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BODY SUPPORTED WORK HOLDING DEVICE

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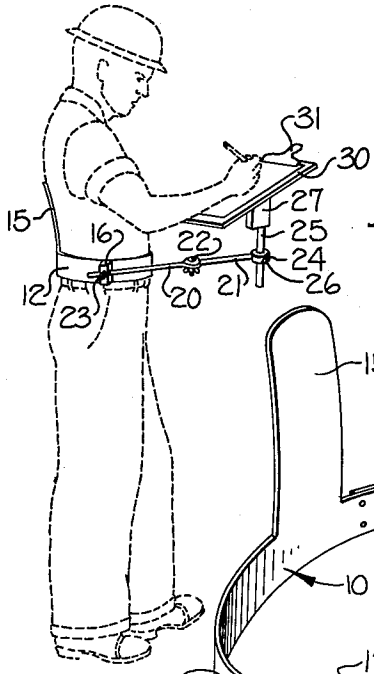


Fig-1

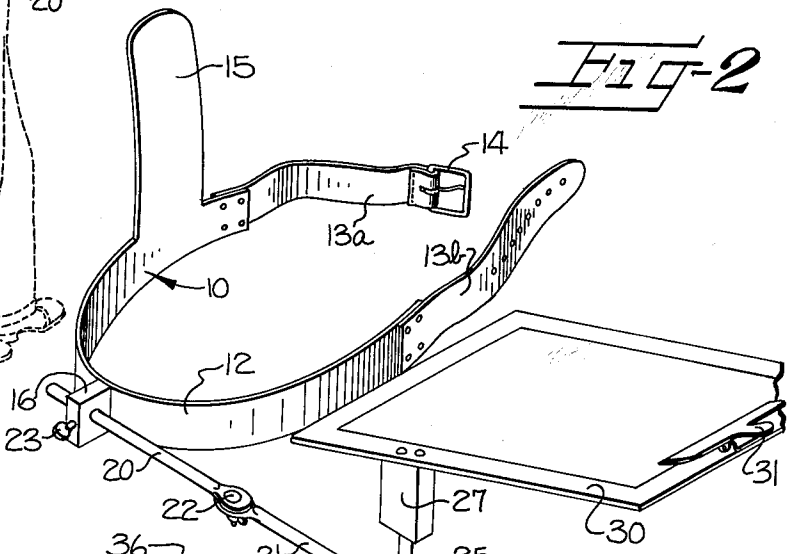


Fig-2

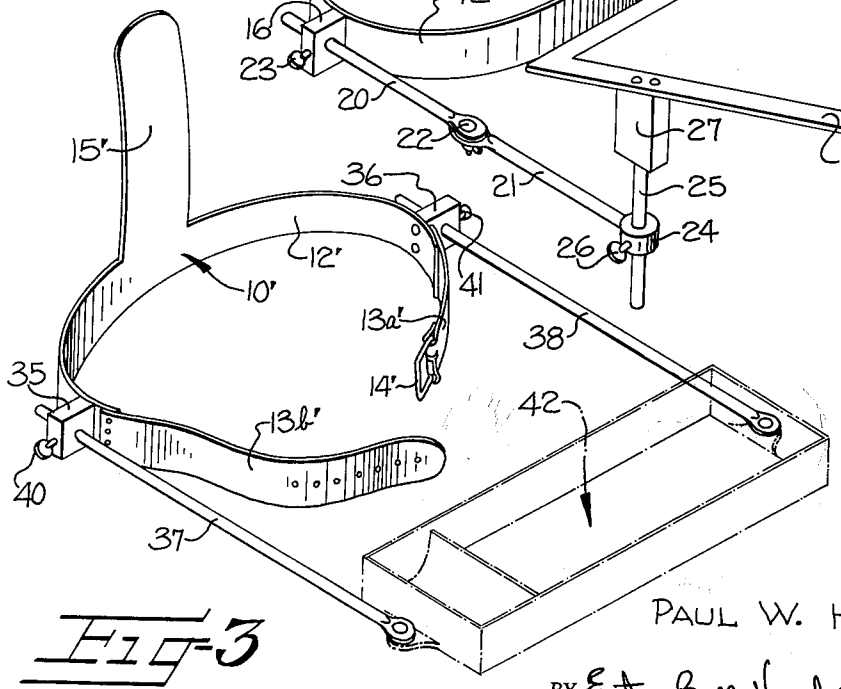


Fig-3

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BODY SUPPORTED WORK HOLDING DEVICE

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This invention relates generally to body supported work holding devices and more particularly to a body supported device for adjustably supporting work materials in readily accessible position where they will be in a convenient position for use by the wearer of the body supported device.

