8.



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UNITED STATES PATENT OFFICE.

JOSEPH DOMINIQUE CASTELLANI, OF PARIS, FRANCE.

LASTING DEVICE.

No. 919,418.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed April 11, 1905. Serial No. 255,070.

To all whom it may concern:

Be it known that I, JOSEPH DOMINIQUE CASTELLANI, subject of the Kingdom of Italy, residing at 13 Rue de la Cour de Dames, Paris, in the Department of Seine, France, have invented certain new and useful Improvements in Lasting Devices, of which the following is a specification.

My invention relates to portable apparatus for lasting boots and shoes and the object of the invention is to construct a cheap and light machine without any complicated or heavy parts and which can be operated without the use of pincers and be held on the workman's knee or in a vise.

The improvements consist in the construction, arrangement, and combination of the several parts and details as will be hereinafter fully set forth, and specifically pointed out in the appended claims.

Figure 1 is a perspective view showing one form in which the apparatus may be made. Fig. 2 is a plan view of a modified form of the invention. Fig. 2^a is a plan view of accessory parts which may be applied and adjusted upon upper portion of apparatus shown in Fig. 2. Fig. 3 represents a plan view of a key used in connection with form shown in Fig. 2. Fig. 4 is a plan view of a modified form shown in Fig. 2. Fig. 5 is a modified construction of Fig. 4. Fig. 6 is an end view of a modified form shown in Fig. 5. Fig. 6^a is a plan view of Fig. 6. Fig. 7 is a perspective view of another modified form of the invention. Fig. 8 is a plan view of a modified form of the invention as shown in Fig. 1. Fig. 9 is a plan view of a modified form of the invention.

Similar reference characters throughout the several figures of the drawing represent similar parts of the invention.

In referring to Fig. 1, the apparatus shown therein is composed of a rigid frame 1 generally and by preference U or horse shoe shaped, of such thickness and dimensions that it may be used for any size of boot or shoe, and is made from any solid material, but preferably of aluminium. It is provided with a series of fixed rollers 2, for instance four on each branch which are placed in suitable positions as shown. Each branch has extended therefrom a continuous screw 3, worked by a wheel 4 or its equivalent. A carriage 5 guided by arms 6 which to obtain greater strength may be joined together by a small bar 7; said carriages 5, 5 being engaged

by screws 3, 3. The carriages 5, 5 thus supported are provided with one or more rollers 8. Hereafter we will designate the rollers 8, 8 on the carriage as "movable rollers" and those marked 2 on the branches of the frame as "fixed rollers". On the cross bar uniting the two branches of the frame is a fixed spring 9 whose object is to catch the back of the upper on the last and to hold the shoe in position for lasting. This spring 9 may be formed as shown, of one or more blades covered with leather, rubber, or other material. The operation of this form of device is as follows:—The upper for lasting is placed on the form as usual and indicated in the drawing. Upon all or part of the edges of the upper a whipped stitching 10¹ is first made serving as a sheath for a string 10 which we will call a "drawing thread". The front portion of the shoe on the last when thus prepared is held by the branches of the spring 9 and thus kept horizontal. The drawing thread 10 is passed around the fixed rollers 2 and the movable rollers 8 and its two ends are knotted together. The thread thus becomes endless. The wheels 4 are properly rotated when the carriages 5, 5 are moved outwardly and the drawing thread is pulled causing the upper to take the shape of the last. The boot or shoe is then ready to be finished in any way, and the object of the speedy lasting of a boot or shoe without any auxiliary devices is accomplished. After lasting as hereinabove described one can pass over the surface of the upper which is upon the flat of the last, a thin layer of suitable glue which in drying will uniformly stretch out the insole, the upper, the stitching sheath, and the linings. It should be noted that the arrangement of the tool allows the lasting and all succeeding work to be effected without any difficulty, as the surface to be worked upon is entirely free.

