June 21, 1966 G. T. WARTHEN 3,256,954

SELF-PROPELLED MEANS FOR SCAFFOLDS

Filed March 31, 1965

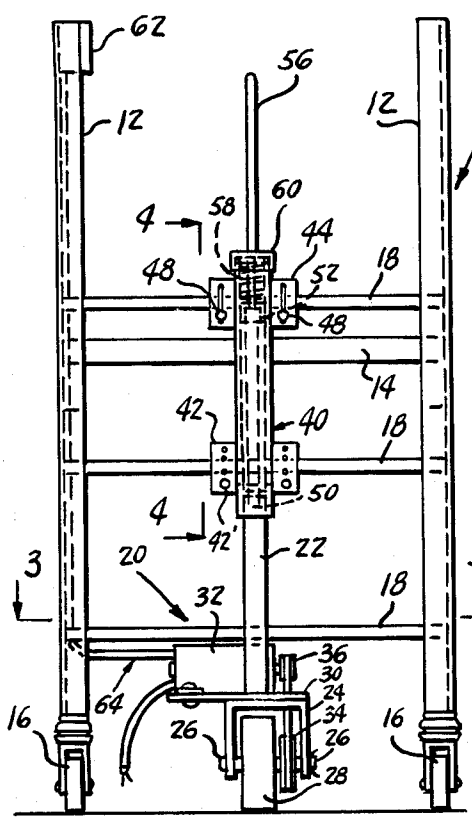


FIG. 2

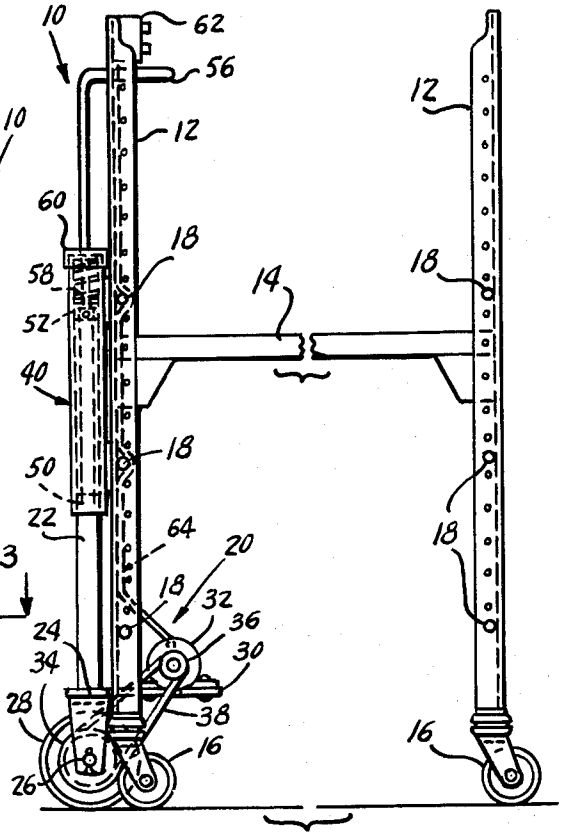


FIG. 1

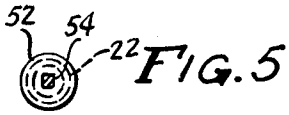


FIG. 5

FIG. 4

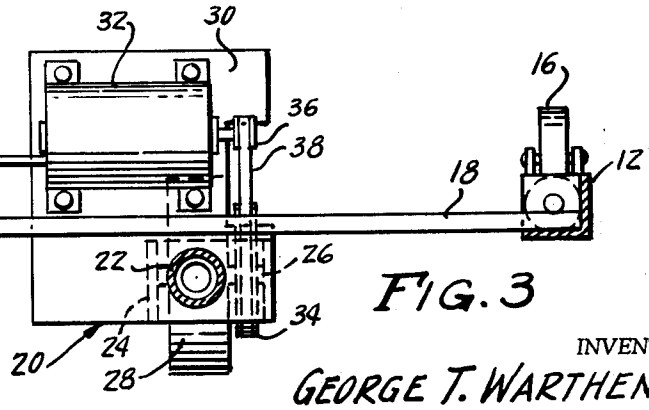


FIG. 3

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SELF-PROPELLED MEANS FOR SCAFFOLDS

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2 Claims. (Cl. 182—13)

The present invention is a continuation-in-part of my U.S. application Serial No. 351,627, filed March 13, 1964.

The present invention relates to a self-propelled means for scaffolds and more particularly to a guidable and self-propelled unit which may be attached thereto.

In accordance with the present invention, a self-propelled scaffold means is provided comprising spaced upright standards which support a working platform and guide means and a propelling unit that can be attached to the scaffold and which guide means and propelling unit consist of an integral or single unit.

It is another object of the present invention to provide a guide and propulsion unit that can be readily attached to conventional scaffold means now in the field, in an inexpensive and simple manner.

A further object of the present invention is to provide a novel self-propelled scaffold means provided with a single upright member that carries guide means and a propulsion unit for attachment to the standard type of scaffold used today.

