J. UMDENSTOCK.

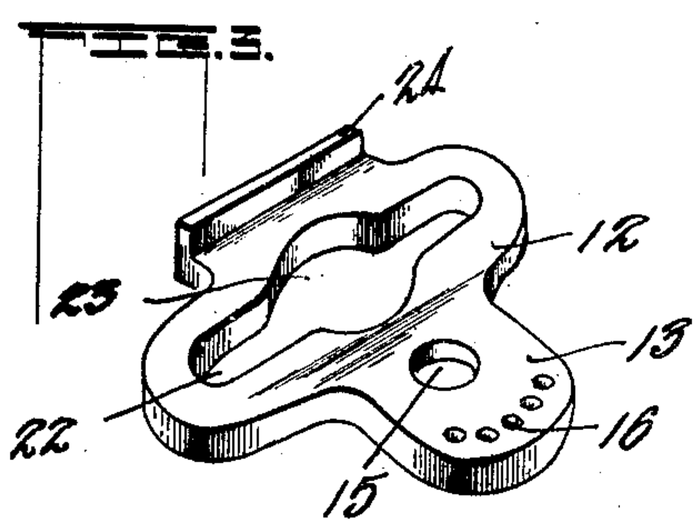
SHOE STRETCHER.

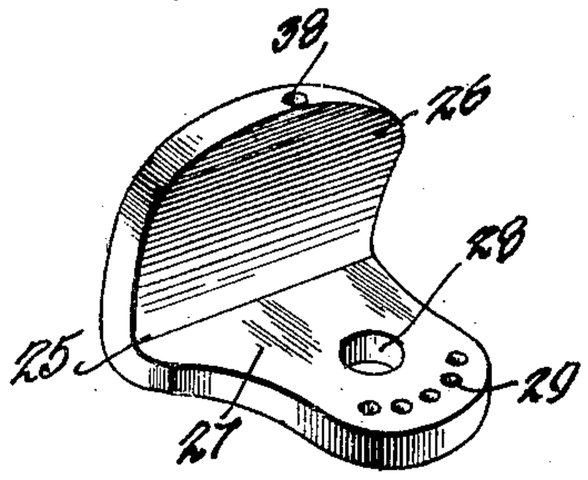
APPLICATION FILED MAR. 5, 1909.

940,092.

Patented Nov. 16, 1909.

FIG. 3.





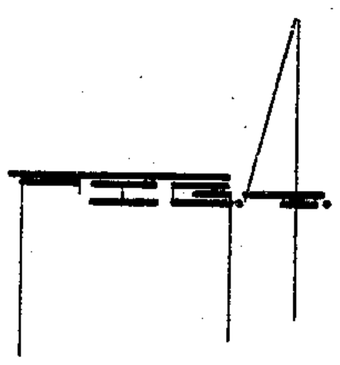


FIG. 1.

