Jan. 9, 1962 D. E. JOHNSON 3,016,104

COLLAPSIBLE COMBINATION SAWHORSE AND TOOL CARRIER

Filed Dec. 23, 1959 2 Sheets-Sheet 1

FIG. 1.

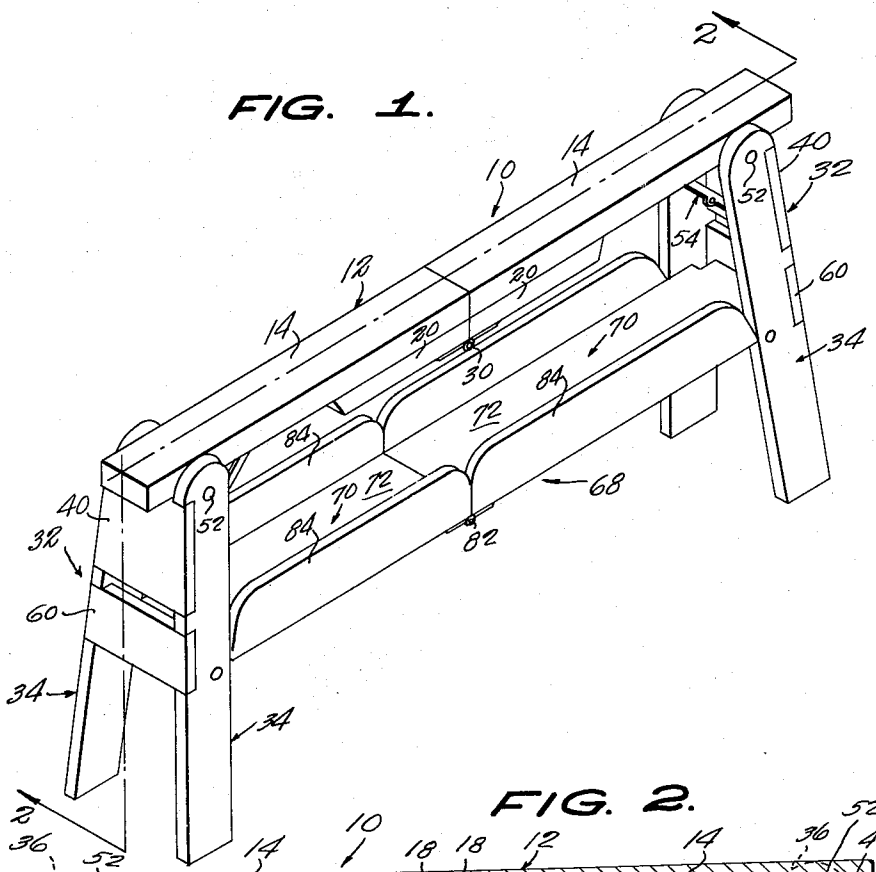
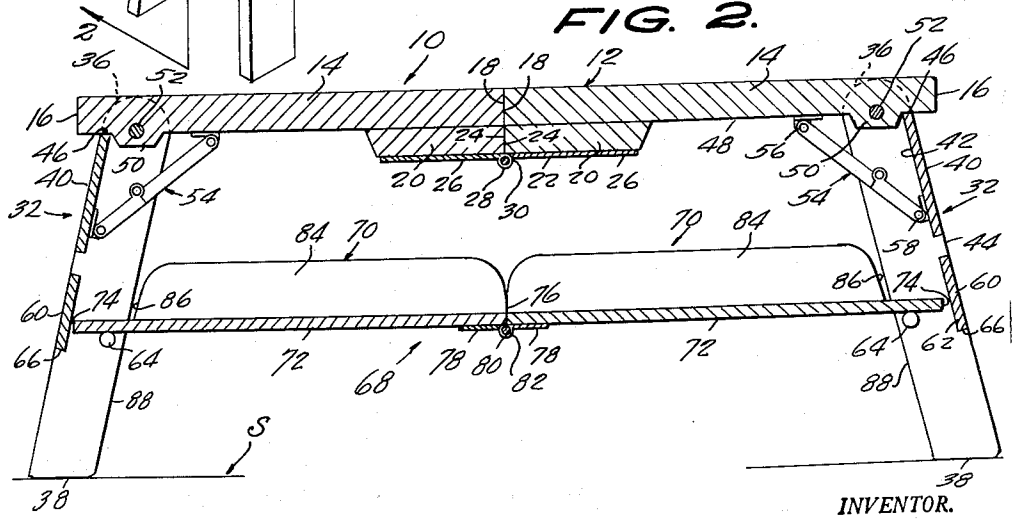


FIG. 2.



