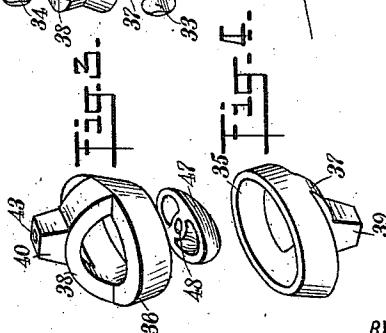
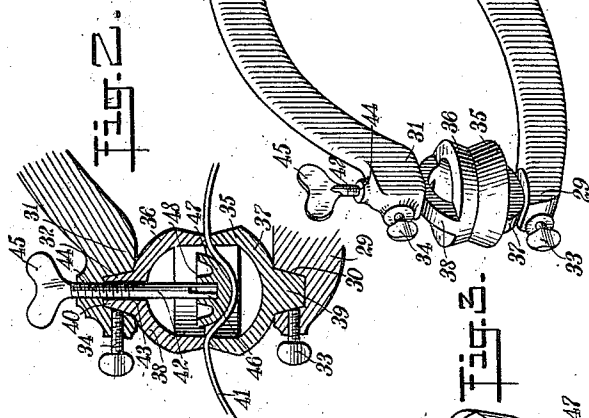
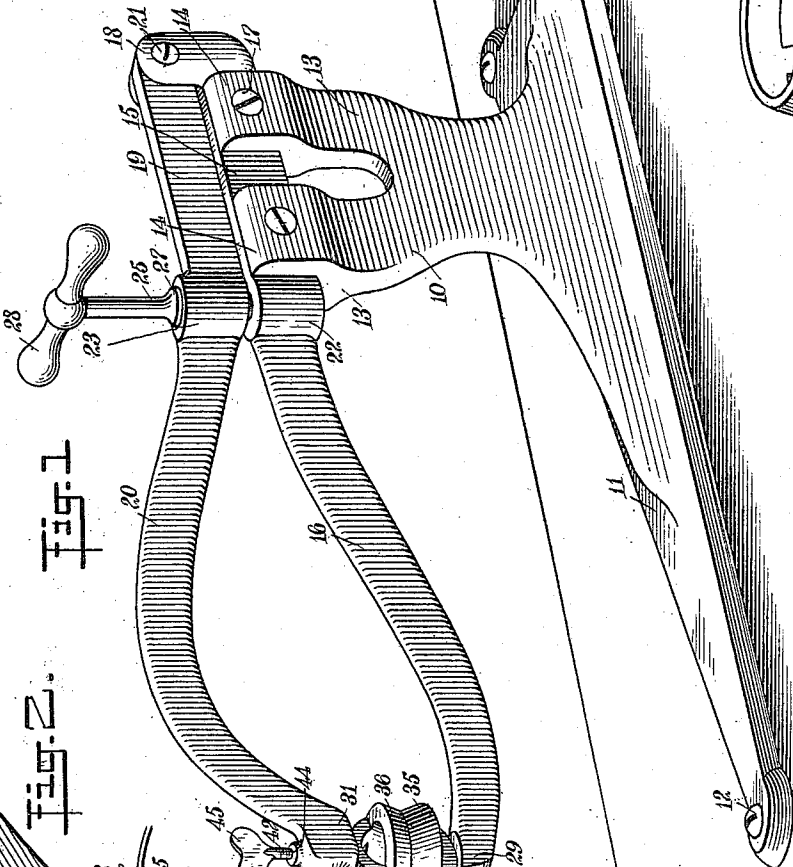
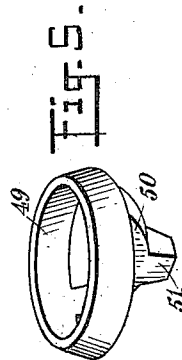


987,456.



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UNITED STATES PATENT OFFICE.

CHARLES J. GAUER, OF MORRISTOWN, AND JOHN GAUER, OF DOVER, NEW JERSEY.

STRETCHING APPARATUS.

987,456.

Specification of Letters Patent. Patented Mar. 21, 1911.

Application filed April 15, 1910. Serial No. 555,574.

