No. 737,321. PATENTED AUG. 25, 1903.

J. E. BETE.

FORM OR LAST FOR BOOTS OR SHOES.

APPLICATION FILED APR. 3, 1903.

NO MODEL.

Fig. 1.

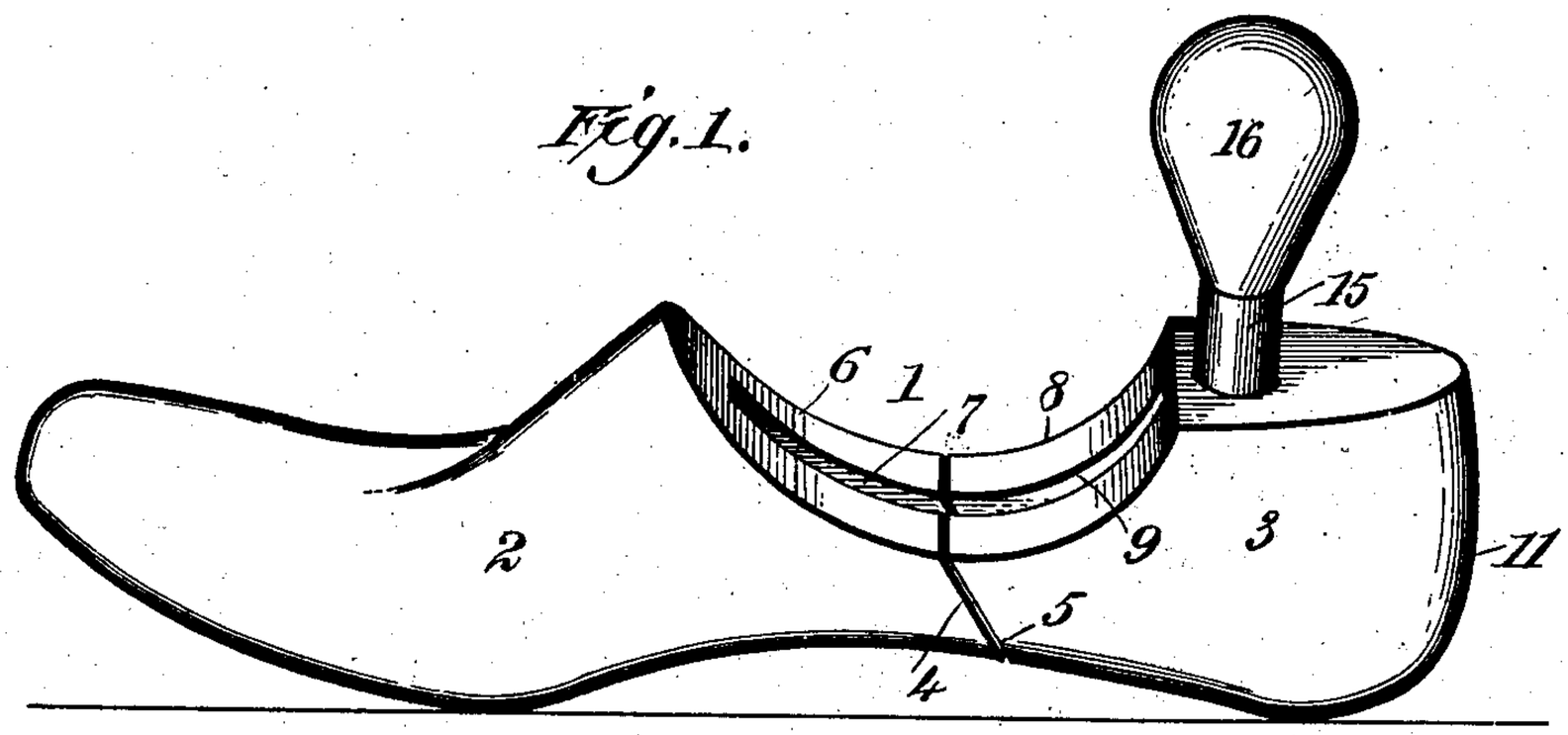


Fig. 2.

