Nov. 1, 1932. J. S. CORBY 1,885,803

PRESSER AND STRETCHER FOR TROUSERS OR OTHER FABRIC GARMENTS OR ARTICLES

Filed April 6, 1931 5 Sheets-Sheet 1

Fig. 1.

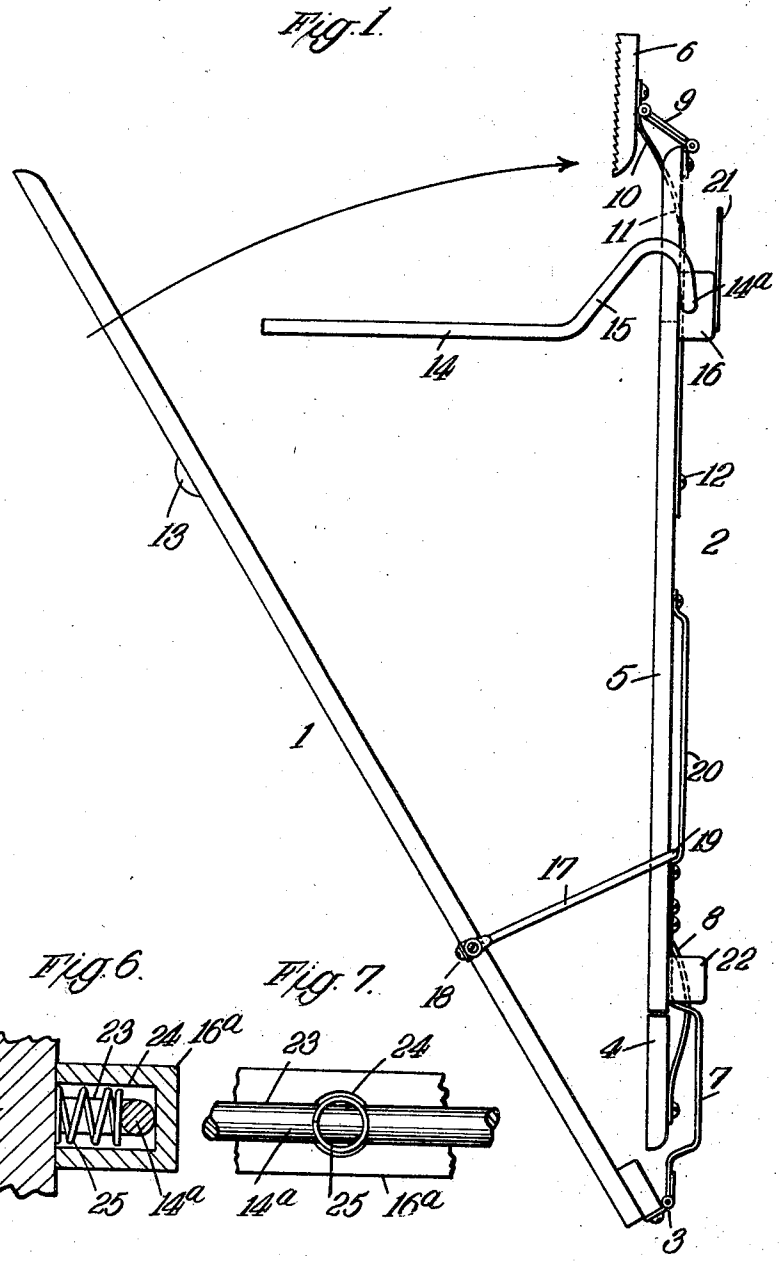


Fig. 6.

Fig. 7.

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PRESSER AND STRETCHER FOR TROUSERS OR OTHER FABRIC GARMENTS OR ARTICLES

Filed April 6, 1931 5 Sheets-Sheet 2

Fig. 2.

