

(No Model.)

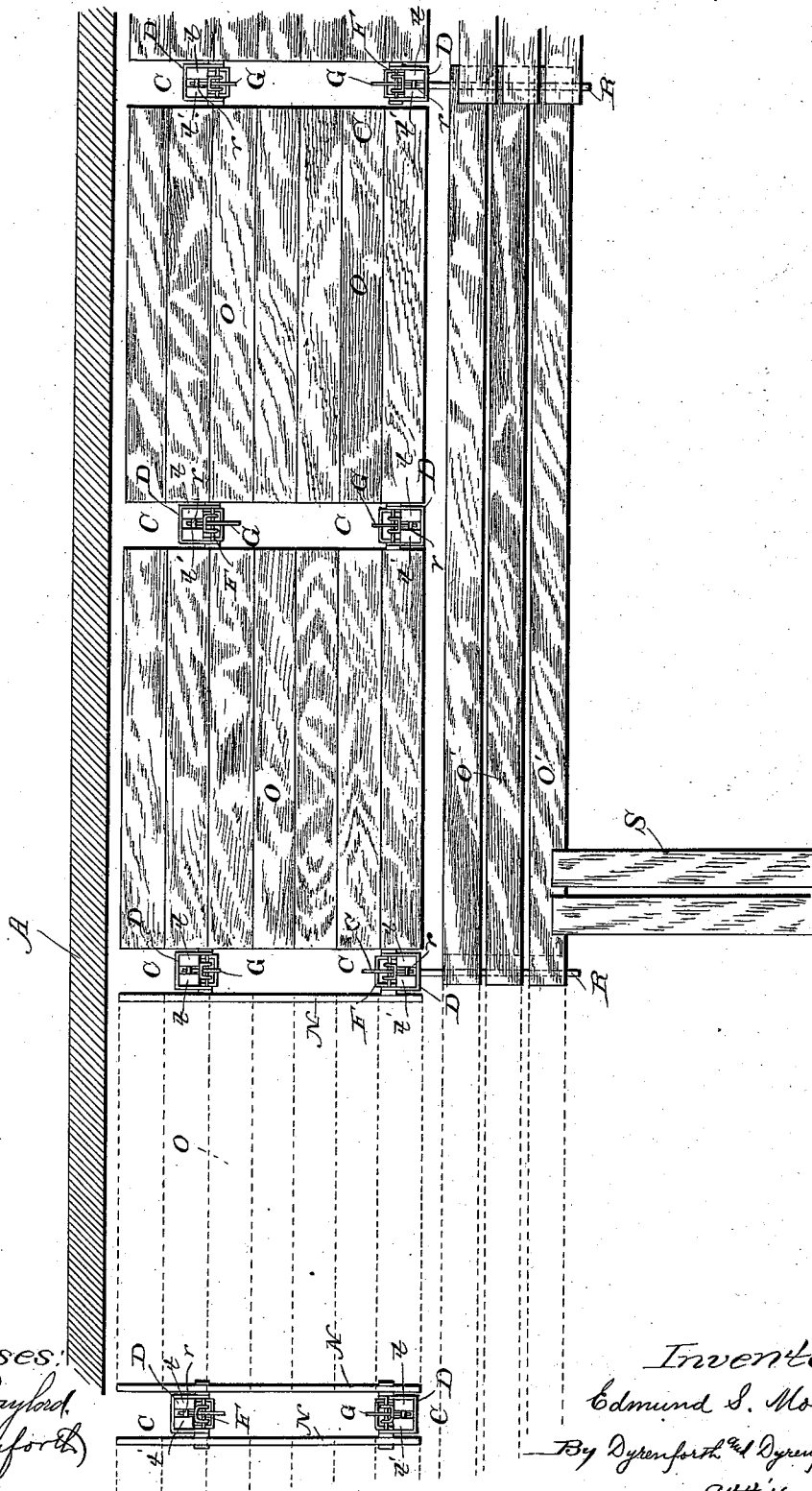
3 Sheets—Sheet 1.

