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BODY SUPPORT OR STOOL

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This invention relates to improvements in body supports or stools of that type adapted to be strapped or secured to the person of the user so as to remain attached as the user moves from place to place.

These supporting devices or stools usually comprise a seat portion upon which the user sits and a depending prop, post or leg member which, when the person is in a seated position, extends to and engages the floor or the ground and acts to support, in the main, the weight of the user with the exception of the legs which are employed to cooperate with the post in maintaining equilibrium.

Various devices of this character have been proposed and among these may be mentioned body supports or stools having relatively short posts or standards depending from a more or less central position beneath the seat and which may be used as milking stools and for similar purposes, where a low seated position is called for. However, when a person using such a device stands erect, the post or standard is caused to project rearwardly at a considerable angle by reason of the fact that the seat portion is strapped close to and remains in contact with the user and in this position the seat is tilted to or assumes a considerable angle, whereas when in use the seat assumes a more or less horizontal position.

Obviously it would not be practical to provide these types of devices with a relatively long prop or post such as would enable the user to assume a position similar to that when sitting on a fairly high stool such as is used in kitchens, etc., or by clerks in stores and in which the thighs of the user instead of extending approximately in a horizontal direction are extended downwardly with relatively little bend at the knees, for the reason that, when the person using the stool stands erect, a long post or prop would project rearwardly to an objectionable extent and be in the way and interfere with furniture or other objects or persons nearby. On the other hand, body supports or stools which heretofore have been provided with relatively long posts or standards have been complicated in construction and cumbersome in use and so far as I am aware, neither type of stool or support mentioned has been provided with a back member or support of such construction as to afford the maximum comfort and ease in the use of the device.

Some objects of the present invention are to construct a body support or stool of the character mentioned which is so formed and which is capable of attachment to the user in such a way that the maximum comfort will be afforded by its use; in which a seat member is provided with a relatively rigid form fitting back member to afford, in use, the maximum comfort and support; also to construct a support of this kind having improved means for attachment to the person of the user whereby the device assumes, when in use, a position in which maximum comfort and stability is afforded, and by which, when the user stands erect, the device is enabled to assume a different position relatively to the body of the person using it such that the post or prop thereof will be positioned forwardly beneath the seat of the device and will extend well downwardly and relatively close to the legs of the user so as not to be objectionably in the way as the person moves about; also to construct a device of this character of relatively few and simple parts substantially devoid of objectionable projections such as securing devices, etc. upon which the clothing of the user might be caught, which is compact, light in weight and which can be attached and worn without inconvenience.

Other objects are to provide a support or stool of this character with a post or prop having a relatively simple and easily manipulated adjustment for varying the length of the post or prop whereby its length may be changed to fit the use of persons of varying stature; and also to provide detachable and interchangeable means at the lower end of the standard to adapt the device for use either indoors, or outdoors where more or less soft ground may, on occasion, be encountered.

Various other objects and advantages of the present invention will be apparent from the following disclosure thereof and its novel features will be pointed out in connection with the appended claims.

In the drawings, Fig. 1 is a side elevation of my improved body support or stool showing the same in the position which it assumes when the user is sitting down and in which parts of the person of the user are indicated by broken lines. Fig. 2 is a front elevation of the device in the same relative position as in Fig. 1. Fig. 3 is a plan elevation thereof, partly in section, taken approximately on the line 2—2, Fig. 2. Fig. 4 is a fragmentary, vertical section of the post or prop of the device and that part of the seat of the device to which it is secured. Fig. 5 is a horizontal section thereof, on an enlarged scale, on line 5—5 of Fig. 4. Fig. 6 is a side elevation of the lower end of the
post or standard showing secured thereto a detachable foot or member for use on soft ground. Fig. 7 is a horizontal section thereof on line 1 to 7, Fig. 6.

Fig. 2 is a side elevation of the body support or stool similar to Fig. 1 but showing the position that the device assumes when the user stands erect and in which the legs and the lower portion of the body of the user are indicated by broken lines.

In the embodiment of my invention illustrated, my improved body support or stool comprises a seat portion 10 and a back member 11 which extends upwardly from the rear of the seat portion and is preferably integral therewith or is rigidly secured thereto. The portions 10 and 11 together form a unit which, when in use, approximately conforms to the body contours of the user and in which the back member preferably is of a length such that the top portion 12 thereof engages the back of the waist line and the shoulders.

