The invention includes various embodiments of a tilt-up wall brace dolly and method of use. Tilt-up wall braces incorporating the tilt-up wall brace dolly features are also disclosed. The embodiments of the invention are useful in the construction industry, particularly the erection and temporary bracing of tilt-up walls.
FIG. 3
START

Providing a tilt-up wall brace dolly for use with a tilt-up wall brace foot bracket

Attaching the dolly to the foot bracket

Placing the low friction mechanism onto the floor slab

Guiding the dolly along the floor slab to a desired mounting location

Removing the dolly from the foot bracket

Securing the foot bracket to the floor slab at the desired mounting location

STOP

FIG. 6
BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention
[0002] This invention relates generally to construction equipment. More particularly, the invention relates to braces used to erect tilt-up concrete panels.

[0003] 2. Description of Related Art
[0004] Tilt-up construction is a job-site form of precast concrete construction. It involves prefabricating concrete wall panels or slabs on a suitable flat surface, e.g., the building floor slab or a temporary casting slab, then lifting or “tilting” such walls up with a mobile crane with cables and carrying them to their final locations, where they are installed as vertical walls and become integral parts of the completed structure. Because the concrete walls are poured and cured horizontally on flat surfaces and subsequently lifted or “tilted” up into a vertical orientation and installed on or adjacent to a footing or floor slab to form a wall in a structure, they are variously referred to in the industry as “tilt-up walls”, “tilt-up panels” or “tilt-up wall panels”.

[0005] Once a tilt-up wall has been poured and cured, the tilt-up wall brace may be secured to the tilt-up wall. Then the tilt-up wall and tilt-up wall braces are temporarily connected to hoisting equipment, such as a mobile crane with accessory lifting apparatus that may be attached to the wall, permanently or temporarily, during the erection phase of installation. The crane operator maneuvers the hoisted wall into the correct location, in a plumb or vertically aligned position. At this point, the raised wall is temporarily braced using the tilt-up wall braces that may, or may not, already be attached to the raised wall by securing an opposite end to a support surface such as a floor slab. Such tilt-up wall braces are well known in the art, e.g., see U.S. Pat. Nos. 4,083,156 to Tye, 3,798,856 to Gloskowski and 2,684,824 to Hillberg. Note that the tilt-up wall braces generally remain in place until a roof structure is installed over the tilt-up walls, thus providing sufficient stability to the building structure such that the braces can be safely removed without the tilt-up walls tumbling down.

[0006] Tilt-up wall braces are generally heavy steel poles with a “wall bracket” at an upper end that is configured to pivotally attach to the tilt-up wall and a “foot bracket” on the lower end which is similarly configured to pivotally attach to the floor slab or other horizontal ground surface. A conventional tilt-up brace may further include a means, such as a screw or ratchet mechanism along the brace axis, for incrementally adjusting the length of the tilt-up wall brace in order to push or pull the wall into precise position after the foot bracket has been secured. As the tilt-up wall is being hoisted to its final location, a construction worker generally must guide the unattached foot bracket on the tilt-up wall brace until the wall is in roughly the correct position. Once the tilt-up wall is in roughly the correct position, the foot bracket may be secured to the floor slab and its length incrementally adjusted to fine-tune the vertical alignment of the tilt-up wall.

[0007] FIGS. 1A and 1B are front and side views illustrating how a construction worker 200 positions a conventional tilt-up brace 210 with its associated lower leg 250 and foot bracket 220, by leaning into the brace 210 with his shoulder and holding the brace 210 and foot bracket 220 above the floor slab 230 as a tilt-up wall (not shown) is being erected. The foot bracket 220 is configured to be secured to the floor slab 230 once the poured and cured tilt-up wall (not shown) attached to the opposite end of brace 210 is maneuvered into position by a crane 240 (FIG. 1B). Note that the construction worker 200 may have to hold up the brace 210 while stepping up from the ground 250 upon which the floor slab 230 has been poured. The interface between the ground 250 and the floor slab 230 may include exposed rebar 260 and other obstacles (e.g., footing trench, footings, etc.) for the construction worker 200 to traverse. FIG. 1A also illustrates a tilt-up wall 270 that has already been erected.

