March 25, 1969 A. J. SOLO 3,434,436

COLLAPSIBLE WORKBENCH

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FIG. 1

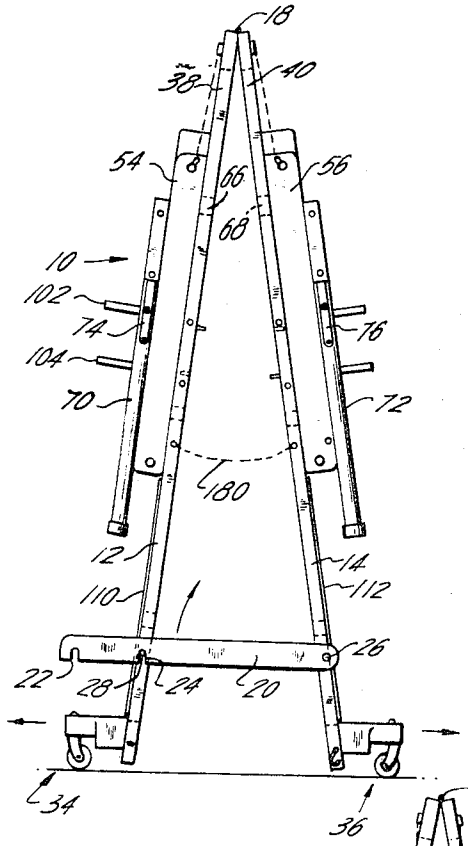



FIG. 2

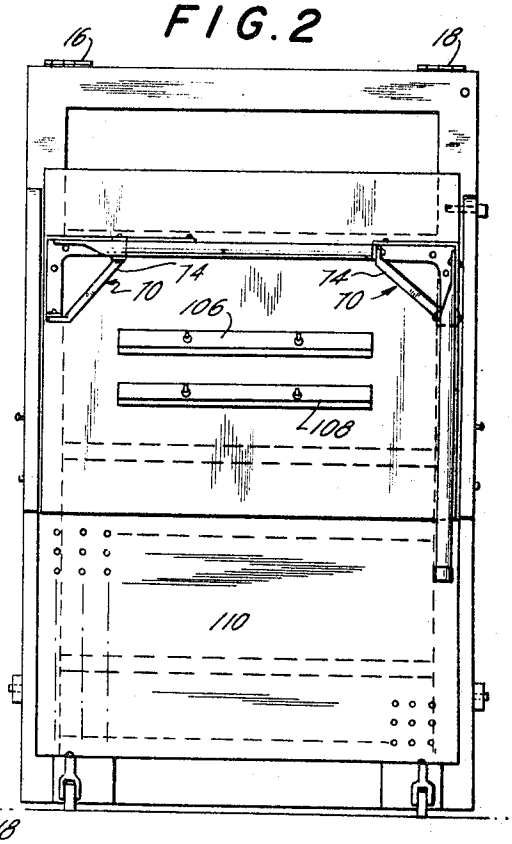



FIG. 3

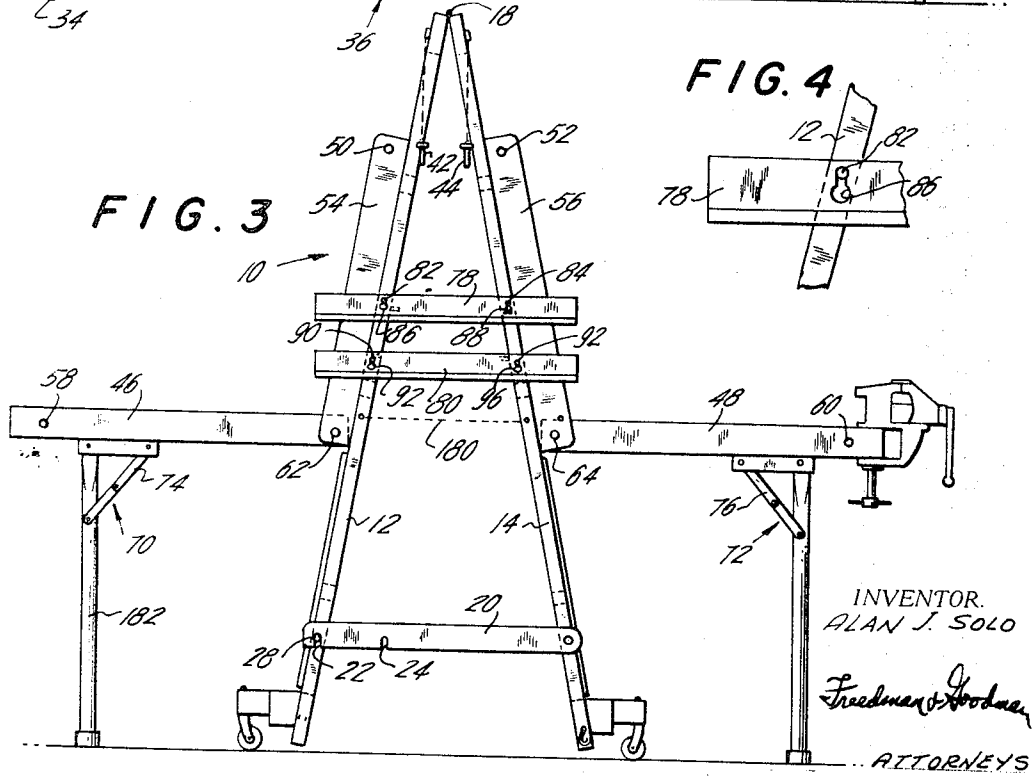



