This invention relates to a buck on which a garment is adapted to be draped preparatory to moving the buck from dressing to pressing position, and has for an object to provide means to apply garment-retaining suction to the buck while the same is disposed at both positions and between said positions, as well.

Bucks of this nature, with or without means to expand the garment preveniently to obviate formation of wrinkles, regardless of the type of expanders used, are usually provided with mechanical clamp means to hold the garment in place after the same has been draped in a particular manner by the operator. Open-front garments, such as shirts and coats, are expanded as the pleat portion thereof is folded.

The common type of mechanical clamping device is ordinarily located so it will not interfere with said press heads, the same, therefore, clamping the lower portions of the garment. Since shirt-pressing bucks are provided with collar clamps, a coat would be clamped only at its lower part and a shirt at the collar and the lower part.

Since the front button and buttonhole edges of a garment thus clamped would not be held against spreading or bowing between the clamped points, as the garment is expanded, the finished appearance of the garment has an undesirable curvature at said edges, which also adds to the difficulty of folding the same properly. Also, mechanical clamping devices will leave unattractively creases in the garment, especially undesirable in top outer garments, sport shirts, skirts, and the like, in which such creases are exposed when the garments are worn. Furthermore, due to the practical difficulties of straightening the button- and buttonhole-provided edges and then holding the same while a mechanical clamp is applied, the time for properly arranging a garment on a buck is longer than it should be. Such clamps are particularly impractical for clamping long garments, such as long dresses and coats.

The present invention seeks to overcome the above-mentioned faults of clamping a garment on a buck at only one place or at two vertically spaced places, and another object of the invention is to provide means applied to the entire length of the front edges or strips of the portion of a garment that is arranged on a buck preparatory to pressing the same, to hold the garment in a manner to obviate spreading of the front edges.

In order to press garments of this general type and with such special features as pocket flaps, odd-shaped collars, belts, frills, and dress trim, it is usually necessary to use a plurality of clamps, which require an excessive expenditure of time to apply. Another object of the invention, therefore, is to provide means, as characterized above, that applies its force to retain the vertical edges of a shirt-type garment and the like in a manner that holds the edges for the full length of the buck and also holds material lateral portions of the garment spaced from said edges.

This invention also provides means to provide such means that are positive in operation, convenient in use, easily installed in working position and easily disconnected therefrom, economical of manufacture, relatively simple, and of general superiority and serviceability.

The above objects of the invention are realized in a buck structure in which vacuum is applied to the buck from within to so tightly draw the front edges of a garment (also, rear edges, in buck-connecting garments) against the buck surface that the same resists the pull of expanders and keeps said edges in their dressed position during movement of the buck to pressing position and during pressing of the garment. The present means employs extensible conduit means connecting the buck at all times to a blower which applies the suction to the buck.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description and which is based on the accompanying drawings. However, said drawings merely show, and the following description merely describes, one embodiment of the present invention, which is given by way of illustration or exemplification.

In the drawings, like reference characters designate similar parts in the several views.

FIG. 1 is a plan view, with much of the structural details omitted, of one form of shirt-pressing machine provided with the vacuum-clamping buck of the present invention, the buck being shown in full lines at its dressing station and in dot-dash lines at its pressing station.

FIG. 2 is an enlarged longitudinal sectional view showing the vacuum conduit means in the position thereof with the buck in pressing position.

FIG. 3 is a front elevational view, partly broken away, of a buck according to the present invention.

FIG. 4 is a vertical sectional view as taken on the line 4—4 of FIG. 3.

The pressing machine 5 that is shown in FIG. 1 is intended as exemplary of machines adapted to employ the present vacuum-clamping buck. The same, conventionally, has a dressing station 6; a pressing station 7 horizontally spaced from the station 6; a single buck-mounted carriage 8, or two such carriages in double buck machines; means (not illustrated) for moving said carriage on rails 9 back and forth between said stations; a pair of press heads 10 at the pressing station, one on each side of the buck 11 on the carriage; and conventional means 12 comprising a source of stream or heated air that enters a tube 13 on the carriage 8 when the latter is in pressing position, to supply the buck 11 with pressing air that, thereby, is applied to the inside of a garment dressed on the buck while the press heads engage the outside of the garment.

The buck 11 that is illustrated in FIGS. 3 and 4 is shown with air bags 14 at the side edges of the buck, the same serving as means to laterally expand a garment dressed on the buck and apply inside pressing heat to said garment. These bags 14 receive their expanding and heating air from the tube 13 when the carriage 8 nears and is at the pressing station. Said bags 14, as shown in both FIGS. 3 and 4, are attached to the edges of the buck 11, the manner of attachment being immaterial so long as the bags constitute lateral air-expandable extensions of the buck 11. The bags 14 are exemplary of garment expanders generally, as is the yoke bag 15 which is shown as receiving pressing air by way of an inlet 16 that is mounted on a collar clamp 17 which, per se, forms no part of this invention.

The foregoing constitutes an exemplary environment for the present vacuum-clamping means which comprises, generally, a suction-producing machine 18, an extensible conduit 21 connected, at one end, to said machine 20, and means 22 incorporated in the buck 11 and subject to suction in said conduit, to apply suction to portions 23 of a garment 24 dressed on the buck.

The machine 20 advantageously comprises a blower 25 driven in the usual way by a motor 26, a three-way...
valve 27 adapted for control by the operator of the press- 
ning machine, a suction line 28 between said blower and 
a first port of said valve, an inlet filter 29 connected to a 
second port of said valve, and a suction tube 30 connected 
to the third port of said valve. Depending on the adjus- 
tment of the valve 27 by actuation of the shaft 31 
thereof, the suction generated by the blower is applied 
either to the tube 30, or applied to atmosphere through 
the filter 29. In the latter case, the suction in the tube 
30 is released.