[0008] However, there are problems with conventional braces 210 and this conventional method of positioning the foot bracket 220. For example, the foot bracket 220 should not be dragged along the surface of floor slab 230, because doing so may cause gouges in the surface. Gouges in the surface of the floor slab 230 may require refinishing, thus, adding cost to the construction. Consequently, a construction worker 200 must hold the lower end of the brace 210 off of the floor slab 230, generating a labor cost. Additionally, the brace 210 may be quite heavy and the construction worker 200 may become fatigued while holding up and moving the lower end of the brace 210 for several minutes as the tilt-up wall (not shown) is being erected. Finally, the brace 210 may become dangerous for the construction worker 200, who may be standing in a footing trench (not shown) or on the slab floor 230, and can potentially become pinned between such a construction surface with exposed rebar 260 (FIG. 1B) or other obstacles (not shown) and the brace 210 as the tilt-up wall (not shown) is being maneuvered by a crane 240 (shown partially in FIG. 1B).

[0009] In view of these problems associated with conventional tilt-up wall braces and their methods of use, it would be highly advantageous to provide an apparatus and method that makes it easier to position the lower end of a tilt-up wall brace, reduces construction worker fatigue, and potentially avoids some of the danger associated with positioning the lower end of a tilt-up brace. Such an apparatus and method would likely increase worker safety. It would also be advantageous if such a novel apparatus and method could be used with conventional tilt-up braces or be integrated with novel tilt-up braces.

SUMMARY OF THE INVENTION

[0010] An embodiment of a tilt-up wall brace dolly for use with a tilt-up wall brace is disclosed. The embodiment of a dolly may include a body configured to receive a foot bracket attached to a lower end of a tilt-up wall brace. The embodiment of a dolly may further include a low friction mechanism disposed about a bottom end of the body, the low friction mechanism allowing independent two-axis movement of a bottom end of the brace over a foot bracket mounting surface. An embodiment of a tilt-up wall brace is disclosed. The embodiment of a tilt-up wall brace may include an elongated beam. The embodiment of a tilt-up wall brace may further include a wall bracket attached to an upper end of the elongated beam, the wall bracket configured for mounting to a tilt-up wall. The embodiment of a tilt-up wall brace may further include a foot bracket attached to a lower end of the elongated beam, the foot bracket configured for mounting to a foot bracket mounting surface. The embodiment of a tilt-up wall brace may further include a tilt-up wall brace dolly configured for selective attachment to the foot bracket. The dolly in the embodiment of a tilt-up wall brace may further include a body configured for selectively receiving, holding and releasing the foot bracket. The embodiment of a dolly...
may further include a low friction mechanism disposed about a bottom end of the body, the low friction mechanism allowing independent two-axis movement of a bottom end of the brace over the foot bracket mounting surface.  

[0012] An embodiment of a method for securing a foot bracket of a tilt-up wall brace to a floor slab is disclosed. The embodiment of a method may include providing a tilt-up wall brace dolly for use with a tilt-up wall brace foot bracket. The dolly may be configured as described elsewhere herein with a low friction mechanism. The embodiment of a method may further include attaching the dolly to the foot bracket. The embodiment of a method may further include placing the low friction mechanism onto the floor slab. The embodiment of a method may further include guiding the dolly along the floor slab to a desired mounting location. The embodiment of a method may further include removing the dolly from the foot bracket. The embodiment of a method may further include securing the foot bracket to the floor slab at the desired mounting location.  

[0013] Additional features and advantages of the invention will be set forth in the description which follows, and in part will be apparent from the description, or may be learned by the practice of the present invention.  

BRIEF DESCRIPTION OF THE DRAWINGS  

[0014] The following drawings illustrate exemplary embodiments for carrying out the invention. Like reference numerals refer to like parts in different views or embodiments of the present invention in the drawings.  

[0015] FIGS. 1A and 1B are front and side views illustrating how a construction worker positions a conventional tilt-up brace with its associated foot bracket by leaning into the brace with his shoulder and holding it as a tilt-up wall is being erected.  

[0016] FIG. 2 is a side-view of an embodiment of a tilt-up wall brace dolly attached to a tilt-up wall brace during erection of a tilt-up wall, according to the present invention.  