FIG. 4




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FIG. 5

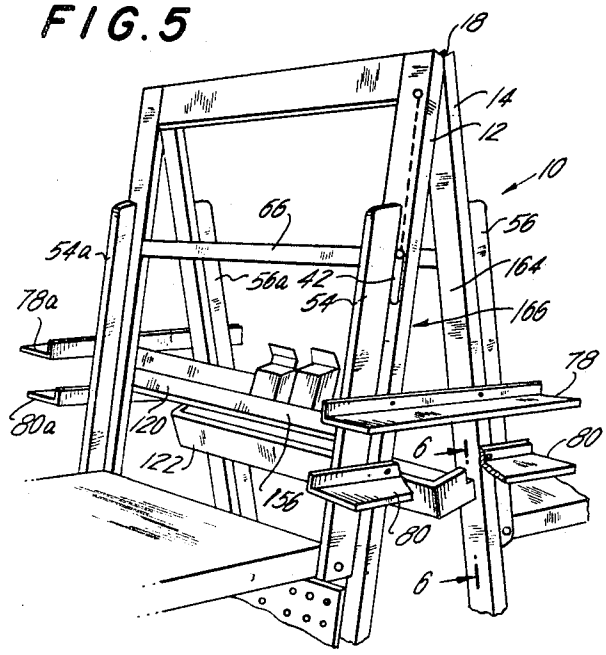



FIG. 6

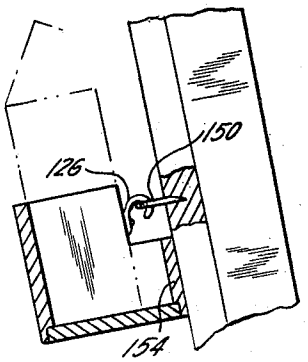



FIG. 8

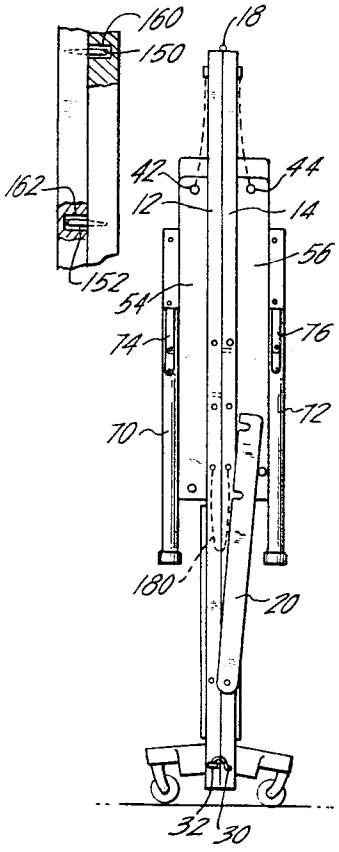
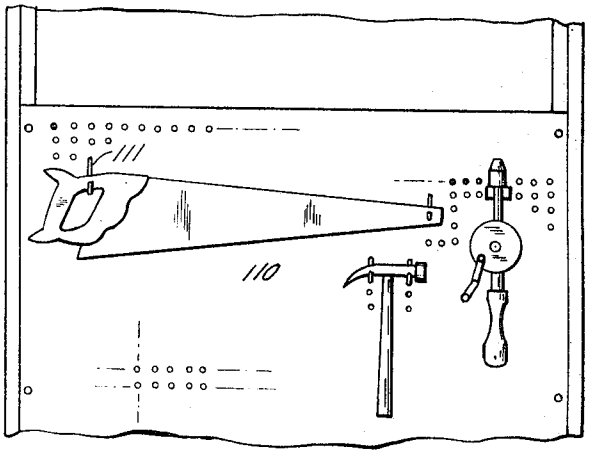



