

No. 662,728.

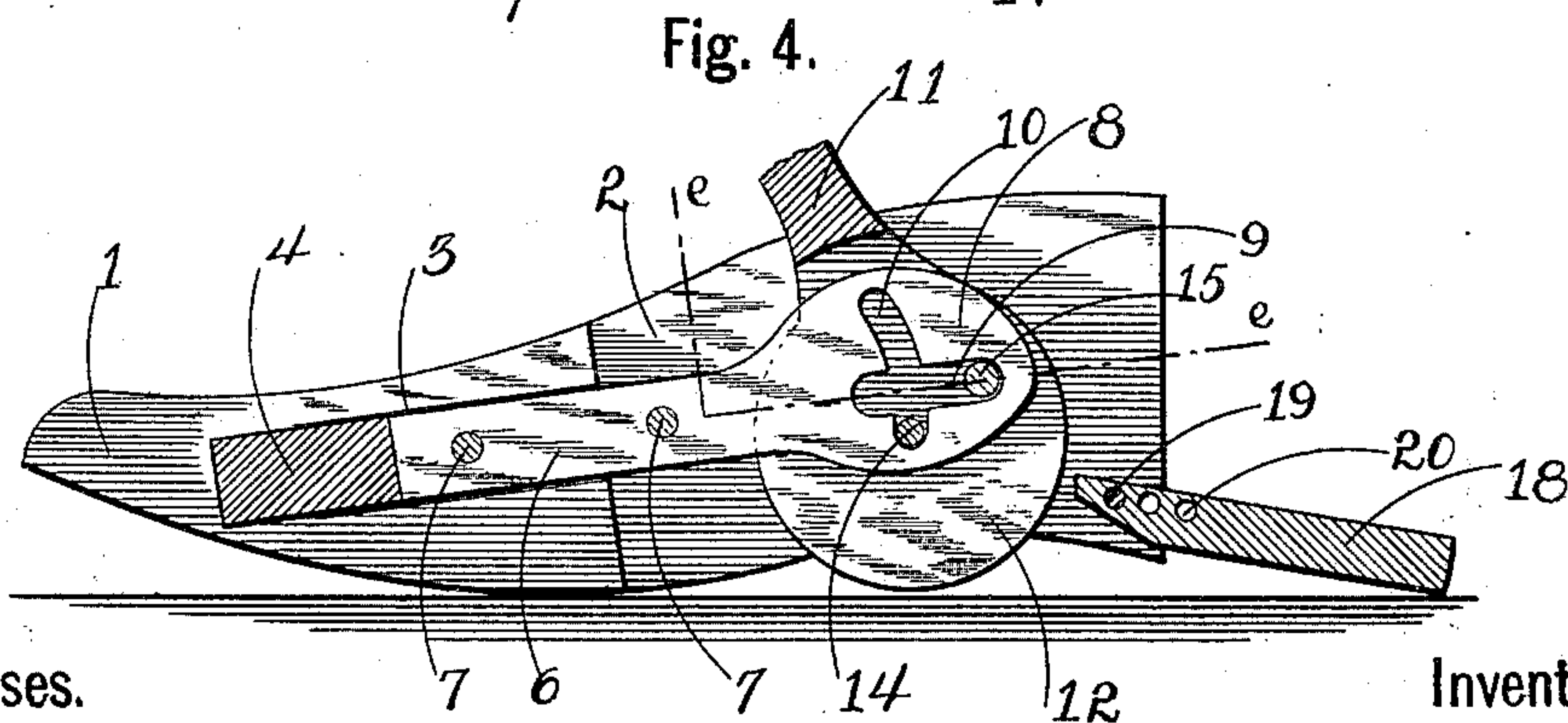
