Nov. 2, 1948. Y. AMBER 2,452,891

GARMENT CLAMP

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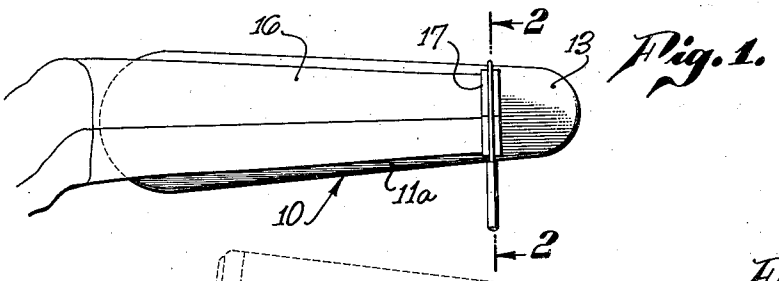

Fig. 1.

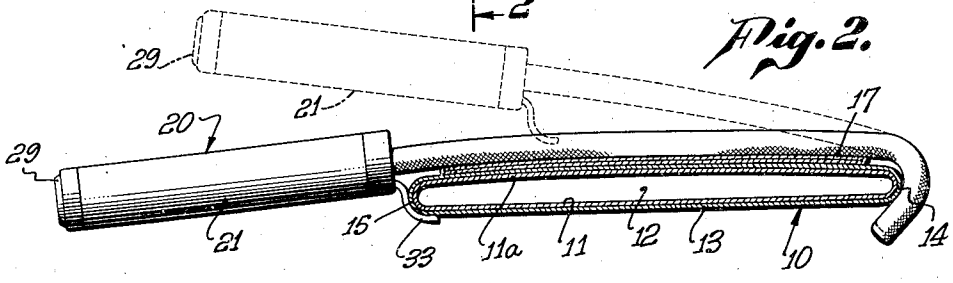

Fig. 2.

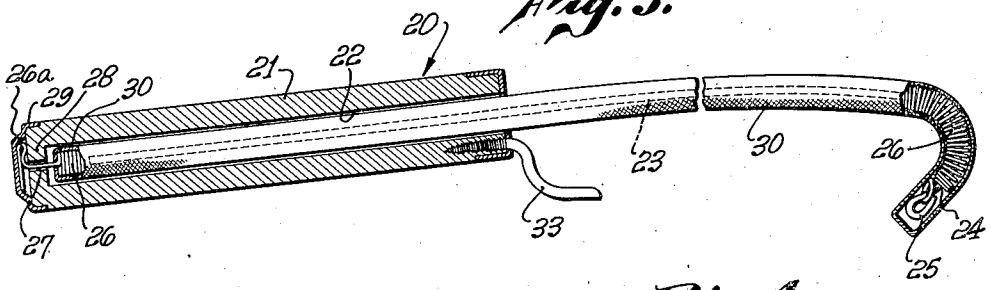

Fig. 3.

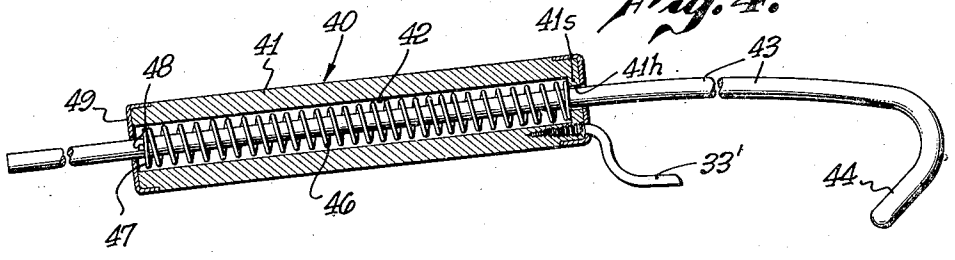

Fig. 4.

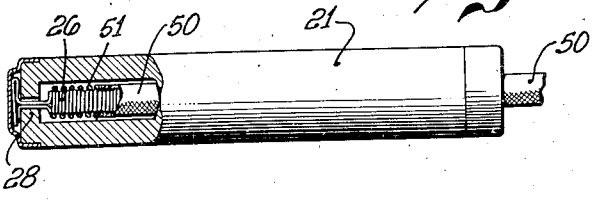

Fig. 5.

