

April 7, 1953

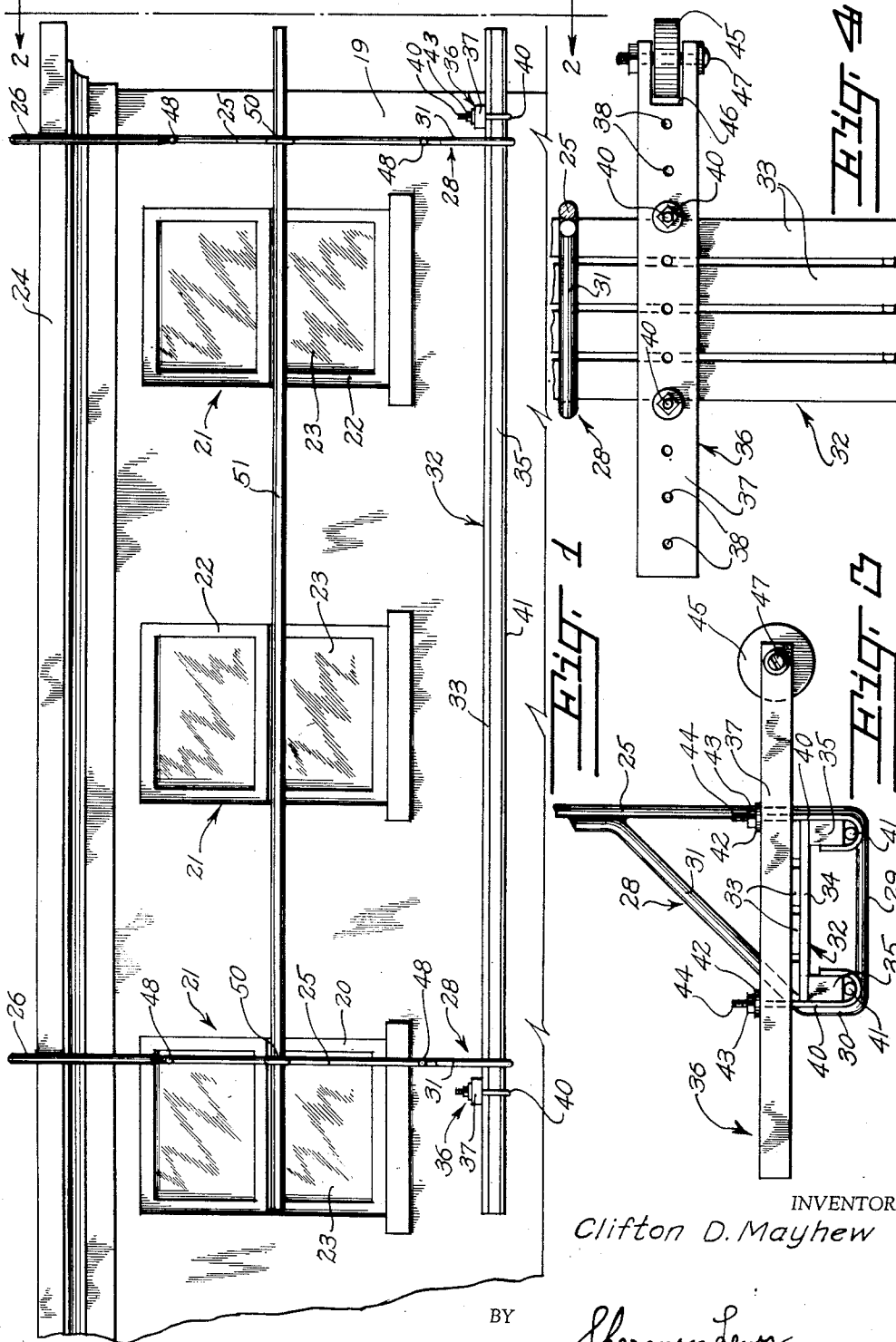
C. D. MAYHEW

2,634,173

SCAFFOLD

Filed March 22, 1951

2 SHEETS—SHEET 1



INVENTOR
Clifton D. Mayhew

BY *Sherman Levy*
ATTORNEY

