June 20, 1961 S. PANTEK ET AL 2,989,139

MOBILE STAND

Filed Aug. 7, 1959 3 Sheets-Sheet 1

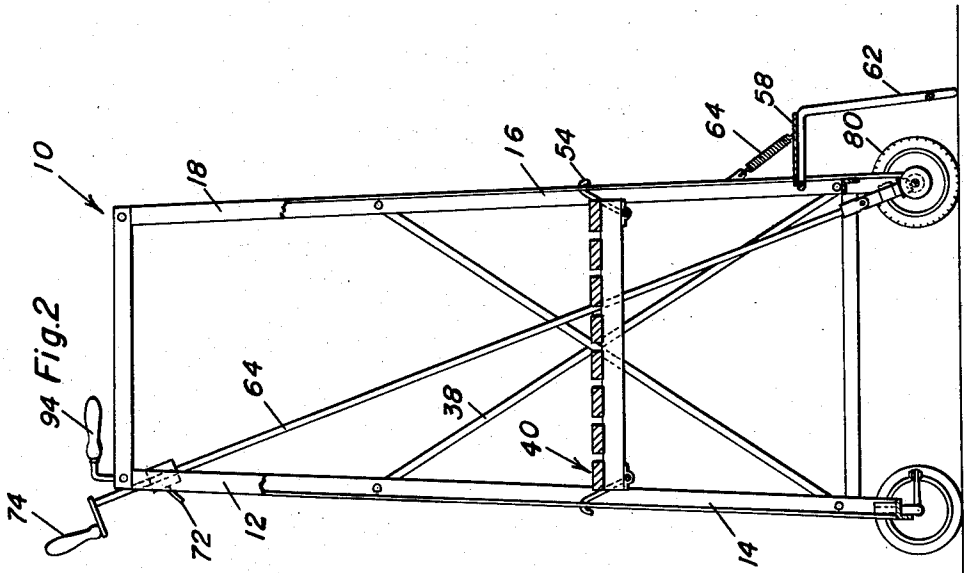


Fig. 2