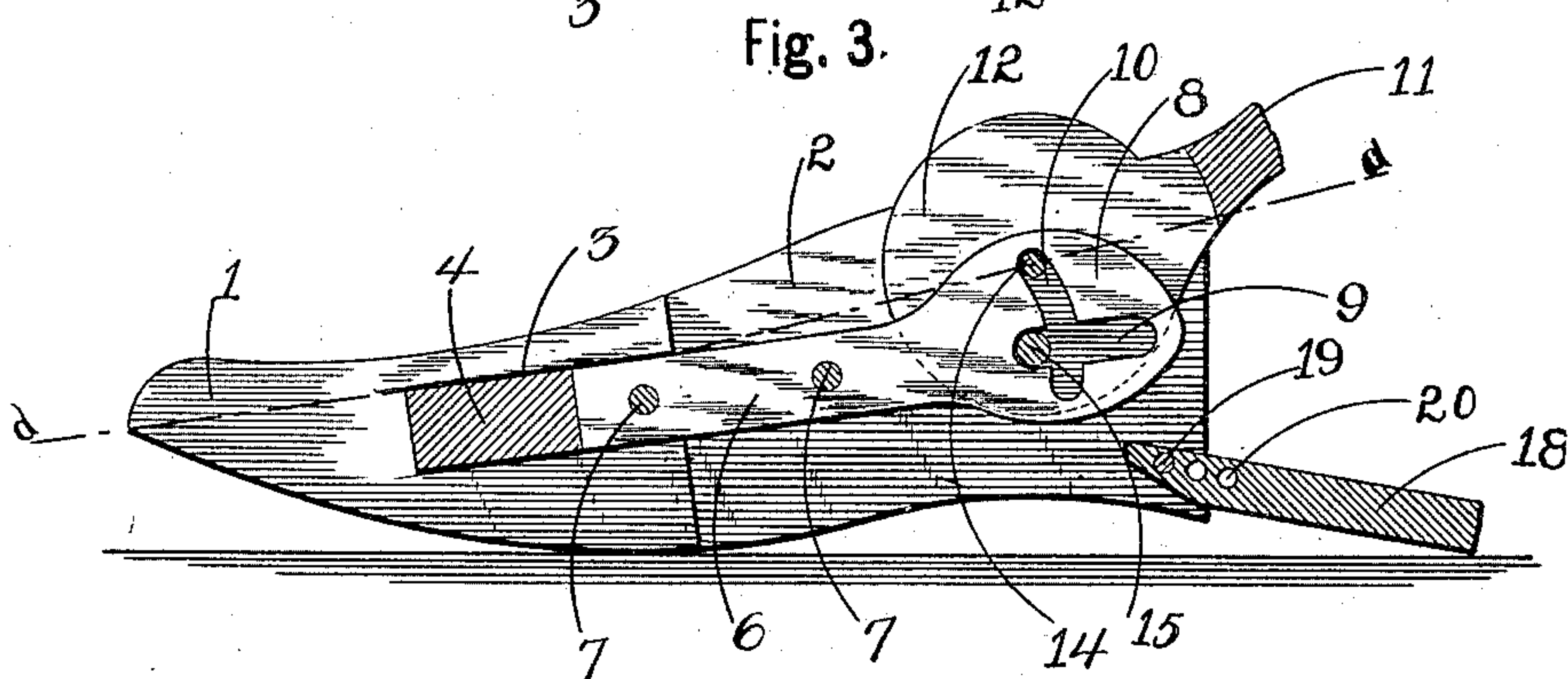
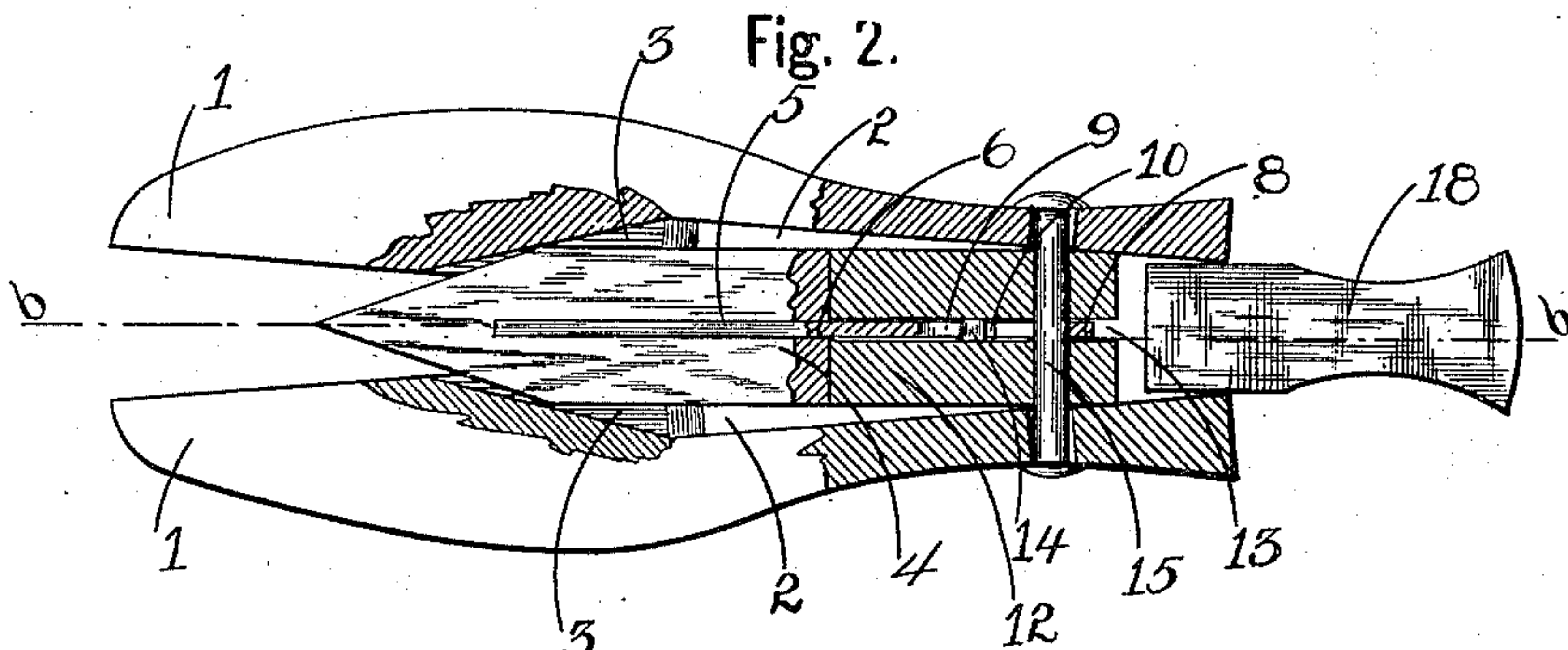