Many different types of body supported devices have heretofore been proposed for supporting various types of work materials, such as easels, fruit picking baskets, shaving kits, sheet music racks, portable desks, paint buckets, fishing poles, and the like. In some instances, these supporting devices have included nothing more than a waist encircling belt with means for attaching the working materials thereto and in other instances these devices have included complicated body harnesses which extend up and around the shoulders and/or neck of the wearer. In body supported devices of the first type, it is difficult, if not impossible, to maintain the belt in the proper position around the waist because the weight of the work materials causes the belt to slip down. Even tightening the belt around the waist does not solve the problem and only makes the device uncomfortable. In body supported devices of the second type, the cumbersome straps, harness members and the like which extend upwardly around the neck or shoulders tend to restrict free movement of the body and arms of the user, and are hard to put on without the help of another person.

With the foregoing in mind, it is a primary object of the present invention to provide a body supported work holding device which is comfortable to wear and which conveniently supports working materials in readily accessible position for access by the user while leaving the upper portion of the body and both arms and hands free.

It is another object of the present invention to provide a body supported work material holding device of the character described which is easily adaptable for use in supporting a wide variety of work materials in readily accessible position, which may be easily attached to the body and which is economical to manufacture.

It is a further object of the present invention to provide a body supported work holding device of the character described which includes a rigid member that is longitudinally curved and adapted to extend substantially half the distance around the waist of the user, and a flexible belt portion connected to opposite ends of the rigid member for securing the same around the waist of the user. The rigid member is provided with a rigid upstanding tongue which is adapted to extend along the spine and up the back of the wearer and prevent the waist encircling portion of the device from slipping down on the abdomen of the wearer when work materials are supported by the device.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds, when taken in connection with the accompanying drawings, in which:

FIGURE 1 is a perspective view of a man, shown in dotted lines, wearing the first form of body supported work material holding device of the present invention and illustrating the manner in which the upstanding tongue extends upwardly along the back of the wearer;

FIGURE 2 is an isometric view of the device shown in FIGURE 1, removed from the wearer;

FIGURE 3 is an isometric view of a modified form of body supported work material holding device.

Referring particularly to FIGURES 1 and 2, it will be noted that the device includes a waist encircling band or belt broadly indicated at 10 which comprises a rigid arcuate member 12 and a flexible belt portion including belt elements 13*a*, 13*b*. The arcuate member 12 is substantially C-shaped in plan and is preferably formed of a suitable rigid or semi-rigid inherently springable material such as sheet metal to prevent discomfort to the wearer. The arcuate member 12 is longitudinally curved to fit around a portion of the waist of the user and in this instance, extends from a point adjacent the spine around one side of the user and terminates at a point slightly beyond the center of the abdomen. Although the member 12 is preferably formed of sheet metal, it is to be understood that it may be formed of any other suitable material including plastics and the like having the desired rigidity.

Corresponding ends of the flexible belt elements 13*a*, 13*b* are suitably secured, as by rivets or the like, to the ends of the arcuate member 12. The free end of the belt element 13*a* is provided with a suitable buckle 14 which is adapted to receive the free end of the belt element 13*b*. The free end of the belt element 13*b* is provided with a series of longitudinally spaced apart holes so that the waist encircling band or belt 10 can be adjustably secured in a comfortable position around the waist of the user.

An upstanding rigid member or tongue 15 is provided adjacent one end of the arcuate member 12 and in offset relation to the medial portion thereof. In the present instance, the upstanding tongue 15 is formed integrally with the arcuate member 12, however, the tongue 15 could be formed as a separate piece and rigidly secured at its lower end to the member 12 in any suitable manner. The upstanding tongue is preferably curved slightly to fit the back of the wearer and the upper free end of the tongue 15 is rounded off smooth.

