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(54) MOBILE SCAFFOLDING BRAKE

(76) Inventors: **Steven J. Wyse**, Archbold, OH (US); **James L. Wyse**, Middlebury, IN (US)

Correspondence Address:
HOVEY WILLIAMS LLP
2405 GRAND BLVD., SUITE 400
KANSAS CITY, MO 64108 (US)

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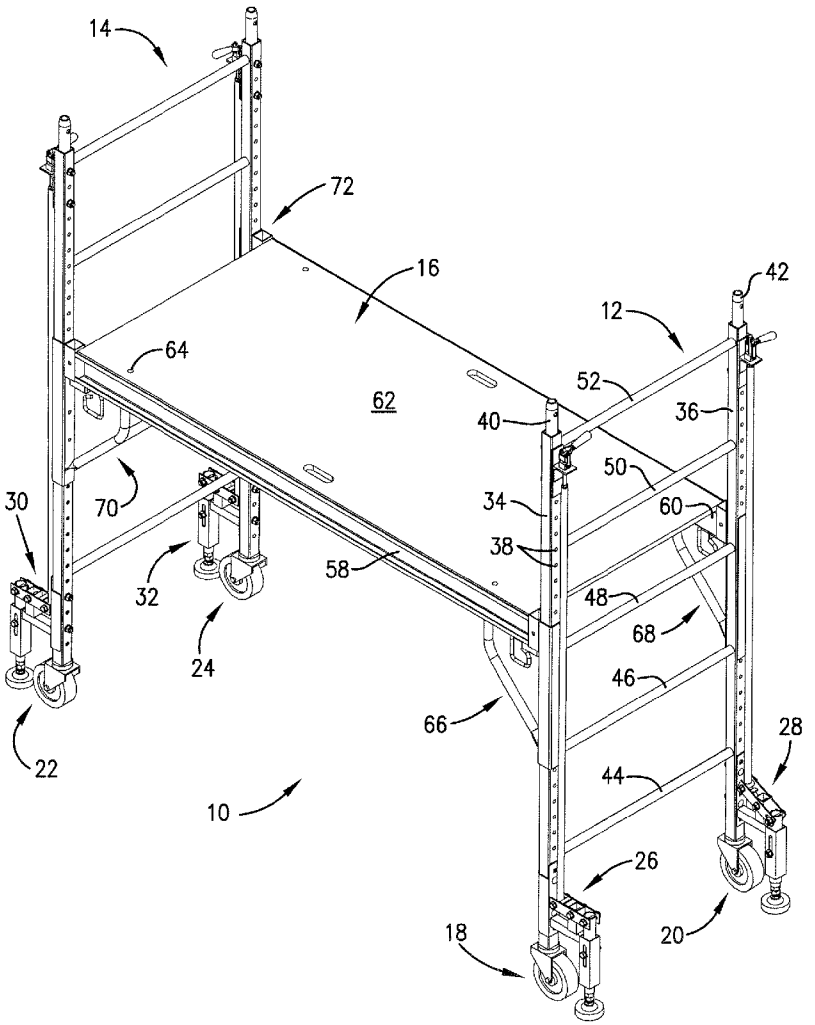
(57) **ABSTRACT**

A mobile scaffolding (**10**) for elevating a worker (not shown) above a floor or ground surface (S) is disclosed. The scaffolding (**10**) broadly includes a pair of frames (**12**) and (**14**), a platform (**16**) supported by the frames (**12,14**), a pair of casters (**18, 20**) and (**22, 24**) rollably supporting a respective one of the frames (**12,14**), and a brake assembly (**26, 28, 30,** and **32**) associated with a corresponding one of the casters (**18,20,22,24**), respectively. The inventive brake assemblies (**26,28,30,32**) enable the worker supported on the platform (**16**) to selectively activate and deactivate the respective brake assemblies (**26,28,30,32**) from the platform (**16**). This enables the worker supported on the platform (**16**) to deactivate the brake assemblies (**26,28,30,32**), reposition the scaffolding (**10**), and then reactivate the brake assemblies (**26,28,30,32**) without requiring the worker to dismount from the platform (**16**).



