

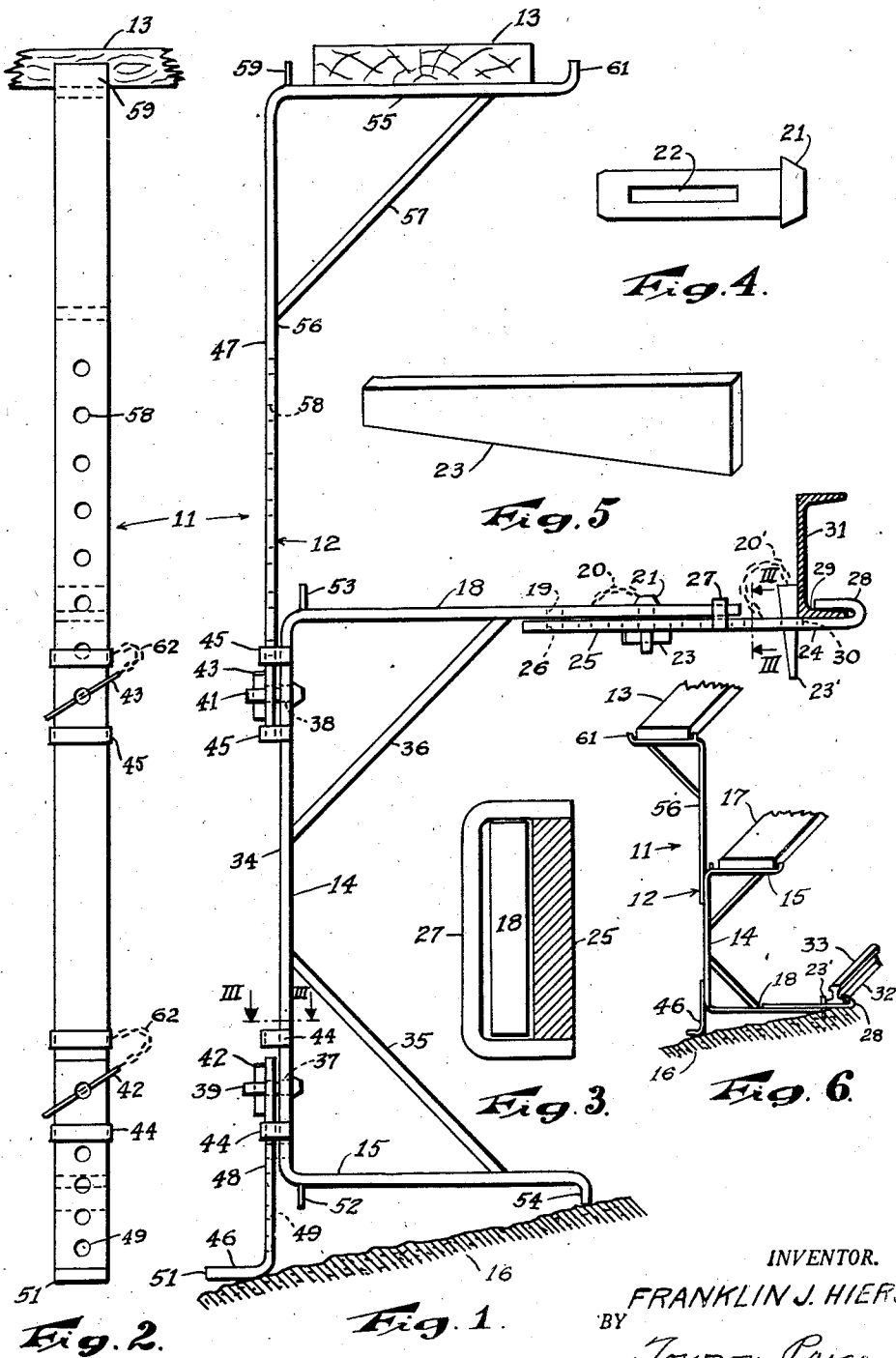
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F. J. HIERS

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ADJUSTABLE SCAFFOLD OR STAGING

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INVENTOR.
FRANKLIN J. HIERS
BY
Towson Price
ATTORNEY

UNITED STATES PATENT OFFICE

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ADJUSTABLE SCAFFOLD OR STAGING

Franklin J. Hiers, Portsmouth, Va., assignor of
one-fourth to Thomas A. Hodges, Portsmouth,
Va.