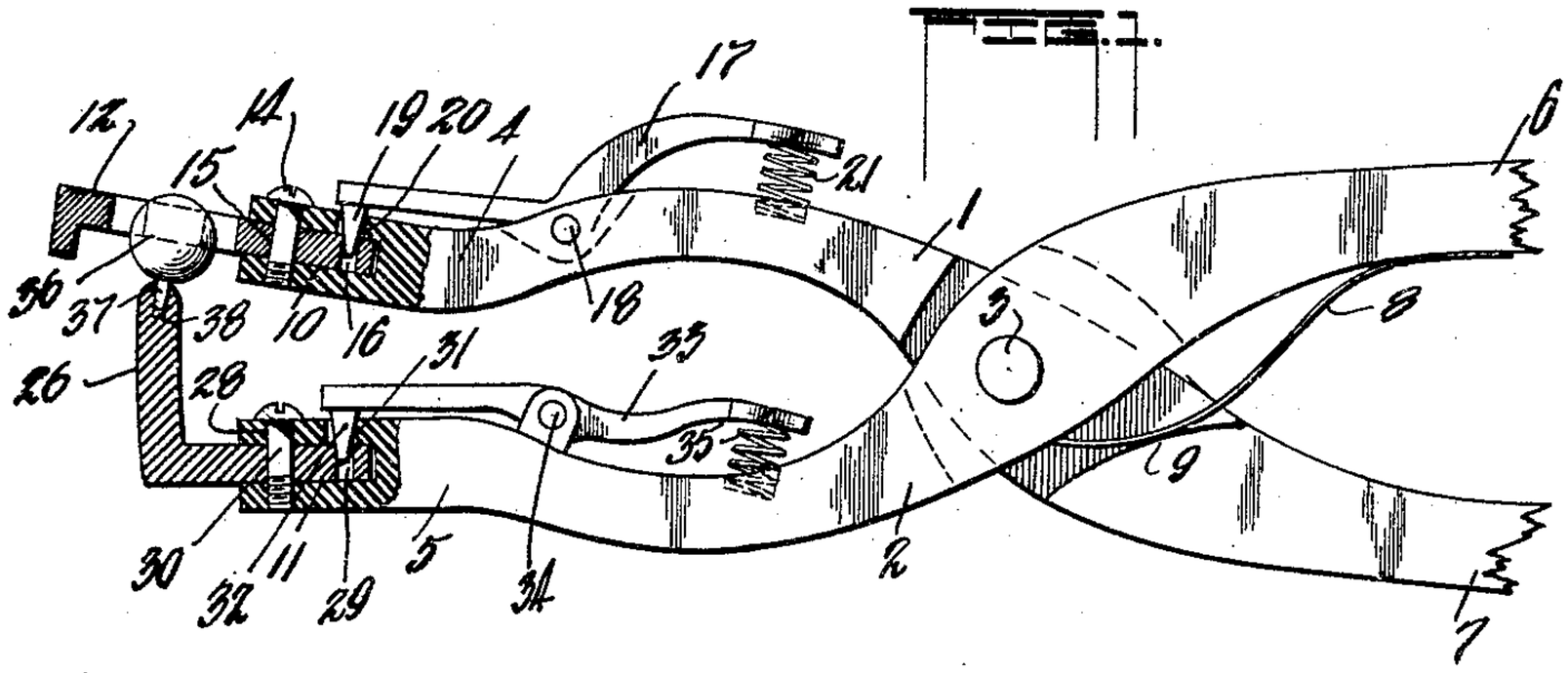


FIG. 2.