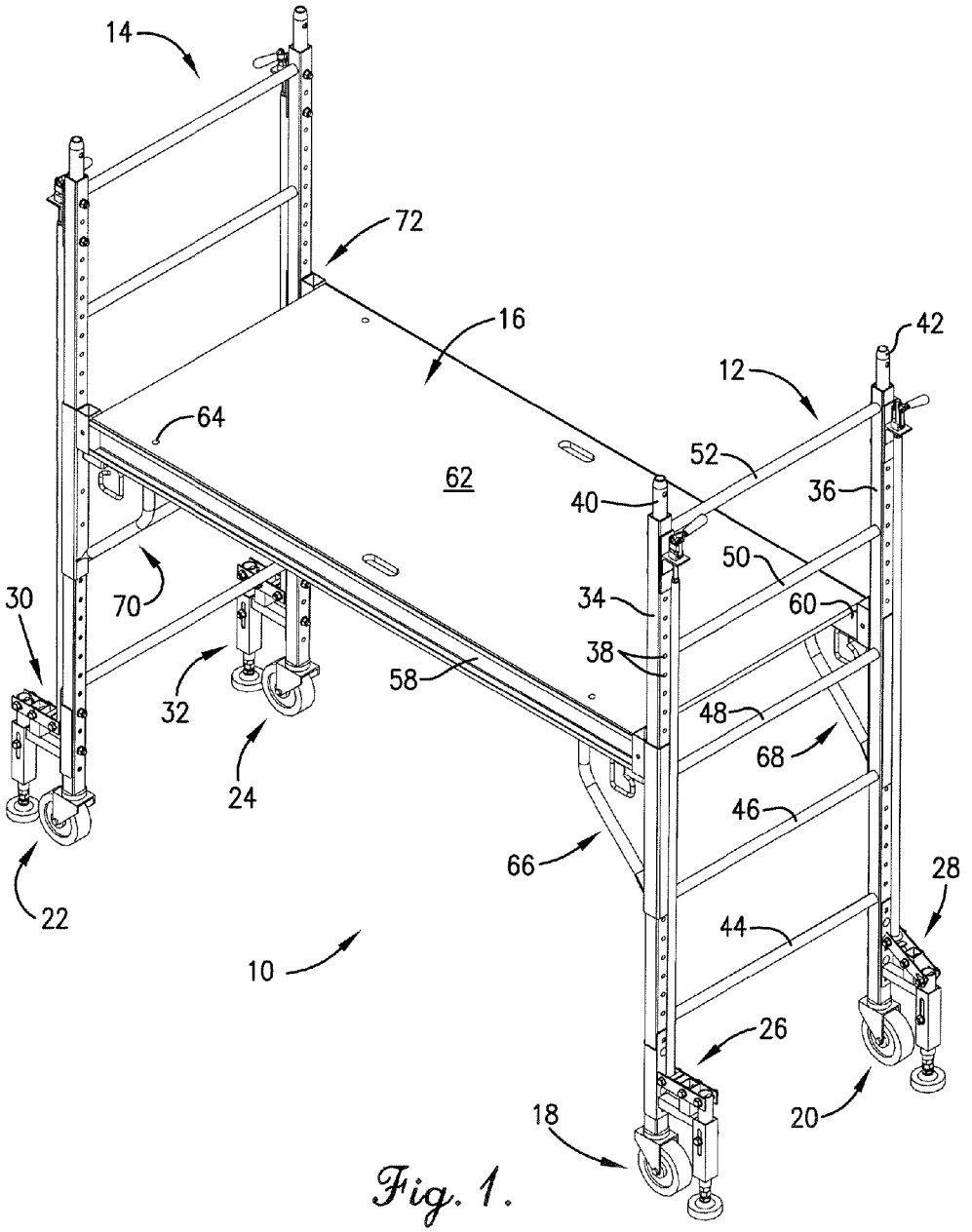

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Fig. 1.

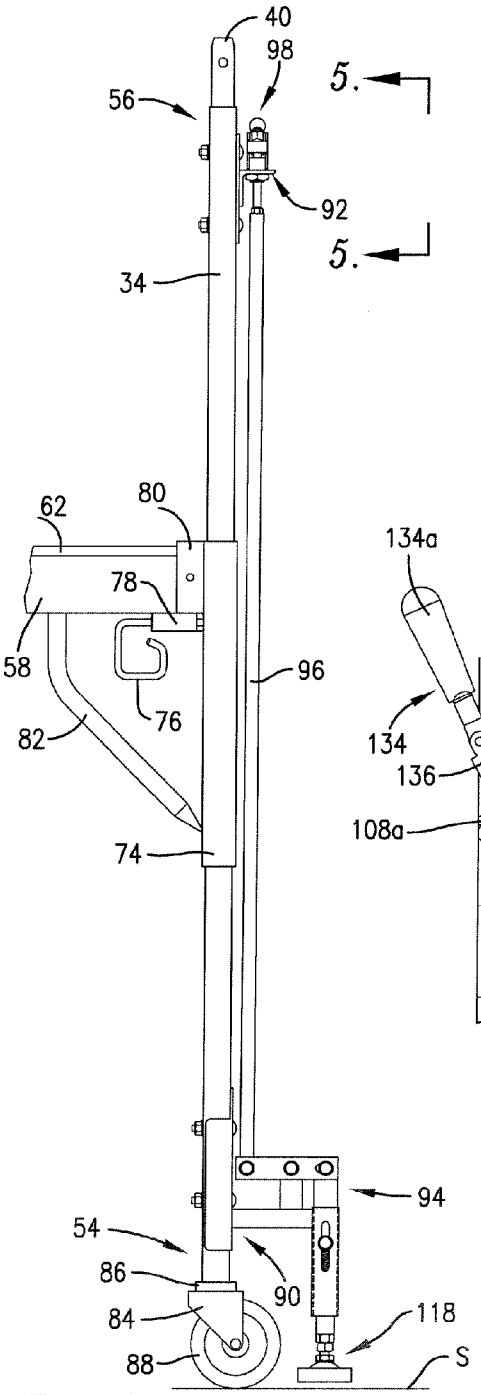

Fig. 2.

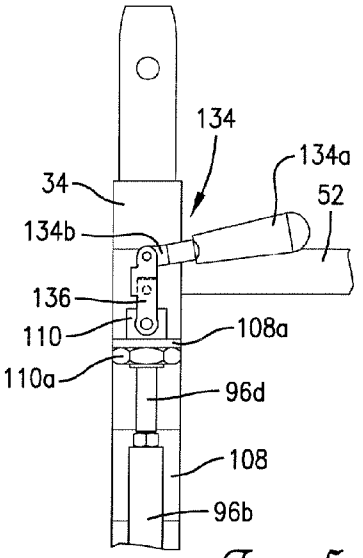

Fig. 5.

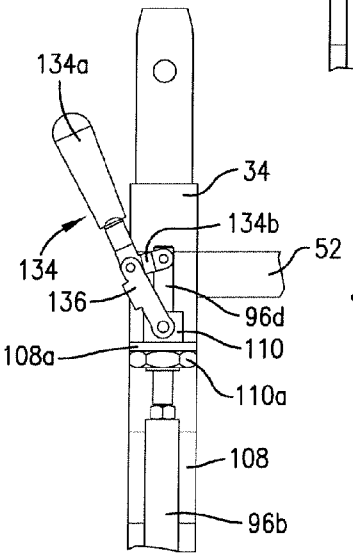

Fig. 6.

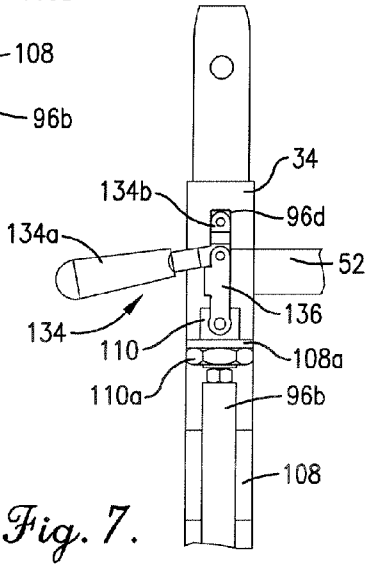

Fig. 7.

Fig. 4.