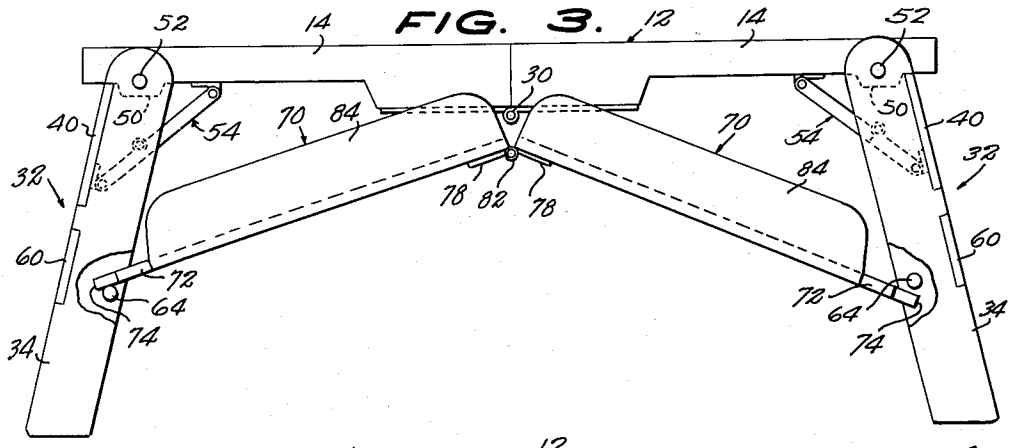
INVENTOR.
DON E. JOHNSON,
BY
McMorrow, Berman & Davidson
ATTORNEYS.

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FIG. 3.



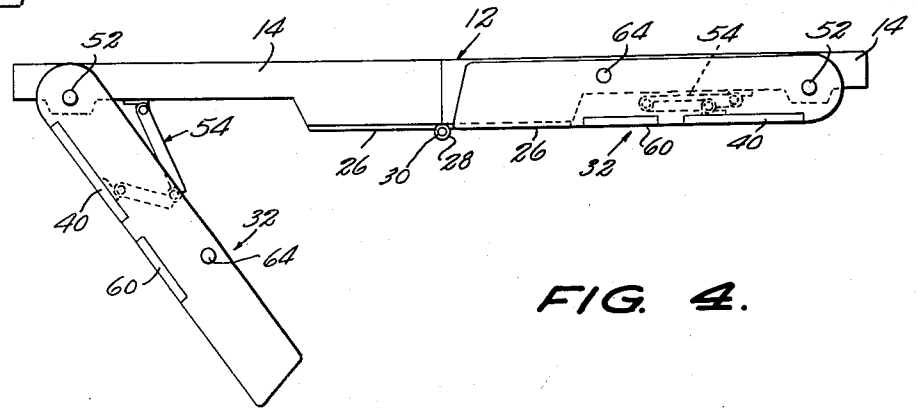
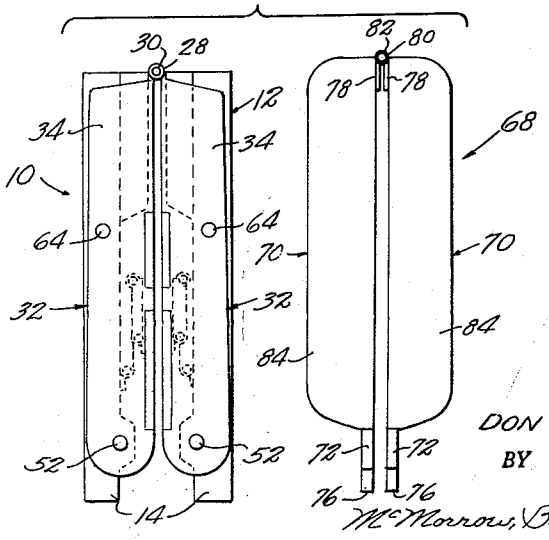


FIG. 4.

FIG. 5.



INVENTOR.
DON E. JOHNSON,
BY
McMorrow, Berman & Davidson
ATTORNEYS

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COLLAPSIBLE COMBINATION SAWHORSE AND TOOL CARRIER

Don E. Johnson, 2323 4th St. NW., Albuquerque, N. Mex.

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2 Claims. (Cl. 182—129)

This invention relates to novel collapsible combination sawhorse and tool carrier.

The primary object of the invention is the provision of a device of the kind indicated which, when in open position, serves as a sawhorse and work bench, and as a carrier and container for tools associated with the use of the device, the device being capable of being collapsed into a relatively small package for easy and space-saving transportation thereof.

