

(No Model.)

2 Sheets—Sheet 1.

A. DOOLITTLE.
EXTENSION SCAFFOLD.

No. 551,434.

Patented Dec. 17, 1895.

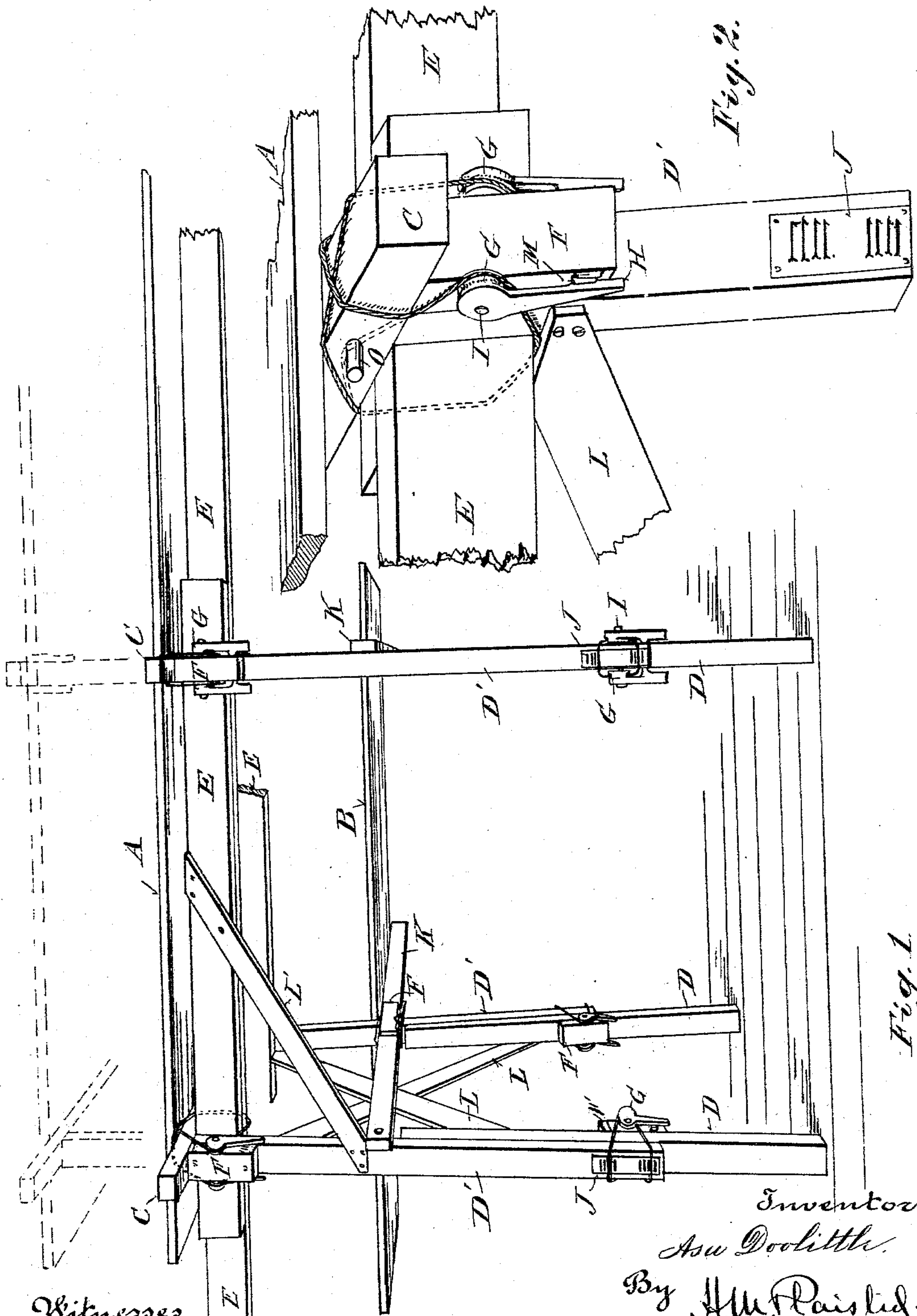


Fig. 1

Fig. 2.

