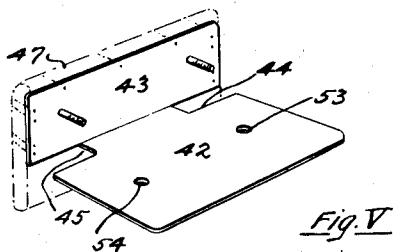
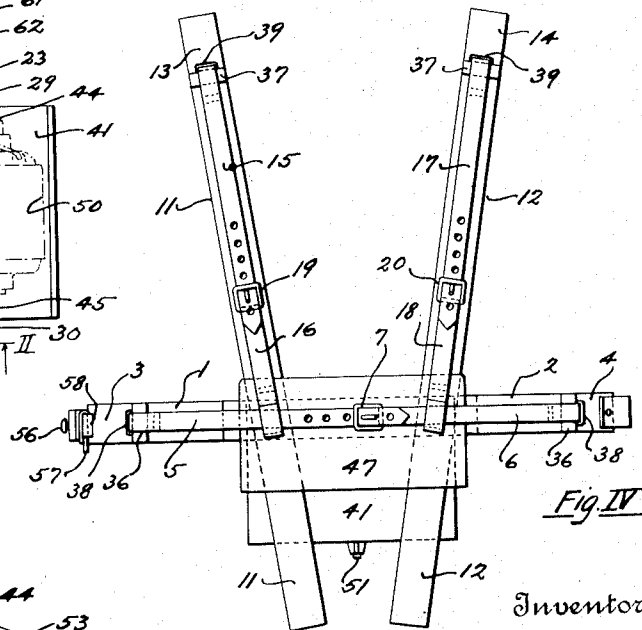
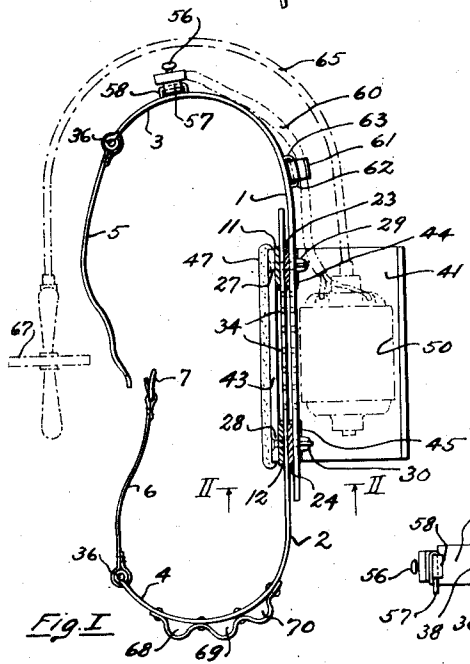
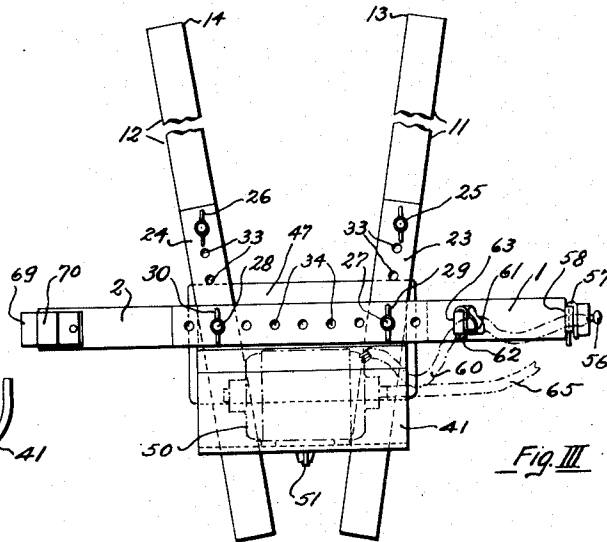
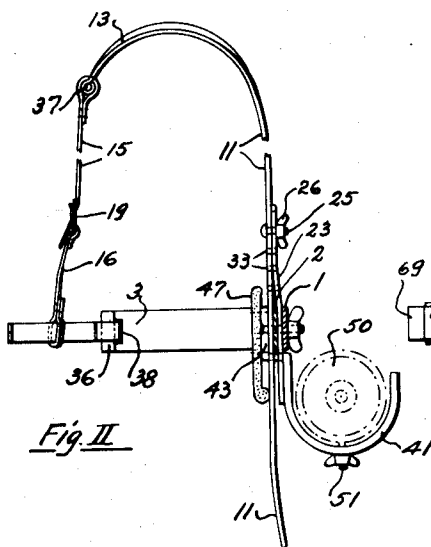