The extensible conduit 21 comprises the mentioned 
tube 30, which extends in parallelism to the rails 9, i.e., 
the path of movement of the carriage 8, a larger tube 
32 loosely telescopically engaged with tube 30, a sealing 
flange 33 on the end of the tube 30 and engaged with 
the inner face of the tube 32, a sealing and/or guide flange 34 on the end of tube 32 and engaged with 
the outer face of the tube 30, and an elbow fitting 35 
on the end of tube 32 opposite to the flange 34.

The tubes 30 and 32 are so proportioned that, when 
the carriage 8 is at the dressing station, the same are 
engaged only by their end portions, as in FIG. 1, and 
when the carriage is at the pressing station, these tubes 
are in substantially coextensive engagement, as in FIG. 2. 
Hence, the tubes 30 and 32 are connected at all times 
and the elbow fitting 35 is subject to suction thereon when 
the valve 27 is set to connect the same to the blower.

As shown in FIG. 4, the rear portion of the buck, 
from the outside inwardly, comprises a porous but thin 
cloth cover 36, a layer of flannel 37 beneath said cover, 
and a layer of metal mesh 38 beneath said flannel layer. 
This portion of the buck 11 is of conventional construc-
tion, and is backed on the inside by a plate 39. The elbow 
fitting 35 is secured to said plate, which is formed with 
a hole 40 in register with said fitting. It will be noted 
that the connection between the elbow fitting and the 
buck is located at the side of the buck farthest from the 
pressing station, to provide maximum space between the 
buck and the blower for the extensible conduit 21.

The means 22 includes the mentioned rear plate 39 
and further comprises, from the outside inwardly, a front 
cloth cover 41, a flannel layer 42 therebeneath, a layer of 
metal mesh 43 beneath the flannel layer, a spring pad 
44 beneath the mesh layer, and an orifice plate 45, spaced 
from the plate 39 by a spacing frame 46, to define a va-
cuum cavity 47.

As can be seen in FIG. 3, the plate is provided with a 
plurality of holes 48 which are arranged in a grouping 
or pattern which may vary but, as shown, is preferably 
of triangular arrangement, wider at the bottom than at 
the top. As can be seen from the right portion of this 
figure, the edge portions 23 of a shirt or other garment 
24 are in overlying relation to the holes 48. Since the 
described layers 41 and 44 overlying the orifice plate 
45 are all porous, such garment portions 23 will be drawn 
by suction in the vacuum cavity 47 so tightly against the 
cover 41 that said portions will strongly resist the lateral 
pull exerted on the garment by the expander bags 24. 
So long as the suction, by selected position of valve 27, 
is applied to the cavity 47, the garment will retain said 
position.

It will be realized that the force of suction applied 
will be effective not only on the garment edge portions 23, 
but the holes 48 may be arranged in a pattern or pat-
terns that would locate some of them behind pockets, 
particularly those with flaps, and other loosely connected 
garment portions. Thus, by application of suction only 
to the inside of the buck, the portions of a garment on the 
buck that are desired to be held in proper position when expanded and pressed, are firmly held in place, as 
avbove described.

Since the operator has control of the time when suc-
ction is desired, the dressing of the buck may be con-
veniently carried out and, at the instant that the desired 
arrangement of the garment is obtained, the valve 27 
may be actuated to open the buck to suction with as-
surance that the garment will not become disarranged 
during travel toward and while at the pressing station.

While the foregoing has illustrated and described what 
is now contemplated to be the best mode of carrying 
out the invention, the construction is, of course, subject 
to modification without departing from the spirit and scope 
of the invention. Therefore, it is not desired to restrict 
the invention to the particular form of construction illus-
trated and described, but to cover all modifications that 
may fall within the scope of the appended claims.

Having thus described the invention, what is claimed 
and desired to be secured by Letters Patent is:

1. A garment buck comprising:
   (a) two outer porous sides with a hollow therebetween,
   (b) an impervious backplate lining one of said 
sides to prevent air flow therethrough,
   (c) an orifice plate lining the inside of the other porous 
side of the buck, and
   (d) a suction connection extending through said back-
   plate and the buck side lined thereby and opening 
into said hollow to subject the side with the orifice 
plate to suction for drawing portions of a garment 
dressed on the buck firmly against the side that is 
lined by the orifice plate.

2. A garment buck according to claim 1 in which the 
buck has opposite side edges and is provided with 
garment-expanding means disposed along and connected to 
said opposite side edges of the buck, the suction effective 
on the garment retaining the same in dressed position 
on the opposite lateral pull by expanding means on the 
garment.

3. In combination:
   (a) a hollow buck adapted to be dressed with a gar-
   ment and movable between dressing and pressing 
positions, said buck having, on opposite sides of its 
hollow, a porous layer provided with an inner solid 
layer, and an orifice-provided porous layer, and
   (b) means connected to the buck by means of said 
plate to produce suction in the hollow of the buck 
and effective through said orifice-provided side to 
draw portions of a garment dressed on the buck 
firmly against the porous layer of said side,
   (c) orifice-provided buck side being provided with a 
porous outer layer and an inner plate resiliently 
spaced from said plate and having orifices com-
municating the buck hollow with the pores of said layer,
   (d) the orifices being arranged in a pattern occupying 
areas of the plate that are superposed by portions 
of the outer layer adapted to be covered by portions 
of said dressed garment to render said suction in 
the buck hollow effective on said garment portions.

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