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This invention relates to scaffolds or staging, and, more particularly, to one which is readily assembled and adjusted to suit various desired conditions of use.

A main object of my invention is to provide a scaffold or staging, desirably formed of structural members adapted to be quickly connected or disconnected with respect to each other and structures being worked on, particularly such as railway rolling stock.

Another object of my invention is to provide an adjustable scaffold or staging consisting of a main member, which may be used in one position or inverted; a hook part formed for adjustable connection with a normally-horizontal portion of the main member and adapted to conveniently connect with either a channel iron or other part of a car frame for acting as a putlog, or, upon inversion of the main member, connecting with a ground-adjacent structural member, such as a track rail; an adjusting foot member adapted to be connected with the lower portion of the upright part of the main member to form a ground support; and an alternatively-used extension member adapted to either present a plank-supporting portion above the top of the main member, or be reversed to be offset away from the work with respect to said main member, for holding tools and the like.

A further object of my invention is to provide frames which may be held in place with respect to work, such as railway rolling stock undergoing repairs or other servicing, and which may be attached either to the rolling stock or to the track therebeneath, positioned at the desired elevation, and held firmly so as to present approximately horizontal portions for supporting planks upon which men may stand when performing the desired work.

Other objects and advantages of the invention will become apparent as the description proceeds.

Referring to the drawing, which is approximately to scale:

Fig. 1 is a side elevational view of one embodiment of one of my adjustable scaffold or staging frames, to a scale of $1\frac{1}{2}$ inches equal 1 foot in the drawing accompanying the application.

Fig. 2 is an end elevational view of one of said frames.

Fig. 3 is an enlarged fragmentary sectional view on either one of the lines III—III of Fig. 1, in the directions of the arrows.

Fig. 4 is an enlarged detailed elevational view of one of the bolts used for connecting the parts.

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Fig. 5 is an enlarged view in perspective of one of the keys for use with the bolt of Fig. 4.

Fig. 6 is a diagrammatic fragmentary view (in perspective), showing how the scaffold frames may be adjusted so that workers may stand on one plank and have tools and material disposed in a convenient position on another plank thereabove, and in which the main member of each frame is inverted, as compared with Figs. 1 and 2, so that the hook member connects with the track rail rather than a channel or other part of a car or other structure being serviced, as well as an alternative connection between the hook and main frame members.

Referring to the drawings in detail, like parts being designated by like reference characters, there is shown an adjustable scaffold, generally designated by the reference character 11, comprising two or more scaffold frames 12, only one of which is illustrated as the other, or others, is, or are, identical therewith, adapted to support planks 13, or other structural members upon which men may stand and work, which planks extend between two or more of such frames, depending on the load to be supported and/or the distance traversed by the planks.

Each frame 12 comprises a main member 14 having a normally generally-horizontal portion 15 adapted to either rest on the ground 16, as when positioned as illustrated in Fig. 1 or, upon inversion, as shown in Fig. 6 to support a plank 17. The other normally generally-horizontal portion 18 is adapted for connection with a structure to be serviced, and for that purpose may be provided with one or more apertures 19 for the reception of a bolt 21, desirably of the type illustrated in Fig. 4 (which is to a scale of 6 inches equal 1 foot in the drawing accompanying the application); that is, provided with a slot 22 for the reception of a locking key plate or wedge 23, as detailed in Fig. 5 to the same scale.

The bolt 21 serves for connection with a desirably employed hook member 24 having a shank 25 with a series of apertures 26 to selectively receive said connecting bolt passing through the normally horizontal portion 18. The bolt 21 desirably has a short chain 20, with one end welded to its head and the other to the part 18. In order to prevent turning between the hook member 24 and the portion 18, one of said members, such as the former, is provided with a metal loop 27, detailed in Fig. 3 to about the scale of Figs. 4 and 5, for snugly receiving the portion 18 between it and the portion 25. Said loop is spaced from the bolt holes 26 so that positioning of the

bolt 21 in one of said holes, and a registering hole 19 in the portion 18, is not interfered with.