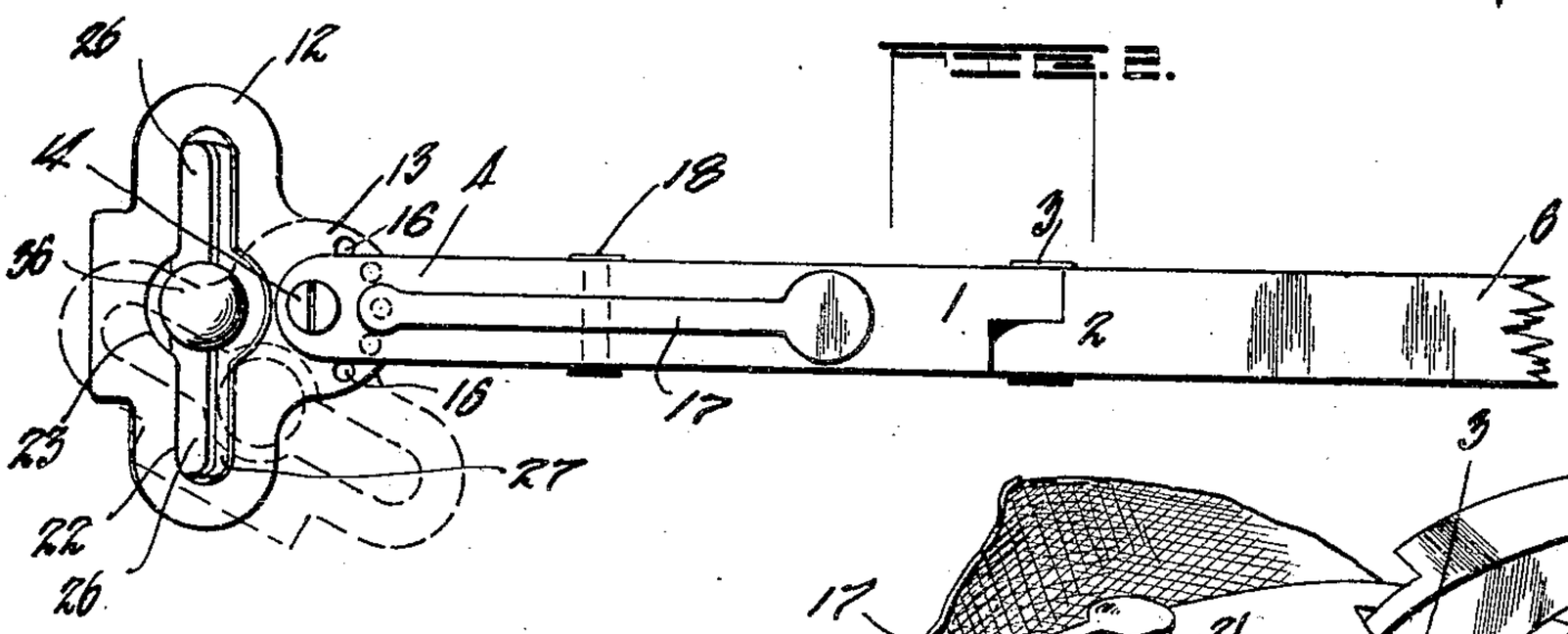
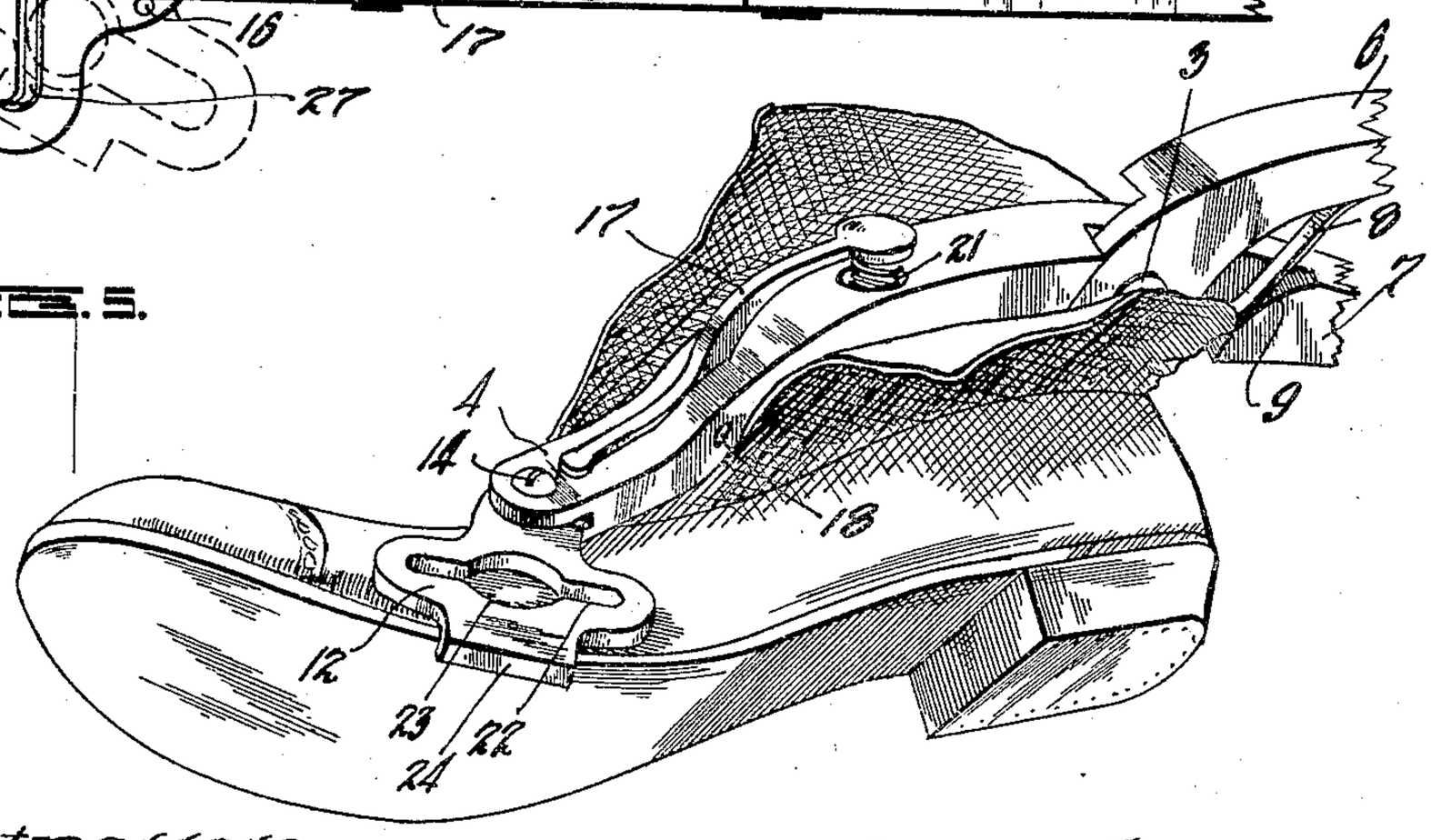