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GARMENT CLAMP

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6 Claims. (Cl. 38—108)

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This invention relates generally to clamping devices and more particularly to clamps for holding garments in place on the buck of clothes pressing machines, steam ironing boards or the like.

In the pressing or ironing of particularly garments which are shrunk as a result of washing, bleaching or dyeing, it is ordinarily desirable to stretch such garments preparatory to pressing them. For example, in the stretching of shrunk pants, it has been customary to hold the cuff of the pants manually on the buck or ironing board by means of one hand, and pull on the opposite end of the pants to cause a stretching thereof. Obviously, such a method is awkward and oftentimes totally insufficient to obtain the required stretching.

Another commonly employed method of stretching pants on a clothes pressing machine consists in positioning an ordinary wooden garment-hanger, with the hook removed, over the pants cuff and bringing the head of the pressing machine down against the hanger to clampedly hold the cuff in place, which requires the use of one hand. In this case again, only one hand is free to perform the stretching operation, as the other hand is required to hold the head of the machine down against the hanger. Furthermore, the lowered head forms an obstruction, preventing the required inspection of the garment for the removal of wrinkles, etc., as it is being stretched.

Recognizing the limitations in the methods now employed in the streching and pressing of garments, and seeking to obviate them, it is an object of this invention to provide novel and simple means for facilitating the stretching of garments and the like preparatory to performing pressing operations thereon.

Another object of the invention resides in the provision of sturdy, readily applicable and readily removable means for clampedly holding a garment in place on a supporting surface, whereby to facilitate the stretching of the garment preparatory to pressing.

It is a still further object of the present invention to provide means for clampedly holding a garment on the buck of a clothes pressing machine, or the like so that both hands are free to perform a stretching operation upon the garment.

It is a further object of the invention to provide a garment clamp capable of use on a clothes pressing machine, which does not rely upon any part of the machine for its clamping action, whereby the pressing head of the machine may be

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left open so that the garment is fully and readily accessible for stretching and smoothing out operations.

Another object of the invention is the provision of a garment clamp which is adaptable to the buck of a pressing machine or ironing board at any point along its length to effectively clamp a garment thereto.

This invention possesses many other advantages, and has other objects which may be made more easily apparent from a consideration of several embodiments of the invention. For this purpose there are shown three forms in the drawings accompanying and forming part of the present specification. These forms, which illustrate the general principles of the invention, will now be described in detail; but it is to be understood that this detailed description is not to be taken in a limiting sense, since the scope of the invention is best defined by the appended claims.

Referring to the drawings:

Figure 1 is a top plan view of the buck of a pressing machine having a trousers leg clamped thereon with a device embodying the invention;

Figure 2 is a cross sectional view, to an enlarged scale as taken on the line 2—2 of Figure 1;

Figure 3 is a longitudinal sectional view of the device shown in Figure 2;

Figure 4 is a similar view illustrating a modification of the invention; and

Figure 5 is a side view partly broken away and partly in section illustrating another modification of the invention.

As shown in Figures 1 and 2, a buck member 10 of a typical clothes pressing machine is provided with a metal body 11, with a slightly convex top side 11a, and a hollow space or chest 12 which, in the usual manner, is filled with steam at a desired pressure. Said body 11, typically, is covered with a cloth 13 and may be padded to accommodate buttons and other projections, as can be well understood. The side edges of the body 11 are usually rounded as indicated at 14 and 15 in Figure 2.

Inasmuch as the foregoing description of a pressing buck is intended as exemplary only, it should be understood that the herein contemplated device may be applied with equal efficacy to buck of other design and to ironing boards generally.

Also, as shown in Figures 1 and 2, a garment, such as a pair of trousers, is shown on the buck 10 in position to be pressed. Of said garment, there is shown a leg 16 having a cuff 17.