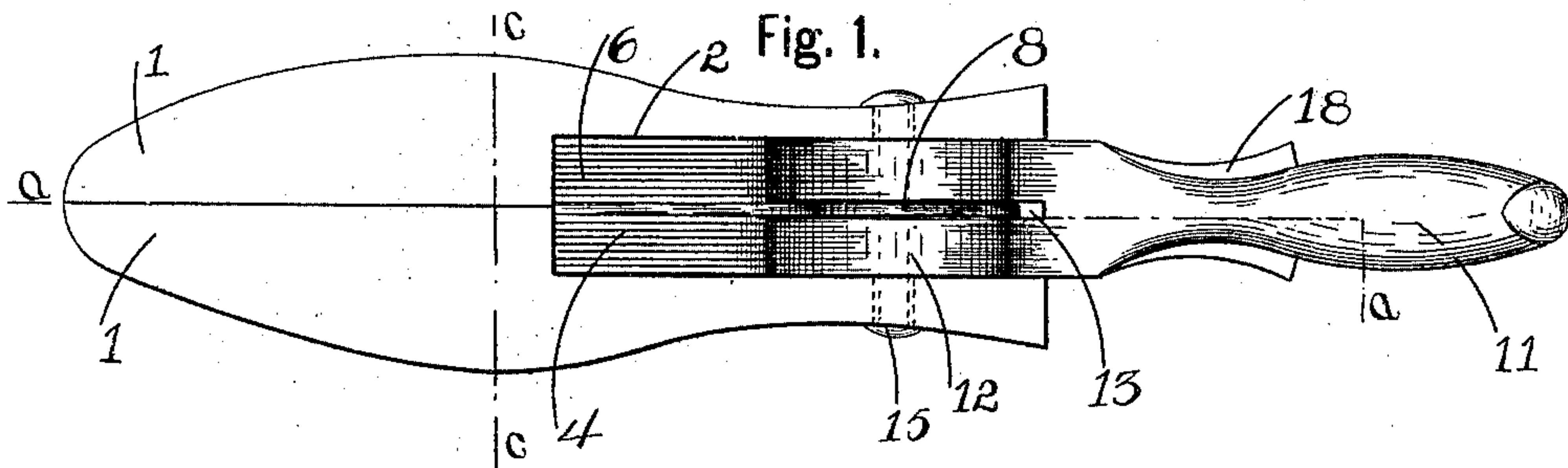
Patented Nov. 27, 1900.