FIG. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

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SHOE-STRETCHER.

940,092. Specification of Letters Patent. Patented Nov. 16, 1909.

Application filed March 5, 1909. Serial No. 481,253.

To all whom it may concern:

Be it known that I, JOHN UMDENSTOCK, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Shoe-Stretchers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has reference to certain new and useful improvements in stretching devices, and relates particularly to that type of stretchers which may be used for stretching the uppers of shoes where they may have a tendency to bind on the wearer's foot and includes means which is particularly adapted for producing or forming depressions in the part of the uppers in the vicinity where there may be found corns, hard skin or callous spots on the toes or foot, whereby shoes which are now found difficult to wear without much suffering, may be put in shape to be worn with perfect ease.

One of the objects of the present invention is to construct a stretcher of the type referred to, composed of pivoted members capable of being moved toward and from each other, to one of which is pivotally and adjustably connected an open clamp member and to the other is pivotally and adjustably connected a die member which may be passed through the clamp member when the stretcher is closed.

The invention has for its further object to construct a shoe stretching device with a clamping member and a coöperating die-member, said clamp and die-member adjustably attached or connected to the stretcher, whereby they may be adjusted in different angles, which will permit of the stretcher being inserted into and operated upon any part of the upper of a shoe.

A further object of the invention is to construct a shoe stretching device with an open clamp member provided with a shoulder portion to engage and overlap the sole of a shoe to prevent slipping of the clamp member on the leather; a coöperating die member capable of being inserted into a shoe to engage and press a portion of the upper into the open clamp member, and a pressure head arranged to have a detachable connection with the die member, having for its object to produce a depression in the shoe-upper in the vicinity of the small toe or of hard skin and corns formed upon the upper portions of the toes.

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

To enable others to understand the invention, I have illustrated the same in the accompanying drawings, forming a part of this specification, and in which:—

Figure 1 is a side elevation, parts in section, showing my improved stretching device, with the handle broken away; Fig. 2 is a plan view of Fig. 1, the dotted lines showing how the clamp member may be adjusted; Fig. 3 is a perspective view of the open clamp-member; Fig. 4 is a perspective view of the die-member; Fig. 5 is a perspective view showing the manner of using the stretcher, and how the clamp-member is caused to grip the sole of the shoe.

Like numerals of reference indicate corresponding parts throughout the figures.

1 and 2 designate what may be referred to as the body of the stretcher, being pivoted to each other at 3 and have the same relation to each other as do the members of a pair of shears; the forward portions of the parts 1 and 2 which I have designated 4 and 5, as a matter of convenience, may be referred to as jaws of the stretching device, and being pivoted together, as shown at 3, provides that the jaws may be closed or opened as may be desired, the outer ends of said parts 1 and 2, although broken off as shown in the figures, are designated for convenience, as 6 and 7, and serve as handles so that an operator may grip the same for the purpose of opening and closing the jaws as specified. To assist in opening the jaws, I provide the flat spring 8 attached to the under side of the handle 6, its free end operating or bearing against a shoulder 9 on the handle 7.