FIG. 7

FIG. 9



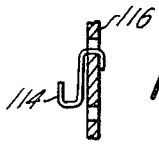




FIG. 10

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3,434,436

# COLLAPSIBLE WORKBENCH

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Int. Cl. A47b 3/14
U.S. Cl. 108—128 6 Claims

## ABSTRACT OF THE DISCLOSURE

This invention and this disclosure are directed to a new and improved type work bench particularly useful for apartments and small homes which do not have sufficient space available to accommodate a permanent type work bench. More particularly, this invention and this disclosure are directed to an improved collapsible and convertible work bench generally in the form of an A frame hinged at the top and on each side provided with collapsible bench tables balanced against one another. This invention and this disclosure are further directed to such a convertible and collapsible work bench provided with tool and fastening means storage facilities.

## BACKGROUND OF THE INVENTION

*Field of the invention*

This invention is in the work bench field and, more particularly, is directed to a work bench which is portable, collapsible and convertible to an easily movable structure. More particularly, this invention is directed to such a portable and convertible work bench provided with plentiful tool and accessory storage facilities.

*Discussion of the prior art*

Generally speaking, a work bench is an article which has heretofore been for the medium and large homeowners only. That is to say, the small homeowner and the apartment dweller have not been able to afford in terms of space the convenience of a work bench which, in addition to accommodating tools and accessories, e.g., nails, screws, nuts and pins, is a convenient and handy place to perform the work. This is due to the fact that most work benches heretofore provided were of the permanent and stationary type, and as such were not convertible, collapsible and portable to a form occupying substantially less space. Any device of a semi-collapsible nature has been structurally poor and unsound and wholly inadequate to withstand the forces imposed by the working operation, particularly hammering.

## OBJECTS OF THE INVENTION

It is an object of this invention, therefore, to provide a work bench which occupies little space.

It is another object of this invention, therefore, to provide a work bench which occupies little space, is collapsible to a form permitting work thereon, and is structurally sound.

It is still another object of this invention, therefore, to provide such a work bench which has means for accommodating and containing a substantial quantity of tools and work accessories, e.g., nails, bolts, nuts, pins and screws.

These and other objects of this invention will become apparent from the following more complete description of the invention, the accompanying drawings, and the appended claims.

## STATEMENT OF THE INVENTION

This invention broadly contemplates a portable, collapsible work bench in the form of an A-frame provided with a pair of oppositely disposed work tables balanced against one another, one of said tables being disposed pivotally against the outside face of a side of said A-frame, the other of said tables being disposed pivotally against the outside face of the other side of said A-frame, each of said tables pivoting about a pin, each of said pins having substantially the same vertical height as the other of said pins.



## BRIEF DESCRIPTION OF THE DRAWINGS

This invention can be more readily understood and appreciated by reference to the accompanying drawings, in which:

FIGURE 1 is a side elevation of the collapsible, convertible and portable work bench of this invention;

FIGURE 2 is an end elevation of the work bench of FIGURE 1;

FIGURE 3 is a side elevation of the work bench of FIGURE 1, showing the balancing work tables in working position, and with the supporting legs in down and supporting position;

FIGURE 4 is an enlarged view of a portion of the work bench showing the shelf connection as discussed below;

FIGURE 5 is a perspective view of the work bench shown in FIGURE 3;

FIGURE 6 is a sectional elevation taken along the line **6—6** of FIGURE 5;

FIGURE 7 is a side elevation of the work bench in completely folded, portable and collapsed position;

FIGURE 8 is a partially broken-away partial side view of the work bench shown in FIGURE 7, which figure illustrates the arrangement of eyes **150** and **152** in recesses **160** and **162**;

FIGURE 9 is a partial end elevation showing the pegboard and tools held thereto by hooks; and

FIGURE 10 is a sectional elevation taken along lines **10—10** of FIGURE 9 showing pegboard hook in position.

## DESCRIPTION OF PREFERRED EMBODIMENTS

A preferred embodiment of the invention is illustrated in the drawings in which work bench **10** comprises tool and table supports **12** and **14** hinged by two butterfly hinges **16** and **18** at one end. Supports **12** and **14** extend downwardly from hinges **16** and **18** and away from one another. A notched cross-member **20** having notches **22** and **24** is affixed by fastener **26** to support **14** pivotally. One of the notches **22** and **24** fits over pin **28** on the side of support **12**, thus bringing the supports **12** and **14** together but not in abutting relationship. Member **20** can be swung clockwise upwards to permit supports **12** and **14** to be drawn in abutting relationship together as shown in FIGURE 7, in which case the supports are fastened using hook **30** on support **14**, engaging eye **32** on support **12**. Each support **12** and **14** is provided with a caster assembly **34** and **36**, each assembly having a wheel on both sides of the work bench, said wheels operating in unison.