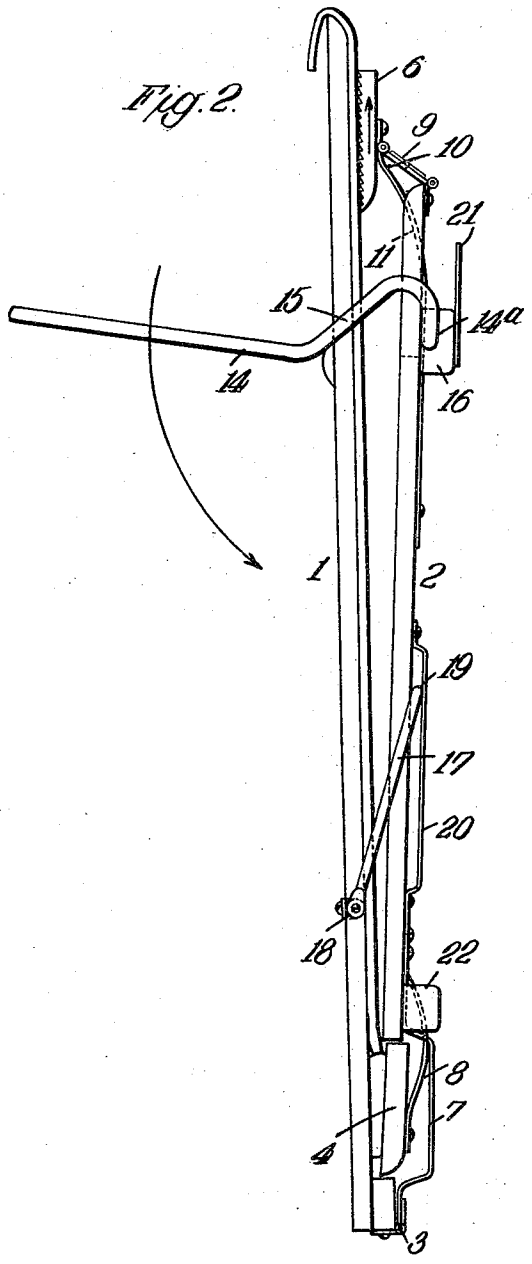
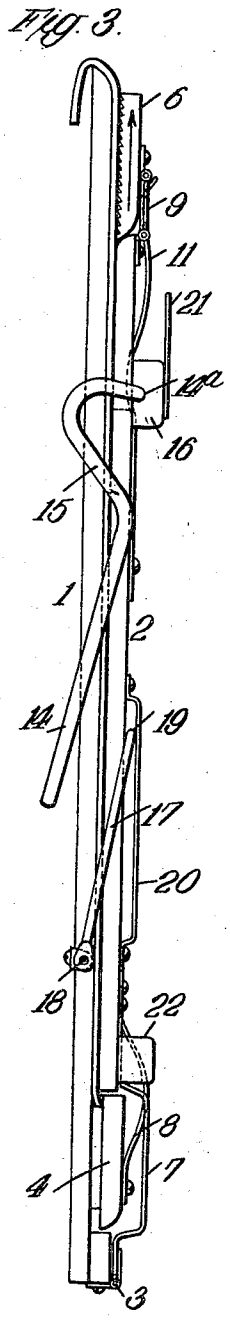


Fig. 3.