The hook portion 28 of the hook member 24 is of such a form that it snugly receives the lower flange 29 of conventional car body channels 31, or similar structural parts, as illustrated in Fig. 1, for holding the frame 12 in the desired position with respect to the car or other structure being serviced. After fitting, as illustrated, the hook member 24 may be locked to the channel 31, or other member of the structure being serviced, by a key or wedge 23', which may be shaped like the wedge 23 of Fig. 5, and received in a slot 30 in the hook member 24. The slot 30 is of a size generally like a slot 22 and positioned so as to normally partly underlie the channel 31 and allow for the desired tightening of the hook member thereto, as illustrated in Fig. 1. A connecting chain 20', like the chain 20, may be provided for the wedge 23'.

When the main member 14 of the frame 12 is inverted, as represented diagrammatically in Fig. 6, to a scale approximately one-fourth that of Figs. 1 and 2, the hook member 24 is also inverted with respect thereto, while still engaging a lower surface of the portion 18 (except in the alternative construction illustrated in Fig. 6, where a loop, such as 27, extends from the portion 18), so that its hook 28 may lock over a flange 32 of a track rail 33, if it is desired to brace the frame that way rather than by connection with a car or other structure. The wedge 23' may here be received in the same slot 30 and used between the rail 33 and the hook member 24 for final tightening. The horizontal portions 15 and 18 of the main member 14 of each frame 12 are connected by a normally upright portion 34, desirably braced with respect thereto by diagonal portions 35 and 36, which may be secured in place by welding, and apertured near both ends, as indicated at 37 and 38, for the reception of connecting bolts 39 and 41, which may be like the bolt 21 previously described, and used with keys or wedges 42 and 43, which may be like the key 23 previously described. In the same way the upright portion 34 is provided with metal loops 44 and 45, like the loops 27, for snugly receiving therebetween auxiliary members, such as the foot member 46 and the extension member 47, which members, or one of them, may be used when desired and then are respectively connected thereto by the bolts 39 and 41.

The foot member 46 is desirably used when the ground slopes from the structure being serviced, and has a normally upright or shank portion 48, having a series of apertures 49 to selectively receive the bolt 39 for adjustably securing it to the main member 14, and a portion 51 extending at right angles from the normally lower end thereof to present a flat surface to the ground 16.

Both of the normally horizontal portions 15 and 18 are desirably provided with outstanding lugs 52 and 53, respectively, to provide stops for planks which may be supported thereon, and the portion 15 has an angular end portion 54, complementary to the lug 52 to provide a plank-receiving channel therebetween.

The extension member 47, which need be used only when a support taller than the main member 12 is desired, comprises a normally horizontal portion 55 to form an upper plank support, and a normally upright portion 56, braced with respect thereto by a diagonal member 57, which may be secured in place by welding, and having a series of apertures 58 to selectively receive the connect-

ing bolt 41 for adjustably securing the parts together. Like the portion 15, the normally horizontal portion 55 has a lug 59 and an end angular portion 61 to provide a channel for the reception of a plank, such as that designated 13.

All of the connecting keys 23, 42 and 43 are provided with chains 62 of sufficient length for connecting them to the associated frame parts, thereby forcing same in the bolts 21, 39 and 41, in diagonal position, as a safety feature. When the keys are hammered tight, the adjacent surfaces of the associated members are brought from the slightly spaced relation, illustrated in Fig. 1, to the tight operating engagement, illustrated diagrammatically in Fig. 6 to a smaller scale.

From the foregoing disclosure it will be seen that I have provided an adjustable scaffold or staging consisting of a pair of frames, each of which comprises a main member, a hook member adapted to interlock with a car or other structure being serviced or with a supporting structural member such as a track rail, an adjusting foot member associated therewith for engaging the ground so as to provide a steady two-point support at each frame, the interlocking hook member being adjustable with respect to the main member of the frame. An extension member is also provided, in case a tall scaffold is needed. It is adjustable with respect to the main member to provide a support for a plank either above the main member or above and outwardly offset with respect to said main member, for supporting tools and the like.