E. S. MOSS.
BUILDER'S SCAFFOLD.

No. 378,102.

Patented Feb. 21, 1888.

Fig. 1.



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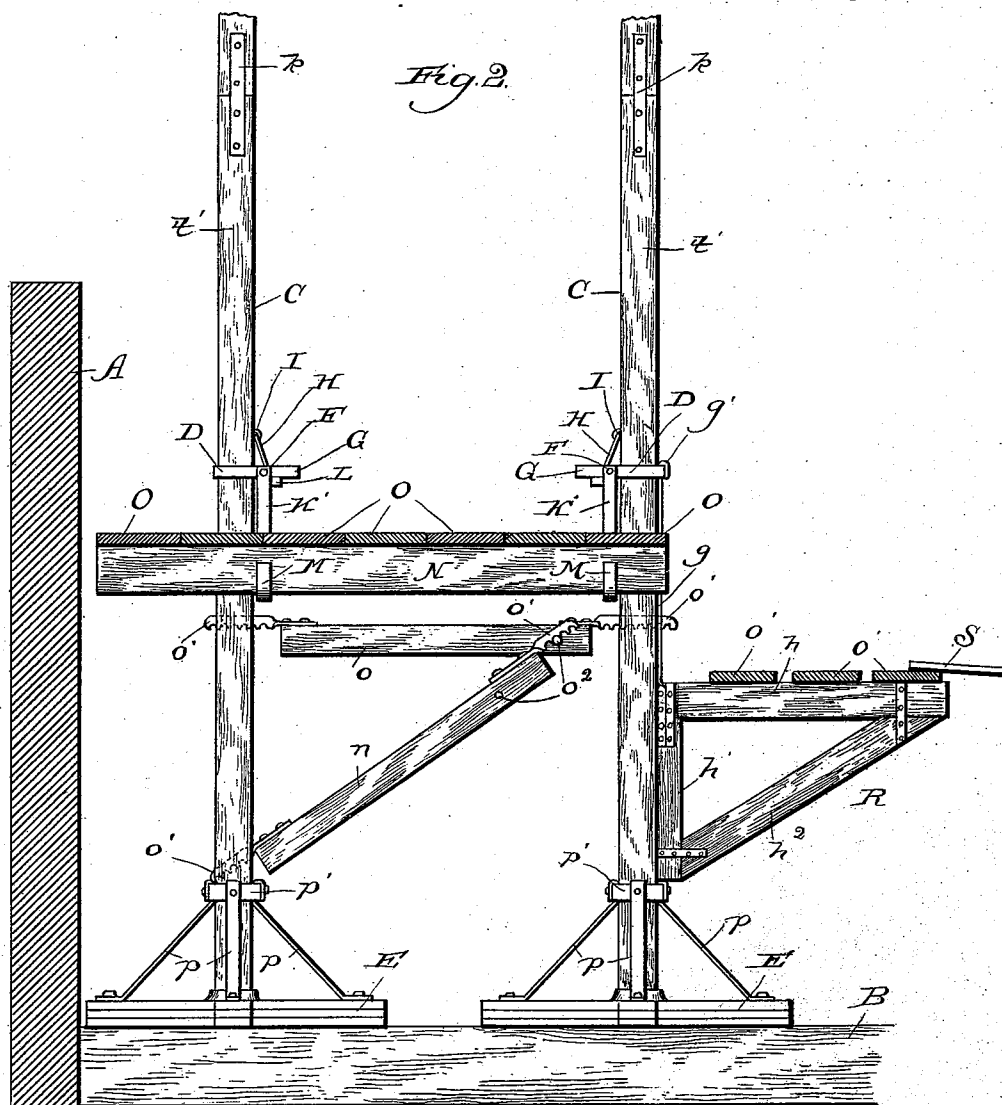
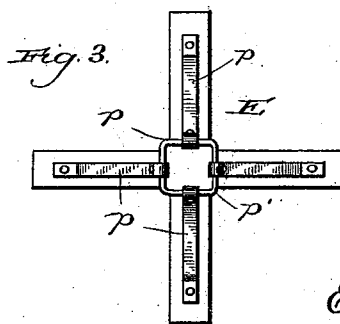