Various other objects and advantages of the present invention will be readily apparent from the following detailed description when considered in connection with the accompanying drawing forming a part hereof and in which:

FIGURE 1 is a side elevational view of the self-propelled scaffold means of the present invention;

FIGURE 2 is a view of the invention looking at it from the front;

FIGURE 3 is an enlarged view taken along the line 3—3 of FIGURE 2;

FIGURE 4 is a view taken along the line 4—4 of FIGURE 2, and

FIGURE 5 is a detailed view of the cross-section of the steering handle connected to the guide tube means.

Referring now to the drawing, wherein like reference characters designate like elements throughout the several views thereof, reference numeral **10** generally designates a scaffold consisting of vertical spaced apart iron standards or members **12** which have secured thereto by any suitable means a horizontal working platform **14**. As shown, two of the vertical members **12** are spaced adjacent the front end of platform **14** and two are spaced adjacent the rearward end thereof, with all standards **12** being provided with caster members **16** secured to the bottom thereof by any suitable means thus providing a scaffold which may be moved about by workmen. Secured transversely between the forward and rearward pair of vertical members **12** by any suitable means is a series of transverse or cross members **18**. As is apparent, cross members **18** may be disposed vertically of each other at any suitable interval.

In accordance with the present invention, scaffold **10** is provided with a guidable and self-propelled unit indicated generally at **20**. Guide and power unit **20** comprises a vertical cylindrical steering rod **22** having a wheel fork **24** secured to its lower end with a wheel axle **26** extending thereacross and carrying a drive wheel **28** which also acts as a guide wheel as more fully explained hereinafter. A motor platform **30** is secured to the top of fork **24** and has mounted thereon a conventional reversible electric motor **32**. Axle **26** fixedly carries a pulley **34** while motor **32** has fixedly mounted thereon a drive

pulley **36** so that power is transmitted from motor **32** to drive wheel **28** by means of a tension belt **38** mounted on pulleys **34** and **36**.

The upper end of power unit **20** is provided with an enlarged cylindrical sleeve indicated generally at **40** which prevents, by any suitable means, such as coacting annular flanges on arm **22** and sleeve **40**, the inadvertent separation of arm **22** and sleeve **40**. Cylindrical sleeve **40** has a first rectangular plate **42** secured adjacent the lower end thereof with a second rectangular plate **44** being affixed adjacent its upper end. Plate **42** is provided with a series of vertically spaced apertures on each side of sleeve **40** as shown in FIGURE 2 in order to receive bolt **42'** for adjustably holding a first Z-shaped bracket **43**. Plate **44** is provided with a substantially vertical elongated slot on each side of sleeve **40** as shown in FIGURE 2 in order to receive a wing nut **48** for securing thereto a second Z-shaped bracket **46** as best shown in FIGURE 4. There is thus provided a means for vertically adjusting power unit **20** so that traction wheel **28** may effectively engage the surface to be traversed.

Cylindrical sleeve **40** is provided with a lower sleeve or bush bearing **50** for journalling steering rod **22** therein, and an upper bushing **52** consisting of a cap member with an opening in the top thereof to receive a lower square end **54** of an L-shaped steering handle **56**. Bearing numbers **50** and **52** may be secured to sleeve **40** in any suitable manner. A biasing spring **58** is disposed within cylindrical sleeve **40** and bears against the top of upper bearing **52**. A threaded annular cap **60** is threaded on the upper end of sleeve **40** with steering handle **56** extending therethrough into a conveniently provided slot in the upper end of rod **22** so that the movement or rotation of handle **56** will cause rod **22** and wheel **28** to be turned therewith.

One of the front standard members **12** carries an electric motor control means **62** which is connected to electric motor **32** by a conventional electrical cable generally indicated at **64**.

In operation an operator controls electric motor **32** by control means **62** so as to drive it in either direction propelling scaffold **10** to the desired location. It will also be observed that wheel **28** may be readily turned by an operator by manipulating handle **56** so that scaffold **10** may be guided and propelled by the same power unit **20**. Power **20** may be detached from scaffold **10** by loosening bolts **42'**, **48** thus releasing cross members **18** from their respective braces **43**, **46**.

From the foregoing, it will now be seen that there is herein provided a self-propelled scaffold, which accomplishes all of the objects of this invention and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made within this inventive concept, and as many modifications may be made in the embodiment herebefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. In combination with a scaffold comprised of spaced front and rear uprights, a working platform supported by said uprights, a caster wheel at the base of each upright; and upper and lower transverse cross members extending between said front uprights; a detachable guide and power unit including a cylindrical sleeve; upper and lower plates secured to said sleeve; spaced series of openings in each of said upper and lower plates; brackets selectively attachable in selected openings of each series for engagement with said upper and lower transverse members respectively; a steering rod extending through said sleeve, a steering handle on the upper end of said rod adjacent said working platform; means precluding verti-

cal disengagement of said rod and said cylinder; a steering fork carried by the lower end of said steering rod; an axle extending transversely across said fork, a steering and power wheel mounted on said axle; a platform carried by said fork; a motor mounted on said platform and having a drive shaft; a belt and pulley connection between said drive shaft and said axle; and means for supplying electric current to said motor.

2. The structure of claim 1 wherein said means precluding vertical disengagement of said steering rod from said cylinder comprise an apertured end cap on said cylinder through which said rod extends, a flange on said rod interiorly of said cylinder, and a compression spring positioned between said end cap and said flange.

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