[0017] FIG. 3 is a perspective view of another embodiment of a dolly with a cylindrical body, according to the present invention.  

[0018] FIGS. 4A and 4B are perspective views of embodiments of tilt-up wall brace dollys being used during the erection of a tilt-up wall, according to the present invention.  

[0019] FIG. 5 is a side view of an alternative embodiment of a dolly for use with a tilt-up wall brace, according to the present invention.  

[0020] FIG. 6 is a flow chart of an embodiment of a method for securing a foot bracket of a tilt-up wall brace to a floor slab, according to the present invention.  

[0021] FIG. 7 is a drawing of another embodiment of a tilt-up wall brace dolly, according to the present invention.  

DETAILED DESCRIPTION  

[0022] The invention is a tilt-up wall brace dolly and method of use. The embodiments of the invention are useful in the construction industry, particularly the erection and temporary bracing of tilt-up walls. Embodiments of a tilt-up wall brace according to the present invention may be configured for use, or attached to, conventional tilt-up wall braces, or may be integrated into novel tilt-up wall braces. The embodiments of a tilt-up wall brace dolly illustrated and described herein are particularly useful for positioning the lower end of a tilt-up wall brace along a floor slab surface (inside of a building) or along a flat surface outside of a building during erection of a tilt-up wall. The embodiments of the invention disclosed herein may reduce construction worker fatigue. The embodiments of the invention may also reduce possible injury to construction workers during positioning of tilt-up wall braces.  

[0023] FIG. 2 is a side-view of an embodiment of a tilt-up wall brace dolly 100 attached to a tilt-up wall brace 110 during erection of a tilt-up wall 170. The tilt-up wall 170 may be secured to a footing 180 adjacent to the floor slab 130. The tilt-up wall brace 110 may include a wall bracket 120 configured to mounting to an upper end, shown generally at arrow 195, of tilt-up wall 170. The embodiment of a dolly 100 may include a body 102 configured to receive a foot bracket 140 attached to a lower end, shown generally at arrow 105, of the tilt-up wall brace 110. According to one embodiment, body 102 may be a hollow structural member with an opening at one end 104 for receiving the foot bracket 140. According to various embodiments, the hollow structural member may be cylindrical, or any other suitable shape, such that the foot bracket 140 may be received therein.  

[0024] An embodiment of a dolly 100 may optionally further include an attachment mechanism 106 configured for releasably securing the body 102 to the foot bracket 140. One advantage of including an attachment mechanism 106 with dolly 100 is that the attachment mechanism 106 holds the dolly 100 in place on lower end 105 of a tilt-up wall brace 110 even when the tilt-up wall brace 110 is lifted off of the floor slab 130 for positioning during movement of the tilt-up wall. According to the illustrated embodiment, the attachment mechanism 106 may include a knobbed bolt 108 threadably engaged to body 102 and configured to interfere with a foot bracket 140 and thereby releasably hold the dolly 100 onto the foot bracket 140 through friction between the knobbed bolt 108 and the foot bracket 140. It will be understood that many other embodiments of attachment mechanisms 106 are possible and considered within the scope of the present invention as an equivalent to the threadably engaged, knobbed bolt 108. For example and not by way of limitation, clamps, cam mechanisms, latches and any other suitable mechanical means for releasably securing the dolly 100 to the lower end 105 of brace 110 or to a foot bracket 140 of a brace 110. It will also be understood that according to a generic embodiment of dolly 100, no attachment mechanism 106 is necessary, as the shape of the body 102 and the weight of the brace 110 will hold the dolly 100 sufficiently in place.  

[0025] A useful feature of dolly 100 is that it can be removed at any time to expose the foot bracket 140 to allow the foot bracket 140 to be secured to the floor slab 130. Optimally, the dolly 100 is removed shortly after the tilt-up wall 170 has been sufficiently moved into place that it is time to secure the foot bracket to the floor slab 130. A useful feature of an attachment mechanism 106 is that it may be strong enough to secure the dolly 100 to the foot bracket 140 while the dolly 100 is being used to support the weight of the brace 110 upon the floor slab 130 as the tilt-up wall 170 is moved into its final position.  