In accordance with the invention, the trousers

leg 16, and in this instance, at its cuff 17, is held in clamped condition on the buck by the clamping device 20 embodying this invention, and constituting an at present preferred form thereof. As contemplated, and detailed more particularly in Figure 3, the clamp 20 may include means such as a member 21 having a longitudinal cylindrical hole or bore 22. This member may serve as a handle and has other functions which will presently appear. Slideably mounted in the handle 21 and projecting therefrom at one end thereof, there may be provided means such as a clamping rod 23 of adequate stiffness and formed with a hook end portion 24. The major portion of the projecting part of the rod 23 may have an arcuate curve approximating that of the top side 11*a* of the buck body 10. The end of the hook portion 24 may be provided with an eye 25 to which there may be fastened one end of a tension means such as a closely wound or substantially closely wound, helical tensile spring 26. Said spring preferably is arranged in encompassing relation to the rod 23. The other end of the spring 26, disposed in the bore 22 of the handle 21 is preferably securely fastened to said handle as by a short length of said spring projecting through an axial hole 27 in an end wall 28 of the handle 21. Said spring end may be firmly anchored as by bending the same as indicated at 26*a* in Figure 3 or in any other suitable manner. Means such as a metal cap 29 may cover the bent end 26*a* of the spring 26 and may be fastened in any suitable well known way to adjacent portions of the handle 21.

It is desired to encase the spring means 26. To this end a sleeve-like covering 30 of elastic cloth or other suitable elastic material may be fitted snugly around the spring 26 from one end thereof to the other, for the purpose of protecting the spring from moisture and to obviate corrosion thereof. Conversely, the covering 30 serves to protect garments and the buck from possible corrosive contamination by the spring. The outside diameter of the spring 26 and the relatively thin sleeve covering 30 are preferably made slightly smaller than the diameter of the bore 22 so that these parts may be moved freely in the hole by expansive and contractive action of the spring 26. For reasons later apparent, the inner diameter of the coil spring 26 preferably not greatly exceeds the diameter of the rod 23. In some cases, it may be desirable to have the diameter of the rod 23 large enough so as to be moved longitudinally within the spring with a loose sliding fit. To reduce the weight of my clamping tool to a minimum in such cases, the rod 23 may be hollow.

In accordance with the invention, the clamping device of the invention is preferably provided with means, opposed to the hook 24 on the free end of the rod 23 and cooperating with said hook 24, to perform the garment clamping function herein contemplated.

To this end, the end wall portion of the handle 21 around the bore 22 may have secured thereon as by a threaded connection, means such as a hook member 33, shaped as indicated in Figures 2, 3 and 4, to provide a hook disposed in opposition to the hook 24. This hook member 33 is preferably designed to engage snugly against the curved edge and an adjacent portion of the lower face of the covering 13 around the bottom of the buck 10 as indicated in Figure 2.

In the above manner, the embodiment of my invention, as shown in Figures 1, 2 and 3, is preferably made with the hook parts 24 and 33 normally spaced from each other a distance somewhat less than the width of the buck 10.

In use, the garment clamping device may be mounted on the buck of a clothes pressing machine for clamping a garment such as a trousers leg for instance, by engaging the hook 24 over the back edge of the buck 10 near one end thereof so said clamp may have overstanding relation to the cuff of the trouser leg, for example. This is shown by the dotted line position of Figure 2. The handle 21 is then pulled in a direction away from the hook 24, against the action of the spring 26, until the hook 33 is brought beyond the front edge of the buck. Now the handle 21 may be lowered until the covering 26 of the spring engages against the trouser cuff 17. The handle is then released and the hooks 24 and 33 will be pulled toward each other by the spring 26 to firmly and effectively clamp the garment on the buck.

The cam-like coaction resulting from the curved hooks 24 and 33 and the curved side edges of the buck coupled with the force of the strained spring 26, is made effective to cause the portion of the rod above the cuff 17 to be pressed forcibly down on the cuff. This pressure will serve to bind or grip the cuff 17 to the buck 10. This binding action may be assisted by providing resiliency in the rod as can be understood. With the trouser leg gripped to the buck, the person performing the pressing operation has both hands free to smooth out and/or stretch the trouser leg. When assurance is had that the garment is properly smooth and positioned, a quick pull on the handle 21 will disengage the hook 33 so that the device 20 may be removed just prior to lowering the mating pressing buck to accomplish the pressing operation.

When the clamp is used, for example, to grip a trouser leg to an ironing board of usual design to be ironed by hand, the clamp can be left in engagement with the trouser cuff while the ironing proceeds. This is an advantage of importance, since it permits one hand of the person doing the ironing to keep the trouser leg or other garment pulled taut while manipulating the iron with the other hand. For example, trousers having so-called "baggy" knees may have such unsightly bulges removed more fully and quickly if the moistened or sponged legs of the trousers are kept stretched taut while they are pressed.

