Nov. 5, 1935. R. SARAC 2,020,216

PORTABLE WORK EQUIPMENT HOLDER AND SUPPORTING STRUCTURE

Filed May 2, 1935 4 Sheets-Sheet 1

Fig. 1.

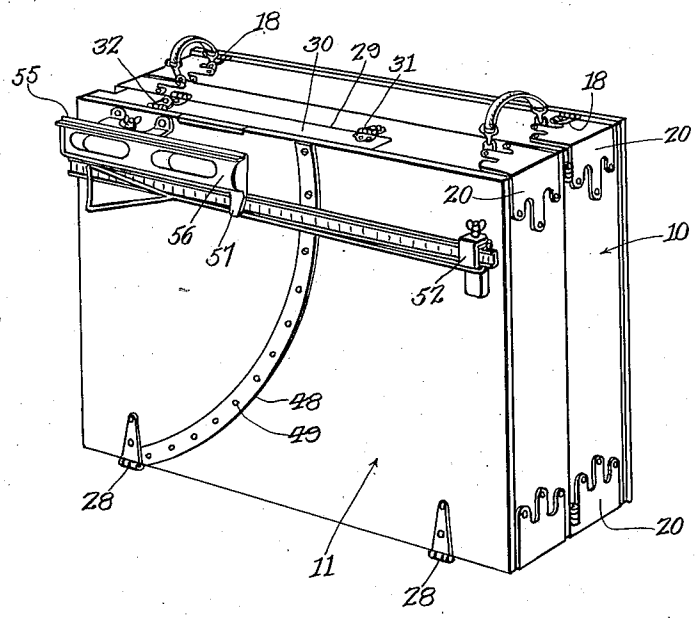
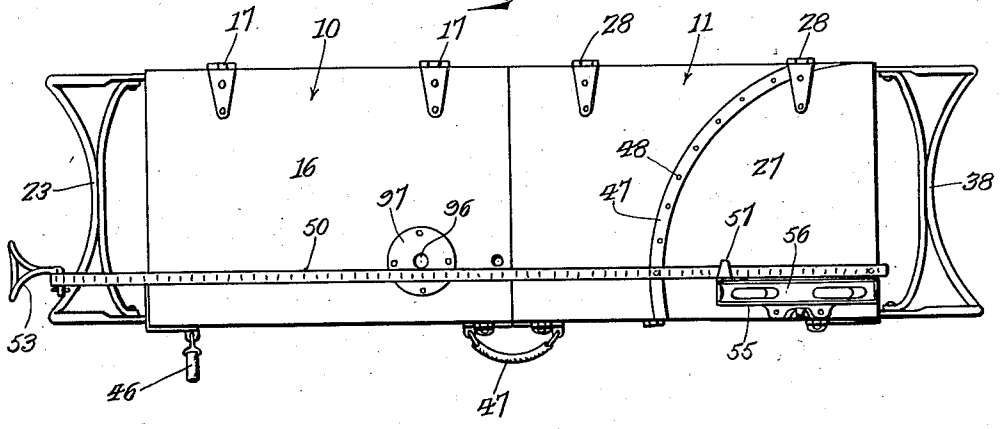


Fig. 2.



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Fig. 3.