C. B. KOSTERS.
SHOE STRETCHER.

(Application filed Feb. 7, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.

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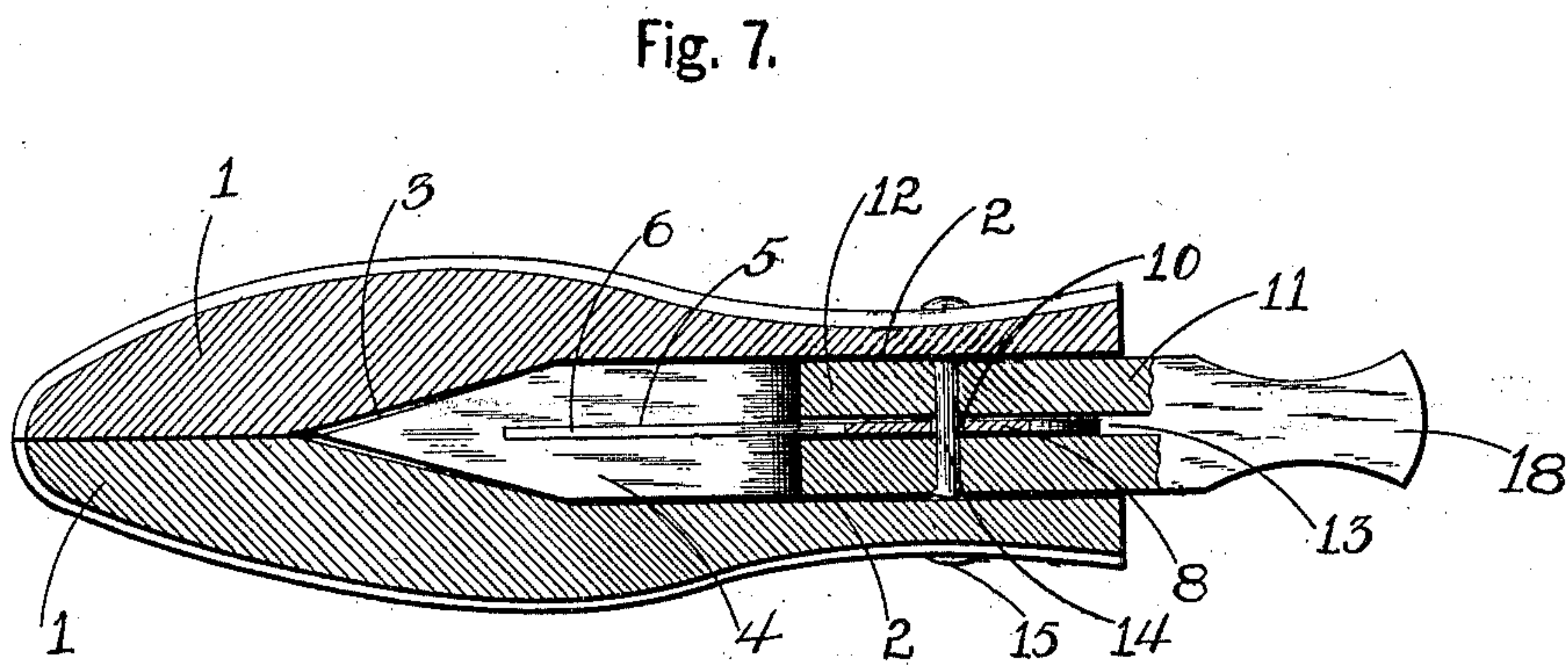
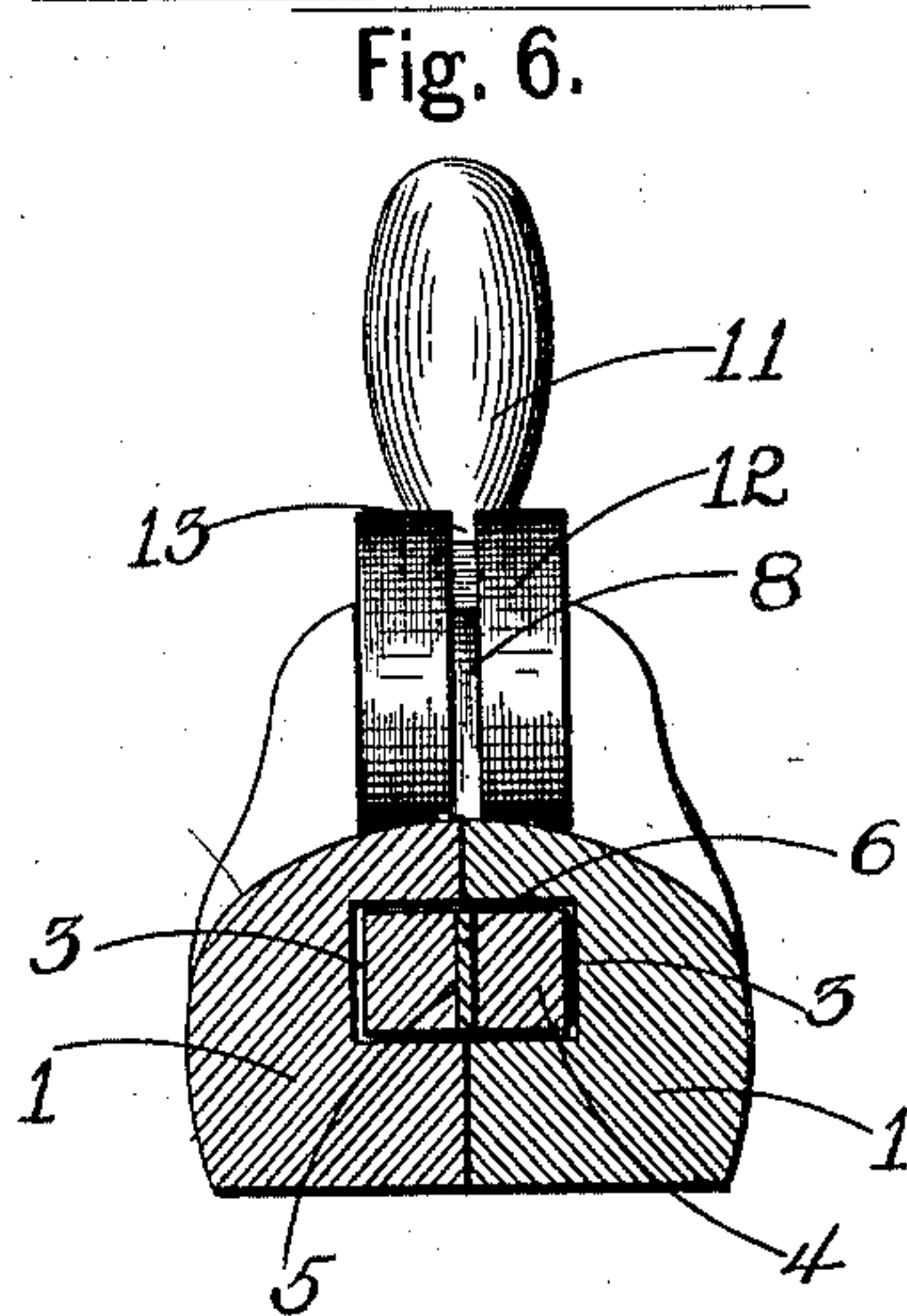