The forward ends of the jaws 4 and 5 are slotted as at 10 and 11, forming bifurcated ends, between which clamping and die members, to be described, are pivoted. The clamp member is designated as 12 and has the ear extension 13, which is carried in the slot opening 10 of the jaw 4, and pivoted to said jaw by means of the bolt or pin 14, which passes through an opening 15 in the

ear 13, and in said ear there is also provided a plurality of perforations 16, preferably arranged in an arc of a circle struck from the center of the pivot opening 15 in said ear. The purpose of the perforations 16 is to provide for locking the clamp member 12 in adjusted position, or for setting said clamp after the same has been swung into the desired position for operating upon the upper of a shoe. For locking the member 12, I provide the lever 17, fulcrumed at 18 to the jaw 4, and provide the said lever at its outer end with the depending pin 19 which is adapted to be passed through a perforation 20 in the jaw, and thence through one of the perforations 16 on the clamp member 12, which will coincide with the perforation 20, as the member 12 is swung into different positions. A coil spring 21 is provided for normally holding the forward end of the lever in locked relation with the member 12 and is disposed between the jaw 4 and the rear end of the lever 17. When it is desired to adjust the member 12, the operator will press down upon the inner end of the lever 17, compressing the spring 21 and withdrawing one pin 19 of the lever from the perforations in the member 12 and the said jaw, when the operator may oscillate, swing or adjust the member 12 on its pivot pin 14, and when in the desired position, upon the release of said lever 17, the spring 21 will raise the inner end of the lever, depressing its outer end, and causing the pin 19 of the said lever, to enter the perforation 20 in the jaw and pass into a coinciding perforation 16 in the member 12. The said clamp member 12 is also provided with the elongated, preferably transversely disposed slot, or opening 22, which, intermediate its ends, is enlarged to form an approximately circular opening 23, into which the slot 22 merges, and on the acting face of said member 12, depending therefrom and disposed preferably in parallelism with the slot 22, is shown an engaging shoulder 24, the purpose of which will be further explained.

25 designates a die member, which is preferably L shaped, having the vertical acting portion 26 and the horizontally disposed portion 27, provided with an opening 28, and a plurality of perforations 29 struck in an arc of a circle from the center of the opening 28. The portion 27 of the die member 25 is operatively carried in the slotted opening 11 of the jaw 5, and is pivoted thereto by means of a bolt or pin 30, and the perforations 29 in said die member 25 are arranged so that they may be brought to coincide with a perforation 31 in the upper face of the jaw 5. The object of the perforations 29 in the member 25 and the perforation 31 in the jaw 5, is to provide for locking the member 25 in adjusted positions on the jaw 5. That is to say, a pin 32 of a lever 33 is adapted to be inserted through the perforation 31 in the jaw 5 and in any one of the perforations 29 in the member 25, whereby the member 25 may be locked in adjusted position, as specified. The lever 33, is preferably carried on the upper face of the jaw 5 and is fulcrumed at 34 to said jaw, and the inner end of the lever is normally held raised for retaining the pin 32 in the perforation 31 of the jaw 5 and one of the perforations 29 of the member 25 by a coil spring 35 bearing between the inner end of the lever 33 and the jaw to which it is connected. To release the pin 32 from the member 25, the operator will depress the inner end of the lever which will raise the pin 32 out of the perforation in the member 27 and when so raised, said member 27 may be oscillated swung or adjusted into a desired position, and the pin 32 reset by the operator releasing the lever 33 when the spring will act to move the lever into a position to cause the pin 32 to enter a perforation of the member 25 coinciding with the perforation 31 in the jaw 5.