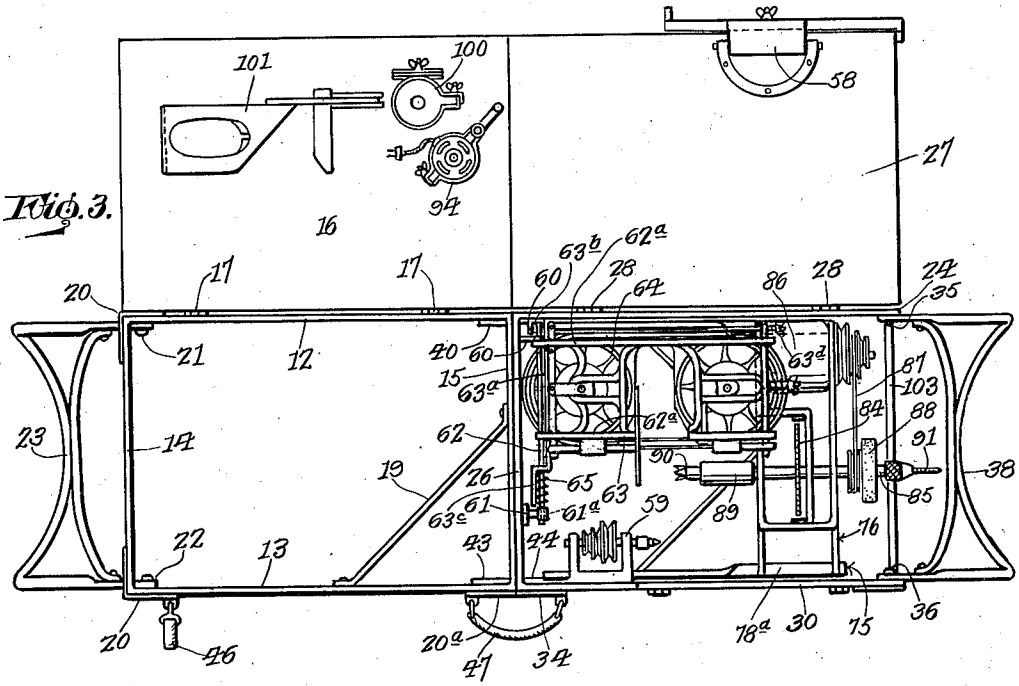
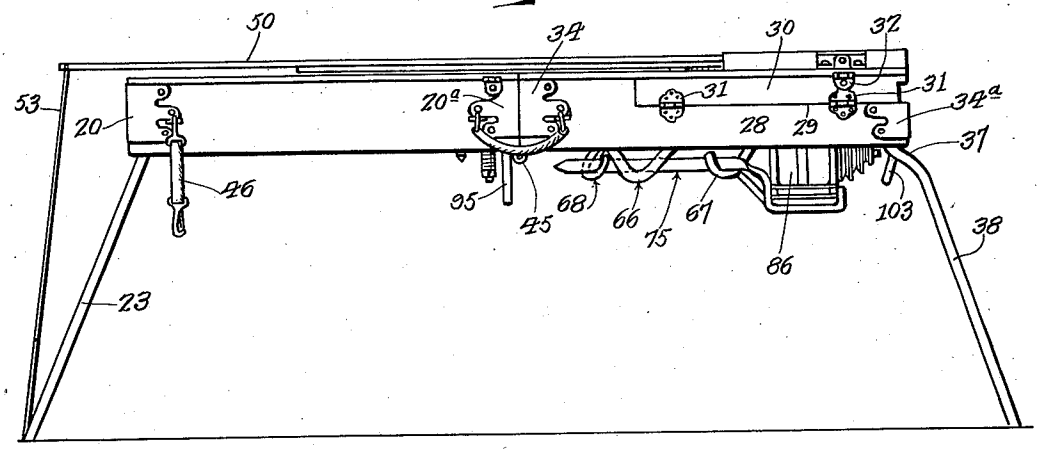


Fig. 4.



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PORTABLE WORK EQUIPMENT HOLDER AND SUPPORTING STRUCTURE

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Fig. 5.