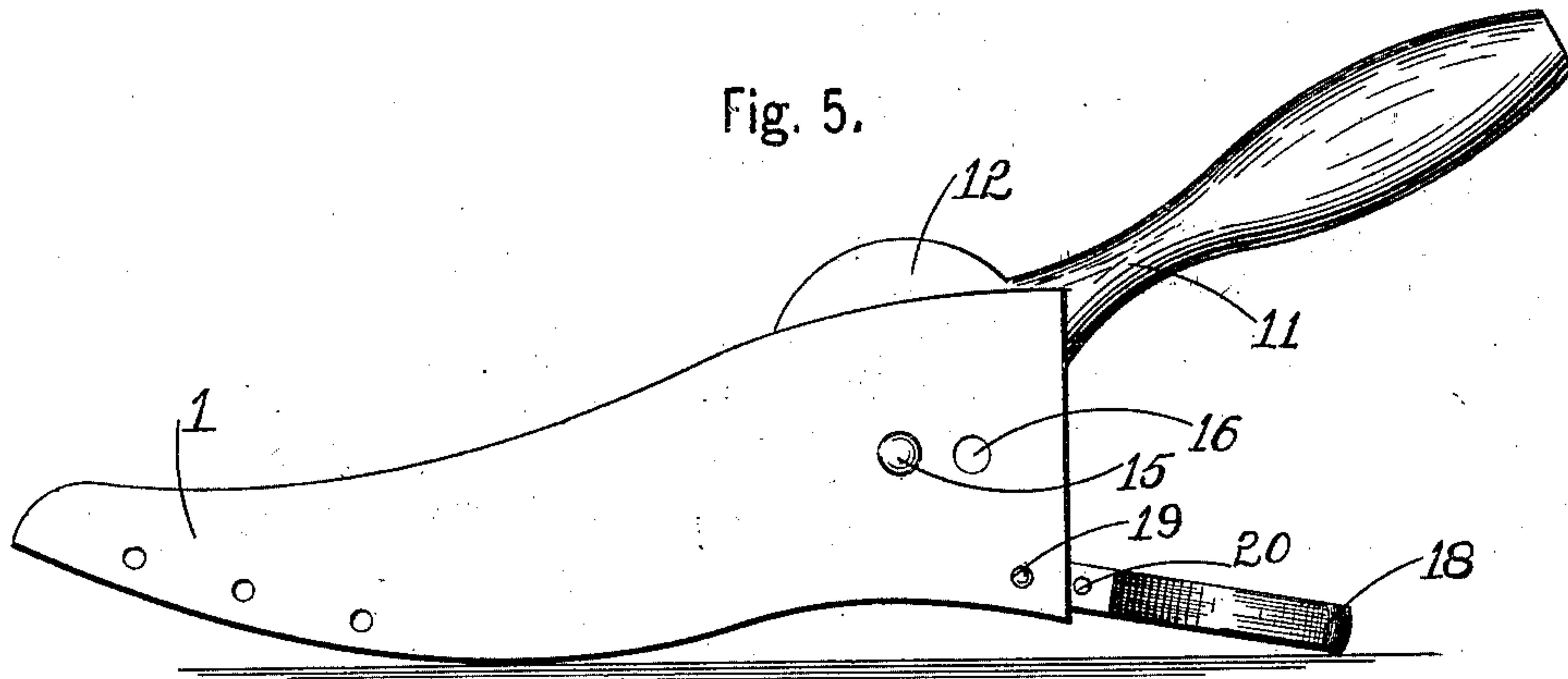
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(No Model.)