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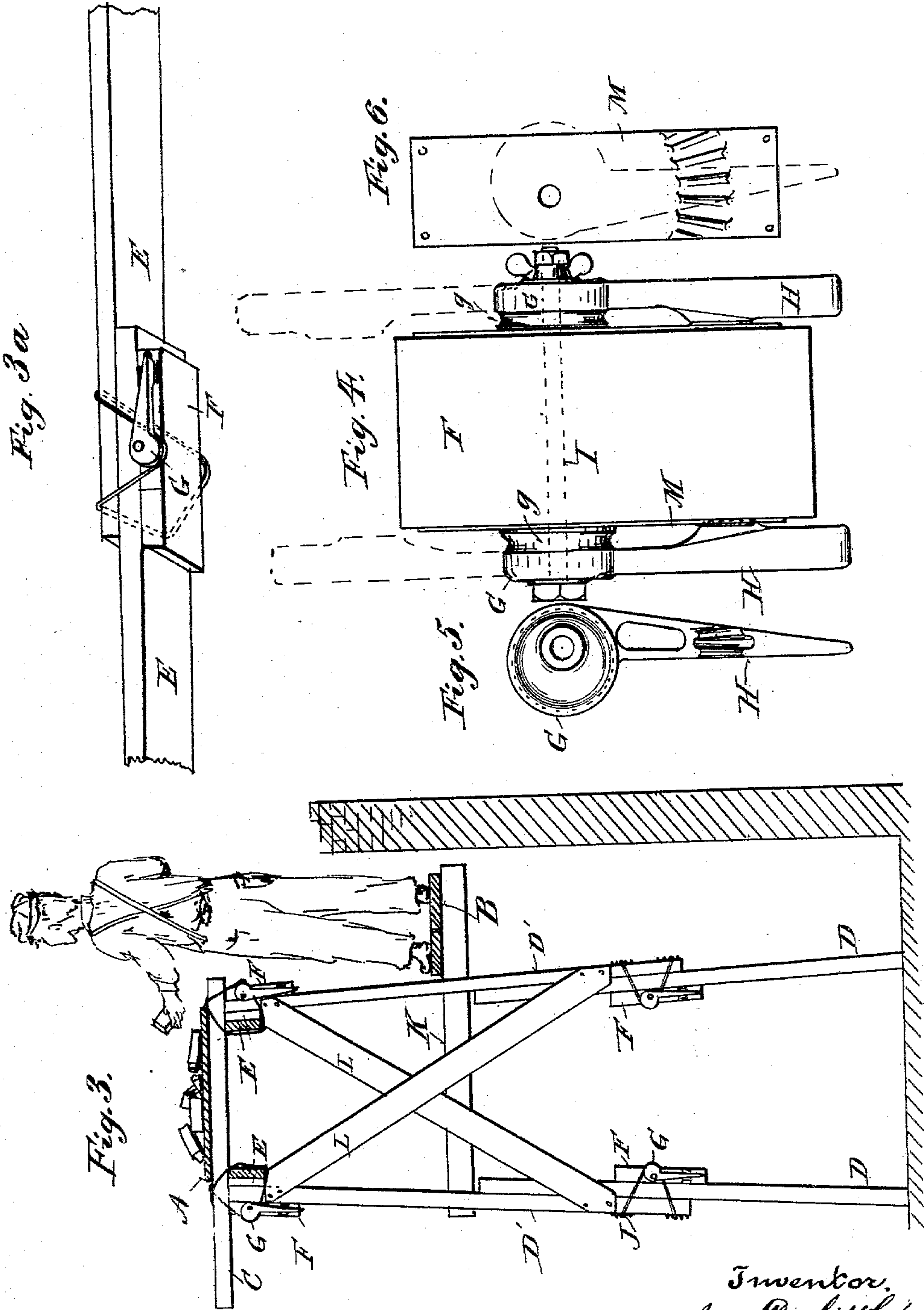
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EXTENSION SCAFFOLD.

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Witnesses
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E. L. Dillon

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UNITED STATES PATENT OFFICE.

ASA DOOLITTLE, OF ST. LOUIS, MISSOURI.

EXTENSION-SCAFFOLD.