When the waist encircling band 10 is comfortably secured around the waist of the wearer, the tongue 15 engages the back, in the area of the spine or the backbone, and supports the band to prevent the front portion from slipping down. Thus, the tongue 15 maintains the waist encircling band 10 in substantially a horizontal position on the waist of the wearer. The provision of the upstanding tongue 15 permits the use of the present body supported device without the use of any external straps, slings or other types of support.

A support block 16 is suitably secured to a medial portion of the rigid member 12 (FIGURE 2) in any suitable manner, such as by screws, rivets or the like. The block 16 extends outwardly from the rigid member 12 and is positioned at one side of the wearer. Suitable support arm means is supported in the block 16 and includes a pair of support rods 20 and 21 which are pivotally connected together, as by an adjustment screw 22, for radial adjustment relative to each other.

The rearmost end of the rod 20 penetrates a suitable bore in the support block 16 and is secured in longitudinally adjusted position by a set screw 23 which is threadably supported in the block 16 and the inner end of which engages the rod 20 to lock the same in adjusted position. The forward end of the rod 21 is provided with a boss 24 which is adapted to receive the lower end of a vertical support rod 25. The vertical position of the rod 25 may be adjusted by a set screw 26, which is threadably supported in the boss 24 of the rod 21. The upper end of the rod 25 is provided with a suitable support block 27 to which a clip board 30 is suitably attached. The clip board 30 is provided with a spring clip member 31 for securing papers, maps, photographs or

the like in convenient position for writing or inspection in front of the user.

When the body supported work holding device of the present invention is utilized, as shown in FIGURE 1, it provides a convenient readily accessible writing surface, desk, or drawing board which is in ready accessible position for use by the wearer. The various adjustments provided by the adjustment screws 22, 23 and 26 allow the user to adjust the position of the clip board 30 so that it is maintained in a convenient position. The upstanding tongue 15 prevents downward movement of the front portion of the waist encircling band 10 when the clipboard 30 is being used for a writing surface or the like.

Referring particularly to FIGURE 3, it will be noted that the modified form of body supported work material holding device is very similar to the first form of body supported work holding device shown in FIGURES 1 and 2. Therefore, like reference characters with the prime notation added will apply to corresponding parts.

In the modified form of body supported work material holding device, as shown in FIGURE 3, the waist encircling band or belt, broadly indicated at 10', includes a rigid arcuate member 12' and a flexible belt portion having belt elements 13*a*' and 13*b*'. Corresponding ends of the flexible belt elements 13*a*' and 13*b*' are suitably secured to the ends of the arcuate rigid member 12'. The free end of belt element 13*a*' is provided with a suitable buckle 14' which is adapted to adjustably receive the free end of the belt portion 13*b*'. Thus, the encircling band or belt 10' may be comfortably secured around the waist of the wearer.

An upstanding rigid member or tongue 15' is provided at the medial portion of the rigid element 12'. The lower end of the tongue 15' is formed integral with the arcuate rigid member 12' and is curved to fit the back of the user while the upper free end of the tongue 15' is rounded off smooth. Again, it is to be understood that the tongue member 15' could be formed separately and suitably secured at its lower end to the arcuate rigid element 12'.

The modified device is provided with a pair of outwardly projecting supporting or connector blocks 35 and 36, which are suitably secured to the arcuate rigid member 12' and extend outwardly from opposite sides thereof. The blocks 35 and 36 are positioned adjacent opposite ends of the rigid member 12' and adjustably support the rear ends of forwardly projecting support rods 37 and 38, respectively. The rods 37 and 38 are held in adjusted position in the blocks 35 and 36 by respective adjustment screws 40 and 41. The forward ends of the respective support rods 37 and 38 are suitably secured to opposite ends of a work material holding member, broadly indicated at 42. In this particular instance, the work material holding member 42 is shown in phantom lines and is in the form of a tray which may be utilized to support paint brushes, paint cans, repair parts, small tools and the like in a readily accessible position for use by the wearer of the body supported device.

When the body supported work material holding device shown in FIGURE 3 is worn, the flexible belt members 13*a*' and 13*b*' will be buckled in front of the abdomen and the upstanding tongue 15' of the rigid member 12' will extend upwardly along the back and engage the backbone or spine of the wearer. Thus, the tongue 15' provides support to prevent the weight of the articles carried in the tray 42 from causing the encircling band or belt 10' to slide down in front of the wearer.