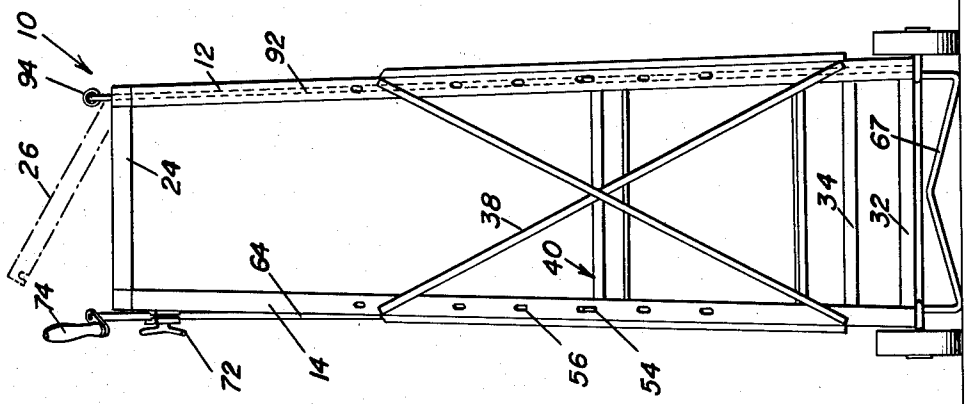


Fig. 1

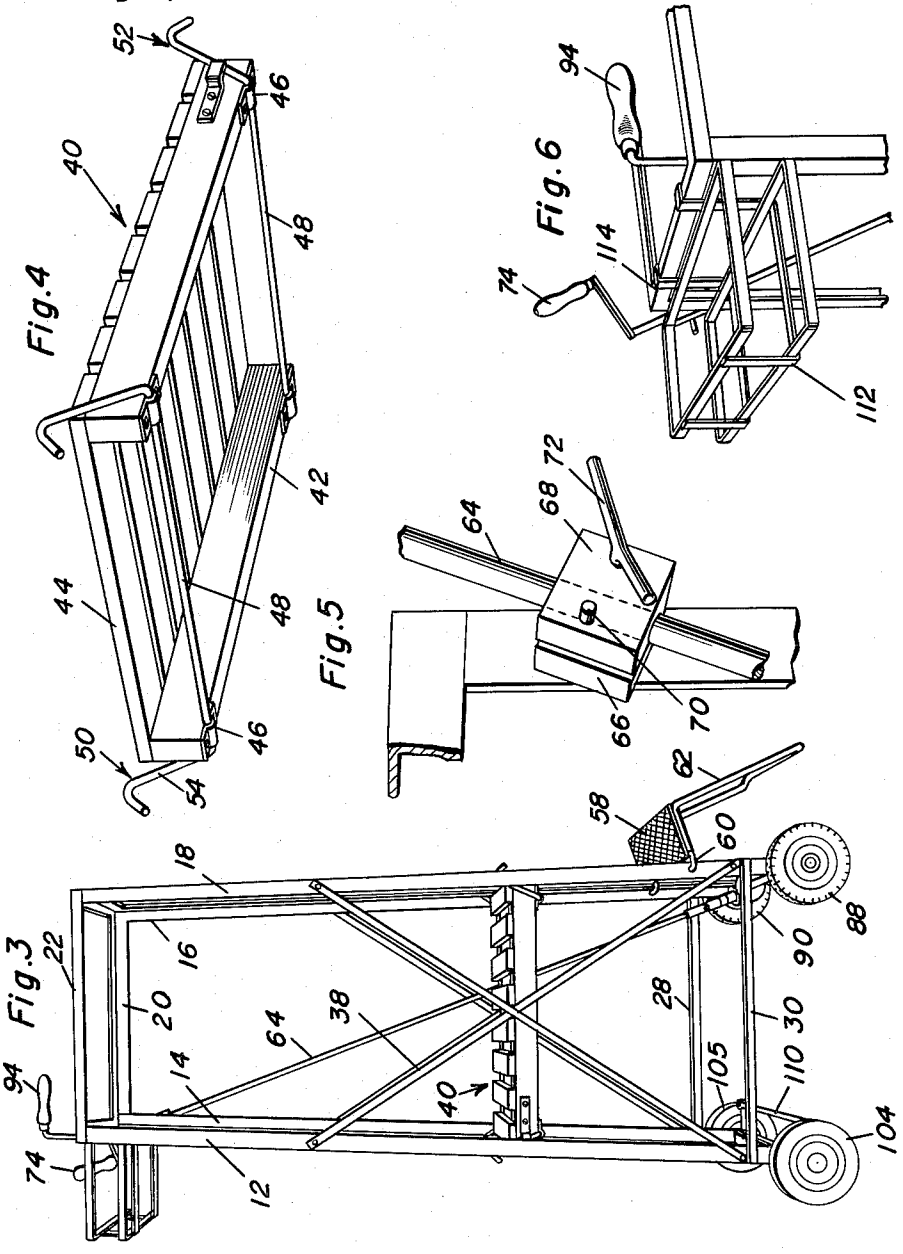
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MOBILE STAND