O. SPERLING.
PORTABLE TOOL WORKING DEVICE.
APPLICATION FILED JUNE 27, 1917.

1,370,768.

Patented Mar. 8, 1921.



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UNITED STATES PATENT OFFICE.

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PORTABLE TOOL-WORKING DEVICE

1,370,768.

Specification of Letters Patent.

Patented Mar. 8, 1921.

Application filed June 27, 1917. Serial No. 177,293.

To all whom it may concern:

Be it known that I, OSCAR SPERLING, a citizen of Sweden, and a resident of the borough of Manhattan, in the county, city, and State of New York, have invented certain new and useful Improvements in Portable Tool-Working Devices, of which the following is a specification.

This invention relates generally to means and ways of supporting tools so that they can be carried from place to place for actual use wherever required, and it particularly appertains to such appliances as are intended to be attached to the body of the operator and utilized in the performance of work that necessitates moving the tool over a more or less extended surface.

Primarily, the invention has for its object to produce a device of the nature set forth which will render power-driven tools truly portable, and make their employment in that respect as practical and convenient as could be accomplished with manually-operated implements of same description.

Another object is the production of an appliance of the character described involving a mode of suspension that permits attachment thereof to the person, in such a manner that it can be readily put on, carried with comfort, operated with ease, and promptly detached at the completion of the work, or sooner if desired.

A further object is to provide a tool carrier of the type referred to which shall be perfectly adjustable, in the sense that it can be quickly fitted on the person equipped with the same, so as to accommodate people of various statures, that is, having marked differences in height, girth, and corpulence, or even characterized by unequal body measurements.

Still another object is the provision of a tool-carrying device of the species mentioned which shall be adapted to receive and functionally hold either a generating or a converting apparatus wherewith to supply the power to operate the tool.

A still further object is to originate a

novel method of mounting the said power-supplying apparatus, its equipment and tool operating connections, that will afford the best disposition of these various elements on the support relatively to one another, such as will avoid interference with the moving parts, give ready access to the motion controlling means, and insure full freedom to the arms of the user while the tool is being operated.

An additional object is to devise a simple construction and arrangement of the parts constituting the portable device that will admit of its being economically produced and retailed at a price permitting its adoption and use by numerous artisans in different trades and manufactures.

Other objects and advantages will become apparent as the specification proceeds.

With the aforesaid objects in view the invention consists of the improvements, novel construction, arrangements and combinations of parts hereinafter described, defined in the subjoined claims, and illustrated in their preferred embodiments by the annexed drawings, wherein like elements are designated by the same reference characters throughout the several views.

In the said drawings:—

Figure I is a top plan view of a portable tool working device exemplifying one embodiment of the invention, certain parts being shown in section;

Fig. II is a partly broken sectional side elevation of the same, the section being taken on the line II—II of Fig. I;

Fig. III is a rear elevation of the device broken in the upper part;

Fig. IV is a front elevation of the same form of the invention; and

Fig. V is a perspective view illustrating a modified structure for the mounting of the 90 power-supplying apparatus on the portable support.

As shown in Figs. I to IV, inclusive, this improved device includes a belt comprising a plurality of rigid or semi-rigid members, as 1 and 2, which are arranged to lap over each

other lengthwise at the back of the wearer, and are adjustable one relatively to the other to permit either the lengthening or the shortening of the belt, as may be required.