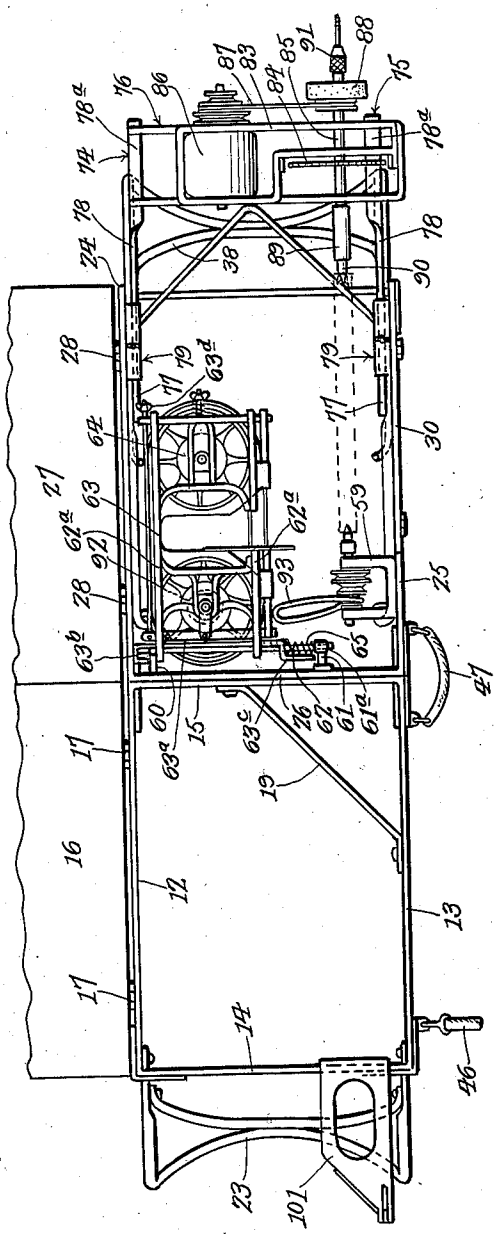
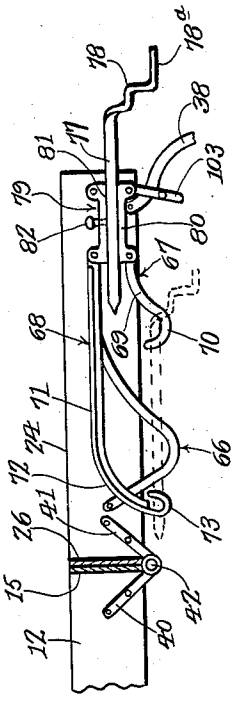


Fig. 6.



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PORTABLE WORK EQUIPMENT HOLDER AND SUPPORTING STRUCTURE

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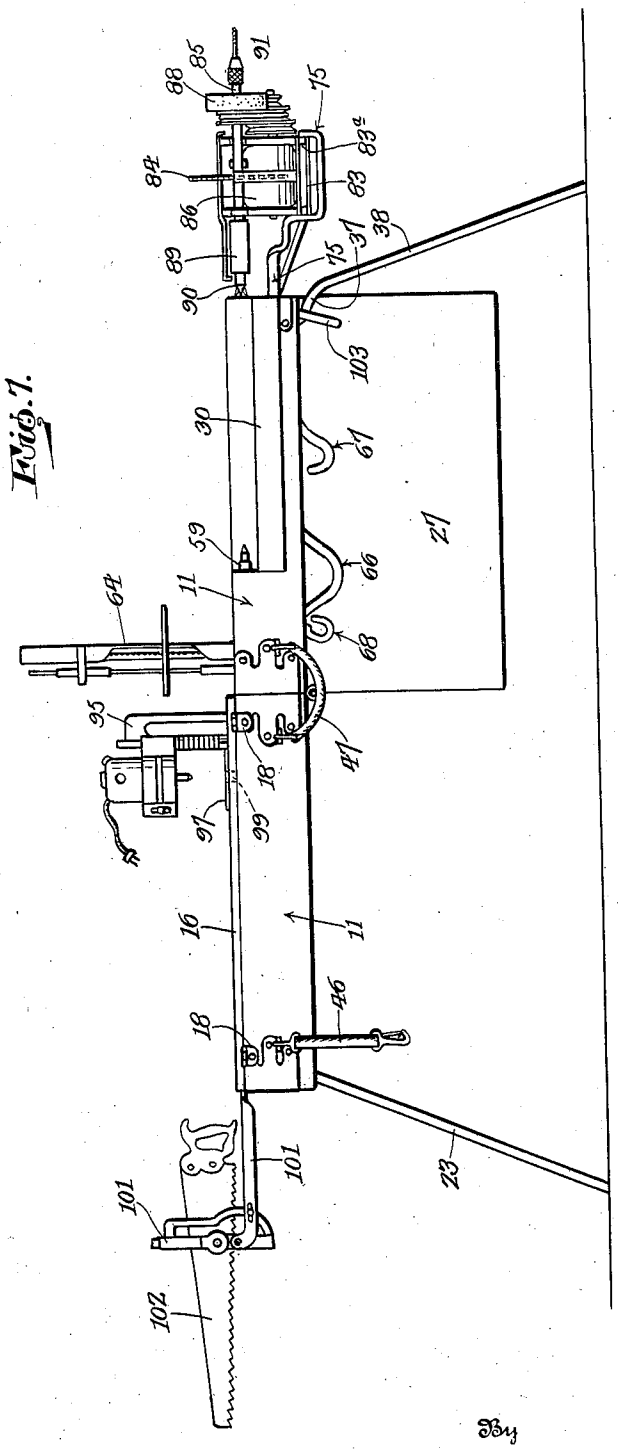