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MOBILE STAND

Filed Aug. 7, 1959 3 Sheets-Sheet 3

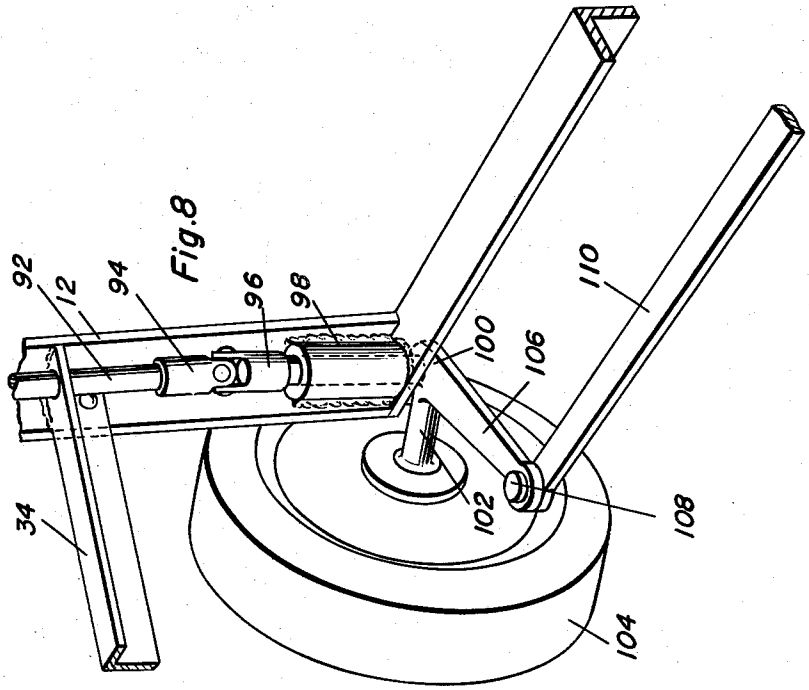


Fig. 8

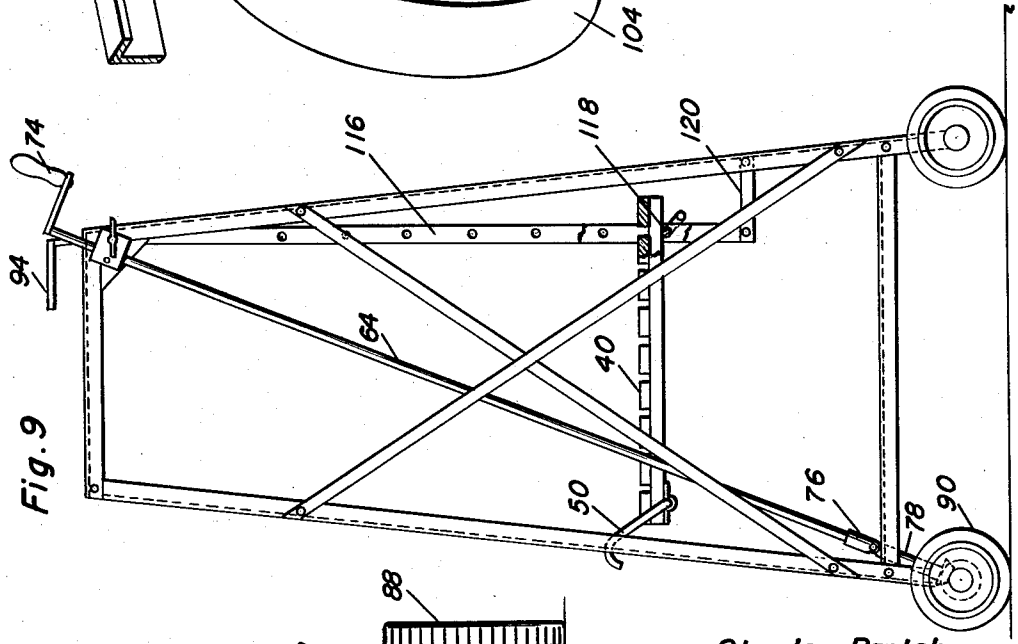


Fig. 9

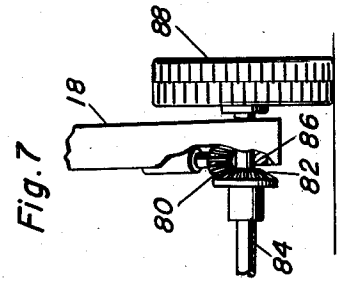


Fig. 7

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MOBILE STAND

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3 Claims. (Cl. 182—15)

This application is a continuation-in-part application of U.S. Serial No. 745,907 filed July 1, 1958, and now abandoned.

This invention relates generally to scaffolding apparatus and more particularly to a mobile scaffold or stand especially designed for utilization in connection with painting ceilings and the like.

It is of primary concern in connection with this invention to provide an easily movable mobile stand assembly which is provided with a platform which may be readily adjusted to different levels for performing operations overhead such as painting or the like and wherein the assembly is provided with mechanism for moving the same, under the control of the operator without requiring the operator to remove himself from the stand.

A further object of this invention is to provide improvements in mobile stand assemblies wherein the mobile stand is so constructed and arranged as to be of relatively lightweight to facilitate movement thereof and wherein the stand is provided with operating control mechanisms within easy reach of an operator enabling the operator to manipulate the stand as desired, without requiring his removal from the assembly.

