C. A. EKHOLM.

SCAFFOLD.

APPLICATION FILED FEB. 5, 1915.

1,204,552. Patented Nov. 14, 1916.

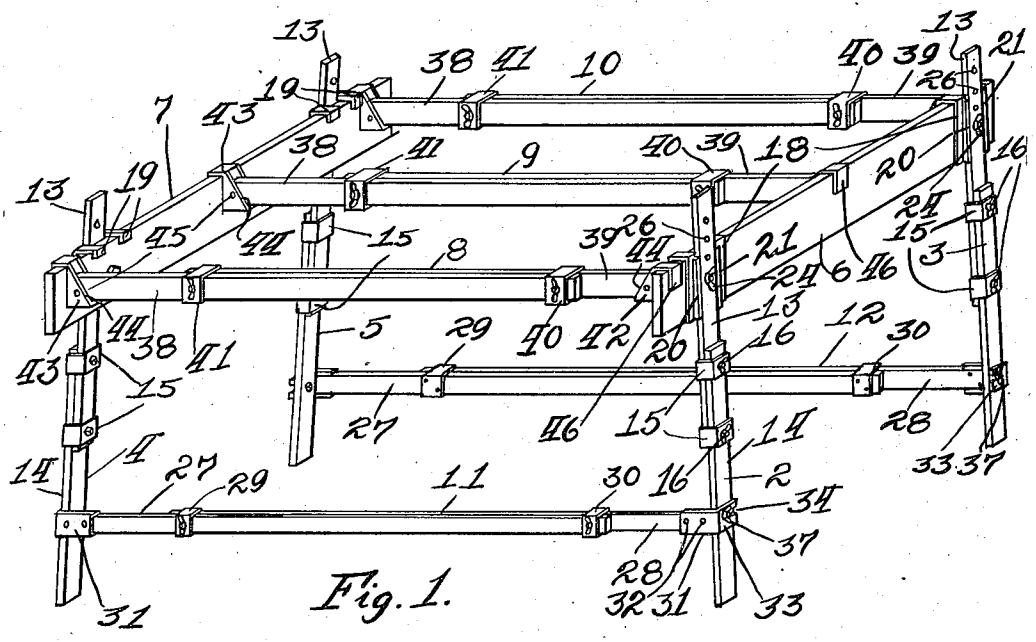

Fig. 1.

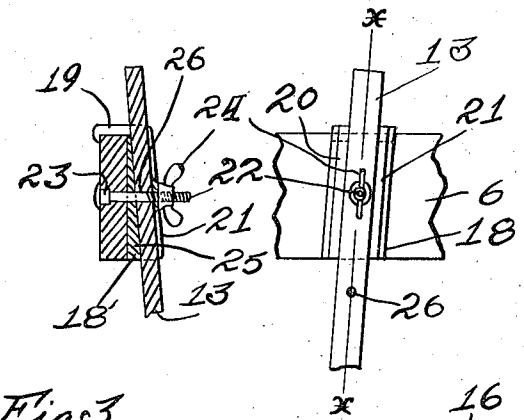

Fig. 3.

Fig. 2.

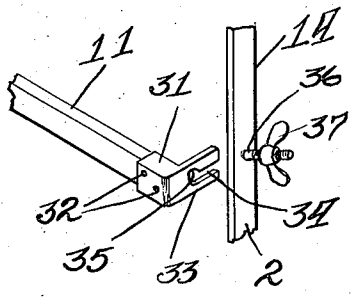

Fig. 4.

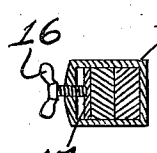

Fig. 5.

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UNITED STATES PATENT OFFICE.

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SCAFFOLD.

1,204,552. Specification of Letters Patent. Patented Nov. 14, 1916.

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To all whom it may concern:

Be it known that I, CARL A. EKHOLM, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Improvement in Scaffolds, of which the following is a specification.

This invention relates to improvements in scaffolds, and more particularly to that class used by workmen as a support or platform, on which to stand in doing various kinds of work in connection with buildings and other structures.

The primary object of this invention is to provide a scaffold of inexpensive construction, made of a minimum number of parts, which may be readily assembled or taken apart, and which may be extended both vertically and horizontally to increase height and length.

A further object is to provide a scaffold that may be easily and quickly erected without the use of nails or permanent fastenings, and which when erected is of rigid and substantial construction.

Further objects and advantages will be apparent from the following description, in which the drawing forms a part thereof.

To these ends my invention consists of the features of construction and combination of parts hereinafter described and particularly set forth in the claim.

In the drawing, Figure 1 is a perspective of my invention; Fig. 2 is a side view of a detail illustrating the manner in which the vertical supports are detachably secured to the transverse supports; Fig. 3 is a section taken on the line X—X of Fig. 2; Fig. 4 is a perspective of a detail showing a portion of one of the longitudinal braces and one of the vertical supports separated, and Fig. 5 is a section through one of the longitudinal members, and one of the turn buckles by which the parts constituting the body portions of said longitudinal member are fastened together.