5 On the sides, the members 1, 2 are provided with opposite curves 3, 4, respectively adapted to embrace the waist of the wearer's body at opposite points, in a manner that will be readily understood. These two belt mem-
10 bers, including their respective curves, are conveniently made of resilient sheet-metal, and may vary in thickness according to the weight of the parts to be carried, or the mode of attachment thereof to the support.
15 Forwardly of the said curves, the belt includes a pair of flexible or pliable members 5 and 6, the purpose whereof is to tighten and hold the belt in correct position on the body. The last-named members preferably
20 consist of leather straps looped each by one end to the front terminals of the metallic members 1, 2, respectively, and adapted to be tied together in front by means of a buckle 7, in a well-known manner.

25 Being constructed as above described, it will be seen that the belt can easily be fitted to the body of the workman who is to use the tool support, whether he be of normal corpulency, or departs from the same either
30 way. Thus, for instance, the sundry members of the belt may be drawn outwardly, both at the front and back, to-accommodate a person of ample girth, or else the very same members can be drawn inwardly to
35 provide an appliance of minor compass for one of smaller physical dimensions.

The belt aforesaid is supplemented by shoulder braces 11 and 12, consisting also preferably of resilient sheet-metal bands de-
40 signed to reach from points situated at a greater or less distance beneath the belt to and around both the right and left shoulders of the person upon whom the support is placed. Curves 13, 14 are formed at the
45 upper ends of the two braces to enable them properly to surround the omoplates and adjoining muscles thereabove. From the forward extremities of these curves depend flexible bands, as 15, 16 and 17, 18, which
50 serve to unite the shoulder braces in front with the corresponding pliable part of the belt. As represented in the drawing, the bands 15, 16 and 17, 18 may consist of leather straps connected in pairs centrally
55 by buckles 19, 20, and looped at their opposite ends to the forward portions of the belt and overhanging shoulder braces, respectively.

To the rear portions of the shoulder braces 60 11, 12, are attached hangers or complementary straps 23, 24, which cover them for part of the length of each, as shown. These hangers are adjustably connected with both the braces and the belt supplemented there-
65 by, and answer several requirements. In the

first place, they serve as reinforcements to the two braces, to which they are held at their upper ends by means of bolts 25, and winged nuts 26. Secondly, the hangers co-
70 act with the braces in effecting a firm connection with the belt, the members 1 and 2 of which are preferably placed with relation to the first mentioned parts, in the manner indicated in Figs. I and II. The connec-
75 tion, it will be seen, consists of bolts 27, 28, and winged nuts 29, 30. The bolts 27, 28 are sufficiently long to pass through the braces, the hangers, and the lapped ends of the belt members 1 and 2, which are made to alter-
80 nate with the hangers and braces, as clearly appears in the two views last named. Thirdly, the hangers afford side bearings and distance pieces for the mounting of the power-supplying apparatus, hereinafter de-
85 scribed.

A number of perforations, as 33 and 34, are provided in the lapping ends of both members 1 and 2 of the belt, and in both pairs of overlaid braces and hangers. The bolts 25, 27, 28 are respectively accommo-
90 dated by these perforations, and through them allow for the lateral adjustment of the belt previously spoken of, and also for the lengthening or shortening, and inclining of the shoulder braces to suit persons of dif-
95 ferent heights, and different widths of shoulders. The bolts and the perforations further permit relative adjustment between the shoulder braces and the hangers 23, 24, as well as between the braces themselves.
100

It will be observed that the front ends of the belt members 1, 2 and of the shoulder braces 11, 12, are curved upon themselves to form roller-like bearings, as 36, 37, for the ends of the leather straps 5, 6, and 15, 17,
105 thereto attached. The ends of the straps referred to are passed through slots 38, 39, cut through the sheet-metal bands close to their said bearings, and thence are folded down upon the main strap portions, to which
110 they are sewed, or riveted, or otherwise suitably fastened. This construction, it will be noted, presents several advantages, as the rolled ends of the metal not only afford excellent bearing surfaces for the leather,
115 which they tend to conserve, but they also prevent the more or less sharp extremities of the metallic bands from either tearing the clothing or chafing the body of the person using the appliance.
120

A mounting for the power-supplying apparatus is provided at the rear of the tool-support, preferably below the belt portion thereof, as represented in the drawing. Two forms of this mounting are shown, as
125 will be noticed, either one of which may be used with practically equal advantage. One form includes a receiver 41, consisting of a curved pan or base, illustrated in Figs. I to IV, while the other form has instead a
130

receiver 42, presenting a flat base or shelf, shown in Fig. V.