Another object of the invention is to provide a simple and rugged device of the character indicated above, wherein the tool carrier is supported on and between the leg assemblies of the device, on a level below the bolster of the device, in the open position of the device, and is held in place by means provided on the leg assemblies, so that the carrier serves as a brace between the leg assemblies, the tool carrier being composed of foldable sections, the folding of which enables removing the carrier from the leg assemblies.

A further object of the invention is to provide a device of the character indicated above wherein the horse component of the device has a bolster which is foldable between its ends, and the leg assemblies are hinged to the ends of the bolster to be folded along the sections of the bolster, with the bolster sections folded and nested in the leg assemblies, toggle lever assemblies being provided to hold the bolster sections and the leg assemblies in their unfolded open operative positions.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawing:

FIGURE 1 is a perspective view of a device of the invention in open position;

FIGURE 2 is a vertical longitudinal section taken on the line 2—2 of FIGURE 1;

FIGURE 3 is a side elevation of the device showing the tool carrier folded, incidental to installing or removing the tool carrier;

FIGURE 4 is a side elevation of the device showing one leg assembly folded into nesting relation to a bolster section, and the other leg assembly partially folded; and

FIGURE 5 is a group side elevation showing the sawhorse component and the tool carrier component in collapsed positions.

Referring in detail to the drawings, wherein like numerals designate like parts throughout the several views, the illustrated combination device comprises a sawhorse component, generally designated **10**, which has a longitudinally elongated, normally horizontally disposed bolster **12**, preferably of flat rectangular cross section, which is composed of two similar end-abutting bolster sections **14**, having free outer ends **16**. In the region of the inner ends **18** of the bolster sections are relatively short, longitudinally extending enlargements **20**, located on the undersides of the sections **14**. The enlargements **20** having undersurfaces **22** which are substantially parallel to the lengths of the sections and inner ends **24** which are flush with the inner ends **18** of the sections. Hingedly connecting the sections **14** together to fold downwardly toward each other into side-by-side spaced parallel relationship, as indicated in FIGURE 5, are hinge leaves **26**

which are suitably secured to and extend along the undersurfaces **22** of the enlargements **20**, and have downwardly displaced interdigitated hinge barrels **28** on their inner ends, at the point of abutment of the inner ends of the sections **14**, through which a hinge pin **30** extends.

Similar leg assemblies **32** are pivoted on the bolster sections **14** near the outer ends **16** thereof. The leg assemblies **32** comprise pairs of downwardly divergent, preferably vertically elongated flat legs **34** having rounded upper ends **36** and lower ends **38** which are angled, as shown in FIGURES 2 and 3, to make flush engagements with a supporting surface S, such as a floor, with the leg assemblies **32** in downwardly divergent relationship to each other, in the unfolded and set-up condition of the sawhorse component **10**.

The divergent legs **34** are spaced and connected by upper cross plates **40** which are preferably suitably fixed in recesses **42** formed in the outer edges **44** of the legs **34**, near the upper ends **36** thereof. The plates **40** have upper edges **46** which are at locations below the upper ends **36** of the legs **34**, such that these upper edges have supporting and stop engagements with the undersurfaces **48** of the bolster sections, and with the outer sides of bevelled cross members **50** which extend across and are secured to the undersurfaces **48**, at points near to and spaced from the outer ends **16** of the bolster sections, the cross members **50** having axles **52** extending therethrough on the ends of which the legs **34** are pivotally secured centrally of their upper ends **36**. This arrangement prevents the leg assemblies from being spread beyond their operative downwardly divergent spread relationship.

The leg assemblies **32** are maintained in their spread operative relationships by means of ladder-type foldable locking toggle levers **54**, which are pivoted at opposite ends thereof to the undersurfaces of the bolster sections **14**, at points inwardly of the cross members **50**, as indicated at **56**, and to lower parts of the inward sides of the upper plates **40**, as indicated at **58**.

Spaced below the upper cross plates **40**, lower and preferably narrower lower cross plates **60** extend between the legs **34** and are secured in recesses **62** in the outer edges of the legs. Rungs **64** extend between and are fixed to the legs **34** at locations which are spaced above and near to the lower edges **66** of and spaced longitudinally inwardly from the lower cross plates **60**. The rungs **64**, in conjunction with the lower cross plates **60** serve as supports for a tool carrier component of the device, which is generally designated **68**.

The tool carrier component **68** comprises two similar carrier sections **70**, composed of elongated bottom plates **72** having outer ends **74** and inner ends **76**, the inner ends **76** being in abutting relationship in the unfolded operative position of the component **68**, as shown in FIGURES 1 and 2. The length of the carrier component, in its operative open position, is slightly less than the distance between the lower press plates **60** of the leg assemblies **32** and great enough that the section bottom plates **72** can rest upon the rungs **64**, with their outer ends **74** well beyond the rungs and located close to the lower cross plates **60**, whereby inwardly collapsing of the leg assemblies **32**, in the event of failure of locking toggle levers **54**, is precluded.