In the drawing, 2, 3, 4 and 5 indicate four legs or corner uprights, the pair of members 2 and 3 being disposed at one end and the pair of members 4 and 5 at the other end of the structure. Across the top of the space between the members of each of said pairs is a transverse or horizontal primary support in the form of a bar, there being a horizontal support 6 secured to the uprights 2 and 3 and a support 7 secured to the uprights 4 and 5. Upon these primary supports are mounted a plurality of longitudinal joists 8, 9 and 10, upon which planks can be laid to form a platform for workmen to stand upon. When it is not desired to lay the planks upon the longitudinal joists they can be laid directly on the primary supports 6 and 7, and made to extend longitudinally of the structure instead of transversely. The transverse supports 6 and 7 and longitudinal supports 8, 9 and 10 form a platform frame or structure supported by the four legs 2, 3, 4 and 5. The lower portions of the uprights are braced longitudinally by the members 11 and 12, which extend across the spaces between the uprights 2 and 4 and the uprights 3 and 5. All of the above parts described are separably joined together in such manner as to form a strong and rigid structure, but permitting them to be easily and quickly taken apart for transporting and again assembled.

The uprights are made vertically extensible, each consisting of two sections 13 and 14 overlapping each other longitudinally and their overlapping portions being secured by turn buckles each consisting of a strap or collar 15, through which a clamp screw 16 is threaded and serves when turned down to tightly draw the members together and hold them stationary. A metal plate or buffer 17 is placed below the inner end of the screw 16 to provide a broad bearing surface and prevent the screw from mutilating the material of said brace members, (see Fig. 5).

The upper end of each upright is secured to one of the primary supports such as 6 near one of its ends by a fitting 18, having its body portion extending downwardly over the side of the primary support and formed with an inwardly projecting overhanging hook member 19 on its upper end, which engages over the upper edge of said support. The body 18 of the fitting is also formed with a pair of vertically extending flanges 20 and 21, forming a channel, in which the upper end of the member 13 of the upright is held rigidly and securely. A bolt 22 passing through the transverse member, fitting and leg serves to clamp these parts tightly together, and hold the leg in the channel. The head end of the bolt 22 is formed with a square shank 23 which prevents the shank from turning when the thumb nut 24 is turned. This

form of coupling device described serves to fasten each of the uprights securely to the transverse members and overcomes the necessity of cross bracing or otherwise buttressing the uprights of each end pair to prevent lateral movement thereof. Placed over the bolt 22 in the channel of the fitting and below the inner surface of the leg is a plate 18′ having an upwardly and inwardly inclined surface 25, which serves to hold the upright, which is secured thereto at an outwardly inclined angle to brace the structure. The upper member 13 of each of the uprights is provided with a series of holes 26, through any one of which the bolt 22 can be passed to selectively position the platform structure in elevation independent of extending or diminishing the lengths of the legs. The lower portions of each side pair of legs are braced by one of the longitudinal bars 11 and 12, said bars being similar in construction, and each consisting of an overlapping pair of sections 27 and 28, the overlapping ends of which are secured together by turn buckles 29 and 30 similar in construction to that illustrated in Fig. 5. In this manner the longitudinal side bars which brace the lower ends of the legs longitudinally can be extended or diminished in length. The extremities of the members 27 and 28 are secured to the legs by the use of a fastener such as 31, which is secured to either of said members by screws 32. This fastener is formed with a flange 33, which engages over the leg and has a slot 34 formed with an upwardly extending recess 35 at its inner end. A bolt 36 passing through the lower member of the leg is adapted to engage and hold the flange 33, said flange being passed into engagement with said bolt in the recess 35 of said slot without having to remove the thumb nut 37, which is threaded upon the bolt. The slotted flange 33 forms a lock connection with the bolt, which prevents the brace 11 from becoming detached from the bolt, unless it is purposely lifted and moved out of engagement, after the nut 37 has first been loosened. This form of attachment enables the brace such as 11 being quickly and easily attached to or detached from the legs.

The longitudinal supports 8, 9 and 10 of the platform structure are all similar in construction, each consisting of overlapping members 38 and 39 secured together by turn buckles 40 and 41, such as illustrated in Fig. 5 to permit said members being extended or diminished in length to assist in varying the length of the entire structure. The extremities of the members 38 and 39 are provided with inverted hooks 42 and 43, each of which consists of a stirrup 44 receiving the end of one of the members 38 or 39, to which it is fastened, as by screws such as 45. The stirrup is formed with the hook portion 46 which is adapted to engage over the upper edge of the transverse support at either end of the platform structure, and is sufficiently broad to assist in preventing the structure from becoming distorted through the application of force applied to the sides or corners of the structure, which tends to move the same diagonally.

In accordance with the patent statutes, I have described the principles of operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof, but I desire to have it understood that the construction shown is only illustrative, and that the invention can be carried out by other means and applied to uses other than those above set forth within the scope of the following claim.

Having described my invention, what I claim as new and desire to protect by Letters Patent is:—

In combination with a scaffold comprising a platform consisting of transverse end supports and a series of longitudinal supports detachably secured together, said platform being supported in elevated position by uprights having a plurality of vertically spaced holes adjacent the upper ends thereof, of brackets securing said platform upon said uprights, each of said brackets comprising an elongated body terminating at its upper end in a horizontal hook portion adapted for attachment to the upper edge of one of the transverse end pieces, said body being provided with a longitudinal channel in its outer face within which a vertical upright is adapted to seat and with an aperture and a bolt extending therethrough designed to enter one of the holes formed in the upright to retain the same in selected position, and a wedge inserted between the transverse end support and the adjacent face of the body whereby the upright is given a downward outward inclination.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CARL A. EKHOLM.

Witnesses:

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