2 Sheets—Sheet 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

CLEMENTS B. KOSTERS, OF BUFFALO, NEW YORK.

SHOE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 662,728, dated November 27, 1900.

Application filed February 7, 1900. Serial No. 4,349. (No model.)

To all whom it may concern:

Be it known that I, CLEMENTS B. KOSTERS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Shoe-Stretchers, of which the following is a specification.

My invention relates to a stretcher for boots or shoes in which the members or parts are separated to stretch the article by the movement of a lever, the object being to provide a simple, cheap, and quickly-operated device of the above character, so arranged that the members or parts will be retained in their stretching position by friction without the aid of any additional fastening or lock.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The invention is susceptible to various changes in the form, proportion, and minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a top plan view of my improved stretcher in closed position. Fig. 2 is a top plan view of my improved stretcher with the members or parts partly open, a section being cut on line *e e*, Fig. 4, to show the enlarged openings through which the rivet or other fastening device passes. Fig. 3 is a vertical longitudinal section on or about line *a a*, Fig. 1. Fig. 4 is a vertical longitudinal section on or about line *b b*, Fig. 2. Fig. 5 is a side elevation of my improved stretcher. Fig. 6 is a vertical transverse section on or about line *c c*, Fig. 1. Fig. 7 is a horizontal section on or about line *d d*, Fig. 3.

In referring to the drawings in detail like numerals designate like parts.

The stretcher is composed of two members or parts 1, which when assembled have the general shape of the interior of a shoe. Each of these members or parts is cut away on its inner surface for about half its length at the rear to form a depression 2, which extends through from the upper to the lower surface. A wedging depression 3 is also formed in each member or part forward of the depres-

sion 2, the rear of the wedging depression 3 merging in the depression 2. A wedge 4, preferably formed of wood or other light material and having the sides of its forward portion beveled to substantially the same angle as the wedging side walls of the depression 3, is provided with a longitudinal slot or bifurcation 5 extending from its rear end, and a metal strip 6 has its forward end inserted and secured in said slot or bifurcation by rivets or other fastening devices 7.

The rear end 8 of the metal strip 6 is provided with a substantially horizontal elongated opening 9 and a substantially vertical elongated opening 10, which cross each other near the forward and lower termination thereof. (See Figs. 3 and 4.)

A lever 11 is provided with an enlarged lower end 12, which has a slot or bifurcation 13 to receive the rear end 8 of the metal strip, and a pin, rivet, or other fastening device 14 is passed through the bifurcated end of the lever and the slots in the end of the metal strip to secure said metal strip to the lever, the slots permitting a limited movement to said strip and forming guideways for the rivets or bolts, as will be more clearly pointed out hereinafter. The lever is pivotally fastened between the rear ends of the members or parts in the space formed by the depression 2 by a pin, rivet, or other fastening device 15, which passes through one of the openings 16, the members or parts, the opening 17 in the bifurcated end of the lever, and the slots in the metal strip. The members or parts are provided with two or more openings 16, so that the lever can be pivoted at different points. (See Fig. 5.) This pin or rivet 15 passes through an opening in the end 12 (which preferably is formed partially in a circle) at a point removed from the center, thus making the lower end of the lever a cam or eccentric.

The pin or rivet 15 has a triple function. It serves to secure the two members or parts together, and thus dispenses with the hinge usually employed to fasten the rear ends of the members or parts together, acts as a supporting-shaft for the operating-lever, and maintains the rear end of the metal strip in proper position by passing through the horizontal elongated opening therein.

The pin or rivet 15 is headed closely against the outer surface of the members or parts of the stretcher to bring the operating parts into sufficient frictional contact to prevent slipping, the openings in the members through which the pin or rivet passes being larger than the pin or rivet to provide for the lateral movement of the members or parts when separated by the wedge, substantially as shown in Fig. 2.

The pin or rivet 14 passes substantially through the middle of the enlarged bifurcated end 12 of the lever.

In order to maintain the stretcher in its partially open position when stretching a shoe, the fastening securing the lever in place between the members or parts is arranged so that the adjacent surfaces of the members and the lever are in close contact, and the spreading of the forward ends of the members brings those portions in the rear of the fastening between which the lever is interposed slightly toward each other and frictionally grips the rear part of the enlarged lower end of the lever, thus rendering it impossible for the tension of the stretched shoe to press the members or parts together. The pressure which is sufficient for this purpose is not too great to interfere with the movement of the lever under fair pressure from the hand of the operator.

A heel-piece 18 has its forward end pivoted between the rear end of the members or parts by a pin, rivet, or other fastening 19, and is provided with two or more holes 20 to allow for adjustment.