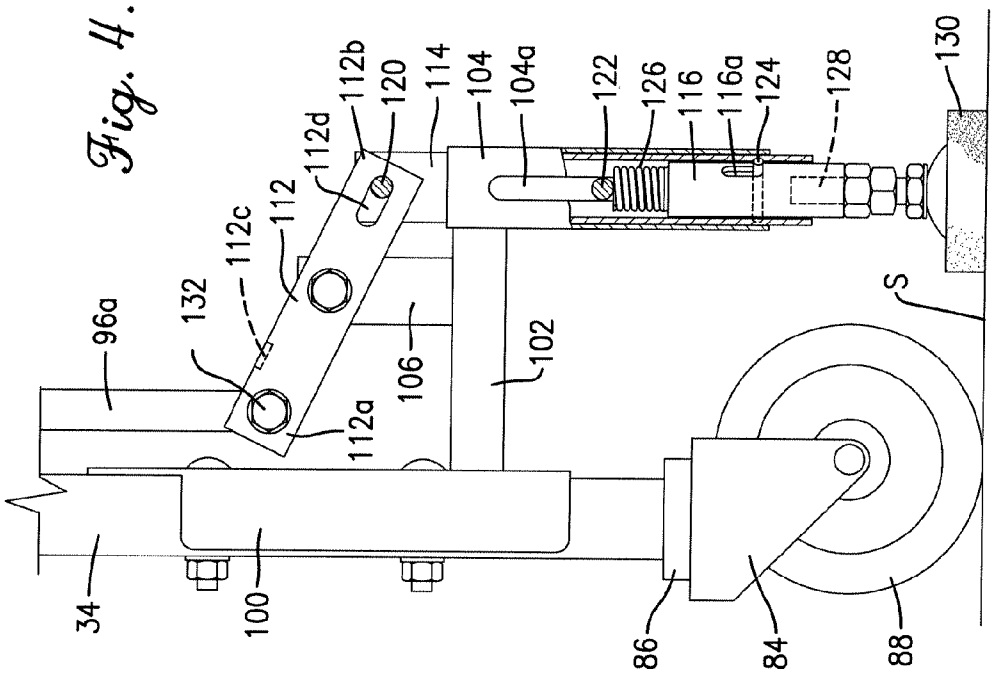
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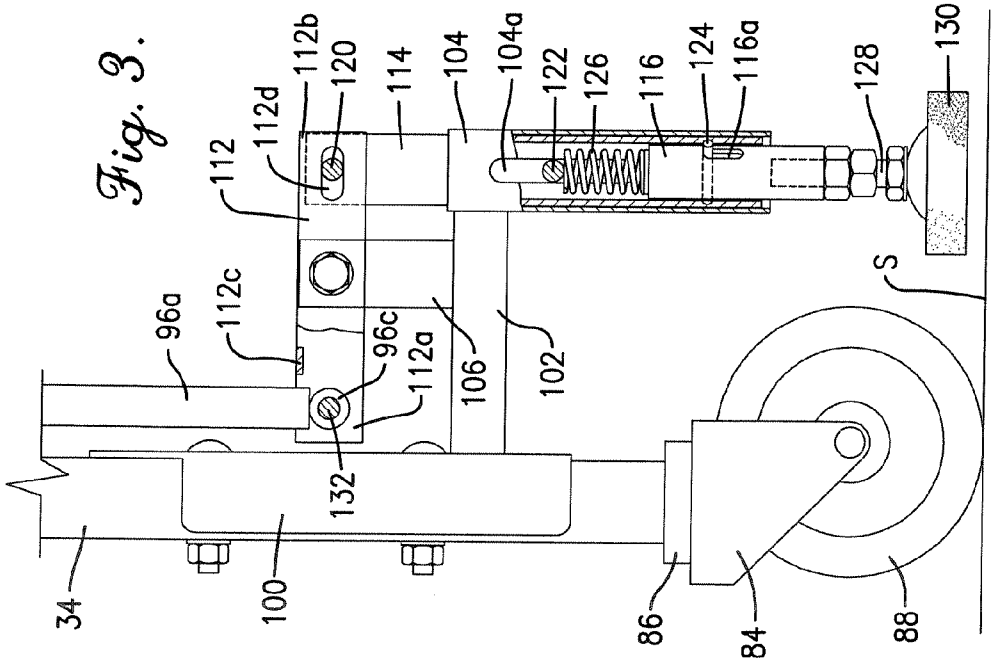
Fig. 3.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MOBILE SCAFFOLDING BRAKE

RELATED APPLICATION

[0001] This is a continuation of application Ser. No. 10/271,634 filed Oct. 15, 2002, which is hereby incorporated by reference herein.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates generally to mobile scaffolding. More specifically, the present invention concerns a mobile scaffolding brake that can be activated from the support platform and when activated restrains motion of the scaffolding. The inventive brake enables a worker supported on the scaffolding platform to selectively prevent unsafe and inadvertent motion of the scaffolding while the worker is supported thereon.

[0004] 2. Discussion of Prior Art

[0005] It is known in the art to utilize scaffolding to provide an elevated work platform to elevate a worker above a floor or ground surface to complete a task (e.g., painting, drywall finishing, etc.). The scaffolding utilized to provide the elevated work platform is often mobile scaffolding that can be quickly and easily moved from one working position to the next. For example, it is known in the art to support a scaffolding frame with one or more casters that enable the assembled scaffolding to be rolled along the floor or ground surface between working positions. However, it is desirable to prevent the scaffolding from moving when one or more workers are supported thereon.

[0006] It is known in the art to provide a scaffolding caster with a brake for selectively preventing the scaffolding from moving. These prior art caster brakes utilize a brake stop that engages the caster wheel and thereby prevents rotation of the wheel. These prior art caster brakes typically include a two-piece housing, with the wheel supported by one of the housing pieces and the brake stop supported by the other. The housing pieces are pivotal relative to one another so that the wheel can be pivoted into contact with the brake stop. One of the housing pieces serves as a foot-activated handle for selectively causing the wheel to be pivoted into engagement with the brake stop. In this manner, the weight of the scaffolding supported by the caster works to maintain the locking engagement between the wheel and the stop.