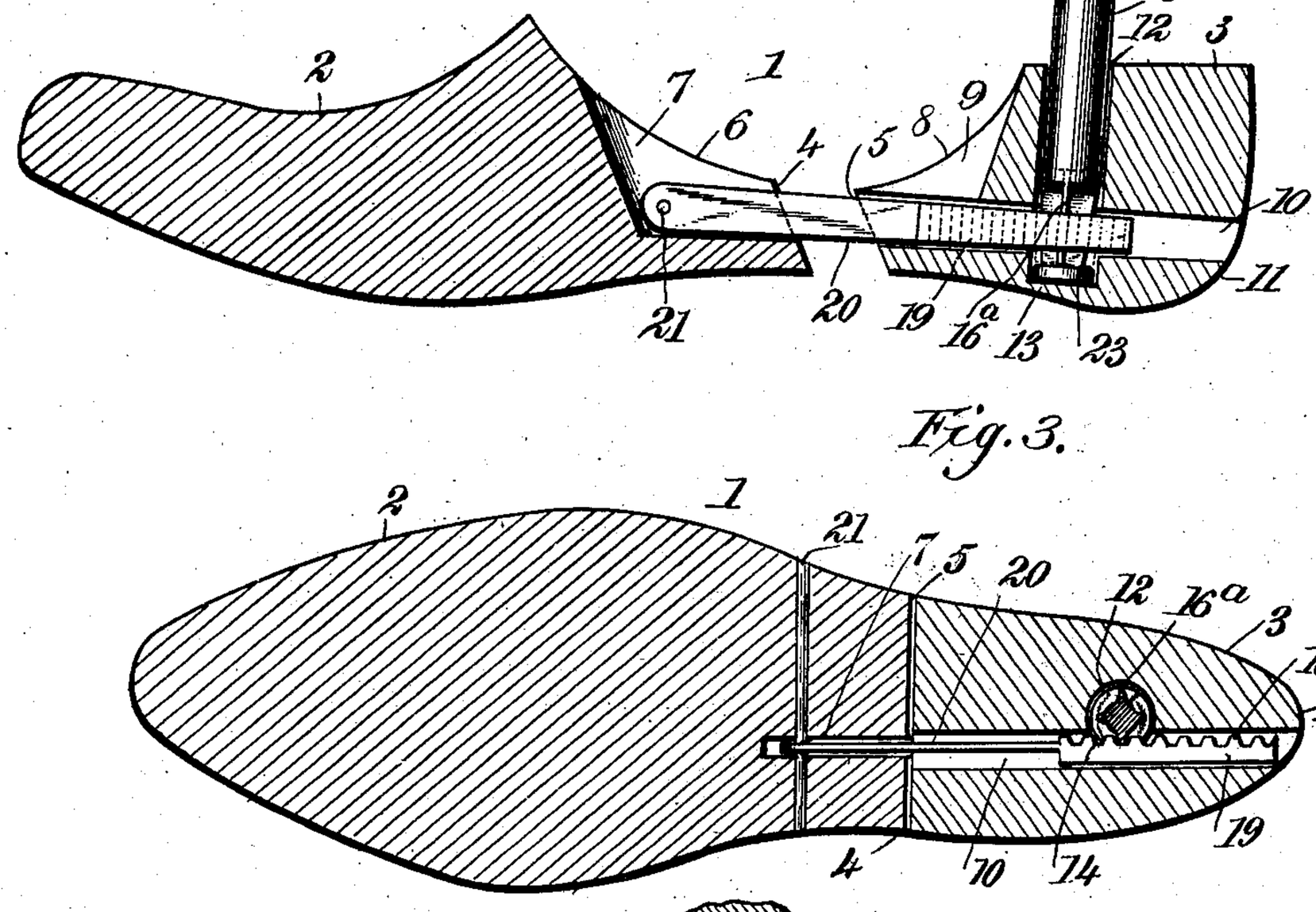
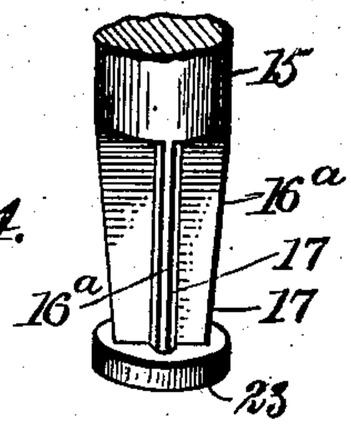


Fig. 3.

