LEANING DEVICE TO REDUCE FATIGUE

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4 Claims

ABSTRACT OF THE DISCLOSURE

Apparatus having a soft platform on which a person stands and body supporting element against which he may lean while in a standing position to reduce fatigue.

The present invention relates to a body-supporting device and more particularly to a device against which a person may lean to reduce fatigue.

A person when not walking, running, etc. is in either one or the other of the four positions of sitting, lying, kneeling or standing. To reduce fatigue, chairs are used to support the body when persons are sitting, beds and couches when they are lying down, and benches when they are kneeling. However, no devices have ever been provided to at least partially support the body when a person is standing.

It is well known that professional people and craftsmen, such as dentists, draftsmen, housewives, bench workers and the like, become fatigued from standing. However, it is considered necessary that these people stand while practicing their particular occupation so that they will have a longer reach than they would have in a sitting position. It has heretofore been proposed that such people use stools which support the body in a partially upright position to reduce fatigue. Stools, however, are not entirely successful, because they are merely tall chairs, limit the extent of the person’s reach and are apt to impair blood circulation in the thighs of the body.

One of the objects of the present invention is to provide a body-supporting device against which a person in a standing position may lean, either continuously or from time to time, to reduce fatigue.

Another object is to provide a leaning device of the type indicated which may be adjusted to contact different areas of the body for different working positions which may produce fatigue.

Still another object of the invention is to provide a leaning device of the type indicated which is of simple and compact construction, economical to manufacture and one which is reliable in operation to reduce fatigue.

These and other objects will become more apparent from the following description of the drawing in which like reference characters denote like parts throughout the several views. It is to be expressly understood, however, that the drawing is for the purpose of illustration only and is not a definition of the elements of the invention.

In the drawings:

FIG. 1 is a side elevational view of a leaning device of the present invention and showing the platform on which a person stands and the vertically adjustable body-supporting element against which the person may lean;

FIG. 2 is a front elevational view of the leaning device illustrated in FIGURE 1;

FIG. 3 is a transverse sectional view taken on line 3—3 of FIG. 2 to show the bolt and hand-operated nut for adjusting the height of the body-supporting element;

FIG. 4 is a sectional view taken on line 4—4 of FIG. 2 to show the pivotal connection between the platform and stanchion on which the body-supporting element is mounted;

FIG. 5 is a view similar to FIG. 1 showing how the device can be used to contact other areas of the body, such as the back of the knees; and

FIG. 6 is a view similar to FIG. 1 showing how the leaning device of the present invention can be used to contact the front of the body.

Referring now to the drawings, the invention is shown as comprising a platform 10, an upright stanchion 11 and body-supporting element 12. The platform 10 comprises a frame of metal or other rigid material having a peripheral band 13 with ends 14 and 15 projecting rearwardly in spaced parallel relation. Mounted on the top of the platform 10 is a cushion 16 of a relatively soft material, such as natural or artificial foam rubber, with an overlying covering. The cushion 16 should be soft enough to conform to the contour of the person’s feet to utilize all areas thereof to support him in a standing position rather than particular points of contact as when a person stands on a flat rigid floor.

The stanchion 11 projects upwardly from one side of the platform 10. To this end, the lower portion of the stanchion 11 is positioned between the spaced rearwardly projecting ends of the frame band 13 to which it is attached. In the illustrated embodiment, the lower end of the stanchion 11 is pivotally connected to the platform 3 by a pin 20 extending through the rearwardly projecting ends 14 and 15 and stanchion. This permits pivotal movement of the stanchion forwardly to overload the platform, see FIGURE 4, when the device is being shipped, and allows it to swing to its upright position shown in FIGS. 1 and 2 when used. A second pin 21 extends through the rearwardly extending ends 14 and 15 of the platform 13 at a position forwardly of the pin 20 for engagement by the depending end of the stanchion 11 to limit its rocking movement rearwardly of the platform.

The stanchion 11 is flexible to provide a yielding resistance to movement and is adjustable to vary the height of the body-contacting element 12. For this purpose the stanchion 11 may be made of a resilient material such as steel to provide the desired flexibility and may have a slot through which a bolt from the body-contacting device extends to adjust the height of the latter. However, in the illustrated embodiment, the stanchion 11 is shown as comprising separate telescoping parts 22 and 23. The lower part 22 may be of relatively rigid construction and provided with a centrally positioned guideway 24 therein (see FIG. 2) in which the upper section 23 is adapted to slide. The upper section 23, on the other hand, is flexible and has a longitudinal slot 25 through which a bolt 26 extends to clamp the two parts in any adjusted position by means of a hand-nut 27.