The unit comprising the portions 10 and 11 can be of any suitable construction or formed of different materials. Preferably the unit is formed of a single integral and relatively light casting made, for example, of aluminum, the seat portion 10 being of double concave formation having a front edge or marginal portion 14 which, while in general extending crosswise from side to side, is fashioned to fit comfortably around the rear portion of the legs of the user approximately at the junction thereof of the thighs with the body.

The back portion or member 11 extends in a continuous curve rearwardly and upwardly from the curved back portion of the seat 10, being inclined somewhat forwardly or downwardly and thence outwardly somewhat at its upper end portion 12 so as to approximately follow and bear against the contours of the back of the user, as shown in Fig. 1.

Attached to and extending downwardly from the seat portion member 10 is an adjustable post or prop 15, the adjustment between this post 15 and the seat being midway between the opposite sides of the seat 10 and well in advance of the back of the seat as shown.

The post 15 may be constructed and its attachment to the seat made in any suitable manner.

I, however, preferably form the post 15 of telescopic construction providing for this purpose an upper tubular straight section 18 within which telescopes, with a sliding fit, a second lower section 19.

Adjustment between these two members for varying the length of the post 15 is secured in various ways but as shown I preferably form on the lower end of the section 18 a tapered external thread 22 upon which a corresponding internally threaded, manually operable clamping sleeve 21 may be detachably screwed.

As shown in Figs. 4 and 5 I provide in the lower threaded end 29 of the upper section 18 one or more radial slots or saw cuts 23. After the lower section 18 has been adjusted to its desired relation within the upper section 10 it may therefore be firmly clamped and maintained in this position by turning the sleeve 21 upwardly, thereby flexing inwardly the portions of the end part 20 between the cuts 23 and causing those portions to grip firmly about the adjacent portion of the section 18.

The post or standard 15 may be attached to the seat member 10 in any desired manner but I preferably detachably secure these parts together to enable the body support or seat to be taken apart for packing or storing in a minimum of space.

For this purpose I form on or secure to the lower face of the seat member 10 a depending socket 30 having an internally threaded portion into which the correspondingly threaded upper portion of the top section 18 of the post may be screwed, thus forming a secure and rigid detachable connection between the standard and the seat.

In order to attach and maintain the support or stool in proper relation to the body of the user, not only while the seat is in contact with the body but when the user is standing erect or walking about, I provide improved strap means formed, at least in part, of elastic or yielding material so that as the user changes from a sitting posture to an erect one or vice versa, these strap means or attaching members can yield and adjust themselves and thereby allow the stool to assume different positions relatively to the body of the user, as shown for example in Figs. 1 and 8. By providing yielding strap means for attaching the device to the user, as explained, the unit comprising the seat 10 and back portion 11 can, when the person using the device changes from the sitting posture shown in Fig. 1 to the standing position shown in Fig. 8, adjust itself or shift so that the seat portion still occupies a plane which extends in a more or less transverse direction by the engagement of the upper end portion 12 of the back with the adjacent back part of the body of the user, thus causing the back portion 11 to remain extending in a substantially up and down direction, instead of tipping forwardly and causing the post or support 15 to project rearwardly, as would be the case for example, with devices having no back portion or in which relatively stiff and unyielding straps or attachments are provided. In such cases the seat of the device would be caused to closely engage the person of the user and would thereby fill upwardly at the rear, with corresponding objectionable change in the angle at which the depending post extends relatively to the legs of the user, causing the post to project so far rearwardly as to be in the way.

In my improved strap means, two separate pairs of straps or attaching devices are preferably employed.

As shown in Figs. 1, 2 and 8, I provide upper strap means 40 comprising a pair of straps 41, each of which is secured at its rear end by suitable rings, hooks or other attaching devices 42 to an edge of the back member 11 approximately in alignment with the waist of the user. At their front ends, the strap members 41 are provided with suitable connecting devices, such as snap hooks or the like 43, which may be of any well known or suitable construction enabling the straps, after being passed about the waist of the user, to be detachably connected together and snugly engage about the person, and thereby hold the back member 11 in proper position.

A second pair of straps 45 secured in a similar manner by attaching devices 46 at their rear ends to the side portions of the seat member 10 are provided for causing the seat portion 10 to hug the body of the user. For this purpose, the straps 45 are so formed and proportioned that they may encircle the legs of the user close to their connection with the body, as shown in Figs. 1 and 8, and are provided at their ends with clasps or securing devices 47 similar to the devices 43, so that they may be connected at the front, as in the cases of the straps 41.
While not shown in detail, the individual straps 41 and 45 of each pair are preferably so made as to be adjustable for varying their length to suit different users.