Either form of mounting aforesaid is provided with an integral, right-angled flange, 43, and open-ended slots 44, 45, located at or near the junction of the flange with the receiver, 41 or 42. In either instance, the open-ended slots permit the insertion therein of the lower ends of the shoulder braces 11, 12, and overlying hangers 23, 24. This brings the flange 43 inside the appliance and enables it to be attached to the inner face of the belt. As shown, the bolts 27, 28, before mentioned, supply the means of attachment. The receiver is thereby suspended firmly from the aggregated rear belt members.

A pad 47 is placed on the outside of the flange, 43, at the place where the belt is brought to bear over the loins of the wearer. This pad not only gives relief from pressure exerted by the belt, but further serves to insulate the body from the same, in case an electric motor is employed as the power-supplying apparatus. Any suitable means may be resorted to for the purpose of securing the pad in place on the belt, the same being conveniently riveted or cemented on, or otherwise affixed. The lower extremities of the shoulder straps 11 and 12 also operate to protect the body by holding the receiver or article support 41 at a suitable distance therefrom, as these straps pass through the slots 44, 45 in the offset of the flange 43.

As above intimated, the power-supplying apparatus may well consist of a small electric motor, as 50. If the curved receiver 41 be used, the motor will be nested within it, as seen in Figs. 1 to IV, in which case it can be secured to the bottom of the receiver by a simple screw and nut fastening, as at 51. On the other hand, if the flat receiver 42 be employed, the motor will be seated squarely thereon, and held down by a couple of screws adapted to engage holes 53, 54, shown in Fig. V. The electric current may be furnished to the motor from batteries carried beside it within the receiver, or from any other preferred source.

A controller for the electric motor is provided on the belt of the support, preferably at the right hand side, where it can be placed within easy reach of the operator. This controller may consist of a simple presser switch 56, adapted to make and break the electric circuit. As shown, the switch 56 is formed with a hook 57, by means of which it can be permanently suspended from the belt, and to that end, a keeper 58 is struck out of the metallic member 1, to afford a means of engagement for the hook. Between the switch and the motor at the back of the belt are placed the circuit wires, which are properly incased in

an insulating conduit 60. The latter, like the wires therein, is made flexible so as to follow the curvature of the belt, and to prevent excessive sagging, it is furnished with an intermediate rest 61, which may consist of a metal loop having a hook 62, adapted to take over a keeper 63, also struck out from the belt member 1, at the rear.

Power may be transmitted from the motor to the tool in any approved manner. For example, a flexible shaft 65 may be used for that purpose. One advantage of this form of shaft is that it adapts itself instantly to the configuration of the support and will supply the needed motive force to the tool in any desired position.

An abrading tool 67 has been shown in the annexed drawing as connected for operation by the flexible shaft above mentioned. This particular species of tool, it should be understood, is merely shown by way of example. The invention contemplate the operation of any type of tool, to which the portable device herein described can be adapted, and therefore no limitation is intended on account of the specific exemplification now given.

A series of pockets 68, 69, 70, may be attached to the left member 2 of the belt, to receive a number of hand tools, such as artisans ordinarily carry and find most useful in the pursuit of their respective callings.

The word "motor", as used in the subjoined claims, is meant to signify any type of prime mover or power-supplying apparatus deemed suitable for the operation of the tool connected with the portable support herein disclosed.

While certain preferred embodiments of this device have been shown and described, it will be understood that changes in the form, arrangements, sizes, proportions and details thereof may be made without departing from the scope of the invention as defined by the appended claims.

Having described my invention what I desire to secure by Letters Patent and claim, is:—

1. A device of the character described, including in combination, a belt, shoulder straps and a rearwardly depending article support; said belt and shoulder straps comprising resilient metallic members adapted to take around the greater part of the user's body from the rear toward the front thereof, and pliant elements supplementing said members to completely surround the body in front; and means extending below the members interposed between said support and the loins of the body serving to hold the former spaced from the latter, said means constituting extensions of said shoulder straps.

