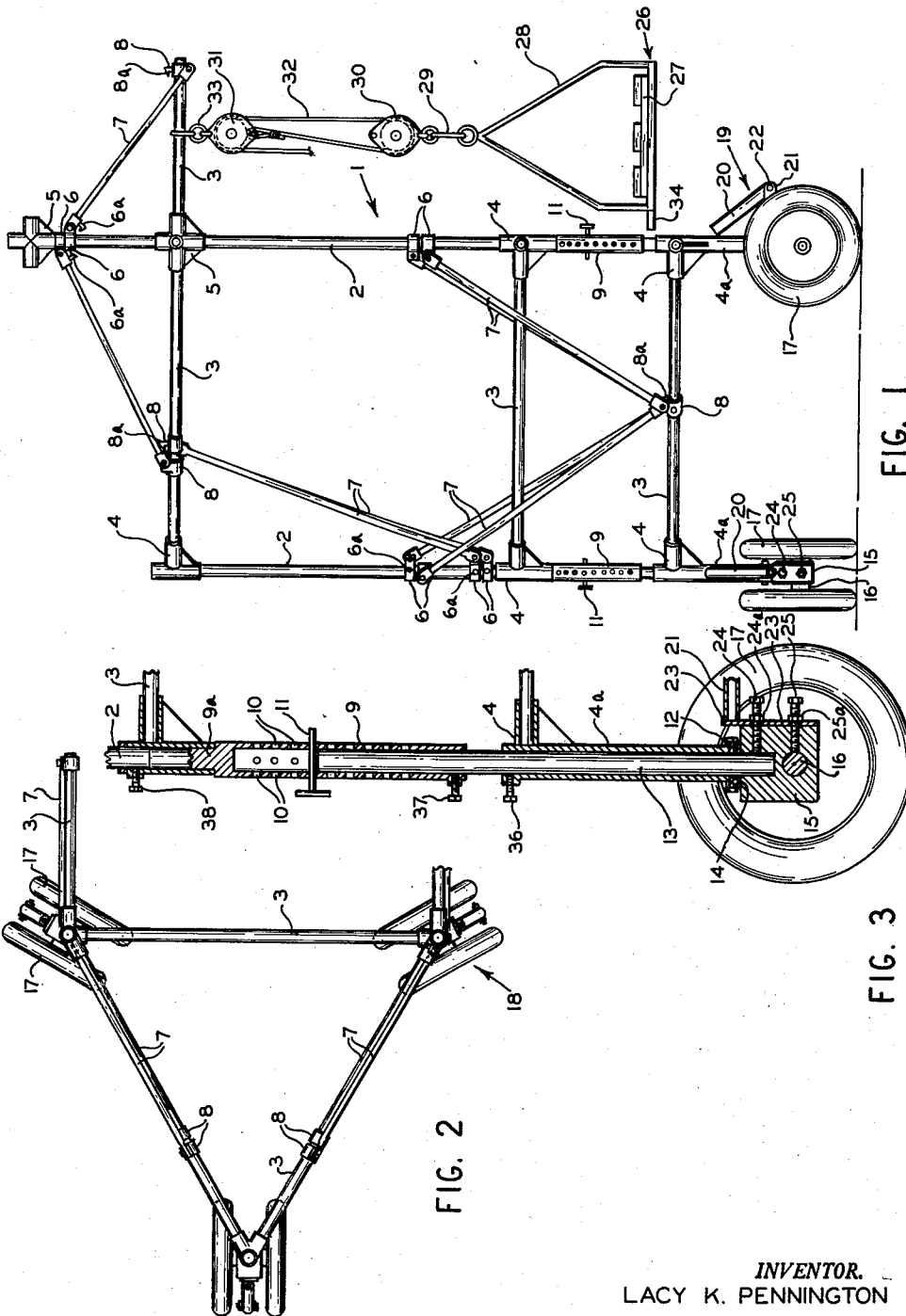


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MOBILE SCAFFOLD CONSTRUCTION

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MOBILE SCAFFOLD CONSTRUCTION

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This invention relates to scaffold construction and more particularly to a demountable scaffold support provided with simple and effective means for selectively rendering the support mobile or immobile.

When the use of a scaffold support is required, an appreciable amount of time is required to erect the support at the zone where work is to be done. As the work progresses beyond a localized zone, the scaffold support must be moved, a procedure frequently necessitating demounting of the support members and reassembly of them at a different zone. Thus, the amount of time necessary to accomplish a particular job is increased by the time required to change the position of the scaffold support. This additional time is reflected in the cost of completing the work and must either be passed on to the customer or absorbed by the contractor.