It will also be understood that one of the frames or main members thereof, with its associated hook and foot members, may be used to support one end of a plank to provide a ramp for facilitating approach to the scaffold or staging provided by a plurality of my frames and an associated plank or planks. On account of using slotted bolts and tapered keys, only a hammer is necessary for assembling the frames and scaffold, and dismantling them.

A summary of the advantages of using such frames and a scaffold produced by a plurality thereof, reveals that each frame can be coupled to side sill channels, other structural members of cars or the like being worked on, or the adjacent track rail. A scaffold produced employing my frames may be used in working on cars in connection with making repairs or other servicing, such as painting, stencilling and washing, or in connection with loading and unloading of freight, express and other cars at terminals or any desired location. Such frames can also be used around store-houses for unloading supplies or supporting ramps. Each frame and the parts thereof, although illustrated as made of flat metal, preferably high tensile strength steel sections of uniform width and thickness, except where otherwise illustrated, and secured together by welding, may, if desired, be made of other structural shapes.

Although a preferred embodiment of my invention has been disclosed, it will be understood that modifications may be made within the spirit and scope of the appended claims.

I claim:

1. A main member adapted for use in an adjustable scaffold, comprising a normally generally-horizontal portion adapted to either rest on the ground or, upon inversion, form an upper plank-supporting portion, another normally generally-horizontal portion apertured for the reception of a connecting bolt, and a normally upright

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portion connecting said generally-horizontal portions, from which they both extend in the same direction and in non-adjustable relationship, and apertured near both ends for the reception of bolts for connection with auxiliary members.

2. In an adjustable scaffold, a main member having a normally generally-horizontal portion adapted to either rest on the ground or, upon inversion, form a plank-supporting portion, another generally-horizontal portion apertured for the reception of a connecting bolt, and a normally upright portion connecting said generally-horizontal portion and apertured near both ends for the reception of connecting bolts; and an extension member comprising a normally generally-horizontal portion to form an upper plank-supporting portion, and a normally-upright portion, braced with respect thereto and having a series of apertures to selectively receive an upper connecting bolt of said main upright portion for adjustably securing said members together.

3. In an adjustable scaffold, a main member having a normally generally-horizontal portion adapted to either rest on the ground or, upon inversion, form a plank-supporting portion, another normally generally-horizontal portion apertured for the reception of a connecting bolt, and a normally upright portion connecting said generally-horizontal portions, from which they both extend in the same direction and in non-adjustable relationship, and apertured near both ends for the reception of connecting bolts; and a hook member having a shank with a series of apertures to selectively receive a bolt through the first-mentioned portion of the main member for adjustable connection therewith, and a hook portion adapted to selectively connect with either a structural member of an object or a support for said object.

4. In an adjustable scaffold, a main member having a normally generally-horizontal portion adapted to either rest on the ground or, upon inversion, form a plank-supporting portion, another normally generally-horizontal portion apertured for the reception of a connecting bolt, a normally upright portion connecting said generally-horizontal portions, braced with respect thereto and apertured near both ends for the reception of connecting bolts; and an adjusting foot member comprising a normally upright portion having a series of apertures to selectively receive the lower connecting bolt of said main upright portion, for adjustably securing said parts together, and a portion extending at right angles from the normally lower end thereof to present a flat supporting surface to the ground.

5. An adjustable scaffold comprising a main member having a normally generally-horizontal portion adapted either to rest on the ground or, upon inversion, form a plank-supporting portion, another normally generally-horizontal portion apertured for the reception of a connecting bolt, and a normally upright portion connecting said generally-horizontal portions, braced with respect thereto, and apertured near both ends for the reception of connecting bolts; an extension member comprising a normally generally-horizontal portion to form an upper plank-supporting portion, a normally upright portion, braced with respect thereto and having a series of apertures to selectively receive an upper connecting bolt of said main upright portion for adjustably securing said members together; and a hook member having a shank with a series of apertures to selectively receive a bolt through the first-men-

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tioned portion of the main member for adjustable connection therewith, and a hook portion adapted to selectively connect with either a structural member of an object or a support for said object.