[0007] These prior art caster brakes are problematic and have several undesirable limitations. For example, the prior art brakes cannot be activated by a worker while the worker is supported on the scaffolding platform. It has been determined that in some applications it is desirable for a worker supported on the platform to manually reposition the scaffolding while supported thereon. For example, when using a mobile scaffolding to install ceiling tile (e.g., acoustical tile, etc.), OSHA regulations permit the worker supported on the scaffolding to reposition the scaffolding by pulling it along under the working edge in certain situations. The prior art caster brakes undesirably require the worker to either repeatedly climb up and down the scaffolding to set and unset the brake or require two workers (e.g., one to do the tile work on the platform and one to operate the brake from the ground) to perform the same amount of work a single worker could otherwise accomplish in the same span of time. It has further been determined that unsafe working conditions arise when a worker is supported on the scaffolding platform and the brake is not in a locked position (e.g., if the tile worker previously described fails to set the brake each time) thereby enabling the scaffolding to roll undesirably placing the supported worker in peril of losing balance and/or falling off the scaffolding. The supported worker is at the mercy of other coworkers in the area either setting the brake or refraining from intentionally or unintentionally moving the scaffolding.

SUMMARY OF THE INVENTION

[0008] The present invention provides an improved scaffolding brake that does not suffer from the problems and limitations of the prior art brakes detailed above. The inventive brake enables a worker supported on the scaffolding platform to selectively activate the brake while supported on the support platform to restrain motion of the scaffolding and thereby prevent unsafe and inadvertent motion of the scaffolding while the worker is supported thereon.

[0009] A first aspect of the present invention concerns a mobile scaffolding for elevating a worker above the ground. The scaffolding broadly includes a frame, a wheel, a platform, and a brake assembly. The frame is vertically elongated between a first end and a second end. The wheel is coupled to the frame adjacent the first end and is operable to rollably support the frame on the ground. The platform is horizontally supported on the frame and is operable to support the worker above the ground. The platform is vertically spaced from the wheel. The brake assembly is associated with the wheel and includes a brake pad and an actuator in communication with the pad. The brake pad is shiftable relative to the wheel into and out of a braking position wherein the wheel is generally prevented from rolling. The actuator is selectively controllable by the worker when the worker is supported on the platform to cause the brake pad to shift into and out of the braking position.

[0010] A second aspect of the present invention concerns a brake assembly for use with a mobile scaffolding wherein the scaffolding includes a support surface for supporting a worker elevated above the ground. The brake assembly broadly includes a housing adapted to be coupled to the scaffolding, a handle pivotally coupled to the housing, a brake stop shiftable relative to the housing into and out of a braking position wherein at least a portion of the stop is configured to engage the ground, and an elongated plunger slidable relative to the housing and presenting a first end coupled to the handle and a second end coupled to the brake stop.

[0011] A third aspect of the present invention concerns a method of braking a mobile scaffolding broadly including the steps of moving the scaffolding into a working position, positioning a worker on a platform on the scaffolding, and activating a brake from the platform.

[0012] A fourth aspect of the present invention concerns a brake assembly for use with a mobile scaffolding wherein the scaffolding includes a support surface for supporting a worker elevated above the ground. The brake assembly broadly includes a housing adapted to be coupled to the scaffolding, a manual handle pivotally coupled to the hous-

ing, a brake stop shiftable relative to the housing into and out of a braking position wherein at least a portion of the stop is configured to prevent the scaffolding from moving when the housing is coupled to the scaffolding, and an elongated coupling operably interconnecting the handle and the brake stop so that the brake stop is remotely controllable into and out of the braking position.

[0013] Other aspects and advantages of the present invention will be apparent from the following detailed description of the preferred embodiments and the accompanying drawing figures.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

[0014] Preferred embodiments of the invention are described in detail below with reference to the attached drawing figures, wherein:

[0015] **FIG. 1** is a perspective view of a mobile scaffolding constructed in accordance with a preferred embodiment of the present invention and including a brake assembly associated with each of the four casters;

[0016] **FIG. 2** is a fragmentary side elevational view of the scaffolding shown in **FIG. 1** illustrating the components of one of the brake assemblies in the release position;

[0017] **FIG. 3** is a fragmentary enlarged side elevational view of the scaffolding shown in **FIG. 2** with portions of the brake stop shown in section and illustrating the brake assembly in the release position;

[0018] **FIG. 4** is a fragmentary enlarged side elevational view of the scaffolding similar to **FIG. 3** with the brake assembly shown in the braking position;

[0019] **FIG. 5** is a fragmentary enlarged side elevational view of the scaffolding taken substantially along line **5-5** of **FIG. 2** with the handle subassembly pivoted to the release position;

[0020] **FIG. 6** is a fragmentary enlarged side elevational view of the scaffolding similar to **FIG. 5** with the handle subassembly shown between the release and braking positions; and

[0021] **FIG. 7** is a fragmentary enlarged side elevational view of the scaffolding similar to **FIG. 6** with the handle subassembly shown in the braking position.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0022] **FIG. 1** illustrates a mobile scaffolding **10** constructed in accordance with a preferred embodiment of the present invention and configured for elevating a worker (not shown) above a floor or ground surface S (see **FIGS. 2-4**). The illustrated scaffolding **10** utilizes a pair of rollable ladder-type frames to support a vertically-adjustable platform therebetween. However, the principles of the present invention are not limited to this scaffolding configuration and equally apply to virtually any type of scaffolding so long as the scaffolding supports an elevated worker and is movable (e.g., rollable, etc.). The illustrated scaffolding **10** broadly includes a pair of frames **12** and **14**, a platform **16** supported by the frames **12,14**, a pair of casters **18**, **20** and **22**, **24** rollably supporting a respective one of the frames **12,14**, and a brake assembly **26**, **28**, **30**, and **32** associated with a corresponding one of the casters **18,20,22,24**, respectively.