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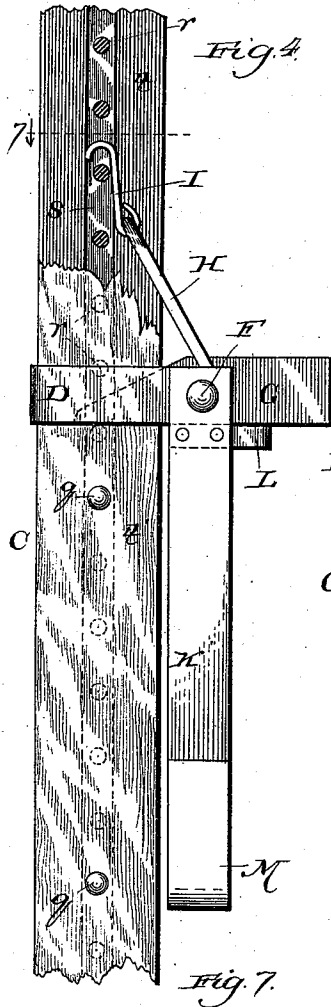
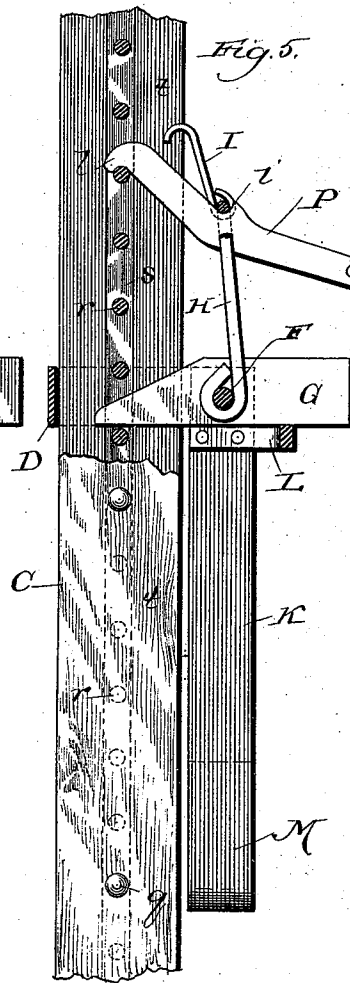
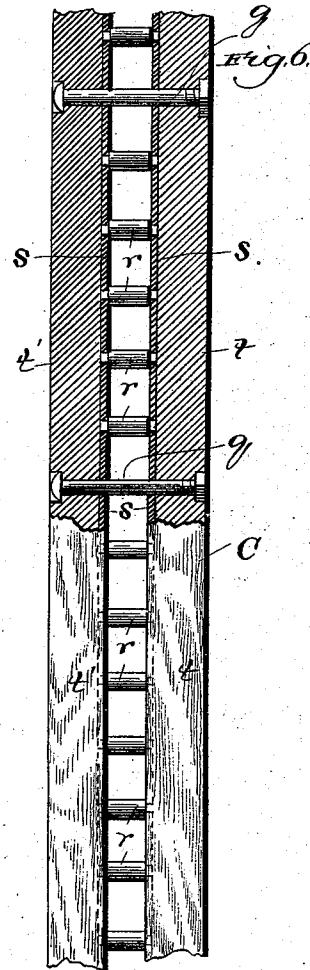
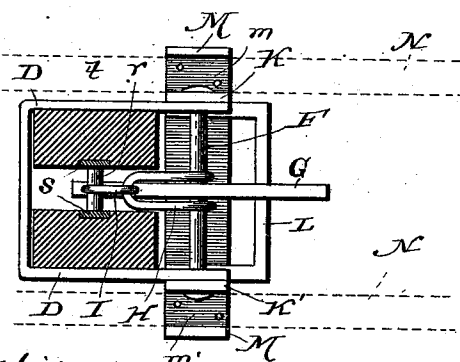
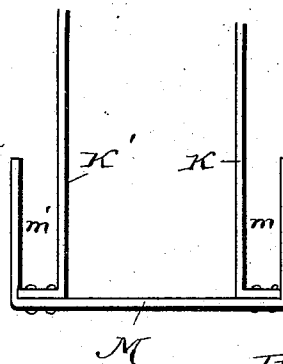