A further object of this invention is to provide an improved mobile stand assembly essentially comprising upwardly extending converging standards which define a generally open cage-like structure. Proper brace means interconnect adjacent standards for rigidifying the stand. A pair of front ground wheels are dependingly supported from a first pair of the standards while a pair of rear ground wheels are dependingly supported from a second pair of standards. A steering rod extends upwardly, above an adjustable platform carried by the standards, from the front pair of wheels for enabling an operator on the platform to steer the assembly. A motivating rod extends upwardly above the platform and is operatively connected with the pair of rear wheels for providing motivation to the stand. A pivotally secured step is suspended from the standards for providing easy access to the platform. A brake in the form of a pair of spaced plates is provided and passes the rod connected to the rear wheels. When a bolt connecting the two plates is screwed tightly, the plates will come together to grip the motivating rod so as to prevent movement of the stand.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is an end elevational view of the mobile stand;

FIGURE 2 is a side elevational view partially broken away of the mobile stand illustrating the pivotally mounted step in operative position;

FIGURE 3 is a perspective view of the mobile stand;

FIGURE 4 is an enlarged perspective view of the platform which may be adjustably carried by the upwardly extending converging standards;

FIGURE 5 is an enlarged fragmentary elevational view of a brake utilized to prevent rotation of the motivating rod;

FIGURE 6 is a fragmentary perspective view illustrating a utility basket which may be suspended from the mobile stand;

FIGURE 7 is an enlarged fragmentary elevational view partially broken away illustrating particularly the drive connection between the motivating rod and the axle;

FIGURE 8 is an enlarged fragmentary perspective view illustrating particularly the steering linkage between the steering rod and the front ground wheels; and

FIGURE 9 is a side elevational view of a modified form of mobile stand.

With continuing reference to the drawings, the numeral **10** generally represents the mobile stand comprising this invention and initially including upwardly extending converging angle member standards **12**, **14**, **16** and **18**. The standards **12** and **14** comprise the front pair of standards while the standards **16** and **18** comprise the rear pair. Structural members **20** and **22** are respectively rigidly connected between the standards **14** and **16** and the standards **12** and **18**. A structural member **24** rigidly connects the standards **12** and **14** while a pivotally supported member **26** is adapted to extend from the standard **16** to the standard **18**. Extending parallel to the members **20**, **22**, **24** and **26** are bottom elements **28** and **30** connecting standards **14** and **16** and standards **12** and **18** together respectively. A member **32** joins standards **12** and **14** while the member **34** joins the rear standards **16** and **18**. Diagonal cross braces as **38** extend between the standards to provide rigidity thereto. It will be appreciated that the elements so far recited define an open cage-like structure.

Adapted to be supported by and between the standards is a platform **40** which preferably has a frame portion **42** having spaced slats **44** secured thereto. U-shaped supports **46** are fixed to the frame **42** and receive therethrough the bight portion **48** of U-shaped hangers **50** and **52** respectively. The bight portions **48** are rotatable within the U-shaped members **46**. Projecting right angle legs **54** are terminally formed with the bight portion **48**. The right angle legs **54** are adapted to be selectively received in apertures **56** in each of the standards for securing the platform **40** at the four corners thereof. It will be appreciated that the hangers **50** and **52** must be pivotal inasmuch as the platform **40** should properly hang within the converging standards. In order to provide access to the platform **40**, a step **58** is pivotally supported between the standards **16** and **18** as spindle portions **60** are received within apertures in the standards. A frame **62** projects below the step **58** for rigidly and horizontally supporting the step **58**. A spring **64** may be provided to urge the step **58** in a counter-clockwise position, as illustrated in FIGURE 2, so that when not in use, the step **58** will be out of the way.

Motivating or drive means and steering means are provided with the mobile stand for facilitating the utilization thereof. Initially, the drive means includes a drive rod **64** which extends upwardly above the platform **40** between a pair of bearing plates **66** and **68**. The plates **66** and **68** are adapted to move inwardly and outwardly along a path defined by the guide pin **70**, extending perpendicular to each plate. A wing bolt **72** secures the plates **66** and **68** together and may be screwed down tightly so as to allow the plates **66** and **68** to grip the drive rod **64** to prevent rotation thereof. Normally, the wing bolt **72** is loosened to allow rotation of the rod **64** by turning eccentrically mounted handle **74**. The drive rod **64** terminates in a knuckle member **76** operatively connected to a knuckle member **78** terminating in a bevel gear **80**. The bevel gear **80** is operatively engaged with a bevel gear **82** secured to an axle **84** which passes through aligned apertures in the standards **16** and **18**. The apertures preferably include bearings **86**. Terminally

secured to the axle **84** are a pair of rear ground engaging wheels **88** and **90**. It should be appreciated that upon turning handle **74**, the drive rod **64** may be rotated so as to drive the bevel gear **80** and the rear ground wheels **88** and **90** through the axle **84**. If it be desired to prevent rotation of the drive rod **64**, the wing bolt **72** may be screwed so as to draw the plates **66** and **68** together to grip the drive rod **64**.