Fig. 7.

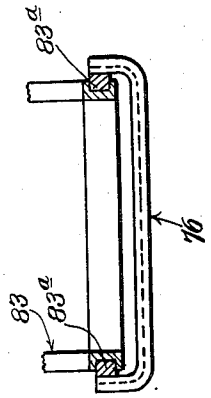


Fig. 8.

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Patented Nov. 5, 1935

2,020,216

UNITED STATES PATENT OFFICE

2,020,216

PORTABLE WORK EQUIPMENT HOLDER AND SUPPORTING STRUCTURE

Rade Sarac, Flint, Mich.

Application May 2, 1935, Serial No. 19,534

11 Claims. (Cl. 144—285)

This invention relates to a portable work equipment holder and supporting structure for use by mechanics, more especially carpenters, in the preparation of new work or for repair purposes.

The object of the invention is to provide, in a manner as hereinafter set forth, a portable structure including the necessary units to be used by a mechanic in the production of new work or for repairing purposes and having as a part thereof means capable of being extended when desired to provide a supported work bench having means for connecting thereto and supporting therefrom work units of various types capable of being conveniently used by the mechanic when occasion requires.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a foldable and extendible structure of the class referred to which is comparatively simple in its construction and arrangement, strong, durable, compact when non-extended, capable of being conveniently ported manually from place to place, readily extended and supported when occasion requires, thoroughly efficient for the purpose intended thereby and comparatively inexpensive to set up.

To the above ends essentially and to others which may hereinafter appear, the invention consists of such parts and such combination of parts as are hereinafter more specifically described and as are illustrated in the accompanying drawings, wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a perspective view of the structure when not extended and in position to be ported,

Figure 2 is a top plan view of the structure when extended to provide a work bench,

Figure 3 is a top plan view of the structure when extended to have access to the work units arranged therein,

Figure 4 is a side elevation of the structure when extended to provide a work bench,

Figure 5 is a fragmentary view in top plan with the structure extended and illustrating work units supported in position for use,

Figure 6 is a fragmentary detail in elevation of the structure,

Figure 7 is a side elevation of the structure when extended illustrating work units supported thereby in position for use, and

Figure 8 is a sectional detail of the sliding frame.

The structure includes an extendible, sectional body part 9 which when non-extended is in the form of a receptacle having stored therein work units and when extended provides a work bench and also a means for supporting the units in position to be used. The body part 9 is formed of a pair of oppositely disposed rectangular sections 10, 11. Each section is open at its rear. The section 10 consists of top and bottom walls 12, 13 respectively, a pair of end walls 14, 15 and a front wall 16 which is hinged, as at 17, to the wall 12. The wall 16 is also latched, as at 18, to wall 13. The walls 13, 15 have connected thereto an inclined bracing member 19 therefor. The section 10 is provided with the corner braces 20. The wall 13, at its inner end, has secured thereto a reinforcing member 20a. Extending into section 10 at its rear and pivotally connected to the outer end of walls 12, 13, as at 21, 22 respectively, is a straight, foldable and extendible supporting leg 23 which, when not in use, is folded into section 10.