An object of the invention is to provide a scaffold support which may be quickly and easily erected and which may be moved from place to place without the necessity of dismantling any of the parts of the support.

Another object of the invention is to provide a scaffold support of the kind referred to which includes self contained means for selectively rendering the support mobile or immobile.

A further object is to design a mobile scaffold adaptable for use on the roofs of buildings, and provide overhanging means associated with the scaffold and from which the platform may be suspended so that workmen can perform work close to the top of tall buildings without erection of high scaffolding extending from the ground to the place where the work is being done, thus eliminating the material expense and the labor incidental thereto.

A further object still is to provide a substantially triangular-shaped, mobile, scaffold structure which is readily movable from place to place on the flat roof of a building, to the end that the entire upper periphery of the building may be progressively repaired, painted or other wise serviced at a minimum of expense and labor.

A further object of the invention is to provide a scaffold support which is capable of simple and rapid height adjustment.

Other objects and advantages of the invention will be pointed out specifically or will become apparent from the following description when it is considered in conjunction with the appended claims and the accompanying drawing in which:

FIG. 1 is a side elevational view of one form of scaffold support embodying the invention;

FIG. 2 is a fragmentary, top plan view of the construction shown in FIG. 1; and

FIG. 3 is an enlarged view, partly in elevation and partly in section of a portion of the construction.

A scaffold support embodying the principles of the invention is designated by the numeral 1 in the drawing and may comprise a plurality of vertical frame elements 2 and a plurality of horizontal frame elements 3 connected one to another to form a multi-sided framework arranged in the form of a triangle in plan, as shown in FIGURE 2, or in any other suitable geometric configuration. At the juncture of each of the vertical and horizontal frame elements 2 and 3, respectively, there is provided a T- or X-shaped coupling member 4 or 5, as necessitated by the number of intersecting frame elements, and the arms of the coupling members are internally bored to receive the reduced ends of the frame

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elements in the conventional manner. On each of the vertical frame elements 2 is slidably mounted a number of rings or collars 6 to each of which is pivoted one end of a brace arm 7. The other end of each arm 7 is pivoted to a similar collar 8 which is slidably mounted on certain of the horizontal frame elements 3 for a purpose to be explained hereinafter. Preferably, each collar carries a set screw 6a or 8a which may be turned to bear against its associated frame element to prevent sliding movement therebetween.

At a convenient location, such as between the lowermost horizontal frame element 3 and next upper element 3, an adjusting frame element 9 is interposed between coupling members 4. Each element 9 comprises a tube having a reduced, preferably solid end portion 9a adapted to be received in one of the arms of the upper coupling member 4 in the same manner that the frame elements 2 and 3 are received therein. The larger diameter portion of each element 9 is provided with a series of vertically spaced, aligned openings 10 in which an adjusting pin 11 may be received so as to extend through the part 9.

In the preferred construction, each of the lowermost coupling members 4 includes an extension 4a of the downwardly extending arm, the extension terminating at its lower end in an enlargement 12. Extending through each tubular extension 4a and through the aligned arm of the lowermost coupling member 4, and also extending into each of the frame elements 9, a distance determined by the position of the pin 11, is a shaft or rod 13 on the lower end of each of which is force fitted a thrust bearing assembly 14 of the ball type. On the lower end of each of the shafts 13 is mounted a block 15 through which extends a substantially horizontal spindle 16. Adjacent to each end of the spindle 16 is mounted one ground engaging wheel 17 of a dual wheel unit or assembly 18, the wheels of each unit being spaced by the block.

The arrangement of the parts described thus far is such that a vertically extending scaffold supporting structure is mounted for movement over the ground, roof, or other surface on wheels which are mounted not only for rotation about the horizontal axes of the spindles 16, but also for swiveling movement about the substantially vertical axes of the shafts 13. The wheel units 18 preferably include the dual wheels as shown in the drawing so that during swiveling movement, each wheel will swing about a radius equal to the distance of the wheel from its swivel axis, thereby enabling the wheel to roll when the dual wheels are turned rather than scrape across its supporting surface. The provision of the thrust bearings 14 also facilitate swivelling of the wheel units, and the housings 12 not only provide a reacting surface for the bearings, but also prevent the entry of dirt between the bearing races.