Fig. 4.



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No. 737,321. Patented August 25, 1903.

UNITED STATES PATENT OFFICE.

JOHN EDWARD BETE, OF STOUGHTON, MASSACHUSETTS.

FORM OR LAST FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 737,321, dated August 25, 1903.

Application filed April 3, 1903. Serial No. 150,887. (No model.)

To all whom it may concern:

Be it known that I, JOHN EDWARD BETE, a citizen of the United States, and a resident of Stoughton, in the county of Norfolk and State of Massachusetts, have invented a new and Improved Form or Last for Boots or Shoes, of which the following is a full, clear, and exact description.

This invention relates to forms or lasts for boots and shoes; and it consists substantially in the construction, organization, and combinations of parts, as hereinafter more particularly described and claimed.

The principal object of the invention is to provide a device of this kind which is simple in its embodiment and both effective and reliable in use or operation, besides possessing the capacity for long and repeated service.

A further object is to provide a device of the character referred to comprising few parts which are easily and readily assembled or joined together, and also which is easy to handle or manipulate and which is strong and durable and not liable to get out of order.

The above and additional objects are attained by means substantially such as are illustrated in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a shoe form or last embodying my improvements. Fig. 2 is a longitudinal sectional view thereof, showing the construction and organization of the elements or parts constituting the adjusting devices between the two sections of the form or last. Fig. 3 is a horizontal sectional view also showing the adjusting devices between the two sections of the said form or last, and Fig. 4 is a perspective view in section of a part of one of the operative elements or members of the adjusting devices between the two sections of the form or last.

Preliminarily to a more detailed description it may be stated that in the embodiment of my improvements herein shown I construct the form or last in two parts or sections, each adapted to the other, for the purpose of insertion within a boot or shoe, and connecting the said parts or sections are adjusting devices of special construction and organization, whereby the forward part or section of the last may be adjusted or extended relatively to the rearward part or section thereof for the purpose of straightening out or stretching the material of which the boot or shoe may be formed. The said adjusting devices are so constructed as to enable the forward part or section of the last to be firmly secured in whatever position to which the same may be adjusted or moved, said construction also constituting effective means whereby the form or last may be withdrawn in entirety from the boot or shoe whenever desired.

While I have herein represented a certain preferred embodiment of my improved shoe form or last, it is to be understood that I am not limited thereto in precise detail, since immaterial changes may be resorted to coming within the scope of my invention.

1 represents my improved form of last for boots or shoes, the same being preferably constructed of a forward section 2 and a rearward or heel section 3, each of said sections being correspondingly beveled or scarfed at 4 5, respectively, to enable the two sections to be evenly united when the said sections are brought together. Formed in the upper face of the recessed portion 6 of the forward part or section of the last is a kerf or groove 7 of proper width and depth, while formed in the corresponding recessed surface 8 of the rearward part or heel-section 3 of the last is a similar kerf or groove 9, the sides of each of these said kerfs or grooves being substantially in alinement with each other in whatever position the parts or sections of the last may be adjusted relatively to each other. Formed in the said rearward or heel section 3 is a longitudinal opening 10, extending, preferably, all the way through the said section from the said inner edge 5 thereof to its extreme rearward surface 11, while also formed in the said rearward or heel section 3, substantially at right angles to the said opening 10, is a vertical opening 12, the sides or walls of which are extended beyond the sides or walls of the said opening 10 and the base 13 of which constitutes a seat for the end of a part or element to be presently described.