To all whom it may concern:

Be it known that we, CHARLES J. GAUER and JOHN GAUER, both citizens of the United States, and residents, respectively, of Morristown and Dover, in the county of Morris and State of New Jersey, have invented a new and Improved Stretching Apparatus, of which the following is a full, clear, and exact description.

10 This invention relates to apparatus for stretching the leather of shoes, or for performing like operations upon other material, and has reference more particularly to apparatus of this class comprising relatively
15 movable members, means for clamping the same together, jaws carried by the members and adapted to grip the material therebetween, and a presser for stretching the material gripped between the jaws.

20 The object of the invention is to provide a simple, compact and efficient stretching apparatus which can be manipulated rapidly and easily, by means of which material can be stretched at any particular point of the
25 body of the material, without affecting the remainder of the material, and which, when used for stretching the leather of shoes or like articles, will thoroughly stretch the leather at the desired point, but will in
30 no way injure the shoe, for example, by weakening the seams.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set
35 forth in the claims.

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
40 the views, and in which—

Figure 1 is a perspective view of an embodiment of our invention; Fig. 2 is an enlarged, fragmentary section showing the jaws for gripping the material, and the presser
45 for stretching the material; Fig. 3 is a perspective view of one of the jaws, showing the head of the presser separate from the jaw; Fig. 4 is a perspective view of the other of the jaws; Fig. 5 is a perspective view of a
50 jaw of modified form; and Fig. 6 is a fragmentary section of part of the apparatus, showing the means for clamping the members together.

Before proceeding to a more detailed explanation of our invention, it should be
55 clearly understood that while the apparatus

is particularly useful for stretching the leather of shoes, it can also be advantageously employed for stretching other material.

We have found that when shoes are stretched by means of expanding trees or like devices, the entire shoe is affected by the tree, and the strain to which it is subjected weakens the seams and otherwise injures the shoe. It is usually the case that it is desired to stretch the shoe at one particular point only, and it is practically impossible to accomplish this with the means ordinarily employed. Our invention permits the
60 leather to be stretched at a particular point, without affecting the remainder of the shoe, the leather being tightly gripped between the jaws, about the point, and the presser exerting pressure at that point only where it
65 is desired to stretch the leather, that is, within the area gripped by the jaws. Jaws of different shapes and sizes can be employed with the apparatus, so that the area of the material stretched can be varied in
70 accordance with individual preference or special necessity.

Referring more particularly to the drawings, we provide a stand comprising an upright 10, integrally or otherwise associated
85 with a base 11, by means of which the device can be positioned upon a table or other suitable support. If so desired, screws 12 can be employed for securing the base upon the support, suitable openings being formed
90 in the base for the reception of the screws. The upright 10, at the upper end, has arms 13, which have bifurcations 14. Between the sides of the bifurcations is received the rear end 15, of a fixed arm 16. The arm is
95 held in place by means of set-screws 17, or in any other suitable manner. At the rear extremity, the end 15 of the arm has an upwardly disposed bifurcation 18, which receives the rear end 19 of a movable arm 20.
100 The end 19 of the movable arm is pivotally secured in the bifurcation 18, by means of a pivot pin or screw 21. The fixed arms and the movable arm are outwardly curved in any suitable manner, as is shown for example
105 in Fig. 1, so that they can conveniently receive between the outer ends, the material to be stretched, for example, the leather in a shoe, and to permit one of the arms to be easily inserted into the shoe.

The arms 16 and 20 have corresponding enlargements 22 and 23. The former is pro-

vided with a threaded opening 24, which receives a correspondingly threaded end of a clamping screw 25. The latter extends through an opening 26 of the enlargement 23 of the arm 20. The opening 26 is so proportioned that the clamping screw can pass freely through it. The clamp 25 has a laterally extended collar 27 which seats at the top of the enlargement 23. At the upper end, the screw has a handle or grip 28, by means of which it can be conveniently manipulated. It will be understood that by means of the clamping screw, the arms 16 and 20 can easily be clamped together, as the necessities of operation of the apparatus demand.