The section 11 consists of top and bottom walls 24, 25 respectively, a single end wall 26 of a front wall 27 which is hinged, as at 28, to the wall 24. The latter has a cut out portion 29 which is normally closed by a panel 30 hinged to wall 24, as at 31. The wall 27 is latched to panel 30, as at 32. The section 11 is open at its outer end and is provided with a corner brace 33. The wall 24, at its inner and outer ends, has secured thereto reinforcing members 34, 34a respectively. Extending into section 11 at its rear end pivotally connected to the outer end of walls 24, 25, as at 35, 36 respectively, are the inturned inner portions 37 of a foldable and extendible supporting leg 39 which, when not in use, is folded into section 11.

Secured to the inner face of wall 12 and the inner face of wall 24 are the hinge leaves 40, 41 disposed at opposite inclinations and extending below the bottom edges of the walls 15, 26. The lower ends of the leaves 40, 41 are pivotally connected together, as at 42, below the walls 15, 26. Secured to the inner faces of walls 13, 15 are hinge leaves 43, 44 respectively, disposed at opposite inclinations and extending below the bottom edges of walls 15, 26. The lower ends of the leaves 43, 44 are pivotally connected together, as at 45, below the walls 15, 16. The hinge connections referred to provide for pivotally connecting the sections 10, 11 whereby they may be folded together to form a receptacle or

carrier. The open rear of the sections 10, 11 register when the latter are folded. When the sections 10, 11 are extended to provide a work bench the walls 15, 26 are in abutting relation, as well as the walls 16, 27.

A hand grip 46 is carried by section 10 and is detachably connected to section 11. A hand grip 47 is loosely connected to the reinforcing members 20a, 34.

Secured to the outer face of wall 27 of section 11 is an arcuate bar 48 provided with suitable means, as indicated at 49, for setting a twelve foot combination extension rule 50 at various angles for gauging angles of cut. The rule is pivotally connected at one end to wall 27, as at 51. A latchable slide 52 is carried by rule 50. The rule 50 has pivotally connected to its other end a foldable support 53 therefor when it is extended to the position shown in Figures 2 and 4. Connected to the wall 27, as at 54, is a holder 55 having removably mounted therein a spirit level 56. The holder 55 is provided with a resilient arm 57 for overlapping and detachably retaining the rule 50 in the position shown in Figure 1. Suitably connected to the inner face of wall 27 is a combination holder unit 58 for making wood joints. Secured to the inner face of wall 25 is the tail stock 59 of an electrically operated lathe. Extending inwardly from the wall 26 is an abutment 60 and a bracket 61 arranged in parallel spaced relation and positioned above the bottom edge of the said wall. The bracket 61 is of greater length than abutment 60 and also constitutes an abutment. The bracket 61, at its outer end, is formed with an opening 61a through which extends a shaft 62. Slidably mounted on the latter are the side bars 62a of the frame 63 of a jig saw 64. Fixed to, extending from and projecting laterally from the frame side bars 62a, as well as spaced from shaft 62, is a support 63a provided at its ends with the angle-shaped extensions 63b, 63c. Mounted on shaft 62 and interposed between one of the legs of extension 63c and bracket 61 is a controlling spring 65. The shaft 62 extends through the extensions 63b, 63c. The frame 63 is capable of being moved to an upright position upon shaft 62, and when so positioned the frame is shifted upon shaft 62 to have the extensions 63b, 63c engage under abutment 60 and bracket 61 for the purpose of maintaining saw 64 in an upright position. The frame 63 carries a clamp 63a for tightly clamping saw 64 thereto when the latter is upright. The saw 64 and its frame 63 can be shifted to a vertical position as shown in Figure 7. Secured to the inner faces of the walls 24, 25, (Figure 6) as well as extended therefrom, are sets of coupling members. The members of each set are of like form and each set consists of a substantially V-shaped intermediate member 66 and a pair of end members 67, 68. The member 66 depends below the wall to which it is attached. The member 67 includes a curved shank 69 extended from the inner edge of wall 24 or 25 and towards the wall 26 and terminating in an open top hook 70. The member 68 consists of a shank 71 merging in a depending curved stem 72 terminating in an open top hook 73 arranged below the inner edge of wall 24 or 25 and directed towards the hook 70. The hooks are spaced from the bottom of member 66.