The said sides or walls of the vertical opening 12 so cut or intersect the sides or walls of the said opening 10 at the point 14 (see Fig. 3) as to bring the two openings into communication with each other at such point, and working in the vertical opening 12 is a rod or stem 15, provided at its outer end with a suitable handle 16, the said rod or stem being of a diameter to fit the sides of said opening in a manner to be rotated within the same, while at a suitable distance from its inner end this rod or stem is formed with a plurality of radially-disposed ribs 16^a, which are beveled or tapered toward the end at 17 (see Fig. 4) and which may be said to constitute a "pinion" for engaging the teeth 18 of a rack-bar 19, working within the longitudinal opening 10 in the rearward or heel section 3 of the last or form, said rack having a flattened forward extension 20 of a thickness adapting the same to work snugly between the sides of the kerfs 7 and 9 of the forward and rearward last-sections, respectively, the said flattened extension 20 being movably connected to the said forward section of the last or form by means of a pin 21 passing transversely through an opening therefor in each, as shown. Formed at the inner end of the rod or stem 15 and integrally connecting the tapered ends of the radially-disposed ribs 16^a is a head or flange 23, which when the parts are assembled together for operation occupies that part of the opening 12 extending below the under side of the opening 10, (see Fig. 2,) and thus it will appear that upon exerting an outward pull upon the rod or stem 15 through the medium of its handle 16 the said head or flange 23 will engage the lower edge of the rack-bar 19, and in this way may the last be withdrawn from the boot or shoe in entirety whenever desired. It will also be observed that by engagement of the ribs 16^a with the teeth 18 of the rack-bar this bar may be caused to move in one direction or the other, and thus may the forward part or section 2 of the last be adjusted relatively to the rearward section thereof, it being apparent that accordingly as the rod or stem 15 is turned in one direction or the other the rack-bar and its extension 20 will be accordingly moved in one direction or the other within the opening 10 therefor.

In virtue of the tapered formation of the ribs 16^a it is apparent that by exerting a desired outward pull upon the rod or stem 15 during the adjusting operations there will be no impediment to free and perfect operation of the adjusting devices, and whenever the parts or sections of the last or form have been brought to desired relative positions it is simply necessary to impart to the rod or stem 15 a forcible thrust inwardly, which causes the wider parts of the ribs 16^a to frictionally engage the flat surface intermediate the teeth of the rack-bar 18 in such manner as to securely lock said rack-bar into the position to which the same may have been moved in one direction or the other.

From the foregoing it will be seen that the construction and operation of the parts are exceedingly simple, besides being thoroughly effective and reliable in the performance of the intended functions thereof, and it will also be seen that the two parts or sections of the last or form are always maintained in proper position with respect to each other, thereby enabling the desired stretching operations to be conducted with accuracy and expediency.

It will be noted that the forward extension 20 of the rack-bar is of greater width than the rear portion of said bar, the purpose of such construction being to prevent all play of the heel-section which might be caused by easy working of the rack-bar and pinion.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A form or last for boots and shoes, consisting of a forward section and a rearward section, a rack-bar adjustably connecting the two sections, and means for operating said bar, comprising a pinion having teeth each of varying dimensions from end to end thereof.

2. A form or last for boots and shoes, consisting of a forward section and a rearward section, a rack-bar adjustably connecting the two sections, and means for operating said bar, comprising a pinion having teeth, each of tapered formation from one end thereof to the other.

3. A form or last for boots and shoes, consisting of a forward section and a rearward section, a rack-bar adjustably connecting the two sections, and means for operating said bar, comprising a pinion having teeth, each of tapered formation from one end thereof to the other, said pinion having a part integral therewith adapted to engage with the rack-bar for withdrawing the form from a boot or shoe in which the same may be placed.

4. A form or last for boots and shoes, consisting of a forward section and a rearward section, a rack-bar adjustably connecting the two sections, and means for operating said bar, said means being constructed with tapered portions for frictionally engaging the bar, to hold the same in different positions.

5. A form or last for boots and shoes, consisting of a forward section and a rearward section, the former having a kerf extending inward from its upper surface, and the latter having a corresponding kerf, said latter section also having therein a longitudinal opening and a communicating vertical opening, a rack-bar working in said longitudinal opening and having a forward extension lying in said kerfs and removably connected to the forward

section, and an operating rod or stem working in said vertical opening and having a pinion engaging the rack-bar, said rod having at its inner end a head adapted to engage the lower side of said rack-bar, and the teeth of said pinion being beveled or tapered inwardly.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN EDWARD BETE.

Witnesses:
GEORGE O. WENTWORTH,
EDGAR F. LEONARD.