To each support there is affixed a chain **38** and **40** connected to a pin **42** and **44** adaptable to lock tables **46** and **48** to the supports by passing through holes **50** and **52** in pieces **54** and **56**, and thence through holes **58** and **60** on the sides of tables **46** and **48** respectively when the holes **50** and **52** are in registry with holes **58** and **60**. Tables **46** and **48** are balanced against one another and are each pivotally connected to the piece **54** or **56** on its side. They pivot about pins **62** and **64** and in upright position are received on the inside of pieces **54** and **56** as shown in FIGURE 5. Lateral braces **66** and **68** are provided between the two sides of the supports **12** and **14**. Each table **46** and **48** has affixed thereto on the underneath side a pair of collapsible work table supporting legs **70** and **72** which are hinged by hinges **74** and **76**

so as to be foldable inwardly toward supports **12** and **14**. On the sides of supports **12** and **14** and connecting the said supports are shelves **78** and **80** running parallel, as seen in FIGURES 3 and 4, the latter in a partially broken-away view. Shelf **78** is hung using pins **82** and **84**, pin **82** in support **12** and pin **84** in support **14**, which pins engage eyelets **86** and **88** on shelf **78**. Shelf **80** is similarly hung using pins **90** and **92** engaging eyelets **94** and **96** on shelf **80**. Shelves **78***a* and **80***a* are similarly attached.

On the bottom sides of each table when in collapsed position there are a pair of shelves, as seen in FIGURES 1 and 2. These are shelves **102** and **104** mounted to table **46**, and **106** and **108** mounted to table **48**. This provides a place to store accessories, etc. when the apparatus is partially collapsed. These shelves are detachable due to the fact that they are fastened onto the tables using the same pin and eyelet arrangement used to affix shelves **78** and **80** to supports **12** and **14**.

On the lower portion of supports **12** and **14** there are pegboards **110** and **112** to which curved S-shaped hooks **114** are affixed. The pegboard provides a means for storing tools using the hooks **114** which pass through the holes **116**.

A pair of shelves **120** and **122** are hooked to the inside portions of supports **12** and **14** where they abut, as in FIGURE 7. Shelves **120** and **122** are hooked using hooks **126**, as shown in FIGURE 6, which engage eyes such as eye **150** so that edge **154** and **156** are brought into abutting relationship with the inside walls **164** and **166** of supports **12** and **14**. Thus shelves **120** and **122** can be readily removed by disengaging hooks **126** from the eyes **150** and **152**. The entire collapsible work bench can be brought together in fully collapsible and portable position due to provision for recesses **160** and **162** into which fit eyes **150** and **152**, as shown in FIGURE 8. Thus, a similar hook, eye and recess arrangement is provided on the opposite side of the A-frame. Thus nail boxes **170** and **172** can be placed into shelf **120** or shelf **122**, providing a convenient storage place while the work is being performed on table **46** and **48**.

It should be noted that my A-frame portable and collapsible work bench is structurally sound, due particularly to the combined arrangement of the respective parts which balance themselves one against the other without sacrificing tool storage facilities, accessory storage facilities, or working table space. The provision of two tables balanced against one another when in extended and operating position enables force distribution throughout the work bench and enables the full utilization of the apparatus for certain tasks, e.g., hammering, which entail addition of substantial forces.

Obviously my invention is the answer to the problems faced by apartment and small home dwellers who have not heretofore had the space for a fully complete work bench not lacking in any essential. My work bench improves on the prior art work benches of conventional construction.

The apparatus is simply used. It is stored in a closet or in the corner of a room or in a small garage or basement in the form shown in FIGURE 7. It is fully collapsed or folded and provided with the caster assembly **34** and **36**. It is wheeled out to a working place proximate the place where the household repair, etc. is being done. The hook **30** is dislodged from eye **32**, and the supports **12** and **14** are withdrawn to a fully open position, pivoting action being obtained or facilitated by virtue of butterfly hinges **16** and **18**. Pins **42** and **44** are removed from holes **58** and **60**, permitting removal or revolution of the folded tables **46** and **48**. The supports are opened no further than guide chain **180** permits, e.g., to the position shown in FIGURE 1, with the tables **46** and **48** folded against supports **12** and **14** and with the hinged legs **70** and **72** folded toward the A-frame but protruding downward when tables **46** and **48** are abutting supports **12** and **14**.