[0023] In more detail, each of the frames **12,14** is configured to elevate the platform **16** vertically above the floor or ground surface S and support the platform **16** once elevated. The frames **12,14** are virtually identically configured, therefore, only the frame **12** will be described in detail with the understanding that the frame **14** is similarly constructed. The frame **12** includes a pair of spaced apart vertically extending support posts **34** and **36**. Each of the posts **34,36** are generally tubular in configuration presenting a hollow, generally square shaped cross section. For purposes that will subsequently be described, a plurality of spaced apertures **38** are formed in each of the posts **34,36** and extend through the respective post **34,36** to form an axially aligned pin-receiving passageway. As will subsequently be described, the lower ends of each of the posts **34,36** are open and configured to receive various attachment components, such as one of the casters **18,20,22,24**. Formed in the upper end of each of the posts **34,36** is a corresponding coupling shaft **40** and **42**, respectively. Each of the shafts **40,42** is configured to removably receive various attachment components, such as guard rails, another frame member, etc. Fixed to each of the posts **34,36** and extending horizontally therebetween, are a plurality of rung members **44**, **46**, **48**, **50**, and **52**. The rungs **44,46,48,50,52** are spaced from one another and configured to enable the worker to climb up and down the rungs (e.g., in order to reach and exit the platform **16**). The frame **12** defines a first, lower end **54** adjacent the rung **44** and a second, upper end **56** adjacent the rung **52** (see **FIGS. 1-2**).

[0024] One exemplary frame is disclosed in pending application for U.S. patent Ser. No. 09/766,334, filed Jan. 19, 2001, entitled UTILITY SCAFFOLDING HAVING SAFETY FEATURES (sharing a common inventor with the present application and hereinafter "the Wyse '334 application"), which is hereby incorporated by reference herein as is necessary for a full and complete understanding of the present invention. However, the frame could be variously constructed and configured. For example, the frame need not utilize a tubular construction and need not be a ladder-type frame.

[0025] The platform **16** is supported horizontally between the frames **12** and **14** and is vertically adjustable between the upper and lower ends of the frames **12,14**. Particularly, the platform **16** includes a pair of horizontally extending side rails **58** and **60** that support a generally flat work surface **62**. The illustrated work surface **62** is removably coupled to the rails **58,60** by a plurality of transverse pins **64**. Although not shown, the platform **16** preferably includes rail pins and platform clips that can be pivoted into a locking position once the surface **62** is placed on the rails **58,60** to prevent the surface **62** from dislodging from the pins **64**. Exemplary rail pins and clips are disclosed in the Wyse '**334** application, previously incorporated herein by reference. The illustrated platform **16** further includes a pair of bracket assemblies **66**, **68** and **70**, **72** associated with each of the frames **12,14**, respectively. The paired bracket assemblies **66,68** and **70,72** include assemblies that are mirror images of each other, but otherwise each of the assemblies **66,68,70,72** are virtually identically configured and therefore only the bracket assembly **66** will be described in detail with the understanding that the assemblies **68,70,72** are similarly constructed. The

bracket assembly **66** includes a sleeve **74** slidably received on the post **34** of the frame **12**. The sleeve **74** is generally C-shaped in cross section to define an open side configured to clear the rungs **44**,**46**,**48**,**50**,**52** as the sleeve slides relative to the frame **12**. The sleeve **74** includes a plurality of apertures formed on the inside surface that are complementally spaced to match the spacing of the apertures **38** formed in the post **34** (not shown on the assembly **66**, but see the bracket assembly **70**). In this manner, the sleeve apertures are operable to axially align with the post apertures **38**. In this regard, the bracket assembly **66** further includes a G-shaped pin **76** that is slidably received in the axially aligned apertures to retain the platform **16** in a selected vertical position relative to the frame **12**. The G-shaped pin **76** preferably slides in a pin guide **78** and is biased into the aligned holes by a spring (not shown). Although not shown, the bracket assembly **66** preferably includes an additional locking pin slidably received in a second set of axially aligned apertures to lock the platform **16** in the selected vertical position. It is within the ambit of the present invention to utilize various alternative locking mechanisms and exemplary pin-type mechanisms are disclosed in the Wyse '**334** application previously incorporated herein.

[**0026**] The sleeve **74** is fixed to the rail **58** by a block **80** and by a gusset **82**. In this manner, the rail **58**, and thus the work surface **62** supported thereon, slides with the sleeve **74** relative to the frame **12**. The block **80** is open on its upper end and includes means for securing attachment components in the block **80** (e.g., the illustrated block **80** is configured to receive a guard rail (not shown) and includes a pin-receiving aperture to removably secure the guard rail in the block **80**). The gusset **82** provides additional support to the rail **58** relative to the sleeve **74**.

[**0027**] One exemplary platform is disclosed in the previously incorporated Wyse '**334** application. However, the platform could be variously constructed and configured, for example, the platform need not be adjustable, and could be fixedly supported along the frames, or on top of the frames.

[**0028**] The illustrated scaffolding **10** is a mobile scaffolding. In more detail, each of the frames **12**,**14** are supported by a corresponding pair of the casters **18**,**20** and **22**,**24**, respectively. Each of the casters **18**,**20**,**22**,**24** are virtually identically configured and therefore only the caster **18** will be described in detail with the understanding that the casters **20**,**22**,**24** are similarly constructed. The caster **18** is swively received in the open lower end of the post **34** of the frame **12**. In one manner known in the art, the caster **18** includes a caster housing **84**, a stub shaft **86** swively coupled to the housing **84**, and a wheel **88** rollably supported in the housing **84**. The caster housing **84** supports the post **34** on the wheel **88**. The stub shaft **86** is removably received in the open lower end of the post **34** and is configured to be locked in the post **34**. For example, the illustrated shaft **86** includes an aperture (not shown) that aligns with the lower-most pin-receiving passageway formed by the bottom apertures **38** in the post **34**. In this manner, a retaining pin (not shown) can be inserted through the post **34** and the stub shaft **86** to retain the shaft in the lower end of the post **34**. The stub shaft **86** includes a bearing ring formed in its lower end that carries a bearing (not shown) to allow the caster housing **84** and thus the wheel **88** to swivel relative to the stub shaft **86** while still supporting the weight of the frame **12** and the platform **16** carried by the post **34**. The wheel **88** is axled to the housing **84** so that the wheel **88** is free to roll relative thereto. In this manner, the casters **18**,**20**,**22**,**24** cooperate to provide mobility to the scaffolding **10**. It is within the ambit of the present invention to utilize various alternatively configured means for providing mobility to the scaffolding **10**. However, it is important that the scaffolding be enabled to move relative to the supporting floor or ground surface S.