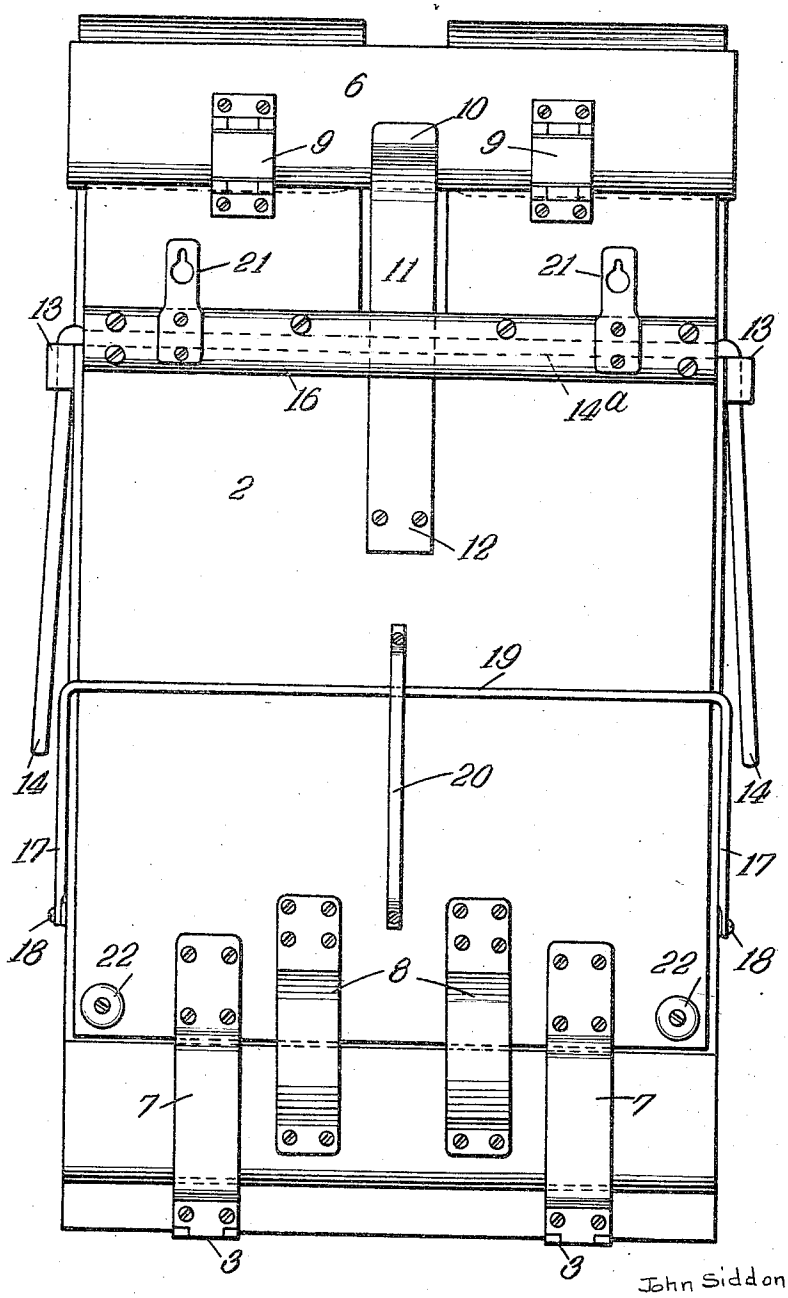
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Nov. 1, 1932. J. S. CORBY 1,885,803

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Filed April 6, 1931 5 Sheets-Sheet 3

Fig. 4.



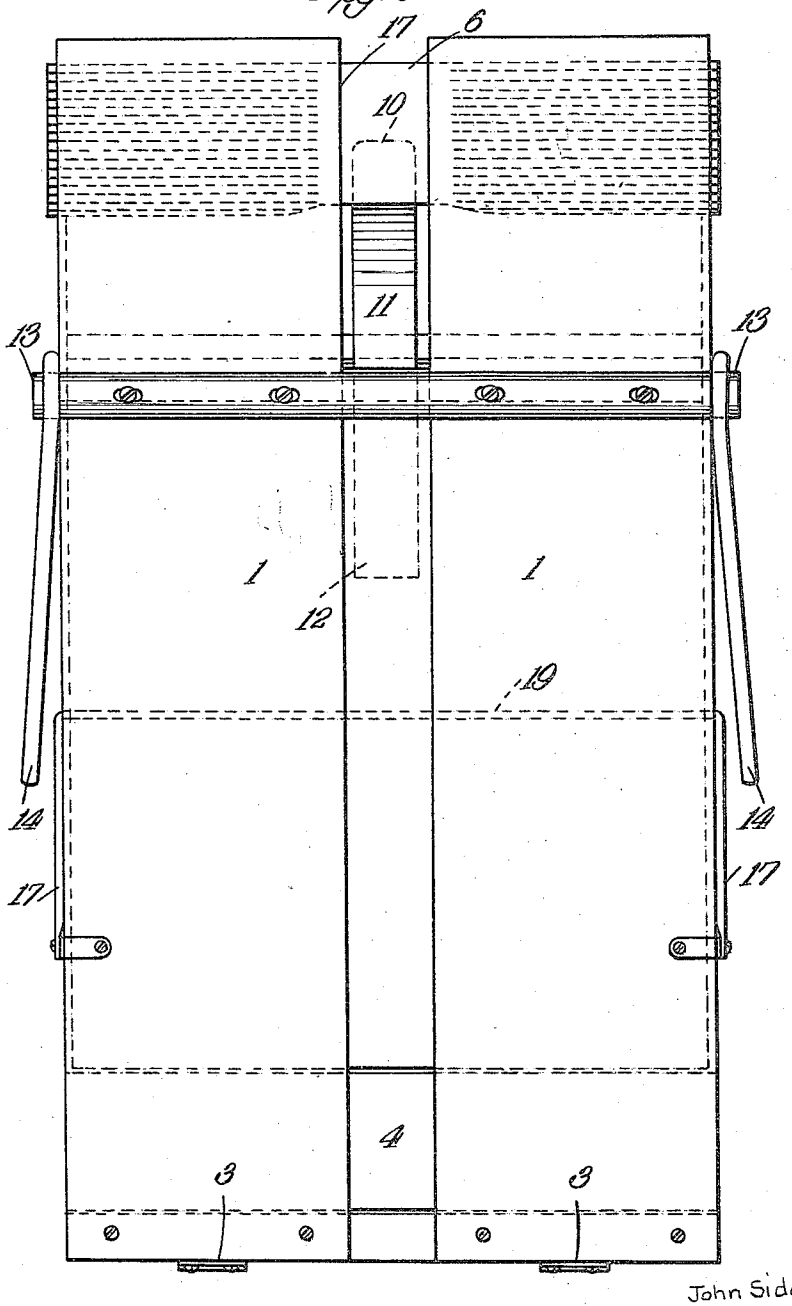
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Nov. 1, 1932. J. S. CORBY 1,885,803