Tables **46** and **48** are brought downward to the position shown in FIGURE 3, and hinges **74** and **76** which connect tables **46** and **48** to legs **70** and **72** are adjusted to the position shown in FIGURE 3. The width of the A-frame work bench is adjusted by using notches **22** and **24** on cross-member **20** to engage pin **28**, as shown in FIGURES 1 and 3.

Of course, prior to opening the structure up, shelves **120**, **104**, **106** and **108** are temporarily removed to permit revolution of tables **46** and **48** about pins **62** and **64** without spilling the contents. The removal of the shelves is optional. These shelves are replaced on the apparatus or shelves **78**, **78***a*, **80** and **80***a* since the distance between the engaging hooks on the bottom of tables **46** and **48** is the same as the lateral distance between supports **12** and **14**, as shown in FIGURES 1 and 5. The shelves **120** and **122** are inserted on the apparatus by the hook and eye mechanism shown in FIGURE 6. The apparatus is thus ready in a matter of minutes to assist in the task to be performed.

The foregoing is set forth for the purposes of illustrating the invention and the manner of constructing and utilizing the same, and not for purposes of limiting the invention, as it is recognized that various modifications and changes are possible within the scope and spirit of the invention.

What is claimed is:

**1.** A portable collapsible work bench comprising an A-frame, said A-frame being comprised of a pair of side supports hingedly secured to each other along their top edges thereby defining sides of said A-frame adapted to be moved between an open and collapsed position, said A-frame being provided with a pair of oppositely disposed work tables balanced against one another, one of said tables being adapted to be disposed pivotally against the outside face of a side support of said A-frame, said one table being provided with first pivot means mounting said table on said side of said A-frame for pivotal movement between a working position and an upright position, said pivot means being disposed at a predetermined vertical height, the other of said tables being disposed pivotally against the outside face of the other side of said A-frame, said other table being provided with second pivot means mounting said other table on said other side of said A-frame for similar pivotal movement between a working position and an upright position, said second pivot means being disposed at substantially the same vertical height as the second of said pivot means, each of said tables being provided with a pair of support legs hingedly mounted to said table at its end remote from the pivot means associated therewith, each pair of said legs being hinged to its associated table in folding relation, said legs being foldable inwardly towards the sides of said A-frame, and caster assemblies provided at the bottom of each of said side members of said A-frame.

**2.** A portable collapsible work bench according to claim **1**, wherein on the bottom of each of said tables there is provided a pair of removable shelves adaptable to be affixed two on each side of said A-frame so as to run laterally from one side of said A-frame to the other side of said A-frame, said shelves being balanced against one another.

**3.** A portable collapsible work bench according to claim **1**, wherein on the outside face of each side of said A-frame there is a pegboard positioned beneath each of said tables, said pegboards adaptable to hold tools.

**4.** A portable collapsible work bench according to claim **1**, wherein means are provided for maintaining each of said tables in upright position.

**5.** A portable collapsible work bench according to claim **1** wherein said side supports of said A-frame are adapted to be selectively disposed in a fully open, partially collapsed or fully collapsed position and means

are provided for selectively retaining them in said positions.

6. A portable collapsible work bench comprising an A-frame provided with a pair of oppositely disposed work tables balanced against one another, one of said tables being disposed pivotally against the outside face of a side of said A-frame, the other of said tables being disposed pivotally against the outside face of the other side of said A-frame, each of said tables pivoting about a pin, each of said pins having substantially the same vertical height as the other of said pins, each of said tables provided with a pair of support legs to support the table at its end remote from said A-frame, said support legs being hinged to the table in folding relationship, a pair of removable shelves on the bottom of each of said tables adaptable to be affixed two on each side of said A-frame so as to run laterally from one side of said A-frame to the other side of said A-frame, said shelves being balanced against one another, a removable shelf affixed against the inside face of both of the sides of said A-frame, each of the shelves having a hook adaptable to engage an eye on the side of the support, the opposing support being provided with a recess substantially opposite said eye to accommodate said eye when said work bench is in fully collapsed position, the outside faces of each side of said A-frame accommodating a pegboard positioned beneath each of said tables, means for maintaining each of said tables fully collapsed, said means comprising a pin passing through a hole in the side of said table when said hole is in registry with a permanent hole on a member on the side of said A-frame, a caster assembly on the bottom of each side of said A-frame and on one side of said A-frame adjacent said caster assembly, a pin for engagement by one of a plurality of notches on a cross-member pivotally connected to the other side of said A-frame and a guard chain positioned midway up the height of said A-frame and joining said sides which restrains moving said sides away from one another greater than a predetermined distance.




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U.S. Cl. X.R.

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