[**0029**] The mobile scaffolding **10** can be prevented from moving relative to the supporting floor or ground surface S by the brake assemblies **26**,**28**,**30**,**32** associated with each of the casters **18**,**20**,**22**,**24**. The inventive brake assemblies **26**,**28**,**30**,**32** enable the worker to select and control when the mobile scaffolding **10** is prevented from moving while the worker is elevated on the platform **16**. Each of the brake assemblies **26**,**28**,**30**,**32** are virtually identically configured and therefore only the brake assembly **26** will be described in detail with the understanding that the brake assemblies **28**,**30**,**32** are similarly constructed. The illustrated brake assembly **28** includes a lower brake housing **90**, an upper brake housing **92**, a brake stop subassembly **94**, a plunger **96**, and a handle subassembly **98** (see **FIGS. 1-2**). In more detail, and as shown in **FIGS. 3-4**, the lower brake housing **90** includes a bracket **100** that is coupled to the lower end of the post **34** of the frame **12** adjacent the caster **18**. The illustrated bracket **100** is bolted to the post **34** through a pair of the pin-receiving passageways formed by the aligned apertures **38** in the post **34**. The lower brake housing **90** further includes a transverse bar **102** fixed to the bracket **100** and extending generally orthogonally therefrom. For purposes that will described below, the bar **102** is dimensioned and configured so that its distal end (the end opposite the bracket **100**) extends over and sufficiently past the wheel **88** of the caster **18**. For purposes that will subsequently be described, the lower brake housing **90** includes a tubular sleeve **104** fixed to the distal end of the transverse bar **102**. The illustrated sleeve **104** extends generally parallel to the post **34** of the frame **12** and is open along its entire axial length and at both its upper and lower ends. For purposes that will subsequently be described, the sleeve **104** includes a vertical slot **104***a* formed in the tubular wall of the sleeve **104** and configured to slidably receive a pin or bolt so that the pin and/or bolt received in the slot **104***a* passes through the sleeve **104** and extends out of the tubular wall of the sleeve **104** at diametrically opposite locations. As will be described below, the lower brake housing **90** further includes a fulcrum post **106** fixed to and extending upwardly from the transverse bar **102**. The fulcrum post **106** is spaced from the sleeve **104** and positioned between the bracket **100** and the sleeve **104**.

[**0030**] The upper brake housing **92** is coupled to the upper end of the post **34** of the frame **12** and includes a bracket **108** and a bushing block **110**. The illustrated bracket **108**, similar to the bracket **100**, is bolted to the post **34** through a pair of the pin-receiving passageways formed by the aligned apertures **38** in the post **34**. The bracket **108** includes a portion **108***a* that extends generally transversely from the post **34** and includes an opening (not shown). The bushing block **110** is fixed to the bracket portion **108***a*. In the illustrated upper brake housing **92**, the bushing block includes a section that extends through the opening in the bracket portion **108***a* and includes external threads that receive a bushing block nut **110***a* to couple the bushing block **110** to the bracket portion

108*a*. As will be subsequently described, the bushing block **110** is configured to slidably receive at least a portion of the plunger **96**.

[**0031**] The lower and upper brake housings **90**,**92** are removably couplable to the frame **12**. In this regard, the brake assembly **26** can be easily added on, or coupled to, existing scaffolding. However, it is within the ambit of the present invention to utilize various alternative configurations for the brake housings **90**,**92**. For example, the housings could be integrally formed with the scaffolding frame during the original manufacture thereof.

[**0032**] The brake stop subassembly **94** is shiftably coupled to the lower brake housing **90** and is shiftable between a braking position as shown in **FIG. 4**, wherein the wheel **88** of the caster **18** is generally prevented from moving relative to the floor or ground support surface S, and a release position as shown in **FIG. 3**, wherein the wheel **88** is free to move. Particularly, the brake stop subassembly **94** includes a pivot bar **112**, an upper tube **114**, a lower shaft **116**, and a brake stop **118**. The pivot bar **112** presents a proximate end **112***a* generally adjacent the post **34** of the frame **12**, and an opposite, distal end **112***b* spaced from the proximate end **112***a*. The pivot bar **112** is pivotally coupled to the fulcrum post **106** of the lower brake housing **90** generally between the ends **112***a*,*b* of the pivot bar **112**. The illustrated pivot bar **112** presents a pair of side panels, spaced apart by a cross bar **112***c*, that straddle the fulcrum post **106** and are bolted together through the post **106**. When the brake stop subassembly **94** is in the release position, the pivot bar **112** is generally parallel to the transverse bar **102** of the lower brake housing **90** (see **FIG. 3**). When the brake stop subassembly **94** is in the braking position, the proximate end **112***a* of the pivot bar **112** is further spaced from the transverse bar **102** and the distal end **112***b* is closer to the transverse bar **102** (see **FIG. 4**). For purposes that will subsequently be described, formed in the distal end **112***b* of the pivot bar **112** is a longitudinally extending bolt-receiving slot **112***d*.

[**0033**] The upper tube **114** of the brake stop subassembly **94** is slidably received within the sleeve **104** of the lower brake housing **90**. The upper tube **114** includes three pins fixed relative to the tube **114** and extending diametrically through the center of the tube **114**, an upper pin **120**, an intermediate pin **122**, and a lower pin **124**. The upper end of the tube **114** is received between the side panels of the pivot bar **112** and the upper pin **120** extends through the upper end of the tube **114** so that it is slidably received within the bolt-receiving slot **112***d* of the pivot bar **112**. In this manner, when the pivot bar **112** pivots, the movement of the distal end **112***b* causes the upper tube **114** to slide relative to the sleeve **104**. For purposes that will subsequently be described, the intermediate pin **122** extends through the tube **114** and is positioned so that it is slidably received in the vertical slot **104***a* of the sleeve **104**. As will subsequently be described, the lower pin **124** is positioned adjacent the lower end of the tube **114**. The lower pin **124** need not necessarily extend through the outer wall of the tube **114**. However, as will become apparent below, for assembly purposes, the lower pin **124** is preferably inserted after the lower tube **116** is slidably received inside the upper tube **114** (e.g., spring-biased and/or detented against the inside wall of the sleeve **104**, etc.).