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Filed April 6, 1931 5 Sheets-Sheet 4

Fig. 5.



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Nov. 1, 1932. J. S. CORBY 1,885,803

PRESSER AND STRETCHER FOR TROUSERS OR OTHER FABRIC GARMENTS OR ARTICLES

Filed April 6, 1931 5 Sheets-Sheet 5

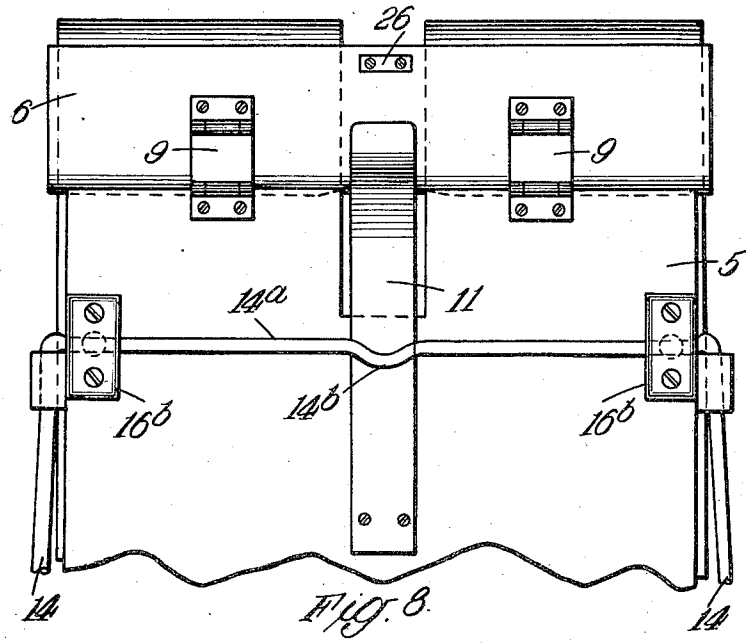


Fig. 8.

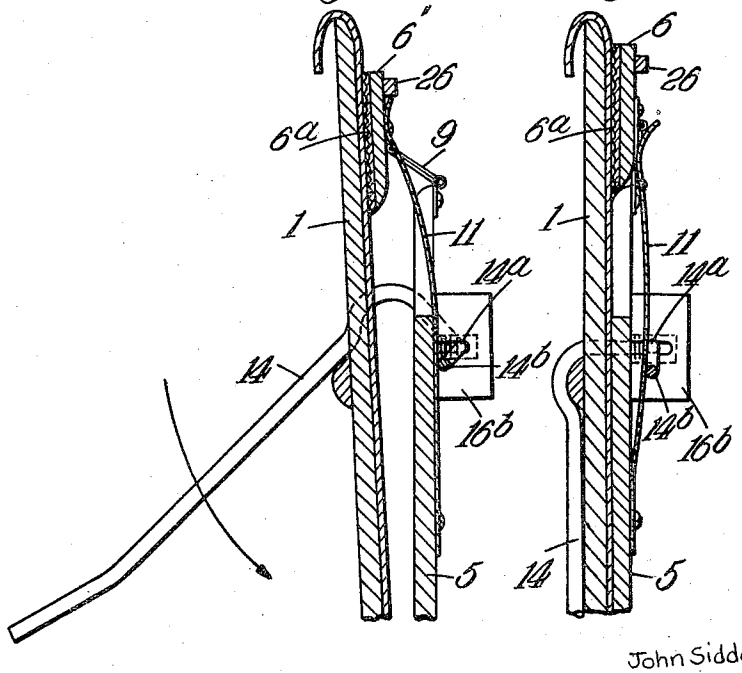


Fig. 9. Fig. 10.