While both forms of the body supported work material holding device are shown supporting particular types of work materials, such as a clip board 30 and a tray 42, it is to be understood that the body supported devices of the present invention may also support other types of work materials, such as paint buckets and the like. The body supported devices can be easily adapted to support other types of work materials by simply modifying the forward ends of the forwardly extending support rods.

In both forms of the invention shown in the drawings, the body supported work material holding devices include a waist encircling band or belt which is formed in part of an arcuate rigid member having an upstanding rigid tongue or support leg which is connected at its lower end to the arcuate member and which is adapted to engage the back or spine of the user to thereby provide support to prevent displacement of the waist encircling band or belt. While the waist encircling band shown in FIGURE 2 is adapted to support the support arm means on the right-hand side of the wearer, it is to be understood that it could be easily modified to support the support arm means on the left-hand side of the wearer. Also, the devices include support arm means rigidly connected to the arcuate rigid member and extending in a generally forward direction, relative to the user, and means carried by the support arm means for supporting various types of work materials in a readily accessible position for use by the wearer.

In the drawings and specification there have been set forth preferred embodiments of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claims.

I claim:

1. A body supportable work material holding device comprising

(1) an elongate arcuate member formed of rigid material and adapted to extend substantially half the distance around the waist of the user,

(2) an adjustable flexible belt connected to said arcuate member and adapted to secure said arcuate member around the waist of the user,

(3) a rigid member fixedly connected to said arcuate member and extending upwardly therefrom, said rigid member being adapted to engage the back of the user with the uppermost portion thereof below the shoulders for stabilizing said arcuate member around the waist,

(4) means secured to said arcuate member for supporting work materials in readily accessible position for the user thereof, said means comprising

(*a*) at least one support arm extending outwardly from said arcuate member and in a generally forward direction relative to the user, and

(*b*) means carried by the forward end of said support arm for supporting work materials in readily accessible position.

2. In a body supportable work material holding device according to claim 1 wherein

(*a*) said rigid member is connected adjacent one end of said arcuate member and in offset relation to the medial portion thereof,

(*b*) connector means is carried by said arcuate member for adjustably securing said support arm thereto, and

(*c*) said connector means being carried by a medial portion of said arcuate member.

3. In a body supportable work material holding device according to claim 1 wherein

(*a*) said rigid member is connected to the medial portion of said arcuate member,

(*b*) a pair of spaced apart support arms are provided,

(*c*) a pair of opposing connector means carried by said arcuate member for adjustably securing said support arms thereto, and

(*d*) said connector means being mounted adjacent opposite ends of said arcuate member.

4. A body supportable work material holding device comprising

(1) an elongate arcuate member formed of rigid material and adapted to extend around one side of the waist of the user from one end adjacent the back of the user to the opposite end adjacent the front of the user,

(2) an adjustable flexible belt connected to said ends of said arcuate member and adapted to secure said arcuate member around the waist of the user,

(3) a rigid member fixedly connected to said arcuate member adjacent said one end thereof and extending upwardly therefrom, the entire length of said rigid member being adapted to engage the back of the user for stabilizing said arcuate member around the waist,

(4) a support block secured to said arcuate member and in a medial portion thereof,

(5) a support arm adjustably supported in said support block and extending in a generally forward direction relative to the user, and

(6) means carried by the forward end of said support arm for supporting work materials in readily accessible position.

5. A body supportable work material holding device comprising

(1) an elongate arcuate member formed of rigid material and adapted to extend from one side of the user to the other and around the back of the user,

(2) an adjustable flexible belt connected to opposite ends of said arcuate member and adapted to secure said arcuate member around the waist of the user,

(3) a substantially straight rigid member fixedly connected to the medial portion of said arcuate member and extending upwardly therefrom, said rigid member being adapted to engage the back of the user with the uppermost portion thereof below the shoulders for stabilizing said arcuate member around the waist,

(4) a pair of support blocks secured to said arcuate member and adjacent opposite ends thereof,

(5) a pair of spaced apart support arms adjustably supported in corresponding support blocks and extending in a generally forward direction relative to the user, and

(6) means carried by the forward ends of said support arms for supporting work materials in readily accessible position.

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