[**0034**] The lower shaft **116** is slidably received within the lower end of the upper tube **114** so that the lower end of the shaft **116** extends out of the lower end of the upper tube **114**. Particularly, the lower shaft **116** includes a horizontal slot **116***a* formed in its wall that is configured to slidably receive the lower pin **124** of the upper tube **114**. In this manner, the lower shaft **116** has a limited range of slidable motion relative to the upper tube **114**, yet still is caused to generally shift relative to the sleeve **104** when the upper tube **114** shifts relative to the sleeve **104**. The lower shaft **116** slides relative to the upper tube **114** between an extended position as shown in **FIG. 3**, wherein the shaft **116** is extends out of the upper tube **114** until the top of the slot **116***a* engages the lower pin **124** of the upper tube **114**, and a retracted position as shown in **FIG. 4**, wherein the shaft **116** retracts into the upper tube **114** until the bottom of the slot **116***a* engages the lower pin **124** of the upper tube **114**. The lower shaft **116** is spring biased into the extended position by a spring **126**. The top end of the spring **126** rides against the intermediate pin **122** of the upper tube **114** and the lower end of the spring **126** rides against the upper end of the shaft **116**. In this manner, the spring force of the spring **126** must be overcome to cause the shaft **116** to slide into the retracted position as shown in **FIG. 4**. For purposes that will be described below, the lower end of the shaft **116** includes internal threading.

[**0035**] The brake stop **118** is fixed to the lower end of the shaft **116** and thus is caused to move with the shaft **116**. The stop **118** includes a threaded shaft **128** and a disk **130**. The upper end of the threaded shaft **128** threads into the internal threads of the lower end of the shaft **116** and the lower end of the threaded shaft **128** is coupled to the disk **130**. The illustrated stop **118** includes locking nuts **132** so that the position of the stop **118** relative to the lower shaft **116** can be adjusted and locked into the desired position once adjusted. The disk **130** presents a relatively flat bottom surface that engages the floor or ground support surface S when the brake stop subassembly **94** is in the braking position (see **FIG. 4**) and is spaced from the floor or ground surface S when the subassembly **94** is in the release position (see **FIG. 3**). The engagement between the disk **130** and the floor or ground surface S prevents the wheel **88** of the caster **18** from moving relative thereto. Accordingly, the disk must be sufficiently strong to withstand engagement with the surface S and the bottom surface of the disk **130** is preferably formed from a material having gripping properties such as various plastic polymers, rubber, etc. The illustrated disk **130** is formed from metal (e.g., steel, aluminum, etc.) and covered with an industrial grade softer rubber. The range of motion provided between the extended and retracted positions of the lower shaft **116** enables the disk **130** to grippingly engage a floor or ground surface that is not uniformly even. However, the disk **130** preferably is pivotal relative to the threaded shaft **128** (e.g., coupled thereto with a ball joint, etc.) to facilitate gripping engagement of uneven support surfaces. Additionally, the spring force of the spring **126** facilitates the gripping engagement of the disk **130** with the floor or ground surface S.

[**0036**] The plunger **96** extends between the lower and upper brake housings **90**,**92** and transfers movement of the handle subassembly **98** to the brake stop subassembly **94**. In this regard, the illustrated plunger **96** is a rigid rod presenting a bottom end **96***a* and an opposite, spaced top end **96***b*. The bottom end **96***a* is pivotally coupled to the proximate end **112***a* of the pivot bar **112** of the brake stop subassembly **94**. The bottom end **96***a* of the illustrated plunger **96** includes a collar **96***c* that is received between the side panels of the pivot bar **112** and rotatably receives a bolt **132** coupled to the panels of the bar **112** (see **FIGS. 3 and 4**). The top end **96***b* is slidably received through the bushing block **110** of the upper brake housing **92**. The top end **96***b* of the illustrated

plunger **96** includes a stub shaft **96***d* that is dimensioned and configured to slide within the opening of the bushing block **110** and extend out of the top and bottom of the bushing block **110**. In this manner, the stub shaft **96***d* can be formed from a strong durable material that can be machined to the desired size (e.g., steel, etc.) while the other portions of the plunger **96** can be formed from a relatively cheaper, light weight material (e.g., various plastic polymers, etc.).

[**0037**] Turning to **FIGS. 5-7**, the handle subassembly **98** is coupled to the upper brake housing **92** and enables a worker supported on the scaffolding **10** to shift the brake stop subassembly **94** into and out of the braking position to selectively prevent movement of the scaffolding **10**. In more detail, the handle subassembly **98** includes a handle **134** and a guide bracket **136**. The handle **134** is generally L-shaped and presents a grip **134***a* at one end and a coupling fork **134***b* that elbows out of the opposing end. The coupling fork **134***b* is pivotally coupled to the top end portion of the stub shaft **96***d* of the plunger **96** that extends out of the top of the bushing block **110**. The guide bracket **136** is pivotally coupled to the elbow of the handle **134** at one end and pivotally coupled to the bushing block **110** at the opposite end. The handle **134** is pivotal from the position shown in **FIG. 5**, wherein the grip **134***a* is oriented toward the post **36** of the frame **12** and somewhat parallel to the rung **52** of the frame **12**, to the position shown in **FIG. 7**, wherein the grip **134***a* is oriented away from the post **36** and somewhat parallel with the rung **52**, with the position shown in **FIG. 6** being the intermediate, center position, wherein the grip **134***a* is not at all parallel with the rung **52**. When the handle **134** is in the position shown in **FIG. 5**, the top end **96***b* of the plunger **96** is adjacent the bushing block **110** corresponding to the brake stop subassembly **94** being in the release position as shown in **FIG. 3**. As the handle **134** is pivoted toward the center position shown in **FIG. 6**, the weight of the plunger **96** must be overcome and the top end **96***b* of the plunger **96** is caused to slide up and away from the top of the bushing block **110**. As the fork **134***b* pivots relative to the plunger end **96***b*, the elbow of the handle **134** pivots relative to the guide bracket **136**. In this manner, the handle subassembly **98** transfers only straight-line motion to the plunger **96**. As the handle **134** is pivoted past the center position shown in **FIG. 6**, the handle **134** is urged into the position shown in **FIG. 7**. When the handle **134** is in the position shown in **FIG. 7**, the top end **96***b* of the plunger **96** is spaced upwardly from the top of the bushing block **110** corresponding to the brake stop subassembly **94** being in the braking position as shown in **FIG. 4**. The weight of the plunger **96** and the configuration of the handle subassembly **98** cooperate to maintain the handle **134** in the position shown in **FIG. 7**. In order to pivot the handle **134** back into the position shown in **FIG. 5**, the weight of the plunger **96** must again be overcome until the handle **134** pivots past the center position shown in **FIG. 6**. Once the handle **134** pivots past the center position, the weight of the plunger **96** urges the handle **134** back into the position shown in **FIG. 5** and maintains the handle **134** in that position. In this regard, the illustrated handle subassembly **98** is a straight-line over-the-center-type clamp. One such suitable clamp is available from DE-STA-CO Industries of Madison Heights, Mich. as Model No. 604.