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UNITED STATES PATENT OFFICE

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PRESSER AND STRETCHER FOR TROUSERS OR OTHER FABRIC GARMENTS OR ARTICLES

Application filed April 6, 1931, Serial No. 527,914, and in Great Britain December 16, 1930.

The present invention relates to presses and stretchers for trousers or other fabric garments or articles. The primary objects of the invention are to provide a simple, efficient and withal an economically manufactured device of this kind which will enable the articles to be quickly placed therein and removed therefrom and which will stretch the articles during the closing of the press and immediately before the final pressing pressure is applied throughout the main length of the article in the press. Another object is to provide a clamp section for the stretching operation which will effectively grip the garment without any possibility of injury thereto and a still further object is to provide means for relieving or releasing the pressure of this clamp section after the stretching is effected and the final pressing pressure has been applied throughout the main length of the article in the press. It will be convenient for the purposes of description to confine the latter to the use of the press for stretching and pressing trousers, which is its principal function, but it will be understood that it may also be used for other garments or fabric articles which require stretching and pressing, and may if necessary be varied in size and/or outline to suit the purpose for which it is designed. The various pressing elements may be made of wood, metal or other convenient material.

The invention relates in particular to presses of the kind having two clamping elements hinged together at the bottom and adapted to be closed up and clamped in closed position after the trousers have been placed in position therein with the ends of the legs downwards, and wherein one clamping element is composed of separate clamping sections spring pressed or spring mounted to "give" to different thicknesses of different parts of the garment.

A press of this kind according to the present invention comprises a rigid clamping element and a sectional clamping element hinged together. The sectional element comprises a middle clamping board for the main part of the legs of the trousers which is hinged to the bottom of the rigid element, a lower clamping board for clamping and pressing the ends of the trousers, the said lower clamping board being normally in alignment with the middle board, and mounted thereon by springs, and means for clamping the rigid element and the said middle clamping board together.

The said middle clamping board is preferably hinged to the rigid element through the medium of a leaf spring or springs to permit it to "give" to the thickness of the garment in the closed position of the press, and the lower clamping board is preferably mounted upon the middle board by leaf springs.

The press also preferably comprises an upper clamping board pivotally mounted upon the upper end of the middle clamping board and spring pressed in such manner that it normally projects forwardly of the middle board and on the closing movement grips the upper end of the garment and moves upwardly as the closing of the press is completed, thus effecting stretching of the garment.

Such an upper clamping board may moreover be constructed of or faced with material which will provide an effective friction grip upon the garment without injury thereto. Means may also be provided associated with the means for closing the press, whereby substantial gripping pressure is applied to such upper clamping board during the closing of the press and the stretching operation and relieved when the closing of the press is completed and the final pressing pressure applied throughout the main length of the article to be pressed.

Constructional forms of the invention will now be described with reference to the accompanying drawings in which,

Figure 1 is a side view of the press open.

Figure 2 is a side view showing the top and bottom portions gripped and the stretching operation about to commence.

Figure 3 is a side view of the press closed.

Figure 4 is a back view, and

Figure 5 a front view of the press in closed position.

Figures 6 and 7 illustrate a detail modification.

Figure 8 is a back view of the top of a press illustrating further improvements according to the invention.

Figure 9 is a central vertical section of Figure 8 with the press open and the gripping pressure of the top clamping board just about to be applied, and

Figure 10 a similar view with the press closed.

