

No. 731,281.

PATENTED JUNE 16, 1903.

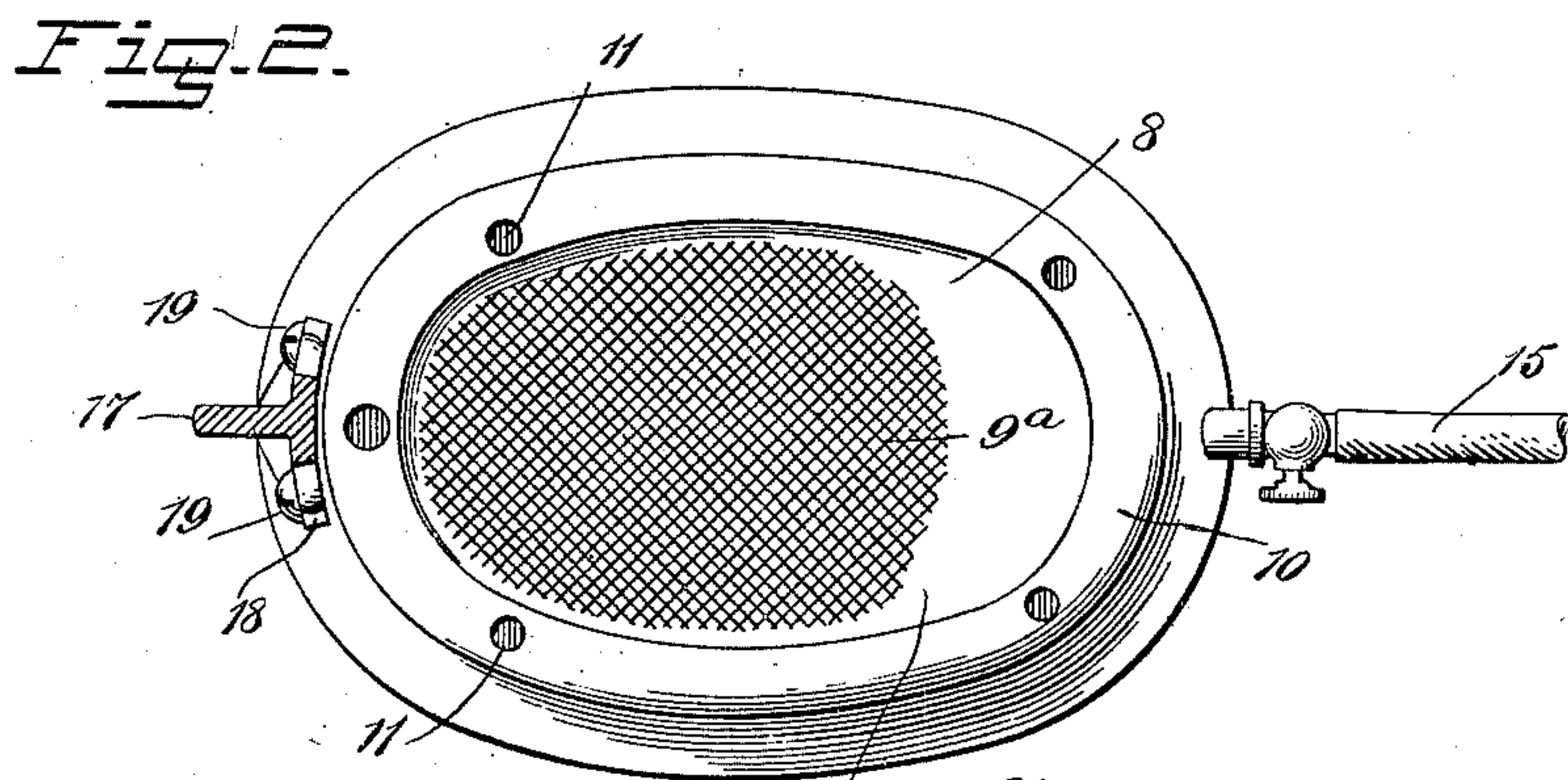
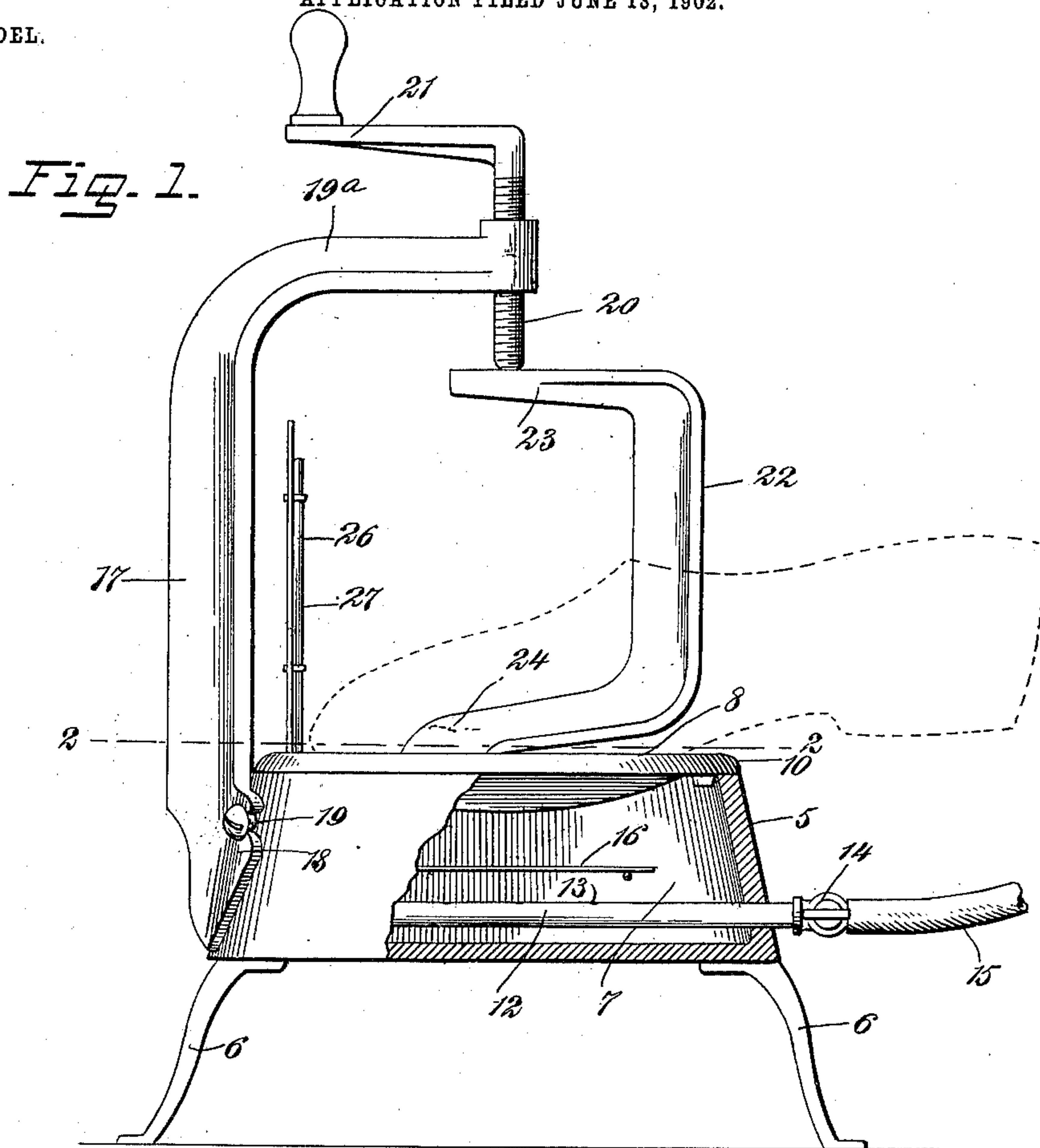
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MEANS FOR REPAIRING BOOTS OR SHOES.