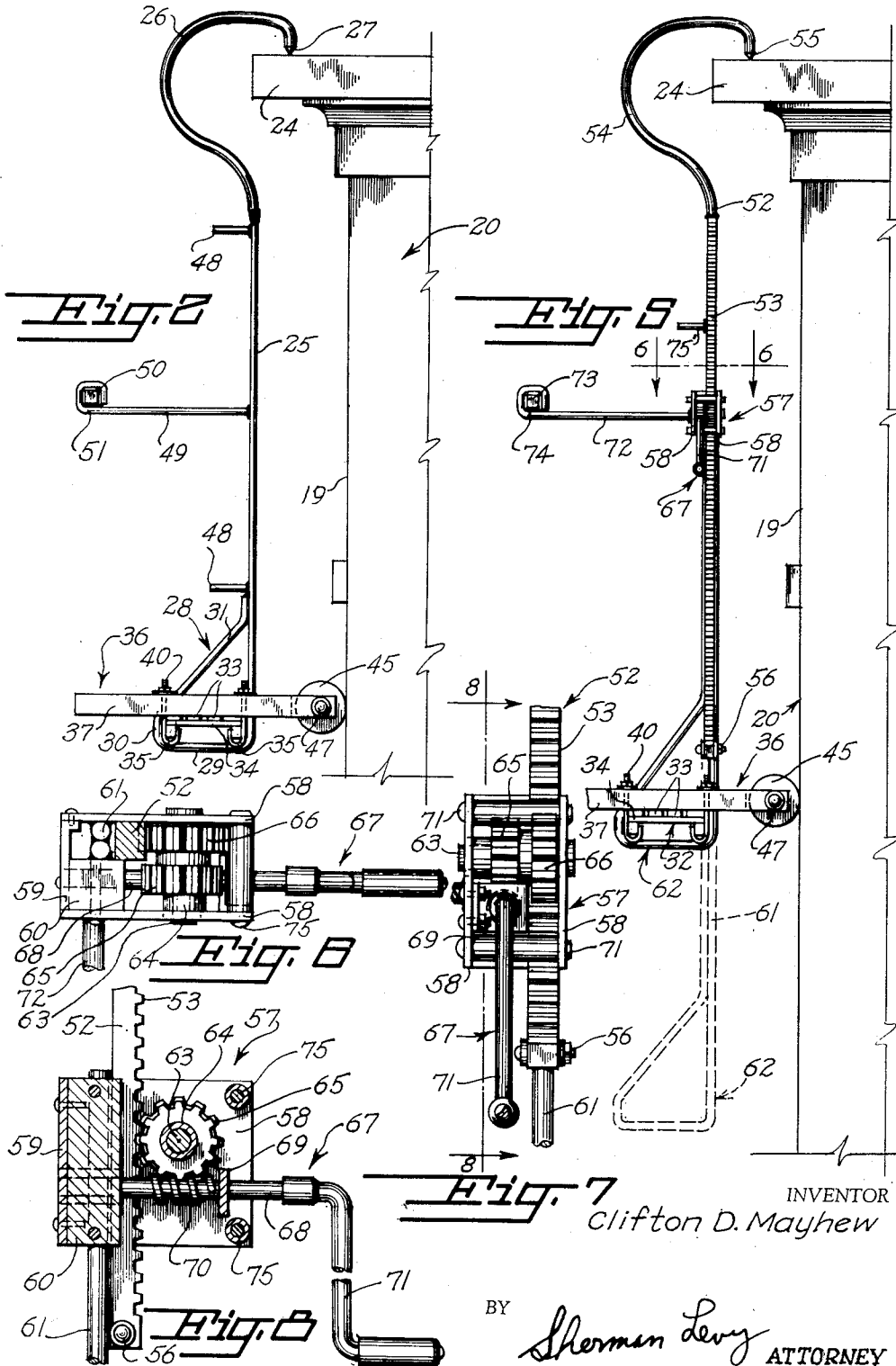
April 7, 1953

C. D. MAYHEW
SCAFFOLD

2,634,173

Filed March 22, 1951

2 SHEETS—SHEET 2



UNITED STATES PATENT OFFICE

2,634,173

SCAFFOLD

Clifton D. Mayhew, Washington, D. C.