Fig. 8.



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UNITED STATES PATENT OFFICE.

EDMUND S. MOSS, OF CHICAGO, ILLINOIS.

BUILDER'S SCAFFOLD.

SPECIFICATION forming part of Letters Patent No. 378,102, dated February 21, 1888.

Application filed April 12, 1887. Serial No. 234,478. (No model.)

To all whom it may concern:

Be it known that I, EDMUND S. MOSS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Builders' Scaffolds; and I hereby declare the following to be a full, clear, and exact description of the same.

My improvement relates, particularly, to scaffolds for use in the erection of the walls of brick buildings, though it is not necessarily confined to such particular use, the latter being only the immediate purpose to which I apply my improved device.

It is quite common to construct the scaffolding employed in the erection of buildings by means of horses placed transversely to the walls undergoing construction and having planks laid across them lengthwise of the walls, affording the platforms to support the workmen and material. Another form of scaffold construction involves the employment of poles or uprights the desired distance apart to which the planks to form the platforms are secured for their support, generally by ledgers and putlocks lashed to them. Both of these constructions are attended with disadvantages in their use, which I overcome by my improvement, and which consist, principally, in the fact that they necessitate, as the work of erecting the walls proceeds toward a height beyond the convenient reach of the workmen, the provision of new platforms upon additional horses superimposed upon the platforms previously used; or, where poles or uprights are employed instead of horses, planks have to be secured to them from time to time at the proper height as the work of erecting the walls progresses. Whichever of the two means of construction referred to is employed it entails considerable difficulty and, obviously, expense, owing to the time consumed and labor employed in providing it and its use, since the work as it approaches the limit of height at which a new platform must be provided necessitates stooping and raising by the workmen of their bodies to reach and apply the material used in the construction of the walls, thereby consuming time that would be saved if the platform were capable of being maintained continuously, or practically so, at the same height with reference to the work.

It is my object to provide a construction of scaffold whereby the disadvantages above enumerated shall be overcome, and which shall besides possess the advantage that, without loss of time to the workmen engaged in erecting the wall or interruption in the work, the platform supporting the workmen may from the platform itself be readily operated, as required, to maintain them continuously on the same level with reference to their work as it progresses in producing the erection of the wall.

My invention consists in the general construction of my improved mechanism; and it still further consists in details of construction and combinations of parts, all as hereinafter more fully set forth.

In the drawings, Figure 1 is a plan view showing a wall in process of construction and scaffolding of my improved construction applied at the inner side of the wall; Fig. 2, a sectional end elevation showing the same as in Fig. 1, and representing the scaffold to be supported on the floor-joists of a building, the process of construction of the walls of which has extended above a story or several stories; Fig. 3, a plan view of the base or pedestal for supporting an upright; Fig. 4, a broken side elevation of one of the poles or uprights and showing applied to it the mechanism for operating the platform; Fig. 5, a similar view of the same parts as represented in Fig. 4, but showing in addition parts in section to illustrate details of construction; Fig. 6, a broken front elevation of a pole or upright; Fig. 7, a section taken on the line 7 of Fig. 4 and viewed in the direction of the arrow, and Fig. 8 a broken side elevation of a hanger for the platform-supporting timbers.