The body-supporting element 12 may be mounted to rock on the stanchion 11 or may be resiliently mounted thereon to flex relative thereto. In the form shown, however, it is rigidly mounted on the stanchion section 23 adjacent its upper end by means of a stud 30 projecting rearwardly from the element through a hole in the stanchion section. The stud 30 may be in the form of a bolt which is attached to the stanchion section 23 by means of a nut, or it may be permanently attached to the section as by riveting. The body-contacting element 12 may be formed of a rigid material which conforms to the shape of a particular part of the body which it contacts but usually it will comprise a soft cushion which will automatically conform to the contour of the body.

The platform 10 as shown is adapted to rest directly on the floor, but it will be understood that the platform may have casters to adapt it to roll to different areas where it is to be used. It will also be noted that the weight of the person standing on the platform counterbalances
any force applied to the body-supporting element 12 to maintain the device in an upright position under all conditions of use. This is because the center of gravity of the person will always be inside of the connection of the stanchion 11 to one side of the platform 10. One form of the invention having been described in detail, its mode of operation is now explained.

When using the device, a person releases the hand nut 27 and raises or lowers the sections 23 of the stanchion 11 with respect to the part 22 so that it will be located at an area of the body where the person wishes it to contact as, for example, in the middle of his back. This may be done easily by reaching downwardly and backwardly to grasp and release nut 27 with one hand while adjusting the sections 23 with the other hand. After the section 23 has been adjusted with respect to section 22 the nut is tightened. The person then stands on the platform 10 and the cushion 16 conforms to the contour of his shoes to distribute his weight equally on all areas of his feet. The person may then lean back against the body-contacting element 12 which partially supports his body to relieve the tension on his muscles usually employed to hold him in an upright standing position. He may then perform his occupational duties such as, for example, sorting letters in various compartments, and he may lean forward from the body-contacting element 12 to reach a particular compartment, or he may actually move his whole body forwardly away from the element 12 to reach a particular area. In either case, the leaning device of the present invention will yieldingly support at least a portion of a person's body either continuously, or from time to time.

During use of the leaning device, the section 23 of the stanchion 11 flexes to give the resilient support required by the body. As a result of this device, workers have found that they are less fatigued at the end of any particular work period, than they are when they must stand in an upright position to perform their duties.

Many times it is desirable to support other parts of the body than the back to reduce fatigue while performing the duties of a particular occupation. For example, it is many times desirable to have the body-contacting element 12 adjusted to engage the person using the device at the back of his thighs, as shown in FIG. 5. As other times the exact reverse is true, and it is desirable to have the body-contacting element 12 engage the front of the knees. At other times the particular occupation may require that the body-contacting element 12 engage the front of the body above the waist as, for example, at the abdomen, as shown in FIG. 6. Tests in all of these various positions have been made and found to reduce the fatigue normally experienced by persons in their occupational duties where standing is normally required.

It will now be observed that the present invention provides a body-supporting device against which a person may lean either continuously, or from time to time, to reduce fatigue. It will also be observed that the present invention provides for adjusting the device for different conditions to adapt it to contact different portions of the body. It will still further be observed that the present invention provides a leaning device of the type indicated which is simple and compact construction, economical to manufacture and one which is reliable in operation in reducing fatigue.

While a single embodiment of the invention is herein illustrated and described, it will be understood that changes may be made in the construction and arrangement of elements without departing from the spirit or scope of the invention.

I claim:

1. A leaning device on which a person may stand and lean to reduce fatigue while working, said device comprising a platform on which a person may stand in an erect position, a rigid stanchion projecting upwardly from the platform at one side thereof and of a person standing thereon, an elongated resilient element mounted on said stanchion for vertical sliding movement in respect thereto, said element having mounted thereon a member having a relatively large essentially vertically disposed convexly contoured surface of a size and shape to engage comfortably the body of a person using said device, and fastening means for selectively locking said element to said stanchion to maintain said member at a desired vertical position.

2. A leaning device according to claim 1 wherein the top of said platform and said member are provided with cushions.

3. A leaning device according to claim 1 wherein said element is in telescoping relation to said stanchion and said fastening means comprises a bolt extending through said element and stanchion and a hand-operated nut for tightening the bolt.

4. A leaning device according to claim 1 wherein said stanchion is pivoted to said platform and swingable to a position substantially parallel to said platform, and a stop is provided to limit movement of said stanchion away from said platform to approximately 90°.

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