The handle 21 has several functions, it being not only a handle for manipulating the clamp, but also serving as a means to be pulled in a direction along the rod 23 for tensioning the spring 26. It has the further function of maintaining the hook 24 on the rod 23, which has a telescopic relation with said handle, in aligned camming work relation to the hook 33. It further serves as a base or support for the rod 23 and spring 26. The spring 23 and handle 21 also coact to maintain the hook portion 24 of the rod in substantially the same plane as the hook 33.

In Figure 4 is illustrated a modification of the invention in which a clamp 40, similar in construction and operation to the clamp 20, is shown. This form of the invention employs a handle member 41 having a bore 42 extending from one end thereof to a shoulder portion 41*s*, which has a hole 41*h* therethrough for the loose passage of a rod 43, having a hook portion 44, which has the above-described work relation to a hook member 33' fastened in the handle 41. In this modification, a compression spring 46 is positioned in the handle 41 to be engaged and compressed as by a

collar 47 on the end of the rod 43 remote from the shoulder 41s. This collar may be held in place as by a pin 48 in the rod 43. The spring 46 has the same main function as the spring 36 which is to urge the hooks 44 and 33' toward each other.

The end of the rod 43 opposite the hook 44 may extend or protrude from the handle 41 as through a hole in a cap member 49 secured to the left end of the handle 41.

In the embodiment of Figure 4, it should be noted that the rod 43 is provided with a bearing at each end of the handle 41 to give it a firmer support in the handle and consequently the hooks 33' and 44 are held in a firmer cooperative work relation one to the other. This structure also permits a greater work range, i. e., greater movement of the hook 44 with respect to the hook 33', than is practicable in the Figure 3 structure, with the handles 41 and 21 of the same length.

Under certain conditions difficulty may be met in a suitable elastic material from which to make the cover 30. In such case, or for any other reason, a non-stretchable sleeve-like material woven in the manner of coverings around electric flexible conductors, may be employed. When employing such a non-stretchable cover 50, means may be used for pulling this cover back into the handle. One example of such a means is illustrated in Figure 5. The sleeve-like, non-stretchable cover 50 is arranged to extend into the handle 21 and may be fastened to one end of means such as a weak tensile spring 51 surrounding the spring 26 and having its other end secured to the end wall 28 of the handle 21 similarly to the spring 26.

I claim:

1. A clamping device for use with an ironing board or the like; said device comprising a hollow handle member, a hook member fixed on said handle member, a second hook member having a movable relation to said first named hook member, a rod integrally joined to said second named hook and extending therefrom to said handle to be telescoped therein, and a tensile spring disposed around said rod and having one end fastened to said handle and the other end to said second named hook.

2. A device of the character described comprising opposed hooking means, telescoping means carrying said hooking means, and comprising a hollow handle portion and an elongated portion partially arranged in the hollow of said handle, and means normally urging said opposed hooking means into cooperative hooking engagement of a member therebetween, said latter means comprising spring means at least partially disposed in said handle, at least the portion of the spring means extending from the handle being provided with a corrosion resistant casing.

3. A clamping device for use with an ironing board or the like, comprising: a hollow handle member; a hook member fixed on said handle member; a second hook member, movable with respect to the first mentioned hook member; an elongated member joined to the second hook member, extending therefrom to said handle and adapted to have a portion telescoped therein; and a tensile spring having one end fastened to said handle member and the other end to said second hook member.

4. A clamping device for use with an ironing board or the like, comprising: a hollow handle; a hook member fixed thereon; a second hook member for cooperating with the first mentioned hook member; an elongated clamping member adapted to span said ironing board, carrying said second hook member and movable with respect to said handle; and spring means having at least a portion within said handle, urging movement between said handle and said clamping member to cause said hook members to approach and grip the ironing board.

5. A clamping device for use with an ironing board or the like, comprising: a hollow handle; means forming a hook thereon; an elongated clamping member adapted to span said ironing board and having said handle slidably mounted thereon; means forming a hook on the outer end of said member in cooperating relation with the first mentioned hook; and means urging relative movement between said handle and said member to cause said hooks to approach and grip the ironing board.

6. A clamping device for use with an ironing board or the like, comprising: a hollow handle; means forming a hook thereon; an elongated clamping member adapted to span said ironing board and having said handle slidably mounted thereon; means forming a hook on the outer end of said member in cooperating relation with the first mentioned hook; and means comprising a spring having at least a portion accommodated in said handle, urging relative movement between said handle and said member to cause said hooks to approach and grip the ironing board.

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