The press illustrated in Figures 1–5 inclusive consists of two clamping elements 1, 2 hinged together at the bottom by hinges 3. The clamping element 2 comprises three separate clamping boards 4, 5 and 6, of which 4 is intended to grip the end of the trousers, 6 to grip the upper portion, and between them to effect stretching, and 5 to effect the pressing of the main portion of the garment. The main or central pressing board 5 is connected with the hinges 3 through the medium of arched leaf springs 7, the lower clamping board 4 is connected to the middle board 5 by leaf springs 8, and the clamping board 6 is connected to the upper end of the board 5 by links 9 hinged both to the board 6 and the board 5. In the normal position the board 6 lies in advance of the board 5 as shown in Figures 1 and 2, with the link 9 upwardly inclined, and it is backed up by the free end 10 of a leaf spring 11 which is anchored to the back of the middle board 5 at 12. The said board is recessed at 17 to accommodate and allow free movement of the end of this spring. The clamping element 1 is provided with side lugs 13 and the clamping board 5 with levers 14 having a cam surface 15 for engaging the lugs 13 as shown in Figures 2 and 3 and giving a strong clamping pressure when the levers are moved down. The levers as shown are formed at the ends of a continuous rod 14*a* which traverses the back of the clamping board 5 under the batten 16 and in contact with the spring 11. A degree of friction is thus provided sufficient to hold the levers 14 in any convenient position prior to closing the press, as shown in Figure 1, and to prevent them loosely dropping under their own weight. A stirrup 17 pivoted to the clamping element 1 by pivots 18, encircles the clamping board 5 to limit the opening of the press, and the cross rod 19 of this stirrup works in a guide 20 so that it does not project or hang loosely when the press is closed. The press is supported through the middle clamping board 5 by means of keyhole slotted plates 21 fastened to the batten 16, whereby the press can be suspended on screws, hooks or the like upon a wall or other support. Spacing blocks 22 of india-rubber are also provided at a lower level to space the back of the device from the wall or other support.

When a pair of trousers are placed in the press and the levers 14 operated, the lower ends of the trousers are first clamped between the clamping board 4 and the clamping element 1. Next the clamping board 6 comes into clamping engagement with the upper end of the garment and as the closing action of the press proceeds, exerts a stretching action as shown in Figure 2. Further action of the levers 14 brings the clamping board 5 into engagement with the garment to effect the pressing and creasing of the main portion of the legs of the garment. By mounting the board 5 through the medium of the springs 7 the lower end of board 1 can "give" to the thickness of the trousers in relation to the lower end of the board 5, and by mounting the lower board 4 upon the board 5 by means of the spring 8, the board 4 can "give" to the increased thickness of the hem or turned-up ends of the trousers, as shown in Figure 3.

It will be understood that any other suitable means than that described above may be provided to limit the opening of the press. Also, any suitable form of linkage or connecting means may be provided between the operating levers 14 and the stirrup 17, 19, so that the initial operation of the levers 14 will give a preliminary closing movement to bring the lugs 13 into position to be engaged by the cam surface 15 of the levers, as shown in Figure 2.

Other means may be employed for supporting the press in convenient position. Thus for example the clamping board 5 may form an integral part of, or be rigidly mounted upon, a special stand having a suitable base adapting it for standing upon the floor.

The spring 8 or similar springs may if desired be disposed beneath the springs 7.

Figure 6 is a vertical section and Figure 7 an inside face view of a batten 16*a* corresponding with the batten 16 of Figures 1–5, and these figures illustrate a modified method of mounting the operating levers 14. The batten is grooved throughout at 23 and the cross rod 14*a* connecting the two levers 14 is housed in the bottom of this groove. At intervals bores 24 are provided and in these bores are housed relatively strong helical springs 25 in compression between the rod 14*a* and the rear face of the clamping board 5. In the completely closed position of the press the rod is forced forward against the action of the springs so that the final clamping pressure is more resilient. This provision also adapts the press for pressing different thicknesses efficiently. As a modification the springs 25 and bores 24 may be dispensed with and a waved or bent leaf spring or springs may be interposed between the rod 14*a* and the rear face of the board 5.

Further improvements according to the invention are illustrated in Figures 8, 9 and 10 of the accompanying drawings.

Referring to these figures, the top clamping

board 6 is provided with a facing 6*a* of material which provides a very efficient friction grip upon the fabric of the garment without any danger of damaging the said fabric. This facing may consist for the purpose of india-rubber, the material known commercially as linrubber, felt, woven fabric, or other like material. This provides a very efficient friction grip, and used in conjunction with a smooth opposed face of the board 1 will provide a grip effective for the stretching, more effective even than a grooved or serrated board of wood or other hard material and without any risk of damage to the garment. This facing of friction material may for greater effect be grooved or serrated.