In order to provide for relative movement between the unitary seat and back portion of the body of the user when changing from one position to another, to thereby enable the stool to retain a position in which the post 15 extends with an adjustability in the manner explained, when the user stands up, I form the individual straps 40 and 45 of each pair, at least in part, of a suitable elastic or other resilient material which will yield and enable the straps to automatically change in length to accommodate the different relative positions of the device to the body, as stated.

As shown in Figs. 1 and 8 particularly, the back portion of each strap member 40 or 45 is formed of elastic webbing 50, of any suitable standard or commercial construction or manufacture. The remaining or front portions of these straps may be formed of any suitable flexible but relatively unyielding material, such as canvas or cotton webbing, leather or the like.

It will be seen upon comparing the relative positions of the support or stool in Fig. 1 and in Fig. 8, that when in the curved unitary seat and back structure closely engages the contour of the body of a person when seated upon the device with the straps snugly secured about the person of the user, in Fig. 8, on the other hand, the person using the device is shown standing in an erect posture, and it will be noted that the strap means, particularly the members 40 thereof, have been elongated by the yielding of their elastic portions 50. Thus, while the upper portion 12 of the back member 11 is still in engagement with the back of the user, and the front portion 14 of the seat member 10 is also in engagement with the adjacent part of the user's body, yet the intervening portions of the support are in spaced relation to the user's body. In this way, the part 12 engaging the back, as stated, tends to hold the device in an approximately upright position when the person is standing erect, so that the post or standard 15 being attached to the seat well in advance of the back thereof, will extend downwardly under the seat and relatively close to the legs of the person so as to be not objectionable in the way.

While by causing the upper portion 12 of the back member 10 to engage the person, as shown in Fig. 8, for the purpose just disclosed, no discomfort from this relative change in position of the device as regards its relation to the back part of the user is experienced, since by provision of the yielding portions 50 in the straps, the strap members 40, and to some extent the strap members 45, will become elongated or stretched. In this way the straps do not bind, but will allow considerable freedom of movement, with very little swaying or member changes in the contour of the user's body while moving about.

When my improved body support or stool is intended to be used indoors I provide the lower end of the post 15 with a rubber socket or shoe 52 which may be frictionally or otherwise detachably secured upon the lower end of the section 19 of the post 15 so that it may contact with the floor to prevent the post from slipping or marring the floor. Any other suitable means may be provided for such purpose.

When it is intended to use the device out of doors, as for example, when the user is following a golf or other game an advantage may be found convenient to sit down part of the time and stand or walk at other times, I provide a detachable foot or device engageable with the lower end of the section 19 and which has a relatively, considerably greater contacting area than the socket 52 just described, so as to prevent the lower end of the post 15 from sinking into the ground when the user sits upon the support or stool.

As shown in Figs. 6 and 7, I provide for this purpose a detachable foot, including a pronged or bifurcated ground-engaging portion 58 having a flat lower surface having an upwardly extending grooved or channeled attaching portion 56. This portion 56 is formed with an inner concave surfaced which is of approximately the same curvature as the periphery of the lower section 19 of the post 15.

The opposed outer face 57 of the attaching portion 56 is tapered slightly so as to increase the dimensions or thickness thereof in a downward direction, and by engaging this member with the lower end of the section 19, as shown in Fig. 6, it may be detachably secured thereto by means of a suitable slidable ring or sleeve 58 which may encircle the contacting section 19 and attaching portion 56, and when moved downwardly will enable the parts 19 and 56 to be clamped firmly together. Preferably the lower face or portion of the part 55 is extended beyond the opposite or concave side of the attaching portion 56, as shown at 59, so that the extremity of the section 19 may rest upon this part when the foot or device is secured in operative position upon the post 15.

I claim as my invention:
1. A body support comprising a seat member, a back rest rising from the rear of the seat member, leg engaging strap means extending from the seat member, waist engaging strap means extending from the back rest, a supporting post depending from the seat member and which, when the body support is in use, approximates a vertical position, and said strap means being at least in part of resilient construction, so as to yield to enable said seat and back members to assume a different position when not in use and in which position said post will continue to extend downwardly well beneath the seat member.
2. A body support comprising a seat member, a back rest rising from the rear of the seat member, leg engaging strap means extending from the seat and waist engaging strap means extending from the back rest, both of said strap means comprising pairs of straps each of which is formed, at least in part of elastic material.
3. A body support comprising a seat member, a back rest rising from the rear of the seat member, leg engaging strap means extending from the seat member, back strap means extending from the back rest, and a supporting post depending from the seat member.