The sets of supporting members, as just described, are for the purpose of detachably coupling to the section 11 the suspension arms 74, 75 of a carrier 76. Each suspension arm (Figure 6) comprises an upper, horizontally disposed, inner end straight portion 77, a torsionally twisted intermediate portion 78 offset with respect to the portion 77 and merging into a lower horizontally disposed outer end straight portion 78a. The carrier 76 is of skeleton form and rectangular contour. The carrier 76 is mounted adjacent its ends upon and anchored to the outer end portions 78 of arms 74, 75. Secured to the inner faces of the walls 24, 25, at the outer end portions thereof, are a pair of parallel spaced oppositely disposed anchoring devices 79 of like form, and each consists of a plate 80 (Figure 6) formed with a lengthwise groove 81 and a binding screw 82 arranged to enter groove 81 from the top of the latter. The purpose of the anchoring devices 79 will be presently referred to.

The carrier 76 is employed for supporting a carriage 83 which is slidably connected thereto in a manner as shown at 83a, Figure 8. The carriage is of less length than the carrier 76 and it is provided with a circular saw 84, a shaft 85 for the latter, and electric motor 86, a driving connection 87 leading from motor 86 to shaft 85, an abrading wheel 88 on shaft 85, a planer 89 on shaft 85, a lathe head stock 90 on shaft 85 which coacts with the tail 59, and a drill 91 on shaft 85. The jig saw 64 includes an operating pulley 92 which is driven by the belt 93 leading from the tail stock 59. When driving the jig saw from the lathe a piece of stock is coupled to the head and tail stock of the lathe.

The devices 79 are provided for anchoring the carrier 76 in suspended relation with respect to and extended outwardly from the open end of section 11. In this connection, the arms 74, 75 are mounted in the grooves 81 and secured to the plates 80 by the binding screws 82. The devices 79, in connection with the arms 74, 75, permit of adjusting the position of the carrier 76 at varying distances from the open end of section 11. When the lathe is employed, panel 30 of wall 28 is lowered.

Removably carried by the wall 16 of section 10 is an electrically operated, vertically adjustable boring machine 94 which is positioned when used in the manner as shown in Figure 7, relative to the wall 16 of section 10. The machine 94 includes a standard 95 which, when the machine is in the position shown in Figure 7, extends down through an opening 96 in wall 16. The latter has secured thereto a work supporting plate 97 formed with an opening 98 registering with an opening 99 in wall 16. The registering openings 98, 99 provide a clearance for the boring tool. Detachably carried by wall 16 is a combination shaper and router 100. Removably attached to the wall 16 of section 10 is a meter box combination 101 so formed that when it is in use it will abut the inner face of and extend outwardly from wall 14 and be anchored in the position shown in Figure 7 by the wall 16. A saw is indicated at 102 and is to be housed in section 10 when not in use.

Pivotally attached to the outer ends of the walls 24, 25 of section 11 is a retaining member 103 of yoke-shaped contour which is adapted to extend across the open end of section 11 to maintain the carrier 76 and saw carriage 83 in housed position within section 11. The leg 38 is arranged between the ends of member 103.

When the work units are housed in the receptacle like body, the elements 67, 68 and 69 extend from section 11 into section 10 and the carrier 76 and carriage 83 are connected to the said elements and extend from section 11 into section 10. The

motor 86 is to be provided with suitable electrical connection.