[0026] An embodiment of a dolly 100 may further include a low friction mechanism 150 disposed about a bottom end 152 of the body 102. The low friction mechanism 150 allows independent two-axis movement of the dolly over a foot bracket mounting surface 154. The foot bracket mounting surface may be a floor slab 130 that forms a floor surface in the building being constructed (building not shown in its
entirety). Alternatively, foot bracket mounting surface may be any flat surface outside of such a structure to which the foot bracket 140 of brace 110 may be secured to hold the tilt-up wall 170 in place.

[0027] According to one embodiment, the low friction mechanism 150 may be a caster 160 pivotally secured to the bottom end 152 of body 102, see, e.g., FIG. 2. Caster 160 may include one or more wheels 162 (on one end) supported by wheel supports 164 on either side of an axle 166. The caster 160 allows the dolly 100 to roll along the floor slab 130 in any direction. With a properly selected wheel surface, the floor slab will not be gouged by the lower end 105 of brace 110. The various configurations and functioning of casters 160 are known to those skilled in the art, and thus, will not be further elaborated herein. It will be understood that while an embodiment of a single-wheeled caster 160 is shown, other configurations with more than one wheel or wheel bearing mechanism may provide the functionality required of the low friction mechanism 150 for use on a flat surface such as the floor slab 130 of the present invention. According to the embodiment of dolly 100 shown in FIG. 2, body 102 may be adapted or configured to surround a lower leg 156 and the foot bracket 140.

[0028] Referring now to FIG. 3, a perspective view of another embodiment of a tilt-up wall brace dolly 300 with a cylindrical body 302 is shown. Cylindrical body 302 may be a section of steel pipe with an opening at the top 358 of the body 302 for receiving the foot bracket 140 (not shown in FIG. 3) because it is inside cylindrical body 302 of tilt-up wall brace 210. Dolly 300 is attached to the lower end 305 of brace 210 by attachment mechanism 306, which comprises a threaded bolt 312 with a handle 314, threadably engaged to body 302. According to another embodiment of dolly 300, the attachment mechanism 306 may be a hand-turned screw with a knob (see, e.g., 106 in FIG. 2) passing through a threaded opening 316 in the body 302 and configured to provide a friction fit against a lower leg 156 (not shown in FIG. 3) of the tilt-up wall brace 210. The friction fit provided by attachment mechanism 302 should be sufficient to secure the dolly 300 on the lower leg 156 by the application of pressure against a leg 156 (not shown in FIG. 3), or the foot bracket 140 (also not shown in FIG. 3) or some other structural feature of the lower end 305 of brace 210.

[0029] A caster 360 may be attached to the bottom end 352 of cylindrical body 302, by welding 367 or any other suitable means, such as bolting or with a threaded engagement (neither shown), according to other embodiments of the present invention. Caster 360 may include a bearing 368 to allow full rotation of the wheel supports 364, wheel 362 and its associated axle 366. According to one embodiment of dolly 300, the body 302 may be a cylindrical member with an opening at the end 358 for receiving the lower leg 156 (not shown in FIG. 3) and the foot bracket 140 (not shown in FIG. 3).

[0030] In yet another embodiment of dolly 300, the attachment mechanism may include a “cam mechanism” or lock that is activated by a lever. The cam mechanism may include an eccentric wheel configured for selectively providing a friction fit against a lower leg of the tilt-up wall brace. The friction fit provided by such a cam mechanism must be sufficient to secure the dolly on the lower leg. The workings and applications of a cam mechanism, such as described above, will be within the knowledge of one of ordinary skill in the art and, thus, will not be further elaborated herein.