6. An adjustable scaffold comprising a main member having a normally generally-horizontal portion adapted to either rest on the ground or, upon inversion, form a plank-supporting portion, another normally generally-horizontal portion apertured for the reception of a connecting bolt, a normally upright portion connecting said generally-horizontal portions and apertured near both ends for the reception of connecting bolts; a hook member having a shank with a series of apertures to selectively receive a bolt through the first-mentioned portion of the main member for adjustable connection therewith, and a hook portion adapted to selectively connect with either a structural member of an object or a support for said object; and an adjusting foot member comprising a normally upright portion having a series of apertures to selectively receive the lower connecting bolt of said upright portion for adjustably securing said parts together, and a portion extending at right angles from the normally lower end thereof to present a flat supporting surface to the ground.

7. An adjustable scaffold comprising a main member having a normally generally-horizontal portion adapted to either rest on the ground or, upon inversion, form a plank-supporting portion, another normally generally-horizontal portion apertured for the reception of a connecting bolt, a normally upright portion connecting said generally-horizontal portions, braced with respect thereto and apertured near both ends for the reception of connecting bolts; an extension member comprising a normally generally-horizontal portion to form an upper plank support, a normally upright portion having a series of apertures to selectively receive the upper connecting bolt of said main upright portion for adjustably securing said parts together; and an adjusting foot member comprising a normally upright portion having a series of apertures to selectively receive the lower connecting bolt of said main upright portion, for adjustably securing said parts together, and a portion extending at right angles from the normally lower end thereof to present a flat supporting surface to the ground.

8. An adjustable scaffold comprising a main member having a normally generally-horizontal portion adapted to either rest on the ground or, upon inversion, form a plank-supporting portion, another normally generally-horizontal portion apertured for the reception of a connecting bolt, and a normally upright portion connecting said generally-horizontal portions, braced with respect thereto, and apertured near both ends for the reception of connecting bolts; an extension member comprising a normally generally-horizontal portion to form an upper plank support, and a normally upright portion braced with respect thereto and having a series of apertures to selectively receive the upper connecting bolt of said main upright portion for adjustably securing said parts together; a hook member having a shank with a series of apertures to selectively receive the connecting bolt of the first-mentioned portion of the main member, for adjustable connection therewith, and a hook portion adapted to selectively connect with either a structural member of an object or a support for said object; and an adjusting foot member comprising a normally upright portion having a series of aper-

tures to selectively receive the lower connecting bolt of said main upright portion for adjustably securing said parts together, and a portion extending at right angles from the normally lower end thereof to present a flat supporting surface to the ground.

9. An adjustable scaffold comprising a main member having a normally generally horizontal portion adapted to either rest on the ground or, upon inversion, form a plank supporting portion, another normally generally horizontal portion apertured for the reception of a connecting bolt, and a normally upright portion connecting said generally horizontal portions, braced with respect thereto, and apertured near both ends for the reception of connecting bolts, loops extending from one surface of said upright portion and spaced from said apertures for receiving associated parts and preventing relative turning thereof; an extension member comprising a normally generally horizontal portion to form an upper plank support and a normally upright portion having a series of apertures to selectively receive the upper connecting bolt of the said upright portion for adjustably securing said parts together, and to be received in the uppermost of said loops to prevent turning; a hook member having a shank with a series of apertures to selectively receive the connecting bolt of the first-mentioned portion of the main member and carrying a loop extending from a surface thereof

in spaced relationship with the apertured portion for receiving said first-mentioned portion, to prevent relative turning, and a hook portion adapted to selectively connect with either a structural member of an object or a support for said object; and an adjusting foot member comprising a normally upright portion having a series of apertures to selectively receive the lower connecting bolt of said main upright portion for adjustably securing said parts together and to be received in the lowermost of the loops thereon, to prevent relative turning, and a portion extending at right angles from the normally lower end thereof to present a flat supporting surface to the ground.

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