The steering control means include a steering rod **92** which has a handle **94** secured thereto and which extends downwardly adjacent the standard **12**. The steering rod **92** extends through aligned apertures in the members **24** and **34** and terminates in a knuckle member **94** which is operatively connected to a knuckle member **96** projecting through bearing **98** secured to a bell crank **100**. The bell crank **100** includes a first leg **102** which serves as a spindle and supports a front ground engaging wheel **104** while the second leg of the bell crank **100** is designated as **106** and is pivotally secured as at **108** to a tie rod **110**. A second front wheel is designated as **105** and is connected to the tie rod **110** in a manner similar to the wheel **104** and particularly illustrated in FIGURE 8. It will be appreciated that when the handle **94** is turned, the steering rod **92** will rotate and accordingly the bell crank **100** will be turned to the universal joint comprising the knuckle members **94** and **96**. The spindle **102** will pivot and carry the rotatably mounted wheel **104** therewith. The tie rod **110** will cause the other front ground wheel **105** to act in conjunction with the wheel **104**.

Accordingly, it should now be apparent that the mobile stand **10** is easily motivated by the rotation of the drive rod **64** while it may be easily steered by rotation of the steering rod **92**. In order to further enhance the utility of the mobile stand **10**, a utility basket as **112** may be suspended between the handles **74** and **94** by hangers as at **114**.

In use, the operator need merely kick down the step **58** supported between the standards **16** and **18**, and step up to the platform **40**. It will of course be appreciated that the platform **40** should be adjusted to the desired height by placing the right angle members **54** of the respective platform hangers in the apertures **56** as desired. When on the platform, the operator need merely rotate the drive rod **64** by means of the handle **74** to turn the axle **84**. In order to steer, he need merely turn the handle **94** to in turn rotate the steering rod **92** to direct the movement of the front drive wheels **104** and **105**.

If desired, with particular reference to FIGURE 9, a pair of right angle supporting elements **116** may be suspended from the stand opposed to the standards **16** and **18**. Instead of providing the standards **12** and **14** with apertures, the right angle members **116** are provided with apertures which are aligned with the apertures in the standards **16** and **18**. By doing this, the effect of the convergence of the standards is eliminated and a pin may then be inserted between the pair of right angle members **116**. The pin is designated generally by the numeral **118** and it will be appreciated that the step **40** rests on the pin **118** and is also supported below by the hanger **50** in the manner above indicated. The smaller leg **120** of the right angle members **116** may be bridged by a step so as to eliminate the necessity of utilizing the pivotally mounted step **58** as indicated above.

It will be appreciated that regardless of which of the two forms of the invention are utilized, the mobile stand is versatile, dependable, and structurally sound. It facilitates such operations as ceiling painting, wallpaper hanging, etc.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A mobile stand comprising converging standards defining a generally open cage-like structure larger in cross section at the bottom than at the top, brace means interconnecting adjacent standards, a pair of front and a pair of rear ground engaging wheels mounted on the bottom of said structure, each of said standards having a plurality of vertically spaced apertures therein, a platform positioned within said cage-like structure, and a plurality of hooks pivotally connected to said platform and extending upwardly therefrom, each of said hooks extending through one of said apertures in the standard adjacent thereto to adjustably support the platform within the cage-like structure at a preselected elevation whereby the platform can be supported on the standards at any one of a number of different elevations despite the fact that the standards converge so that they are spaced different distances apart at each elevation at which the platform can be supported.

2. The invention as defined in claim 1, including a step pivotally mounted on said cage-like structure beneath said platform, said step having a supporting member extending from the under side of the pivoting end thereof in position to rest on the ground when said step is pivoted to a first position, and spring means for normally pivoting said step to a second position wherein said supporting member does not contact the ground, said supporting member enabling the step to carry the weight of a person and act as a brake to prevent rolling of the cage-like structure on said wheels when the step is in said first position, and when the step is in said second position the supporting member clears the ground so as not to interfere with the movement of the structure.

3. The invention as defined in claim 1 including drive control means mounted on the front of said cage-like structure on one side thereof and above said platform, steering control means mounted on the front of said structure on the other side thereof and above said platform, shaft means extending down said one side of the structure for operatively connecting said drive control means to one of said pairs of wheels to drive said structure, and shaft means extending down said other side of the structure for operatively connecting said steering control means to the other of said pairs of wheels to steer the structure.

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