APPLICATION FILED JUNE 13, 1902.

NO MODEL.

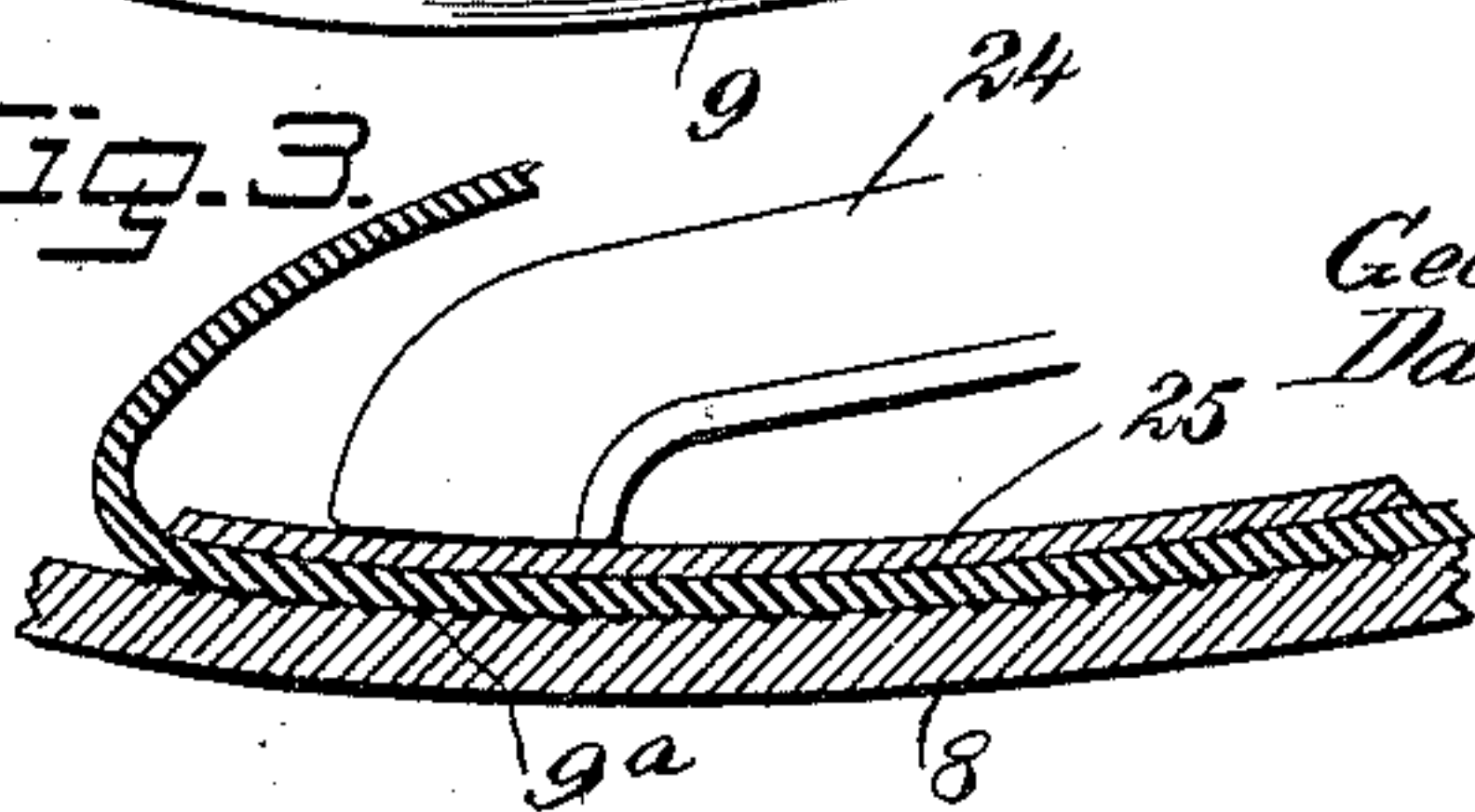


WITNESSES:

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Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE W. CASE AND DAVID L. SWINTON, JR., OF PORT JERVIS, NEW YORK; FRANCES SWINTON ADMINISTRATRIX OF SAID DAVID L. SWINTON, JR., DECEASED.

MEANS FOR REPAIRING BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 731,281, dated June 16, 1903.

Application filed June 13, 1902. Serial No. 111,485. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. CASE and DAVID L. SWINTON, Jr., citizens of the United States, and residents of Port Jervis, in the county of Orange and State of New York, have invented new and useful Improvements in Means for Repairing Rubber Boots or Shoes, of which the following is a full, clear, and exact description.

Our invention relates to means for repairing rubber boots and shoes, and the object that we have in view is the provision of a simple and inexpensive apparatus by which a new rubber sole may be expeditiously applied to the upper of a boot or shoe or a rubber patch may be vulcanized on a worn boot or shoe at the heel or sole thereof, the new sole applied by our apparatus having a roughened or corrugated bottom surface, whereby repairs may be effected at a small cost and the owners saved the expense of purchasing new boots or shoes.

A further object of the invention is the provision of a mold having a proper pattern-surface to give the corrugated face to the bottom of the new rubber sole, said mold being susceptible of manufacture at a low cost.

With these ends in view the invention consists in the novel construction and combination of parts which will be hereinafter fully described and claimed.

Reference is to be had to 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 view in side elevation, partly broken away and in section, of an apparatus for repairing rubber boots and shoes constructed in accordance with our invention. Fig. 2 is a sectional plan view thereof on the line 2-2 in Fig. 1, and Fig. 3 is a detail longitudinal section through the mold and the pressure-plate, illustrating a piece of work thereon.

5 designates the shell or casing of the improved vulcanizer, the same being provided with suitable legs 6 for supporting it in an upright position. This shell or casing is chambered, as at 7, and said casing is open at the upper side in order to accommodate the removable mold 8. This mold is provided with

a mold-cavity 9, which is bounded or surrounded by a substantially upright wall having the contour of the sole which it is desired to supply to a boot or shoe. The mold is also provided with a marginal flange or rim 10, that is adapted to rest upon the top edge of the casing 5, and in this flange or rim is a series of vent-openings 11, which, if desired, may be temporarily closed by any suitable means. The presence of the mold-cavity 9 forms or provides a depending portion on the under side of the mold, and said mold is arranged to rest upon or be secured to the casing 5 in a position to close the open top portion thereof, thus arranging the depending portion of the mold in the chamber 7 of the casing, whereby the heat is free to circulate around and in contact with the entire under surface of the mold.