In Fig. 2, the pulling of the draw thread instead of being lateral, follows the direction of the branches of the frame. In this case the movable lateral carriage 5, of Fig. 1 is omitted. Each branch of the frame is provided at the top with one or more fixed rollers 2¹ and inside a channel 11 for the reception of a rod 12 which is encircled by a spiral spring 13 and at the upper extremity of each rod is a double roller 14. The rod ends, at the bottom outlet of the frame, are provided with a ring or hook 15, and on the outside of

the branches at the lower end are tightening or lock screws 16 to hold the movable rods in position when the drawing is ended. The drawing rods 12 are pulled out from the channels 11 by the key shown in Fig. 3 whose projections 17¹ are seated in sockets 15¹ and the hooks 17 or other expedients, catch in the rings 15 of the drawing rods. As the drawing rods are drawn by this key they move the double movable roller 14 thereby tightening the draw thread as in Fig. 1, and it will be readily seen one key may be used for any number of frames.

Fig. 2^a represents accessory parts which may have their extensions 5¹ inserted and adjusted at will in pockets 6¹ in the upper portion of the branches of the frame shown in Fig. 2. These parts produce a lateral drawing as in Fig. 1, and are identical with the mechanisms which produce such drawing in Fig. 1; and employed for the production of a highly finished lasting. In this case the threads are twice crossed, once toward the instep in view of the drawing by the rods and once toward the end, when the lateral drawing accessory parts are used.

Fig. 4, shows a modification of Fig. 2 in which the drawing rods 12 are replaced by continuous screws 18, said screws being worked by a series of teeth 19, suitably fixed at the bottom of the frame and put in movement by a single wheel 20 acting on the central gear. Instead of being fixed to the frame this series of gear teeth may be independently and suitably adjusted to each frame so that a single series of gear teeth can serve for any number of frames. The continuous screw 18, instead of carrying a single movable roller may have several if it is desired to operate a double tension analogous to that described in Fig. 2^a. It is sufficient to give these continuous screws a greater length and to furnish the frame with a number of suitable fixed rollers; furthermore, the thread on the upper part of the continuous screw may be different or even inverse to the thread on the lower part of the same screws.

Fig. 5, shows a modification of the form shown in Fig. 4 and in this arrangement the two branches of the frame instead of being at a fixed distance one from the other, may be made to slide in any suitable manner upon a rigid bar 21 which passes through their lower part. The bar 21 is provided with a continuous screw 22 which can be rotated one way or the other by the turn wheel 23, and adjust the distance between the two branches of the frame. The central portion of this bar 21 carries a framing 24 for the reception on the one end of the spring 9 and the other end a large roller 25 which is guided upon the framing 24 as shown. The branches carry at their lower portion a single fixed roller and the draw thread will pass around the large upper movable roller 25 and

two fixed rollers 2, and the ends of the thread will come out in the middle of the back portion of the last, and the carriage instead of having a roller is provided with a small bar pierced with holes. A series of hooks 27 on the upper as shown, engage the drawing thread and by moving the carriage a supplementary lateral drawing is effected.

Figs. 6 and 6^a show a modification of Fig. 5, in which one of the branches is fixed while the other is movable on the rod 21. Upon this rod 21 a movable pin 28 slides laterally which may also be adjusted vertically upon this rod and be held in the adjusted position by a set screw 29. The branches carry devices for lateral drawing as hereinbefore described and one or several fixed rollers. The object of the pin 28 is to replace the spring clamp 9. The branches may be furnished with any yielding substance 30. In operating with this form of apparatus the pin 28 is introduced into the hole of the last and worked so that the surface of the upper to be worked upon the last is on a level with the rollers. The branches are closed until brought into contact with the shoe, the threads are arranged round the rollers and the drawing effected as in Fig. 1.

In the modification shown in Fig. 7, the branches instead of being united at their base are united in the center and underneath by a U shaped piece 31 in a perpendicular plan. To these branches and on the outside are fixed the devices for lateral drawing as described in Fig. 1. The springs 9 being omitted it is necessary in order that the shoe may be held in position that the draw threads should be twice crossed, this can be managed by increasing the number of fixed rollers as indicated.

Fig. 8 represents a frame which is the same as Fig. 1 except that the lateral movement comprised in the parts 4, 5, 6, and 7 has been omitted. The spring 9 is replaced by a system of spring stops 32 which press the shoe by means of steel blades 33 covered with leather or other material and which slide across the frame. The branches of the frame may receive on their upper part prolongations 34 furnished with fixed rollers 35; the rollers shown in dotted lines on the right and left of the frame belong not to this frame but to the thread lasting machine which will effect the drawing, once the draw thread has been suitably passed around the rollers of the frame and those of the machine. When a machine has effected its work of tension by the draw thread, this thread will be held in the same position by any convenient means, and to that end the rollers 35 of the frame may be mounted on a screw pivot in such a way as to press the threads and stop them between their lower base and the upper face of the branch of the frame, or the rollers 35 being ordinary rollers the branches may have

holes 35¹ such as those shown by dotted lines for the reception of any suitable system of tightening, for instance, a violin key. This done the threads are disengaged from the rollers of the machine, the frame and the shoe which are held together are put on one side and the workman begins again with the same machine with another frame and another shoe.