[**0038**] As previously indicated, the braking assemblies **28**,**30**,**32** are virtually identically configured as the braking assembly **26**. However, it is within the ambit of the present invention to utilize a single braking assembly, or the inventive braking assembly in combination with traditional caster brakes, as well as various alternatively configured braking assemblies. For example, the brake assembly need not utilize a brake stop that engages the ground to prevent movement of the scaffolding, but rather could implement traditional-type brake stops that engage the wheel to prevent movement. Additionally, the brake assembly need not utilize a pivotal handle or a rigid plunger to activate the brake stop. For example, the brake assembly could utilize an electronically activated brake stop with a remotely located controller, or hard wire linkage. However, it is important that the brake stop be capable of activation by the worker while the worker is supported on the scaffolding in order to prevent movement of the scaffolding.

[**0039**] In operation, the scaffolding **10** is assembled and rolled into the desired work position on the supporting floor or ground. The worker then mounts the scaffolding **10** (e.g., by climbing up the rungs **44**,**46**,**48**,**50**,**52**) so that the worker is supported on the platform **16**. In order to activate the braking assembly **26**, the worker grasps the grip **134***a* of the handle **134** and pivots the handle **134** from the position shown in **FIG. 5** to the position shown in **FIG. 7**. As the handle **134** is pivoted, the plunger **96** is pulled upward. As the plunger **96** is pulled upward, the brake stop subassembly **94** is caused to shift from the release position shown in **FIG. 3** to the braking position shown in **FIG. 4**. The braking assemblies **28**,**30**,**32** can be similarly activated. The mobile scaffolding **10** is now prevented from moving and the worker is securely supported on the platform **16** for safe working. If the worker desires to deactivate one or more of the braking assemblies, the above described steps are simply reversed. Once the braking assemblies are deactivated, the mobile scaffolding **10** can be rolled to the next desired work position (e.g., the supported worker can pull the scaffolding **10** along the supporting surface S). Once the scaffolding **10** is repositioned, the worker can reactivate the braking assemblies from the platform **16**.

[**0040**] The preferred forms of the invention described above are to be used as illustration only, and should not be utilized in a limiting sense in interpreting the scope of the present invention. Obvious modifications to the exemplary embodiments, as hereinabove set forth, could be readily made by those skilled in the art without departing from the spirit of the present invention.

[**0041**] The inventors hereby state their intent to rely on the Doctrine of Equivalents to determine and assess the reasonably fair scope of the present invention as pertains to any apparatus not materially departing from but outside the literal scope of the invention as set forth in the following claims.

What is claimed is:

1. A mobile scaffolding for elevating a worker above the ground, said scaffolding comprising:

a frame;

a plurality of wheels supporting the frame for rolling movement on the ground;

a platform supported on the frame and being operable to support the worker above the ground,

said platform being spaced above the ground; and

a brake assembly configured to selectively prevent rolling movement of the frame, said brake assembly including an actuator that causes the brake assembly to prevent rolling movement of the frame when the actuator is

engaged and permit rolling movement of the frame when the actuator is disengaged,

at least a portion of said actuator being positioned above the platform to enable the worker to control engagement and disengagement of the actuator from the platform when supported thereon.

2. The scaffolding as claimed in claim 1,

said frame being vertically elongated between a first end and a second end,

said at least a portion of said actuator being vertically positioned between the platform and the second end of the frame.

3. The scaffolding as claimed in claim 1,

said actuator including a handle pivotal relative to the frame.

4. The scaffolding as claimed in claim 3,

said frame being vertically elongated between a first end and a second end,

said handle being positioned adjacent the second end of the frame.

5. The scaffolding as claimed in claim 3,

said brake assembly further including an elongated plunger slidable relative to the frame and presenting a proximate end adjacent the handle and a distal end adjacent one of said plurality of wheels.

6. The scaffolding as claimed in claim 5,

said handle being coupled to the proximate end of the plunger so that pivoting of the handle causes the plunger to slide relative to the frame.

7. The scaffolding as claimed in claim 6,

said brake assembly including a brake pad,

said brake pad being coupled to the distal end of the plunger so that sliding of the plunger relative to the frame causes the pad to shift into and out of a braking position, wherein said brake pad engages the ground.

8. The scaffolding as claimed in claim 1,

said brake assembly including a brake pad,

said brake pad including a generally flat disc that engages the ground when the brake pad is in a braking position, wherein said brake pad engages the ground.

9. A method of braking a mobile scaffolding, said method comprising the steps of:

(a) moving the scaffolding into a working position;

(b) occupying the platform; and

(c) activating a brake to prevent movement of the scaffolding,

step (c) including the step of engaging an actuator of the brake from the platform so as to activate the brake, wherein at least a portion of the actuator is positioned above the platform.

10. The method as claimed in claim 9,

step (c) including the step of manually operating a handle, comprising said at least a portion of the actuator, to control engagement of the actuator.

11. The method as claimed in claim 10,

step (c) including the step of pivoting the handle to engage and disengage the actuator.

12. The method as claimed in claim 9,

step (c) being performed after step (b).

13. The method as claimed in claim 12; and

(d) deactivating the brake, repositioning the scaffolding, and reactivating the brake once the scaffolding is repositioned,

step (d) being performed after step (c) and while the platform is occupied.

14. The method as claimed in claim 9,

step (c) including the step of shifting a brake pad into engagement with the ground when the actuator is engaged.

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