Application March 22, 1951, Serial No. 217,016

1 Claim. (Cl. 304—18)

1

This invention relates to a scaffold, and more particularly to a scaffold that can be used for supporting painters or other persons that are painting or doing other work on the exterior of buildings.

The object of the invention is to provide a scaffold which can be readily suspended from a building whereby workmen, such as painters, stand on the scaffold in order to paint windows, the scaffold of the present invention enabling the workers to perform their work in a quick, efficient and economical manner.

Another object of the invention is to provide a scaffold which may be fixed in height or adjustable in height, the scaffold adapted to be used by painters, window washers or repairmen, or other persons, the scaffold of the present invention enabling the users to work with greater safety and efficiency.

A further object of the invention is to provide a scaffold which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a fragmentary side elevational view of a building, showing the scaffold of the present invention attached thereto;

Figure 2 is a sectional view taken on the line 2—2 of Figure 1;

Figure 3 is an enlarged fragmentary end elevational view showing the bottom of the scaffold;

Figure 4 is a fragmentary top plan view of the scaffold showing the bumper assembly;

Figure 5 is an end elevational view of a modified scaffold attached to a building;

Figure 6 is a sectional view taken on the line 6—6 of Figure 5;

Figure 7 is an enlarged fragmentary elevational view showing the gear adjusting mechanism for the scaffold of Figure 5;

Figure 8 is a sectional view taken on the line 8—8 of Figure 7.

Referring in detail to the drawings, the numeral 20 designates a portion of a building which includes side or end walls 19 and a plurality of windows 21 which may be arranged in the wall 19. Each of the windows 21 includes a frame 22 and arranged within the frames 22 are window panes 23. A portion of the roof ledge is indicated by the numeral 24, Figures 1 and 2.

The present invention is directed to a scaffold

2

which is adapted to support painters or other persons thereon, whereby such persons can perform various tasks, such as painting the window frames 22. The scaffold of the present invention includes a pair of spaced parallel bars 25 which are vertically disposed, and the bars 25 may be fabricated of any suitable material, such as round metal stock. The upper end of each of the bars 25 is shaped arcuately to provide a hook 26, and the ends of the hooks 26 are pointed, as at 27, the pointed ends 27 adapted to engage the upper surface of the roof portion 24, whereby the scaffold can be suspended or supported from the top of the building.

Arranged on the lower end of each of the bars 25, or formed integrally therewith, is a stirrup 28, Figures 2 and 3. Each of the stirrups 28 includes a horizontal lower portion 29, a short vertical portion 30, and an inclined portion 31 which may be secured in any suitable manner, as by welding, to the vertical portion of the bar 25.

Extending between the pair of stirrups 28 and supported thereby is a horizontally disposed platform 32 which is adapted to support the painters or other persons thereon. The platform 32 includes a plurality of spaced parallel strips 33 which may be secured in any suitable manner to transverse cross pieces 34, Figure 3. Extending beneath the strips 33 is a pair of spaced parallel longitudinally extending beams 35.

The scaffold of the present invention further includes a plurality of bumper assemblies which are indicated each by the numeral 36. Each of the bumper assemblies 36 includes a horizontally disposed arm 37 that is provided with a plurality of spaced openings 38 therein. For maintaining the arms 37 immobile in their various adjusted positions, bolts 40 extend through certain of the openings 38, and the lower ends of the bolts 40 are shaped arcuately for engaging the beams 35, there being a cable 41 arranged below each of the beams 35.

Arranged on each of the bolts 40 adjacent the upper end thereof is a washer 42, and a nut 43 is arranged in threaded engagement on the threaded upper ends 44 of the bolts 40. The nuts 43 serve to maintain the parts in their proper positions. By loosening the nuts 43, and removing the bolts 40 from the openings 38, the arms 37 can be adjusted along the platform 32 to the desired location, whereupon the bolts 40 can be reinserted in the desired openings 38 and the nuts 43 again applied. The inner end of each of the arms 37 is cut away, as at 46, and rotat-

ably arranged in each of the cut-away portions 46 is a roller or wheel 45 which is adapted to engage the outside of the wall 19. The rollers 45 are rotatably connected to the arm 37 by suitable bolt-and-nut assemblies 47. The bumper assemblies 36 thus serve to urge the bottoms of the scaffold of the present invention away from the building the proper distance.