The operation of the stretcher will be easily understood from the foregoing description and drawings, the members or parts being separated by the wedge, which in turn is forced forward by the pressure of the cam or eccentric end of the lever when the lever is turned on its pivot in a forward direction. The wedge is withdrawn from its wedging position by movement of the lever in a rearward direction, the pin 14 catching in the upper end of the elongated vertical opening 10 and carrying the metal strip and the wedge backward as the lever turns rearwardly on its pivot.

The main advantages of my improved stretcher reside in the simplicity and cheapness of construction, the rapidity with which it can be manipulated, its lightness owing to the small amount of metal in its construction, the small amount of space required in packing, and the dispensing with the hinge to connect the members or parts at their rear ends, the bolt or rivet which passes through the members serving not only as a connection for the members, but as a supporting-shaft for the cam-lever, and a guide for the rear end of the metal strip, so that the wedge travels forward and back in a substantially straight direction.

The openings in the members or parts through which the bolt or rivet passes are

sufficiently large in size to allow for the lateral movement necessary to separate or bring together the members or parts when operating the stretcher.

I claim as my invention—

1. A shoe-stretcher comprising two members or parts, a wedge for separating said members or parts and a cam-lever for operating said wedge; the wedge being so connected to the lever as to travel in a straight direction upon the movement of said lever.

2. A shoe-stretcher comprising two members or parts, a wedge for separating said members or parts, a lever for operating said wedge, and a device connecting the members or parts and also forming a supporting-pivot for the lever.

3. A shoe-stretcher comprising two members or parts, a wedge for separating said members or parts, a lever for operating said wedge, and a device connecting the members or parts and also forming a support for the wedge and a pivot for the lever.

4. A shoe-stretcher comprising two members or parts, a wedge for separating said members or parts, a lever for operating said wedge, and a device connecting the members or parts and also forming a support for the rear of the wedge without interfering with its necessary movement to separate the members or parts.

5. A shoe-stretcher comprising two members or parts, a wedge for separating said members or parts, a cam-lever for operating said wedge, a device connecting the members or parts and also forming a support for the rear of the wedge without interfering with the necessary movement to separate the members or parts and a pivot for the cam-lever.

6. A shoe-stretcher comprising two members or parts, a wedge for separating said members or parts having a rear end provided with an elongated opening, a pin for securing said members or parts together near their rear end, and a bifurcated cam-lever pivotally mounted on said pin with the rear end of the wedge in its bifurcation and the pin passed through the elongated opening.

7. A shoe-stretcher comprising two members or parts, a means for separating said members or parts including a device having elongated openings, a lever having a cam portion, a pin passed through the members or parts the cam portion of the lever and one of the elongated openings in the device, and a pin passed through the cam portion of the lever and another elongated opening.

8. A shoe-stretcher comprising two members or parts, a means for separating the forward extensions of said members or parts, and a pin for securing the rear portions of said members or parts together and arranged to permit the movement necessary to separate the forward extremes.

9. A shoe-stretcher comprising two members or parts, a means for separating the forward extensions of said members or parts, and

a pin for securing the rear portions of said members or parts together and arranged to permit the movement necessary to separate the forward extremes, said pin also serving 5 as a support for the separating means.

10 10. A shoe-stretcher comprising two members or parts, a means for separating the forward extensions of said members or parts, a lever for operating said means, and a pin for securing the rear portions of said members or parts together, and arranged to permit the movement necessary to separate the forward extremes, said pin also serving as a support for the separating means and a pivot for the 15 lever.

20 11. A shoe-stretcher comprising two members or parts, a lever device for separating said members or parts and a pin for securing the members or parts together and forming a support for the device.

12. A shoe-stretcher comprising two members or parts, a lever device for separating said members or parts and a pin for securing the members or parts together and forming a support for the device; the members or parts 25 and the lever device being in sufficient frictional contact to prevent the tension of the stretched shoe forcing the members together.

13. A shoe-stretcher comprising two members or parts, a wedge for separating said 30 members or parts and a lever for operating said wedge; the members, wedge and lever being in sufficient frictional contact to prevent the tension of the stretched shoe pressing the members or parts together.

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Witnesses:

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