[0031] FIGS. 4A and 4B are perspective views of embodiments of tilt-up wall brace dolly 300 and 300A being used during the erection of a tilt-up wall, according to the present invention. As shown in FIG. 4A, two dollys 300 and 300A may be placed over the lower ends 305 of two tilt-up wall braces 210. Dolly 300 includes an attachment mechanism 306 (FIG. 4B). Attachment mechanism 306 includes a handle 314 attached perpendicular to a threaded bolt 312. Attachment mechanism 306 may be used by a construction worker (not shown in FIG. 4A or 4B) to secure the dolly 300 to the lower end 305 of tilt-up wall brace 210. The alternative embodiment, dolly 300A, does not include an attachment mechanism 306. The weight of the tilt-up wall brace 210 is generally sufficient to maintain the cylindrical body 302 around the lower leg 256 (not shown, but see FIGS. 1A-1B) and foot bracket 220 (not shown, but see FIGS. 1A-1B) even without the more secure use of an attachment mechanism 306.

[0032] Using dollys 300 and 300A attached to the tilt-up wall braces 210, the wheels 362 are free to roll along the surface of floor slab 330 in any suitable direction (two-axis movement) as the tilt-up wall 370 is maneuvered into place. Once the tilt-up wall 370 is in place, the dollys 300 and 300A may be removed. Removal of dolly 300 simply requires unscrewing the attachment mechanism 306 using handle 314, lifting the brace 210 off of the floor slab 330 and slipping the cylindrical body 302 off of the brace 210 to expose the lower leg 256 (not shown, but see FIGS. 1A-1B) and foot bracket 220 (not shown, but see FIGS. 1A-1B). Removal of dolly 300A is even simpler. One simply lifts the brace 210 off of the floor slab 330, slips the cylindrical body 302 of dolly 300A off of the brace 210 to expose the lower leg 256 (not shown, but see FIGS. 1A-1B) and foot bracket 220 (not shown, but see FIGS. 1A-1B). At this point, with the dollys 300 and 300A removed from the tilt-up wall brace, the foot brackets 220 (not shown, but see FIGS. 1A-1B) may be secured to the floor slab 330.

[0033] It will be understood that the use of mixed types of dollies, e.g., dollys 300 and 300A as shown in FIGS. 4A and 4B, merely illustrates the different embodiments of dollies may be used at the same time. A tilt-up wall contractor using the present invention may, of course, choose to use only one of the two different embodiments illustrated (dollies 300 or 300A) or one of the other embodiments of a dolly 100 (FIG. 2) or other embodiments (see, e.g., FIGS. 5 and 7 and related description, below) as shown and described herein.

[0034] FIG. 7 is a drawing of another embodiment of a tilt-up wall brace dolly 400, according to the present invention. Dolly 400 may include a body 402 of any suitable shape for surrounding a foot bracket 220 (FIGS. 1A-1B) and optionally a lower leg 256 (FIGS. 1A-1B) of a tilt-up wall brace 210 (FIGS. 1A-1B). Body 402 may be cylindrical as shown in FIG. 7, or any other suitable shape. Body 402 may include an upper reinforcement 403 located at an upper end 404 of body 402 as shown in FIG. 7. Dolly 400 may further include an optional attachment mechanism, shown generally at arrow 406 in FIG. 7, which may be similar in construction and function to the attachment mechanism 306 (FIG. 3) described above. The body 402 may further include a lower reinforcement 407 located at a lower end 405 of body as shown in FIG. 7. Reinforcements 403 and 407 provide a strengthened dolly 400 for repeated use and greater durability versus similar dollies without such reinforcements (dollies 100 and 300 as described herein). Reinforcements 403 and 407 may be formed of portions of piping with an inside diameter roughly
the same as the outside diameter of body 402. This allows the reinforcements 403 and 407 to be positioned over the cylindrical body 402 and welded in place.

Dolly 400 may further include caster assembly 460 attached to the lower end 405 of body 402. The caster assembly 460 may include wheel 462 rotationally mounted to wheel supports 464, which are in turn rotationally attached to a mounting bracket 465 configured for bolting 467 (three nuts and bolts shown in FIG. 7) or welded (not shown, but see welding 367 in FIG. 3) to the lower end 405 of body 402. Wheel 462 has a generally rounded tire profile 463 which is presently preferred over the generally flat tire profile 363 (FIG. 3) on wheels 362 (FIG. 3) for quickly orienting the caster assembly 460 during use on a floor slab (not shown in FIG. 7).