Arranged at right angles with respect to the bar 25 and secured thereto is a plurality of horizontally disposed steps 48. The steps 48, Figure 2, are adapted to be engaged by the workingman's feet, whereby the person or workingman can readily climb from the platform 32 up the steps 48 and onto the roof 24 or vice versa. The scaffold of the present invention can be readily moved along the building, as when it is desired to paint additional window frames 22 by merely picking up the hook portions 26 and moving the scaffold to the next desired location. As a safety precaution, a rod 49 extends outwardly from each of the bars 25 and is secured thereto in any suitable manner, as for example, by welding. Formed integrally with the outer end of each of the rods 49 or secured thereto is a support portion 50, and extending between the pair of support portions 50 is a horizontally disposed guard rail 51.

When using the scaffold shown in Figures 1 through 4, the pointed ends 27 are engaged with the upper surface of the roof 24. Then, the pair of bars 25 will hang or be suspended from the roof, as shown in Figures 1 and 2. The rollers 45 of the bumper assemblies 36 will maintain the bottoms of the bars 25 properly spaced from the wall 19 of the building 20, and the platform 32, which extends between the pair of stirrups 28 will provide a convenient support for painters or other persons working on the building. The arms 37 of the bumper assemblies 36 can be adjusted as desired so that the space between the bottoms of the bars 25 and the building can be regulated as desired. Further, the men can gain access to the roof 24 from the platform 32 by means of the steps 48, or the men can descend onto the platform 32 by means of the steps 48. Further, the guard rail 51 insures that the men can work in the utmost safety. When it is desired to move the scaffold, as for example, when the windows in a particular area have been painted, the bars 25 can be readily lifted by means of persons standing on the roof 24 and moved to the next location.

Referring to Figures 5 to 8 of the drawings, there is shown a modified form of the invention, the numeral 52 designating each of a pair of bars which may be fabricated of any suitable material. The upper end of each of the bars 52 is shaped to provide a hook 54 that terminates in a pointed end 55 for engagement with the roof portion 24 of the building 20. A securing element 56 extends through the bottom of the bar 52, the securing element 56 constituting a stop member for limiting downward movement of a movable carrier 57.

The carrier 57 includes a pair of spaced parallel plates 58 that may be fabricated of any suitable material, such as metal, and a cross piece 59 extends between the pair of plates 58 and is secured thereto, as by welding. Interposed between the pair of plates 58 and secured thereto is a block 60, and a shank 61 has its upper end secured to the block 60, the shank 61 consisting of a pair of tubular bars which may be secured together, as by welding. The plates 58 are ar-

ranged on opposite sides of the bar 52. Arranged on the lower end of each of the shanks 61 is a stirrup 62, the stirrups 62 serving the same purpose and having the same construction as the previously described stirrups 28. A horizontally disposed platform 32 extends between the pair of stirrups 62 and the platform 32 is adapted to support painters or other persons thereon.

A means is provided for causing movement of the carrier 57 up and down the bars 52. This means comprises a shaft 63 which extends between the pair of plates 58, there being a sleeve or spacer 64 circumsposed on the shaft 63. A pair of gears 65 and 66 are mounted on the shaft 63. For causing movement of the carrier 57, a crank 67 is provided. The crank 67 includes a straight portion 68 that extends through a bracket 69, the straight portion 68 being arranged between the pair of plates 58. Mounted on the straight portion 68 is a worm 70 which meshes with the gear 65. A handle 71 is connected to the end of the straight portion 68. Thus, by manually rotating the handle 71, the straight portion 68 will rotate and this will cause rotation of the shaft 63. The gear teeth on the gear 66 are arranged in meshing engagement with the teeth 53 of the bar 52, so that this rotation of the handle 71 will cause the carrier 57 to move up and down along the bar 52. As the carrier 57 moves, it carries the block 60 therewith, so that the shank 61 and stirrups 62 will likewise move, whereby the platform 32 can be raised or lowered as desired. Thus, the platform 32 can be adjusted to any desired elevation, whereby various portions of the building can be worked on.