SPECIFICATION forming part of Letters Patent No. 551,434, dated December 17, 1895.

Application filed February 25, 1895. Serial No. 539,585. (No model.)

To all whom it may concern:

Be it known that I, ASA DOOLITTLE, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Extension-Scaffolds, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in extension-scaffolds.

The object of my improvements is to provide a universally-extensible scaffold—one that may be extended in length and width as well as height, and be readily adjusted according to circumstances and the position in which it is to be used.

To this end my improvements have reference to a clamp especially adapted for this purpose; have reference to certain peculiarities of construction in the clamp and its accessories, and have reference to a separate platform for the workman and the material he is using in his work.

In the accompanying drawings, on which like reference letters indicate corresponding parts, Figure 1 represents a perspective view of a portion of a scaffold exemplifying my improvements; Fig. 2, a perspective of a corner of the scaffold secured by my form of clamp; Fig. 3, an end view and section of the scaffold located in position for work on the adjoining wall shown in section; Fig. 3^a, a detail of two spanning-pieces clamped together; Fig. 4, a face detail view of my clamping-block; and Figs. 5 and 6, details of the eccentric cam and friction-plate, respectively.

The letter A represents a platform supported at an adjustable height parallel to the wall being built. On this platform are deposited the bricks or other material to be used in construction-work. At a convenient height below the first platform is a secondary platform B and adjacent to the wall, on which the workman stands while using the material deposited on the main platform. In order to support these platforms and vary their height from the ground I provide a series of trestles which are set edgewise to the wall and are adjustable as to height. Each trestle is formed of two lower legs D D securely clamped to upper legs or posts D' D' by a clamping device to be presently described. A cross-piece

C caps the upper legs and supports the platform A, on which the building material rests. The weight of the material is thus carried directly by the ends of the upper posts or legs. 55

To stiffen the trestles longitudinally I provide the spanning-pieces E, which fit upon the inside, preferably, of the posts D' and below the cap-piece C. A clamping device 60 securely fastens all the pieces meeting together at this point on the trestle. This clamping device consists of a block or support F of any suitable width and length, and which forms a support for one or both of the cams 65 used. This block is applied directly to the surface of the timber, and while it enables the clamping device to be used where other clamps cannot be it also serves to enable the two cams to be used independently of each other, and enables either one to be used for 70 tightening or loosening the connection. When the upper end of the block is brought in contact with the cross-timber the clamp can be used to clamp timbers together that extend at right angles to each other. On each side 75 of the block is pivoted an eccentric cam G having a handle H and a groove g, about which passes a connection of twisted wire or other suitable material, which is tightened 80 by operating the cam-eccentrics. One eccentric only may be used, if desired. Fig. 5 shows the inside view of one of said eccentrics, and Fig. 4 a corresponding edge view mounted on the block or support. 85

It will be understood that when the handle H rotates the eccentric on its center bolt I the cam portion of the disk G is brought from one side to the other of the center and acts to tighten or loosen the wire connection. This 90 connection may be arranged to pass from the eccentric on one side, around the posts adjusted to their proper height and then around the eccentric on the other side. When the handles are in their dotted position the connection is loose and the adjustment of the 95 posts past each other is readily made. When the handles are drawn down, as shown in full lines, the connection is tightened and securely clamps the posts together. Fig. 2 shows a 100 crossed arrangement, and Figs. 1 and 3 show a straight form.

In order to take up slack in the connection due to wear or shrinkage of the wood, a spac-

ing-plate J is fastened to the opposite side of the post from the clamping-block. This plate is corrugated transversely, or otherwise adapted to separate the loops of wire passing
5 around the posts from one side to the other. A further function is the bracing effect secured by maintaining the wires a greater distance apart than the diameter of the eccentric.

The clamping device may be secured to the
10 top of the post D' on one or both sides of the trestle, but is preferably loose when used at the bottom of the post.