Dolly 400 may further include an optional handle 425 (shown in FIG. 7) with mounting arms 423 configured for attachment to body 402. Mounting arms 423 may be bolted, welded, glued or otherwise affixed to body 402 using means known to those of ordinary skill in the art. Mounting arms 423 may take any suitable shape or configuration. The purpose of handle 425 is to provide a means for allowing the user of dolly 400 to easily and conveniently grip dolly 400 by hand during installation and/or removal of the dolly 400 on a tilt-up wall brace (not shown). The particular composition and shape of handle 425 are not important, only its functionality.

It will be understood that other embodiments of a tilt-up wall brace dolly need not surround the entire lower leg 156 (FIG. 2), 256 (FIGS. 1A-1B), 556 (FIG. 5, see discussion below) or foot bracket 140 (FIG. 2), 220 (FIGS. 1A-1B). For example, the dolly may simply be in a platform configuration with multiple, swiveling casters to support the platform. FIG. 5 is an example of such an alternative embodiment of a dolly 500 for use with a tilt-up wall brace 510, according to the present invention. Dolly 500 may include a body 502 supported by a plurality of casters 560 (two shown, although three or more will be needed for stability) mounted to a bottom surface 522 of body 502. The plurality of casters 560 forms a low friction mechanism 550 that allows dolly 500 to move freely over the floor surface 524 (two-axis movement). The body 502 of dolly 500 may be a planar panel formed of a sturdy material, for example and not by way of limitation, wood, plastic, metal or composite material, having suitable strength for supporting foot bracket 520 and the weight of brace 510. The casters 560 may include wheels 562 or another similar mechanism with bearings or bushings (not shown) for rolling on floor slab 530. Each of the casters 560 may also be configured to swivel with bearings in a race or sealed mechanism (not shown for simplicity of illustration). This swiveling mechanism may be attached to the wheel supports 564 near the place where the caster 560 is attached to the body 502, according to one embodiment.

The body 502 of dolly 500 may further include a shoe 590 for receiving a portion of foot bracket 520 to at least partially secure the foot bracket 520 to the top surface 526 of body 502. The foot bracket 520 may further be secured to the top surface 526 of body 502 using one or more straps 580. The straps may be formed of elastic material, leather or any other suitable material for temporarily securing the foot bracket 520 to the dolly 500. Such straps may be secured to the body 502 using any suitable fastener mechanism including pins, clamps, hook and loop material, etc. Such various fastener mechanisms will be within the knowledge of those of ordinary skill in the art.

According to another embodiment of dolly 500, body 502 may include a bolt or post (neither shown) extending from the top surface 526 and configured for engagement with the mounting slot (not shown) in foot bracket 520 to further secure the dolly 500 to the foot bracket 520. It will be understood that each foot bracket 520, or 140 (FIG. 2) or 220 (FIGS. 1A and 1B), will generally include a mounting slot or hole for receiving a mounting bolt to secure the foot bracket to the floor slab. For example and not by way of limitation, see mounting slot 24 and mounting bolt 26 in foot bracket 20 of FIG. 2 and related discussion in U.S. Pat. No. 4,379,650 to Frankenfield, the contents of which are incorporated by reference herein for all purposes.

It will be understood that the particular configuration of the dolly 500 illustrated in FIG. 5 is merely exemplary. Other embodiments may have no shoe 590. Still other embodiments may have no straps 580. Still another embodiment may simply have an indentation (not shown) formed in the top surface 526 of body 502 for receiving foot bracket 520 in place. Of course there are many other combinations or alternative means for temporarily supporting or securing foot bracket 520 to dolly 500. All such alternative or equivalent means are considered to be within the scope and spirit of the present invention.

The dollys described herein, 100, 300, 300A and 500 are configured to be used with conventional tilt-up wall braces, 110, 210 and 510. However, it will be readily apparent that the dollys described herein may also be incorporated into the design of new and novel tilt-up wall braces having similar technical features. Alternatively, the dollys described herein, 100, 300, 300A and 500 may be considered a subsystem of such a novel brace.