The vertical portion 26 of the die member 25, may be of any suitable depth, but in width, it is such that it may enter and pass up through the slot 22 in the clamping member 12, when the jaws 4 and 5 are brought together by pressure being brought to bear on the handles 6 and 7 of the stretcher. Ordinarily and for all practical purposes, the vertical portion of the die member 25 cooperating with the clamping member 12 and the slot 22 thereof, is sufficient to accomplish all that may be desired for stretching the leather of a shoe. However, I have provided in connection with the die member 25, a presser head 36, which may be of any desirable shape, such as a round ball or semi-circular in cross section, and said presser head has attached thereto or formed thereon, a stem 37 which is adapted to be inserted in a perforation 38 in the upper acting face or edge of the vertical portion 26 of the die member 25, so that said presser head may be attached to or detached from said die member 25 whenever it is desirable to use said presser head. It is on account of the use of this presser head 36 that I have provided the enlarged opening 23 in the clamping member 12, into which the slot 22 thereof merges, so that when said presser head is used on the die member, the opening in the die member will be sufficient to allow for the passage of the presser head through the clamping member or into or part way through the same. I aim by the use of the presser head, to form depressions in the parts of the shoe uppers in the vicinity of the small toe or of hard skin and corns formed upon the upper portions of the toes of the foot.

In the operation of stretching the leather of a shoe where the shoe has a tendency to bind on the wearer's foot, the jaws of the stretcher are opened and the jaw 5 inserted into the shoe and the jaw 4 caused to cooperate with the jaw 5, but upon the outside of the shoe for the purpose of stretching the leather or forming depressions thereof, as may be desired. I am aware that I am not the first to have provided a stretcher of the character herein described, but the difficulties encountered in stretchers heretofore used, has been that the clamping members and dies have not been adjustable, whereby they could be placed into different positions so as to operate upon and engage the different sections of the upper of the shoe for the purpose of stretching the same, and by providing pivoted and adjustable coöperating clamps and dies, I have obviated a great many of the difficulties in stretchers heretofore placed in use. Another one of the advantages found in my stretcher, is the engaging shoulder 24 formed upon and depending from the clamping member 12, which enables me, by means of my stretcher and the shoulder thereon just referred to, to firmly grip the leather, for the reason that the shoulder 22 may be caused to pass over and engage the edge of the sole of the shoe, as shown in Fig. 5, and largely prevents the slipping of the clamping member and die when the same are operating for the purpose of stretching and forming depressions in the leather. In the event that the stretcher is used higher up upon the shoe, so that the shoulder 24 is not in a position to engage the edge of the sole, it will further also materially assist to prevent the clamping member and die from slipping during the operation of stretching or forming depressions in the leather. It will be further observed that the clamping member and die are of such a construction that the leather may be held firmly in place on the inside and outside of the shoe upper, so as to prevent wrinkling of the leather during the stretching operation.

I have located the lever 33, which is employed for locking the die member 26 in adjusted position, on the upper side of the jaw 5, as shown in Fig. 1, for the reason that it is there out of the way and will not interfere with the shoe when the stretcher is inserted into and removed from the shoe.

Having thus fully described my invention, what I claim and desire to secure by Letters Patent of the United States, is:—

1. In a shoe stretcher, the combination of a pair of pivoted jaws, an open clamp member pivotally and adjustably connected with one jaw, and in such a manner that it may be swung on its pivot and locked in adjusted position, and a coöperating die member pivotally and adjustably connected with the opposite jaw, whereby said die member may be moved correspondingly to said clamp member.

2. In a shoe stretcher, the combination of a pair of pivoted jaws, an open clamp member connected with one jaw and provided with a depending shoulder, and a coöperating die member connected with the opposite jaw.

3. In a shoe stretcher, the combination of a pair of pivoted jaws, an open clamp member pivotally and adjustably connected with one jaw, an engaging shoulder depending from said clamp member, and a die member pivotally and adjustably connected with the opposite jaw, and adapted when said jaws are closed, to enter the clamping member.

4. In a shoe stretcher, the combination of a pair of pivoted jaws, a clamp member connected with one jaw and provided with an approximately circular opening and an elongated slot merging into said opening, a die member connected with the opposite jaw and adapted when the jaws are closed, to enter the elongated slot of the clamp member, and a presser head arranged to have a detachable connection with said die member and adapted, when the jaws are closed, to enter the approximately circular slot in said clamp member.