12 designates a heating-pipe which is arranged in a horizontal position within the chamber 7 of the casing, said pipe having a series of outlet-openings 13 in its upper side. A portion of this heating-pipe projects through the casing and is provided with a stop-cock 14. A flexible tube or hose 15 is coupled to the projecting end of the pipe, and hot air or other heating medium may be supplied through this hose to the heating-pipe 12 when the cock 14 is opened.

A deflector or baffle-plate 16 is supported in a horizontal position within the chamber 7 and between the heating-pipe 12 and the under surface of the mold, said plate serving to diffuse the heat uniformly within the chamber 7.

One of the important features of our invention is the mold 8, having a corrugated active face 9^a on the bottom of the depression or mold-cavity 9. This corrugated surface is intended to impart to the sole a roughened appearance, thus making the new rubber sole closely simulate or follow an ornamentation which is given to the boot or shoe sole at the time of its manufacture. In our invention the mold is economically manufactured by casting on a chilled surface having the desired pattern which gives the corrugated appearance to the active face, as indicated at 9^a in Fig. 2. Obviously the pattern-surface 9^a cannot be produced in the mold-cavity by

cutting the same by hand or milling the same by machinery without making the mold quite costly of manufacture; but by casting the mold on a chilled surface we are able to materially reduce the cost of making the same.

17 designates an upright which is flanged, as at 18, and fitted against an end portion of the casing 5, said flanged part of the upright being firmly secured to the casing by the screws or bolts 19. The upright has an overhanging arm 19^a, in which is provided a threaded opening adapted to accommodate the threaded pressure-screw 20, the latter having a suitable crank-handle 21 for its convenient manipulation.

22 designates a pressure-post which is provided at its upper end with an arm 23 and at its lower end with a foot-piece 24. The foot of this pressure-post is adapted to be slipped into the upper of a boot or shoe which it is desired to repair, and said foot portion of the post coöperates with a pressure-plate 25, the latter being arranged to lie within the boot or shoe and to partly occupy the mold-cavity 9. The pressure-plate 25 may be attached to the post 22 or it may be made in a separate piece, and this pressure-plate is intended to coöperate with the mold and the post in order to secure proper pressure on the rubber for repairing the boot or shoe. The pressure-plate should conform somewhat to the size of the mold-cavity, and we may employ pressure-plates of different sizes. It is evident that molds having different-size cavities may be used in connection with the chambered casing of the vulcanizer for the purpose of repairing boots or shoes of different styles and sizes.

26 designates a scale-plate adapted to support a suitable thermometer, a part of which is indicated at 27 in Fig. 1, said thermometer having its bulb exposed to the heat that circulates in the chamber 7 of the casing.

In repairing a rubber boot the worn sole is removed from the upper and the latter is thoroughly cleaned by any suitable agent. The mold 8 is placed on the chambered casing 5 and the proper quantity of soft rubber

is placed on the boot or shoe, which is then fitted in the mold-cavity in order to extend over the pattern-surface 9^a. The post 22 and its foot-piece 24, together with the pressure-plate, are fitted in the boot or shoe at the proper time. The parts are placed on or in the mold in such a way that the edge portion of the boot or shoe upper and the rubber sole will be received in the mold-cavity, after which the screw 20 is operated so as to apply the pressure to the post 22. The pressure of the post and of the plate 25, which lies below the post, spreads the rubber uniformly throughout the mold-cavity and secures a sole which is uniform in thickness, and finally the heat is admitted to the pipe 12 and diffused by the baffle-plate 16 through the chamber of the casing, thus vulcanizing the rubber sole to the boot or shoe upper, said sole partaking of the pattern-surface 9^a of the mold-cavity. A rubber shoe or boot may be repaired at the heel or sole portion by using a mold having a proper configuration.

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

In an apparatus of the class described, the combination with a mold, means for heating the mold, and an elevated clamping-screw, of a pressure-plate consisting of a single thickness and conforming approximately to the shape of a boot or shoe sole, and a pressure-post having an angular foot-piece at its lower end and a head at its upper end, said plate and the foot-piece of the post being insertible into a boot or shoe for the foot-piece to rest on the plate, and the clamping-screw being arranged to exert pressure on the post by engaging with the head thereof.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GEORGE W. CASE.

DAVID L. SWINTON, JR.

Witnesses:

WM. A. PARSHALL,

CYRUS D. CASE.