What I claim is:

1. A portable work equipment holder and supporting structure comprising a foldable and extendible body in the form of a receptacle, said body including a pair of oppositely disposed compartment sections hinged together, one of said sections formed of top and bottom walls, a pair of end walls, a front wall hinged to the bottom wall and latches for connecting the front wall to the top wall; the other of said sections being open at its outer end, formed of a top and a bottom wall, an inner end wall, a front wall hinged to its bottom wall, a hinged panel in its top wall, latching means for connecting its front wall with said panel, a retaining member for extension across the said open end when said body is folded, a combined tool and tool driving motor support within and for extension laterally through the open end of said open end section when said body is extended, means anchored to the said open end section and extending into the other of said sections, when said body is folded, for coupling said support, in housed position to and within said open inner end section, and means within said open outer end section for suspending said support in laterally extended relation with respect to said open outer end.

2. A portable work equipment holder and supporting structure comprising a foldable and extendible body in the form of a receptacle, said body including a pair of oppositely disposed compartment sections hinged together, one of said sections formed of top and bottom walls, a pair of end walls, a front wall hinged to the bottom wall and latches for connecting the front wall to the top wall; the other of said sections being open at its outer end, formed of a top and a bottom wall, an inner end wall, a front wall hinged to its bottom wall, a hinged panel in its top wall, latching means for connecting its front wall with said panel, a retaining member for extension across the said open end when said body is folded, a hand grip loosely connected to one end of the top walls of said sections, a hand grip loosely connected to the other end of the top wall of one section and detachably connected to the other end of the top wall of the other of said sections, a combined tool and tool driving motor support within and for extension laterally through the open end of said open end section when said body is extended, means anchored to the said open end section and extending into the other of said sections, when said body is folded, for coupling said support, in housed position to and within said open inner end section, and means within said open inner end section for suspending said support in laterally extended relation with respect to said open inner end.

3. A portable work equipment holder and supporting structure comprising a foldable and extendible work units housing body including a pair of supportable hinged hollow open rear sections providing, when said body is extended, a work bench, each of said sections including a hinged and latchable front wall and top and bottom walls; one of said sections having a pair of end walls and the other of said sections having an inner end wall and an open outer end, the front wall of that section formed with a pair of end walls having means for detachably coupling work units to its inner face and means for retaining a boring element in position for operation; the top and bottom walls of the other of said sections having means for coupling a plurality of work units therewith for housing in such section; and the top wall and inner end wall of the said upper section having respectively a work holder secured thereto and means for pivotally connecting therewith an upwardly positioning work unit.

4. In a portable work equipment holder and supporting structure, a foldable and extendible body formed of a pair of hinged work units housing sections providing, when said body is extended, a work bench, a carrier, a carriage slidably connected therein and provided with a series of electrically driven work units, means for detachably coupling the carrier with the carriage thereon in housed position within one of said sections, and means within the last mentioned section and coacting with said carrier for suspending the carriage adjacent to one end of such section.

5. In a portable work equipment holder and supporting structure, means to provide a foldable supported work bench, spaced parallel sets of coupling members within said means, a pair of suspension arms detachably mounted in said members, a carrier mounted on said arms for housing in said means, a carriage provided with a series of work units and driving means common to the latter, said carrier and carriage having coacting parts for slidably connecting the carriage upon the carrier, and anchoring devices arranged within said means for coaction with said arms for detachably suspending the carrier and carriage in extended relation with respect to one end of the bench.

6. In a portable work equipment holder and supporting structure, means to provide a foldable supported work bench, spaced parallel sets of coupling members within said means, a pair of suspension arms detachably mounted in said members, a carrier mounted on said arms for housing in said means, a carriage provided with a series of work units and driving means common to the latter, said carrier and carriage having coacting parts for slidably connecting the carriage upon the carrier, anchoring devices arranged within said means for coaction with said arms for detachably suspending the carrier and carriage in extended relation with respect to one end of the bench, said means provided intermediate its ends with an opening for the passage of a vertical support for a boring machine, said means provided intermediate its ends with a support for the work to be acted upon by said machine, and said support and means having registering openings forming a clearance for the tool of said machine.