The carrier section bottom plates **72** are hinged together by means of hinge leaves **78** which are secured along the undersides of the plates **72** and have interdigitated and downwardly extending hinge barrels **80** on their inner ends, through which a hinge pin **82** extends. This hinging enables the carrier sections **70** to be folded upwardly relative to each other, preliminary to engaging or removing the outer ends of the bottom plates **72** over the leg assembly rungs **64**, as shown in

FIGURE 3, and to be folded into parallel side-by-side storage relationship, as shown in FIGURE 5. The bottom plates **72** have upstanding side walls **84** fixed to and extending along their opposite side edges, so as to constitute the carrier sections as tool securing troughs. As shown in FIGURE 1, the side walls **84** have downwardly bevelled ends **86** which are located in the vertical planes of the legs **34** of the leg assemblies **32**, the ends **86** being positioned close to the inner edges **88** of the legs **34**, so that endwise shifting of the carrier component **68**, relative to the sawhorse component **10**, sufficient to permit the outer ends of the carrier section bottom walls to fall off the rungs **64**, is precluded

The combination device, when in unfolded and set-up condition, can be conveniently and easily carried from one place to another, by grasping a midportion of the bolster **12**, and lifting the device off its supporting surface S, without danger of collapsing the device or spilling tools out of the carrier component **68**, the ends of whose troughs are closed by the lower cross plates **60** of the leg assemblies **32**.

Although there has been shown and described herein a preferred form of the invention, it is to be understood that the invention is not necessarily confined thereto, and that any change or changes in the structure of and in the relative arrangements of components thereof are contemplated as being within the scope of the invention as defined by the claims appended hereto.

What is claimed is:

1. A collapsible combination sawhorse and tool carrier comprising a bolster composed of two sections hinged together at their inward ends to fold only upwardly relative to each other from operative positions in which the inward ends of the sections are in abutting relationship, leg assemblies positioned at the outward ends of the bolster sections, each leg assembly comprising a pair of lateral spaced legs having upper ends engaged with the outer sides of the bolster sections and pivoted to the bolster sections at locations spaced inwardly from the outward ends of the bolster sections, said leg assemblies being foldable to put their legs along related sides of the bolster when in inoperative position, upper plates extending between and fixed to upper portions of the legs, said upper plates having upper edges adapted to engage the undersides of the bolster sections at locations outwardly from the pivotal axes of the legs, only in the vertical spread operative positions of the leg assemblies, and toggle levers extending diagonally between and pivoted at their ends to the upper plates of the leg assemblies and to the undersides of the bolster sections, at points spaced inwardly from the leg assemblies, said leg assemblies having rungs extending between their legs and spaced downwardly from said upper plates, and a tool carrier disposed beneath the bolster

and comprising a pair of upwardly opening channel sections hinged together at their inward ends to fold only downwardly relative to each other, said channel sections having sidewalls having inward ends which are in abutting relationship in the unfolded condition of the channel sections, said channel sections having bottom walls having outward ends resting upon said rungs.

2. A collapsible combination sawhorse and tool carrier comprising a bolster composed of two sections hinged together at their inward ends to fold only upwardly relative to each other from operative positions in which the inward ends of the sections are in abutting relationship, leg assemblies positioned at the outward ends of the bolster sections, each leg assembly comprising a pair of lateral spaced legs having upper ends engaged with the outer sides of the bolster sections and pivoted to the bolster sections at locations spaced inwardly from the outward ends of the bolster sections, said leg assemblies being foldable to put their legs along related sides of the bolster when in inoperative position, upper plates extending between and fixed to upper portions of the legs, said upper plates having upper edges adapted to engage the underside of the bolster sections at locations outwardly from the pivotal axes of the legs, only in the vertical spread operative positions of the leg assemblies, and toggle levers extending diagonally between and pivoted at their ends to the upper plates of the leg assemblies and to the undersides of the bolster sections, at points spaced inwardly from the leg assemblies, said leg assemblies having rungs extending between their legs and spaced downwardly from said upper plates, and a tool carrier disposed beneath the bolster relative to each other, said channel sections having sidewalls having inward ends which are in abutting relationship in the unfolded condition of the channel sections, said channel sections having bottom walls having outward ends resting upon said rungs, said leg assemblies having lower plates spaced below said upper plates and extending between and fixed to their legs and constituting closures for the outward ends of the channel sections in the unfolded condition of the tool carrier.

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