5. In a shoe stretcher, the combination of a pair of pivoted jaws, a clamp member connected with one jaw and provided with an approximately circular opening and an elongated slot merging into said opening, an engaging shoulder projecting from said clamp member, a die member connected with the opposite jaw and adapted when the jaws are closed, to enter the elongated slot of the clamp member, and a presser head arranged to have a detachable connection with said die member and adapted, when the jaws are closed, to enter the approximately circular slot in said clamp member.

6. In a shoe stretcher, the combination of a pivotally supported clamping member provided with a plurality of perforations, a pivotally supported die member coöperating with the clamping member and also provided with a plurality of perforations, means adapted to enter either of the perforations in the clamping member for locking the same in several different positions, and means adapted to enter either of the perforations in the die member for also locking the same in several different positions relatively to the clamping member.

7. In a shoe stretcher, the combination of a pivotally supported clamping member provided with a plurality of perforations, a pivotally supported die member arranged to coöperate with the clamping member and provided with a plurality of perforations, a lever associated with the clamping and die members respectively, and provided with

means for entering the perforations in their respective members for locking said members in several different positions.

8. In a shoe stretcher, the combination of a pair of pivoted jaws, a clamping member pivotally connected with one of said jaws and provided with a slot and also a plurality of perforations, a die member pivotally connected with the other of said jaws and having an acting portion capable of entering the slot in the clamping member when the jaws are closed, and also provided with a plurality of perforations, a lever pivotally connected with each jaw, and means on each of said levers for entering the perforations of the clamping and die members respectively for locking said members in several different positions.

9. In a shoe stretcher, the combination of a pair of pivoted jaws, an open clamping member pivotally connected with one of said jaws and provided with a plurality of perforations, an engaging portion projecting from said clamping member, a die member pivotally connected with the other of said jaws and having an acting portion capable of entering the opening in the clamping member when the jaws are closed, and also provided with a plurality of perforations, a presser head adapted to have a detachable connection with the acting portion of the die member, a lever pivotally connected with each jaw, and means on each of said levers for entering the perforations of the clamping and die members respectively for locking said members in several different positions.

10. In a shoe stretcher, the combination of superimposed jaws, a clamping member connected with the upper jaw, and provided with a depending engaging portion and an opening in the body of said member, a die member connected with the lower jaw and having a vertical engaging portion adapted to enter the opening in the clamping member, and a presser head arranged to have a detachable connection with the vertical portion of said die member.

11. In a shoe stretcher, the combination of superimposed jaws, a clamping member pivotally connected with the upper jaw, means on the upper side of the upper jaw arranged to engage the clamping member for locking it in adjusted position, a die member pivotally connected with the lower jaw and arranged to coöperate with said clamping member, and means on the upper side of the lower jaw arranged to engage the die member for locking said member in adjusted position.

12. A clamp member for a stretcher of the character described, having an engaging lug projecting from one face thereof, and provided with an elongated slot in its body, substantially for the purposes specified.

13. A die member for a stretcher of the character described, said member having a vertical engaging portion and a horizontally disposed supporting portion, the said engaging portion of said member provided with an opening, whereby supplemental die means may be connected therewith.

14. In a shoe stretcher, the combination of a pair of pivoted jaws, a clamping member pivotally connected with the forward end of one of said jaws, a die member pivotally connected with the forward end of the other of said jaws, the said clamping and die members arranged to coöperate with each other in advance of the forward ends of said jaws, and means coöperating with each of said clamping and die members for locking the same in adjusted positions.

15. In a shoe stretcher, the combination of a pair of pivoted jaws, an open clamping member pivotally connected with the forward end of one of said jaws, a die member pivotally connected with the forward end of the other of said jaws and having an acting portion capable of entering the opening in the clamping member when the jaws are closed, the opening in the clamping member and the acting portion of the die member being arranged at a suitable distance in advance of the forward ends of their respective jaws, and means for locking each of said members in adjusted positions on their respective jaws.

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

JOHN UMDENSTOCK.

Witnesses:

FRANCIS OLIVER,

CHAS. W. LA PORTE.