7. In a portable work equipment holder and supporting structure, a foldable and extendible body in the form of a receptacle, said body including a pair of oppositely disposed compartment sections hinged together and providing, when said body is extended, a work bench, one of said sections formed of a top and bottom wall, a pair of end walls, a front wall hinged to the bottom wall and latching means for connecting the front wall to the top wall; the other of said sections being open at its outer end and formed of top and bottom walls, an inner end wall, a front wall hinged to its bottom wall and latching means for connecting its front wall with its top wall, means secured to the top and bottom walls of said sections for hinging them together, a retaining member pivoted to that section having an open outer end for extension across the latter when the sections are folded, a hand grip loosely connected to one end of

the top walls of said sections, a hand grip loosely connected to the other end of the top wall of one section and detachably connected to the other end of the top wall of the other of said sections, a straight, foldable and extendible supporting leg hinged at one end within and to the top and bottom walls of that section provided with a pair of end walls, a foldable and extendible supporting leg inturned at its inner end extending into and pivotally connected to the top and bottom walls of that section open at its outer end.

8. In a portable work equipment holder and supporting structure, a foldable and extendible body in the form of a receptacle including a pair of oppositely disposed hinged work unit housing sections providing, when said body is extended, a work bench, one of said sections including a front wall and the other a rear wall endwise aligning when said body is extended, an extension rule pivotally connected at one end to and arranged on the outer face of said front wall, an arcuate bar secured to the outer face of said front wall and providing for spaced means for setting the rule at various angles, and said rule being of a length to extend over and from said rear wall when the said walls are in endwise alignment.

9. In a portable work equipment holder and supporting structure, a foldable and extendible body in the form of a receptacle including a pair of oppositely disposed hinged work units housing sections providing, when said body is extended, a work bench formed of a pair of endwise aligning hinged parts for access to the interior of said sections, one of said sections including an inner end wall, a top wall, a bottom wall and an open outer end, lathe-forming means within said open outer end section and formed of an inner rotatable and an outer rotatable section coacting with said inner section for supporting the work to be operated upon, said inner rotatable section being rotatably supported from said top wall, an adjustable support for suspension from said top and bottom walls and for extension outwardly through said open end, said support rotatably carrying the rotatable outer section of the lathe, and a driving means for said outer section of the lathe carried by said support.

10. In a portable work equipment holder and supporting structure, a foldable and extendible body in the form of a receptacle including a pair of oppositely disposed hinged work units housing sections providing, when said body is extended, a work bench formed of a pair of endwise aligning hinged parts for access to the interior of said sections, one of said sections including an inner end wall, a top wall, a bottom wall and an open outer end, lathe-forming means within said open outer end section and formed of an inner rotatable and an outer rotatable section coacting with said inner section for supporting the work to be operated upon, said inner rotatable section being rotatably supported from said top wall, an adjustable support for suspension from said top and bottom walls and for extension outwardly through said open end, said support rotatably carrying the rotatable outer section of the lathe, a driving means for said outer section of the lathe carried by said support, a normally horizontally disposed work unit within said open end section, spring controlled means for pivotally connecting one end of said work unit to said inner end wall, said work unit capable of being shifted to an upstanding position on its pivot, and an operating drive connection for said work unit extending from the latter to the inner section of said lathe forming means.

11. In a portable work equipment holder and supporting structure, a foldable work bench having an open end, a carrier, a carriage slidably mounted thereon, a shaft mounted in the carriage, a series of work units carried by the shaft, a driving means for the shaft on said carriage, said carrier and carriage normally housed in said work bench and extendible therefrom through said open end, means within the work bench for detachably coupling the carrier in housed position, and said work bench and carrier having coacting parts for suspending the carrier in extended relation with respect to said open end.

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