A is a wall in process of erection, that shown in Fig. 2 having reached above a story, as indicated by the floor-beam B shown in that figure.

It may be stated in this connection that where my improved scaffold is applied to the inner side of a wall undergoing construction it has to be removed when the floor-joists for each story are laid, as the wall successively reaches the heights of the different stories, and replaced upon the floor-joists above. When, however, it is employed outside of the wall, it need not be disturbed from its original sup-

port until the wall is completed. Along the wall, at desired equal distances apart, are placed two parallel rows of uprights, C. Each upright is composed of two parallel timbers, *t* and *t'*, (I ordinarily use two-by-four timbers, though the size and material are regulated by the degree of strain to which they are subjected,) each recessed longitudinally along its center to permit the insertion into the recesses of metal bars *s*, perforated at predetermined intervals, preferably two inches apart. Into the recesses in the bars *s*, which face each other when the timbers *t* and *t'* are formed to produce the uprights C, are inserted the ends of one-half-inch round bolts *r*, which are "shouldered" into opposite perforations in the bars *s*, as shown, and serve the purpose of holding the timbers *t* and *t'* apart, besides another purpose hereinafter described. At intervals, preferably, of one foot, instead of bolts *r* bolts *g*, Figs. 4, 5, and 6, are passed through both timbers *t* and *t'* to secure them together, as also for the same purpose referred to in connection with the bolts *r*, as hereinafter to be described, the head and nut of each being countersunk, as shown, to avoid any obstruction to the sliding collar or yoke D on each upright, and presently to be described.

A base or pedestal, E, in the form of a cross, Figs. 2 and 3, having converging braces *p*, supporting a collar, *p'*, is the means I prefer to employ for supporting the uprights at their lower ends.

To apply my improved scaffold, the pedestals E, supporting the uprights, are placed along one side of the wall, as hereinbefore stated, the desired distance apart—about eight feet—in two parallel rows about four feet apart, and in a position with reference to the wall to cause the bolts *r* and *g* to extend parallel with the same. The uprights C are braced, as required, and as shown in Fig. 2, by means of two-by-four-inch bars *o*, extending between opposite uprights and carrying toward opposite ends to project beyond the same one-by-one-fourth inch irons *o'*, bent as shown, and having teeth punched in their lower edges to engage with bolts *r* or *g* in the uprights C, and by similarly-formed bars *n*, extending diagonally, as shown, from the bars *o* to uprights C, the serrated bars *o'* thereon engaging at opposite ends of the bars, respectively, with pins *o''* on the bars *o* and bolts *r* or *g* in the uprights C.

Each upright C is embraced by a collar or yoke, D, formed of bar metal bent upon itself into rectangular shape and extending at its extremities beyond the inner surface of the upright upon which it is applied. A three-fourths-inch metal bolt, F, extends through the projecting ends of the yoke or collar D, being upset at its extremities to secure it in place and afford the rear side of the yoke, and between the ends of the collar the bolt F carries an oscillatory dog, G, formed of two-by-one-half-inch metal and beveled on its upper edge toward the end which projects between

the bolts *r* or *g*, as the case may be, and as shown in the drawings.

H is a link secured at its ends to permit its oscillation to the bolt F on opposite sides of the dog G between the sides of the collar or yoke D, and extending upward from the bolt F and hooked into the link H is a safety-hook, I, serving a purpose hereinafter stated.

K and K' are hanger-arms formed of two-by-one-quarter-inch metal and carried at their upper ends, respectively, on the opposite ends of the bolt F when it extends beyond the sides of the yoke D, being clamped between the sides of the yoke and the upset ends of the bolt, as shown, and they are braced near their upper ends by means of an interposed bracket, L, riveted to the inner sides of the hanger-arms and affording a rest for the rear end of the dog G, whereby the latter is maintained normally in horizontal position, and is prevented from being tipped by the weight it has to support, as hereinafter described, and also a support underneath the yoke to prevent tipping of the same and to render it rigid.