For example, an embodiment of such a novel tilt-up wall brace is disclosed. The embodiment of a brace may include an elongated beam. The embodiment of a brace may further include a wall bracket attached to an upper end of the elongated beam. The wall bracket may be configured for mounting to a tilt-up wall. The embodiment of a brace may further include a foot bracket attached to a lower end of the elongated beam. The foot bracket may be configured for mounting to a foot bracket mounting surface, such as a floor slab. The embodiment of a brace may further include a wall-tilt-up wall brace dolly configured for selective attachment to the foot bracket. The dolly may further include a body configured for selectively receiving, holding and releasing the foot bracket. The dolly may further include a low friction mechanism disposed about a bottom end of the body. The low friction mechanism allows independent two-axis movement of a bottom end of the dolly over the foot bracket mounting surface. According to another embodiment of the brace, the dolly may further include an attachment mechanism configured for selectively securing the body to the foot bracket. Various embodiments may be formed from the various attachment mechanisms disclosed herein.

FIG. 6 show a flow chart of an embodiment of a method 600 for securing a foot bracket of a tilt-up wall brace to a floor slab, according to the present invention. Method 600 may include providing 602 a tilt-up wall brace dolly for use with a tilt-up wall brace foot bracket. The dolly may be any one of the embodiments of a dolly 100, 300, 300A and 500 described herein, with a body, with or without an attachment mechanism, and including a low friction mechanism. In yet another
embodiment, the attachment mechanism may be a shoe 590 with or without straps 580 or some variation as described with respect to FIG. 5 herein.

[0044] Method 600 may further include attaching 604 the dolly to the foot bracket. The attaching 604 may be accomplished with the use of an attachment mechanism 106 (FIGS. 1A-1B) or 306 (FIGS. 3, 4A and 4B) as described herein. According to another embodiment without an attachment mechanism, the foot bracket may simply be placed inside the body 302 and held in place by the weight of the tilt-up brace, see e.g., dolly 300A. According to still another embodiment, the foot bracket may simply be placed within an indentation (not shown) in a top surface 526 of a body 502 (see FIG. 5). In yet another embodiment, the foot bracket may be placed in a shoe 590 with or without straps 580 or some variation as described with respect to FIG. 5 herein.

[0045] Method 600 may further include placing 606 the low friction mechanism onto the floor slab. A construction worker may simply maneuver the lower end of the tilt-up wall brace with a dolly attached and place it on the floor slab or other brace mounting surface so that the low friction mechanism allows the dolly to roll on the surface. Method 600 may further include guiding 608 the dolly along the floor slab to a desired mounting location. A construction worker may push the lower end of the tilt-up wall brace with a dolly attached on the floor slab as the tilt-up wall is being moved into place as desired.

[0046] Method 600 may further include removing 610 the dolly from the foot bracket. Removal 610 of the dolly may be achieved by unscrewing an attachment mechanism 106 or 306, or unstrapping the foot bracket (see FIG. 5), or simply lifting the foot bracket out of body 302 or off of body 502, as described herein.

[0047] Method 600 may further include securing 612 the foot bracket to the floor slab at the desired mounting location. Securing 612 the foot bracket may be achieved using concrete mounting bolts or other fasteners known to those of ordinary skill in the art.

[0048] According to one embodiment of method 600, providing 602 the tilt-up wall brace dolly may include providing a cylindrical body with an opening at one end for receiving the foot bracket and lower leg of a tilt-up wall brace, see e.g., FIGS. 1A, 1B, 3, 4A and 4B and related discussion above. According to another embodiment the attachment mechanism may be a screw rotationally disposed within a threaded hole in the cylindrical body, as described herein. The screw may be configured to selectively apply pressure against the lower leg. According to another embodiment, the low friction mechanism may be a caster mounted to an opposite end of the cylindrical body, as described herein.

[0049] While the foregoing advantages of the present invention are manifested in the detailed description and illustrated embodiments of the invention, a variety of changes can be made to the configuration, design and construction of the invention to achieve those advantages. Hence, reference herein to specific details of the structure and function of the present invention is by way of example only and not by way of limitation.

What is claimed is:

1. A tilt-up wall brace dolly for use with a tilt-up wall brace, the dolly comprising:
   a body configured to receive a foot bracket attached to a lower end of a tilt-up wall brace; and
   a low friction mechanism disposed about a bottom end of the body, the low friction mechanism allowing independent two-axis movement of a bottom end of the brace over a foot bracket mounting surface.