To facilitate swivelling of the wheel units and also to aid in moving the scaffold support to and from different positions, each wheel unit includes a handle device 19 comprising a pair of rods 20, 21 pivotally connected to each other as at 22, the rod 21 also being welded or otherwise firmly secured to a plate 23 which is fastened to the spindle block 15 by means of bolts 24 and 25. The bolts are received in threaded openings in the block and, as is shown in FIG. 3, the inner end of one of the bolts 24, bears against the base of the swivel post 13 to prevent relative vertical and rotary movement of the post and the block, whereas the inner end of the other bolt, 25, bears against the wheel spindle 16 to prevent relative lateral and rotary movement of the spindle and the block. The bolts 24 and 25 may be equipped with lock nuts 24a, 25a to maintain the bolts in engagement with the shaft 13 and the spindle 16, respectively.

To condition the scaffold support for use, the frame members 2, 3, and 9 are arranged as shown and described and wheeled or transported to the roof or zone where

work is to be done. Then a scaffold may be mounted and adjusted on the support. In the disclosed embodiment of the invention the scaffold 26 comprises a platform 27 spanning a pair of hanger arms 28, each of which is supported by a chain 29 or the like from a pulley block 30. Each of the pulley blocks 30 is supported from another pulley block 31 by a rope 32 or the like, and each block 31 is supported from a laterally extending frame element 3 by means of chains or rings 33. The elements 3 from which the scaffold is supported are braced by rods 7 previously described. The particular arrangement of the scaffold illustrated in the drawing is designed to permit workmen on the platform 27 to be let down from the substantially flat roof of a building. Thus, the platform includes laterally projecting posts 34 adapted to engage the side of the building to position the platform relative thereto.

When the scaffold support has been located in the desired position, it is desirable that it be rendered immobile so as to preclude its shifting about as the workmen move upon the platform. This may be accomplished by swiveling each of the wheel units to such a position that a plane passing through the swivel axis of each wheel unit and parallel to the planes of the two wheels substantially bisects the angle at which the sides of the framework intersect. These positions of the wheel units are illustrated in FIGURE 2. To assure that the wheel units remain in the immobilizing positions, the extensions 4a are each provided with a set screw 36 which may be turned to bear tightly against the shaft 13 so as to preclude rotary movement between the shaft and the part 4a. Since each part 4a is integral with the coupling member 4, and since the members 4 are interconnected by the frame elements 3, it is unlikely that the wheel units 18 will be caused to swivel inadvertently once the set screws 36 and 24 are turned to bear against the shafts 13. To augment the action of the screws 36 and 24, however, the elements 9 also may be equipped with set screws 37 to bear against the shafts 13. Moreover, some or all of the coupling members 4 may include set screws such as is shown at 38 in FIGURE 3 to assure firm connection of the frame elements 2 and 3 thereto.

When it is desired to move the scaffold support, the set screws 36 and 37, or the screws 24 at each corner of the framework may be loosened, whereupon the wheel units will swivel freely into such position that the support may be pulled or pushed by one or more of the handles 19 towards a new position.

If it becomes desirable to vary the height of the supporting structure, the set screws 6a, 8a, and 37 may be loosened, the pins 11 removed, and the shafts 13 extended or retracted into the elements 9. During these movements, the collars 8 on the lower frame elements 3 and the collars to which they are connected by the brace rods 7 will permit relative sliding movement between themselves and the frame members so as to permit the height

adjustment to be made. When the height of the scaffold support has been satisfactorily adjusted, the loosened set screws may be tightened and the apparatus used as previously indicated.

The disclosed embodiment is representative of the invention, but is intended to be illustrative rather than definitive thereof. The invention is defined in the claims.

I claim:

1. A mobile scaffold construction comprising a plurality of frame elements connected one to another to form a framework having at least three sides, each side of said framework intersecting and being joined to two other sides at an angle of not more than 90°; a plurality of sets of dual ground engaging wheels; axle means rotatably journaling each wheel of each set of wheels, the number of sets of wheels corresponding to the number of sides of said framework, each wheel of each set of dual wheels being spaced from one another and being rotatable in a substantially vertical plane about a substantially horizontal axis; means mounting a set of said plurality of wheels at the intersection of each of the sides of said framework for swiveling movement of each set of wheels relative to said framework about a substantially vertical axis intersecting the horizontal axis of the associated set of wheels substantially equidistant from the wheels of each set of wheels, each of said sets of wheels being so arranged relatively to the sides of said framework that the plane of rotation of each set of wheels substantially bisects the angle between the adjacent two sides of said framework; and releasable locking means interconnecting and reacting between said framework and the mounting means for each of said sets of wheels and releasably locking said sets of wheels against swiveling movement.

2. The construction set forth in claim 1 wherein said framework has three sides.

3. The construction set forth in claim 1 including handle means secured to said axle means and substantially midway between the wheels of each of said sets of wheels.

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