The scaffold of Figures 5 through 8 further includes the bumper assemblies 36 which serve to maintain the bottoms of the bars 52 properly spaced from the building 20. Suitable securing elements, such as bolts 75, extend between the pair of plates 58 for maintaining the members in their proper spaced and assembled relation.

Further, the scaffold shown in Figures 5 through 8 includes the guard rail assembly which has the same construction as that used with the form of the invention of Figures 1 through 4. Thus, a horizontally disposed arm 72 extends from the carrier 57 and is secured thereto in any suitable manner, and the outer end of each of the arms 72 is shaped to provide a support portion 73. A horizontally disposed guard rail 74 extends between the pair of support portions 73. Horizontally disposed steps 75 may be provided whereby the men can readily ascend or descend to or from the platform 32.

When using the scaffold shown in Figures 5 through 8, the pointed ends 55 are arranged in engagement with the upper surface of a roof portion 24. Then, workmen can stand on the platform 32 and paint window frames 21 or do other tasks. The height of the platform 32 can be adjusted readily when desired, by rotating the handle 71. Thus, upon rotation of the handle 71, the worm 70 will be turned and this will cause the shaft 63 to be rotated, so that gear 65 meshes with the worm 70. As the shaft 63 rotates, it turns the gear 66 and since the teeth of the gear 66 are arranged in engagement with the teeth on the bar 52, then the carrier 57 will move vertically along the bar 52. It is to be understood that there are two of the bars 52, and consequently two carriers 57 for the complete scaffold. As the carrier 57 moves vertically along the bar 52, it will cause similar movement of the block 60, since the block 60 is secured to the carrier 57.

5

This movement of the block 60 will result in up or down movement of the shank 61, and this in turn causes the stirrups 62 and platform 32 to be raised or lowered depending upon the direction of rotation of the handle 71.

The scaffold of the present invention can be used by painters, window washers, repairmen or other persons. The scaffold is safe to use and can be easily moved from place to place and will result in an economy in labor costs.

What is claimed is:

In a scaffold, a carrier including a pair of spaced parallel plates connected together, a cross-piece extending between said pair of plates and secured thereto, a block interposed between said pair of plates and secured thereto, a shank having its upper end secured to said block, a bar extending between said pair of plates, the upper end of said bar being shaped to provide a hook, said hook terminating in a pointed end for engagement with the roof portion of a building, a stop member adjacent the end of the bar opposite the hooked end, for limiting downward movement of said carrier, said bar being provided with a plurality of teeth thereon, a rotatable shaft extending between said pair of plates perpendicular to said bar, a spacer circumposed on said shaft, a first and second gear mounted on said shaft, said first and second gears spaced longitudinally by said spacer, a crank including a straight portion extending perpendicular to said bar and said shaft between said pair of plates, a bracket extending between said pair of plates,

6

said bracket being parallel to said shaft and spaced therefrom and an aperture in said bracket, said aperture receiving the straight portion of said shaft, a worm gear mounted on said straight portion and meshing with said first gear, said second gear engaging the teeth on said bar, a handle connected to the end of said straight portion, and a stirrup arranged on the lower end of said shank.

CLIFTON D. MAYHEW.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
111,540	Hollabaugh et al.	Feb. 7, 1871
200,767	Sanderson	Feb. 26, 1878
842,331	Palmer	Jan. 29, 1907
866,078	Sims	Sept. 17, 1907
1,689,626	Gallowitz	Oct. 30, 1928
1,830,369	McIntosh	Nov. 3, 1931
2,072,354	Biebel	Mar. 2, 1937
2,326,983	Sway	Aug. 17, 1943
2,433,859	McCormick	Jan. 6, 1948

FOREIGN PATENTS

Number	Country	Date
191,254	Great Britain	Jan. 11, 1923
598,351	France	Dec. 15, 1925
630,926	Germany	June 9, 1936