At the outer end, the arm 16 has a flattened part 29, in which is formed a tapered recess 30, of angular cross section. The arm 20 has at the outer end a correspondingly flattened part 31 in which is formed a tapered recess 32, of angular cross section, similar to the recess 30. At the ends, the arms 16 and 20 have respectively, set-screws 33 and 34, extending into the recesses 30 and 32.

We employ jaws 35 and 36, of annular form, having bows 37 and 38, provided with extensions 39 and 40, of tapered, angular form, which fit into the recesses 30 and 32 respectively, so that the jaws can be suitably positioned between the ends of the levers 16 and 20. The adjacent edges of the jaws are formed to engage, to grip securely therebetween the leather 41 or other material to be stretched. By means of the set-screws 33 and 34, the jaws can be secured at the ends of the arms 16 and 20.

We employ a presser for effecting the stretching action, which comprises a threaded shank 42 movably located in an opening 43 of the upper jaw, and in a correspondingly threaded opening 44 of the end of the arm 20. The shank has the upper end formed into a wing 45, by means of which it can be manipulated, and at the lower end 46, is bifurcated. The presser has a head 47, of suitable, rounded form, and provided with a socket 48, which removably receives the bifurcated end of the shank 42. The head is interiorly cut away, in order to decrease the weight thereof, and to save metal.

The jaws may be of any suitable form; as shown for example in Figs. 3 and 4, they are of oval shape. In Fig. 5 we have shown a jaw 49 having a bow 50 and an extension 51, the jaw being of substantially circular form. The presser head preferably conforms to the shape of the jaws. When it is desired to stretch material at a particular place, the material is inserted between the jaws, and the arms are clamped together by means of the clamping-screw, so that the material is securely gripped at the engaging edges of the jaw. The presser has first been placed

in position so that the head thereof engages the material. By screwing down the shank of the presser, the material can be stretched, as is clearly shown in Fig. 2, to any desired degree. If so desired, the material may be first moistened, to facilitate the stretching. It will be noted that the edges of the jaws are continuous, so that when the presser is forced against the material, the latter is held all around the presser, and cannot slip, or stretch unequally.

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

1. Apparatus of the class described, comprising relatively movable members, means for clamping the same together, each of said members at one end having a recess, jaws each having an extension adapted to be removably secured in one of said recesses, said jaws being adapted to engage the material to be stretched, one of said members having an opening at the end thereof connected with said recess thereof, said jaw of said last-mentioned member having an opening adapted to register with said last-mentioned opening, an adjustable presser extending through said registering openings and having a head located within said jaws and adapted to engage the material to stretch the same.

2. Apparatus of the class described, comprising a stand, a fixed arm carried thereby, a movable arm having a pivotal connection with said fixed arm, said arms being outwardly curved relative to one another, annular jaws at the ends of said arms, a presser adjustably carried at the end of one of said arms, extending through said respective jaws and having a head located within said jaws, and means for clamping said arms together.

3. Apparatus of the class described, comprising relatively movable members, means for clamping said members together, each of said members at an end having a recess, interchangeable jaws comprising annular parts, and having extensions adapted to seat in said recesses, set-screws for securing said extensions in said recesses, one of said arms at the end thereof having a threaded opening therethrough, and a presser consisting of a threaded shank mounted in said threaded opening and a head carried by said shank and located within said jaws to engage material gripped between said jaws.

4. Apparatus of the class described, comprising a stand, a fixed arm carried thereby, a movable arm pivotally connected at one end with said fixed arm and having an opening therethrough, said fixed arm having a threaded opening, a clamping screw received in said threaded opening, and extending through said first-mentioned opening and having a collar engaging said mov-

able arm, and a grip, by means of which it can be manipulated, said arms, at the free ends having angular recesses, annular jaws having extensions adapted to be received
5 in said recesses, set-screws carried by said arms and serving to secure said jaws in position, said movable arm having a threaded opening therethrough, and a presser consisting of a threaded shank mounted in said
10 last-mentioned threaded opening and having a wing by means of which it can be manipulated, and a head removably carried

by said shank and located within said jaws to engage material gripped between said jaws. 15

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

CHAS. J. GAUER.
JOHN GAUER.

Witnesses:

HAMPTON W. SALKIND,
WILLIAM M. BROWN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