The hanger-arms K and K' are bent in opposite directions at their lower ends, each to a right angle, as clearly shown in Fig. 8, and riveted at the bent portions to the cross-bar M, bent upward, as shown, toward opposite ends, whereby sockets *m* and *m'* are formed, the parts K and K' and M forming a hanger. These sockets receive two-by-six timbers N, inserted edgewise and extending from the hanger on one upright into that on the opposite upright, transversely to the wall and beyond the inner upright, to bring their ends close to the wall, as shown. The timbers N form the floor-beams for sustaining planks O, extending parallel with the wall and forming the platform to support the workmen and material used in the construction of the wall.

The yoke or collar D, dog I, hangers K, bracket L, bolt F, and link H, all operated by a lever, as hereinafter described, constitute what I term the "movement" for raising the platform formed with the timbers N and planks O.

From the foregoing it will be apparent that the entire weight of the platform and of the workmen and material imposed upon it is carried by the dogs G upon the bolts *r* or *g* in the uprights C, the bolts F, and brackets L.

To raise the platform, a lever, P, Fig. 5, preferably of the form shown and having a hook, *l*, at one end and a shoulder, *l'*, on its upper side, is inserted through a link, H, to cause the hooked end *l* to engage with a bolt, *r* or *g*, as the case may be, whereby a fulcrum is afforded to the lever, which thus becomes one of the second class. Raising the lever (the free end of which extends toward the platform into convenient position for ready manipulation) raises the yoke D, and of course with it all the parts connected thereto, thereby bringing the bevel on the dog into contact with the bolt above it, which tips the dog, permitting it to clear such bolt, when, owing to its weight being greatest toward its rear end, it assumes

its normal horizontal position and performs its supporting function on a plane at a height above the plane of its previous support coextensive with the distance of the higher bolt above the next lower.

In case of breakage of a dog, the safety-hook I, which is normally in proper position for the purpose, as shown in Fig. 4, engages with a bolt below it and affords the support as a substitute for the broken dog, thereby preventing accident.

Ordinarily each workman has a space of work allotted to him which would correspond with the distance between the uprights C lengthwise of the wall; hence with but slight interruption, owing to his close proximity to the movement, he may raise his section of the platform as required.

The operation of all the movements is not necessarily concerted or simultaneous, owing to the comparatively short heights or steps to which the raising is successively performed; but concerted action at all points of movement, or at least substantially concerted action, is desirable, and this may be provided for under the command, at desired intervals, of one person to all the workmen; or, as I practice it, one or more unskilled laborers may be employed to devote exclusive attention to the adjustment of the platform. For this purpose each may be provided with a single lever, P, to be used at each movement. To lower the platform, if this shall ever be required, upon raising it to clear the dogs of the bolts *r* or *q* sustaining them, they may be held by hand in their tilted positions to permit them to descend, and when lowered the required distance on releasing the dogs they will engage with adjacent supporting-bolts. Of course, in the latter case the safety-hooks I are swung back out of line of their engagement with the supporting-bolts. I provide each timber *t* and *t'*, in constructing it, with a recess in its outer side toward each end to receive a metal bar, *k*, Fig. 2, bolted in position, as shown, and affording splicing means for another timber imposed upon the first in extending the uprights to desired heights.