2. The dolly of claim 1, wherein the body is configured to surround a lower leg and the foot bracket.

3. The dolly of claim 2, wherein the body comprises a cylindrical member with an opening at an upper end for receiving the lower leg and the foot bracket.

4. The dolly of claim 3, wherein the cylindrical member further comprises an upper reinforcement disposed around the upper end and a lower reinforcement disposed around a lower end of the cylindrical member.

5. The dolly of claim 1, wherein the body comprises a planar panel having a shoe on one surface for receiving the foot bracket.

6. The dolly of claim 5, wherein the low friction mechanism comprises a plurality of casters mounted on an opposite surface of the planar panel.

7. The dolly of claim 1, further comprising an attachment mechanism configured for releasably securing the body to the foot bracket.

8. The dolly of claim 7, wherein the attachment mechanism comprises a hand-turned screw passing through a threaded opening in the body and configured to provide a friction fit against a lower leg of the tilt-up wall brace, the friction fit sufficient to secure the dolly on the lower leg.

9. The dolly of claim 7, wherein the attachment mechanism comprises a cam mechanism activated by a lever, the cam configured for selectively providing a friction fit against a lower leg of the tilt-up wall brace, the friction fit sufficient to secure the dolly on the lower leg.

10. The dolly of claim 2, wherein the attachment mechanism comprises an elastic band configured for wrapping around the foot bracket and being secured to the planar panel.

11. The dolly of claim 1, wherein the low friction mechanism comprises at least one caster.

12. The dolly of claim 11, wherein the caster comprises a wheel with a rounded tire profile.

13. The dolly of claim 1, wherein the dolly further comprises a handle attached to the body.

14. A method for securing a foot bracket of a tilt-up wall brace to a floor slab, the method comprising:
   providing a tilt-up wall brace dolly for use with a tilt-up wall brace foot bracket, the dolly comprising:
   a body configured to receive the foot bracket;
   an attachment mechanism configured for releasably securing the body to the foot bracket; and
   a low friction mechanism configured for independently two-axis movement of a bottom end of the body, the low friction mechanism allowing independent two-axis movement of a bottom end of the brace over a foot bracket mounting surface;
   attaching the dolly to the foot bracket;
   placing the low friction mechanism onto the floor slab;
   guiding the dolly along the floor slab to a desired mounting location;
   removing the dolly from the foot bracket; and
   securing the foot bracket to the floor slab at the desired mounting location.

15. The method of claim 14, wherein providing the tilt-up wall brace dolly further comprises providing a cylindrical body with an opening at one end for receiving the foot bracket and lower leg of a tilt-up wall brace, the attachment mechanism comprising a screw rotationally disposed within a
threaded hole in the cylindrical body, the screw configured to selectively apply pressure against the lower leg and the low friction mechanism comprising a caster mounted to an opposite end of the cylindrical body.

16. A tilt-up wall brace, comprising:
   an elongated beam;
   a wall bracket attached to an upper end of the elongated beam, the wall bracket configured for mounting to a tilt-up wall;
   a foot bracket attached to a lower end of the elongated beam, the foot bracket configured for mounting to a foot bracket mounting surface; and
   a tilt-up wall brace dolly configured for selective attachment to the foot bracket, the dolly further comprising:
   a body configured for selectively receiving, holding and releasing the foot bracket; and
   a low friction mechanism disposed about a bottom end of the body, the low friction mechanism allowing independent two-axis movement of a bottom end of the brace over the foot bracket mounting surface.

17. The tilt-up wall brace of claim 16, wherein the dolly further comprises an attachment mechanism configured for selectively securing the body to the foot bracket.

18. The tilt-up wall brace of claim 16, wherein the dolly further comprises a handle attached to the body.

19. The tilt-up wall brace of claim 16, wherein the low friction mechanism comprises a wheel with a rounded tire profile.

20. The tilt-up wall brace of claim 16, wherein the body further comprises upper and lower reinforcements at opposite ends, wherein the upper and lower reinforcements each comprise portions of pipe with an inner radius about equal to an outer radius of the body.

* * * * *