These Figures 8, 9 and 10 also show means for giving substantial gripping pressure to the upper clamping board 6 during the initial stages of the closing of the press for the purposes of the stretching operation, while removing or relieving the said pressure when the press is completely closed. The rod 14*a* constituting the pivot of the hand levers 14 is provided with a radially projecting bent portion 14*b*. During the initial closing operation this radially projecting portion bears against the leaf spring 11 (see Figure 9) so that strong clamping pressure is applied to the board 6 through the said spring to grip the garment for the stretching operation. When however the closing of the press has been completed by the downward movement of the hand levers 14, the rotation of the rod 14*a* moves the radially projecting portion 14*b* rearwardly away in relation to the spring 11, thus removing or relieving the clamping pressure. This is an advantageous improvement in presses of this nature because when the stretching of the garment is completed and the main length thereof pressed between the boards 1 and 5, the heavier pressure of the board 6 required for stretching is no longer required, it is undesirable to have the spring 11 maintained strained over long periods, and the maintaining of strong pressure on the said board 6 may be liable to spread apart the upper ends of the boards 1 and 2 and detract from effective pressing of the main length of the garment between these boards.

To permit of the functioning of the bent radial portion 14*b*, the long continuous batten for the support of the rod 14*a* is dispensed with and the said rod mounted in the two short battens 16*b* which are provided with grooves, recesses and springs as described with reference to Figures 6 and 7 of the drawings.

Another detail of improvement shown in these Figures 8, 9 and 10 is the provision of a stop 26 attached to the back of the clamping board 6 and adapted to rest upon the upper end of the spring 11 when the press is in the open position, see Figure 9, so that the links 9 are supported in upwardly inclined position ready to move in the stretching direction on the closing of the press.

Referring again to Figures 1–5 inclusive, the press therein illustrated embodies in its construction another feature which is a great advantage in practice, namely the provision of the fillet or batten on the inside of the lower end of the board 1. Thus after suitable folding, the garment is held suspended in the hands with the bottom of the legs below and lowered down the board 1, the press being in open position as shown in Figure 1 of the said drawings. When the end of the trousers reach the said batten this will be indicated by the garment commencing to buckle. A slight retraction upwards will then ensure, without any prolonged manipulation or scrutiny, that the bottoms of the trousers are in correct position to be gripped between the boards 1 and 4 on the press being closed.

I claim:—

1. A presser and stretcher of the kind hereinbefore mentioned, comprising a rigid clamping element and a sectional clamping element hinged together, wherein the sectional element comprises a main clamping board for the main part of the legs of the trousers which is hinged at the bottom of the rigid element, a lower clamping board for clamping and pressing the ends of the trousers, the said lower clamping board being normally in alignment with the main board, and mounted thereon by springs, and means for clamping the rigid element and the said main clamping board together.

2. A presser and stretcher according to claim 1, wherein the main clamping board is hinged to the rigid element through the medium of a leaf spring or springs to permit it to "give" to the thickness of the garment in the closed position of the presser and stretcher.

3. A presser and stretcher according to claim 1 wherein the lower board is mounted upon the main board by leaf springs.

4. A presser and stretcher according to claim 1, comprising also an upper clamping board pivotally mounted upon the upper end of the main clamping board and spring pressed in such manner that it normally projects forwardly of the main board and on the closing movement grips the upper end of the garment and moves upwardly as the closing of the presser and stretcher is effected, thus effecting stretching of the garment.

5. In a presser and stretcher of the kind hereinbefore mentioned, and having an upper clamping board mounted and spring pressed substantially as and for the purpose herein described, and provided also with means for closing the presser and stretcher, the provision of means associated with the means for closing the presser and stretcher, whereby substantial gripping pressure is applied to such upper clamping board during the closing

of the presser and stretcher and the stretching operation and relieved when the closing of the presser and stretcher is completed and the final pressing pressure applied to the major portion of the garment.

6. A presser and stretcher according to claim 5, wherein the clamping board is spring pressed by a leaf spring and the closing means comprise hand levers connected by a cross rod having a radially projecting bend or the like co-acting with the said leaf spring substantially as described.

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