As it is desirable that the hod-carriers or tenders may dump their loads upon the platform without being required to climb upon the same for the purpose, as the platform is raised to a height beyond the ready reach from the ground or other scaffold support for dumping, I provide hanging brackets R, Fig. 2, comprising rectangular pieces *h* and *h'* and a diagonal bracing-strip, *h²*, secured together, as shown, with a rod, *g*, extending upward from one corner, and provided at its extremity with a hook, *g'*. A bracket, R, is hooked at the hook *g'* into the yoke D of each outer movement, or of alternate outer movements, and planks O' are laid across them to form an auxiliary platform or gangway for the support of the hod-carriers or tenders, who reach it by way of an inclined place, S, or ladder, and are thus enabled to dump their loads upon the platform O without

interfering with the workmen on the same. Obviously, owing to the connection of the brackets R with the movements, the former are raised simultaneously and equally with the platform O.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a movement for operating the movable platform, supported by uprights, of a builder's scaffold, the combination of a yoke, D, to embrace an upright, C, a dog, G, supported on the yoke to engage with the upright, a hanger connected with the yoke to carry the platform, and means, substantially as described, for actuating the yoke upon the upright, substantially as and for the purpose set forth.

2. In a movement for operating the movable platform, supported by uprights, of a builder's scaffold, the combination of a yoke, D, to embrace an upright, C, a dog, G, supported on the yoke to engage with the upright, a hanger connected with the yoke to carry the platform, a link, H, extending from the yoke, and a lever, P, to engage with the upright as a fulcrum and with the link H and permit raising of the yoke and platform carried by the yoke, substantially as described.

3. In a movement for operating the movable platform, supported by uprights, of a builder's scaffold, the combination of a yoke, D, to embrace an upright, C, a dog, G, supported on the yoke to engage with the upright, a hanger connected with the yoke to carry the platform, a link, H, extending from the yoke, a safety-hook, I, upon the link, and a lever, P, to engage with the upright as a fulcrum and with the link H and permit raising of the yoke and platform carried by the yoke, substantially as described.

4. In a movement for operating the movable platform, supported by uprights, of a builder's scaffold, the combination of a yoke, D, to embrace an upright, C, a dog, G, supported on the yoke to engage with the upright, a hanger comprising arms K and K' and cross-bar M, connected with the yoke to carry the platform, a bracket, L, bracing the arms K K' and dog G toward its rear end and a link, H, extending from the yoke, a safety-hook, I, upon the link, and a lever, P, to engage at one end with the said upright and with the link H, substantially as and for the purpose set forth.

5. In a builder's scaffold, the combination of uprights C, having fulcrum-bolts and placed in parallel rows along the line of a wall, yokes D, embracing the uprights and provided with dogs G to engage with the fulcrum-bolts, hangers connected with the yokes and carrying timbers N, supporting a platform, O, links H, extending from the yokes, and a lever, P, to engage with the fulcrum-bolts and a link of each movement, substantially as and for the purpose set forth.

6. In a builder's scaffold, the combination of uprights C, having fulcrum-bolts and placed in parallel rows along the line of a wall, yokes

D, embracing the uprights and provided with dogs G, to engage with the fulcrum-bolts, hangers connected with the yokes and carrying timbers N, supporting a platform, O, links H, 5 extending from the yokes, a lever, P, to engage with the fulcrum-bolts of each movement, and brackets R, connected with the yokes D to be supported to one side of the platform O and carrying an auxiliary platform, O', substantially as and for the purpose set forth. 10

7. In a builder's scaffold, the combination of uprights C, placed in parallel rows along the line of a wall, and each comprising two upright timbers, *t* and *t'*, having interposed 15 bolts *r* a predetermined distance apart and secured together by means of bolts *q*, yokes

D, embracing the uprights and provided with dogs G to engage with the bolts *r q*, hangers, each comprising arms K and K' and a cross-bar, M, connected with the yokes and carrying 20 ing timbers N, supporting a platform, O, brackets L, bracing the arms K K', the dogs G toward their rear ends, and the yokes, links H, extending from the yokes, safety-hooks I upon the links, and a lever, P, to engage at one end 25 with the bolts *r q* and with a link, H, the whole being constructed and arranged to operate substantially as and for the purpose set forth.

EDMUND S. MOSS.

In presence of—

GEORGE C. COOK,
J. W. DYRENFORTH.