Fig. 9 shows each branch of the frame having a fixed roller 2 on its upper part, on its lower part is a pivoted branch 36 furnished with a roller 8 and an eye 37, and it is only necessary to attach this eye to any desired means of drawing and to set such means in motion, this forces the movable branch to balance and leave the frame, producing the desired effect. The pivot pin 38 is locked by screwing the same into the frame when the drawing is finished and the frame is detached from the drawing apparatus.

It is seen from the foregoing described arrangements that when the lasting of the upper is effected, the frame and the shoe being together, they can be put on one side until it is desired to detach the shoe from the frame, which will be when the glue is dry, the sole or middle sole is fixed, or when the shoe is prepared for welting.

It should be noticed that the arrangement of the threads around the rollers has only been indicated in all the sketches as an example, and that all the tools may be used no matter what method of lasting is employed when such lasting is effected by one or more threads, and it is only necessary to properly arrange the rollers on the frame.

Having now fully described my invention what I claim as new and desire to secure by Letters Patent is as follows:—

1. A portable device for lasting uppers of boots or shoes provided with a whipped stitching or the like comprising a suitably shaped frame with means therein for holding a last with a boot or shoe upper, fixed and adjustable rollers supported on said frame and adapted to receive a drawing thread properly sheathed or connected with the edges of the upper, and means for moving the adjustable rollers in a direction at right angles to the center line of the last for varying the distance between the fixed and adjustable rollers whereby the drawing thread is pulled through the sheath of the upper and the edges of the upper are properly drawn over and about the last.

2. A portable device for lasting uppers of boots or shoes provided with a whipped stitching or the like comprising a frame with means therein for holding a last with a boot or shoe upper, fixed and adjustable rollers supported on said frame and adapted to receive a drawing thread properly sheathed or connected with the edges of the upper, and

means for moving the adjustable rollers independently of each other and in a direction at right angles to the center line of the last whereby the drawing thread is pulled through the sheath of the upper and the edges of the upper are properly drawn over and about the last.

3. A portable device for lasting uppers of boots or shoes provided with a sheathed edge comprising a suitable frame with a rigid base, means on said base for holding a last with a boot or shoe upper, a pair of parallel arms adjustable on said base, fixed and adjustable rollers supported on said parallel arms and adapted to receive a drawing thread properly sheathed or connected with the edges of the upper, and means for moving the adjustable rollers in a direction at right angles to the center line of the last independently of the movement of the arms, whereby the drawing thread is pulled through the sheath of the upper and the edges of the upper are properly drawn over and about the last.

4. A portable device for lasting uppers of boots or shoes provided with a sheathed edge comprising a frame having adjustable side sections with means therein for holding a last with a boot or shoe upper, fixed and adjustable rollers supported on said frame and adapted to receive a drawing thread properly sheathed or connected with the edges of the upper, and means for moving the adjustable rollers independently of each other and in a direction at right angles to the center line of the last whereby the drawing thread is pulled through the sheath of the upper and the edges of the upper are properly drawn over and about the last.

5. A portable device for lasting uppers of boots or shoes provided with a sheathed edge comprising a suitable frame with a rigid base, means on said base for holding a last with a boot or shoe upper, a pair of parallel arms adjustable on said base, fixed and adjustable rollers supported on said parallel arms and adapted to receive a drawing thread properly sheathed or connected with the edges of the upper and means for moving the adjustable rollers in a direction at right angles to the center line of the last independently of the movement of the arms whereby the drawing thread is pulled through the sheath of the upper and the edges of the upper are properly drawn over and about the last, and an adjustable roller adapted to be moved in a line with the center line of the last.

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

JOSEPH DOMINIQUE CASTELLANI.

Witnesses:

LOUIS PERRIE,
HENRI FINGIER.