2. A device of the character described, in-

cluding in combination, a belt and shoulder straps composed of resilient metallic members arranged to envelop the major portions of the user's body from the rear to the front, and supplementary pliant elements taking over the remaining forward part of the body; an article support having a flange offset toward the body and to which said members are attached, the lower portions of said straps passing the offset of said flange between it and said support, and means for securing the members of said belt and shoulder straps to the flange in overlapping relation.

3. A device of the character described, including in combination, a belt, shoulder straps and an article support, said belt comprising two resilient metallic members formed at opposed ends with curved portions adapted to partially take around the body of the user, while the other extremities of the members are arranged in overlapping relation one to the other, pliant means connected to the terminals of said curved portions serving to supplement the members in completely taking around the body of the user and to hold the device in place thereon, said straps consisting of resilient metallic elements provided at their upper ends with curved parts designed to take over the shoulders of the user, while the lower ends of the elements are disposed crosswise of the overlapping extremities of the members, other pliant means coupling the terminals of said curved parts with the first named means, and fastening means for securing the overlapping extremities of the members and the lower ends of the elements to said support.

4. A device of the character described including in combination, belt members, shoulder elements and an article support, said members comprising a pair of resilient metallic bands formed at their front ends with curved portions adapted to partially envelop the waist of the user and having substantially straight rear extremities placed in overlapping relation one with the other, pliant means connected to the terminals of said curved portions serving to supplement the members in completely enveloping the body of the user to hold the device in place thereon, said elements consisting of resilient metallic straps provided at their upper ends with curved parts designed to take over the shoulders of the user and having approximately straight lower extremities, other pliant means coupling the terminals of said curved parts with said first named means, fastening means for securing the extremities of both the members and the elements to said support, and complementary metallic straps operatively uniting the shoulder elements with the support to assist

in carrying the weight of the article on the latter.

5. A device of the character described, including in combination, belt members, shoulder elements, and an article support, said members, comprising a pair of resilient metallic bands formed at their outer ends with forwardly curved portions adapted to partially surround the waist of the user and having their inner extremities substantially straight and arranged to overlap one another at the back, pliant means connected to the terminals of said portions and supplementing the members in completely surrounding the waist of the user to hold the device in place thereon, said elements consisting of resilient metallic straps provided at their upper ends with curved parts designed to pass over the shoulders of the user and having approximately straight lower extremities, other pliant means coupling the terminals of said parts to said other means, hangers extending between the shoulder elements and said support to assist in carrying the load on the same, fastening means for adjustably securing one end of said hangers to the elements, and other fastening means for holding the latter to the other end of the hangers and to both the members and the support.

6. A device of the character described, including in combination, belt members, shoulder elements, and an article support, said members comprising a pair of resilient bands formed at their forward ends with curved portions adapted to partially take around the body of the user and having their rearward extremities substantially straight and provided with perforations, said extremities being arranged in overlapping relation, pliant straps connected to the terminals of said portions and supplementing the members in completely taking around the body of the user to hold the device in place thereon, said elements consisting likewise of resilient bands formed at their upper ends with curved parts designed to take over the shoulders of the user and having their lower extremities provided with perforations, said last named extremities being spaced laterally one from the other, other pliant straps coupling the terminals of said parts to said first mentioned straps, said support embodying a receiver and a flange, perforated hangers reaching from the middle of the shoulder elements to the article support, and bolts passing through the flange of the latter and the perforations in the members, the elements and said hangers.

7. In a device of the character described, a belt composed of resilient members substantially straight at one end and curved inwardly at their other end to fit around the user's body, the straight ends of said mem-

bers being overlapped, metallic shoulder straps having their lower ends interposed between the overlapping ends of said belt members, an article support, a flange on said
5 article support having spaced openings therein, said belt members and shoulder straps also having spaced openings adapted to be brought into alinement with the openings in said flange, and bolts insertible in
10 said openings to hold the article support,

shoulder straps and belt members rigidly together.

Signed at the borough of Manhattan, in the city, county and State of New York this 25th day of June, A. D. 1917.

OSCAR SPERLING.

Witnesses:

H. C. KARLSON,

A. M. LINDENSTRUTH.