The platform B is supported by a cross-bar K, Figs. 1 and 3, which may be permanently
15 secured at one side of the trestle to the post D', as its height is permanent with regard to the platform A, and projects toward the wall to carry the platform B directly alongside. The other end reacts against the brace L'. It
20 stiffens the trestles edgewise, and a further bracing effect is secured by the cross-braces L L screwed or otherwise detachably secured to the posts D', as shown in Fig. 3, and forming shoulders at their upper ends to support
25 the spanning-pieces E. The latter pieces may be, therefore, comparatively light, since they have only to resist longitudinal strain, unless extra cross-pieces be placed thereon parallel to the cap-pieces C. Any degree of strength
30 may be secured by placing the trestles at corresponding distances apart.

When a long platform is desired, the spanning-pieces are lapped by each other at their ends, and the clamping device securely fastens them together or to the posts and cap-pieces as they rest upon the shouldered braces L. (See Fig. 3^a.)

Referring to Fig. 4, it will be seen that the binding-wire cannot slip from the eccentrics,
40 as it is inside of the handles and has a friction-plate M on the side of the block, which also serves to retain the handle in its clamping position by means of depressions and ridges formed in one portion of it, which are
45 engaged by matching projections on the handle H when such handle is in its lower position. The strain of the binding connection is, however, practically through the bolt I when the cam portion is thrown to its tightened position. There is, therefore, little strain
50 upon the handle to displace it.

In Fig. 2 is shown a pin O projecting from the side of the cap-piece over which the binding connection may be passed instead of
55 crossing above the cap-piece.

I do not limit myself to any special construction or arrangement, as I wish to be understood as laying broad claim to this invention as hereinbefore described.

60 This scaffold is especially adapted to bricklayers, masons, plasterers, painters, and carpenters, and, in fact, to those using a scaffold in places where it is necessary to reach various heights, such as plastering ceilings
65 and walls, and where the ground may be uneven, such as in cellars or stairways, in which latter places the adjustable legs of the scaffold maintain the platforms level and secure

steady footing by their independent adjustment. In plastering ceilings, for instance,
70 the trestles may be extended edgewise to make a wider platform-support, and several may be clamped together to make any reasonable size of platform, as desired. For some purposes and trades it may not be required
75 to extend the trestles edgewise in order to widen the platform, and I do not, therefore, limit myself to the exact construction herein shown.

Having thus fully described my invention,
80 what I claim as new, and desire to secure by Letters Patent, is—

1. A clamp consisting of a block, one or more cams mounted thereon, a handle for each cam, and means applied to the block for
85 holding the handles in any desired position; combined with a flexible connection secured to the cams, and a spacing plate applied to the opposite side of the timber from the block, substantially as described. 90

2. In a clamping device, a supporting block and two independent cams mounted thereon, combined with a flexible connection connected to both cams, as described.

3. The combination with two or more adjustable pieces, of a pair of cam eccentrics, a support therefor, a binding connection embracing said pieces and eccentrics, a corrugated spacing plate for said binding connection, and a friction plate to retain the eccen-
95 trics carried by said block in tension position. 100

4. The combination with two or more adjustable pieces, of a detachable block, an eccentric disk mounted on each side of said block having a handle, a friction plate for
105 said handled disk mounted on said block, and a binding connection looped over each disk between the handle and plate, and also around said adjustable pieces.

5. In a clamp, a supporting block, a rod
110 mounted upon the block, a cam and an operating handle at each end of the rod, and a flexible connection connected to the cams, combined with holding plates applied to the edges of the block for holding the handles, substantially as shown. 115

6. In a clamp, a supporting block, a rod mounted thereon, and a cam and a handle at each end of the rod, the handles being provided with teeth on their inner sides, combined with ratchet holding plates applied to the edges of the block, and a flexible connection that forms loops around the cams, substantially as described.

7. In a scaffold, the uprights, the horizontal pieces applied thereto, and the cap piece extending horizontally across them, combined with a block that is applied to the side of the upright, a rod mounted on the block, and provided with a cam at each end, and a flexible
125 connection that is twined around the said timbers of the scaffold and connected to the two cams, substantially as set forth. 130

8. In a scaffold, the cap piece, provided

with pins which project from its sides; the
uprights, and the horizontal pieces secured
thereto, combined with a supporting block
that is applied to the side of the upright, a
5 rod mounted on the block, a cam applied to
each end of the rod, toothed plates applied
to the edges of the block for holding the cams
after they have been tightened, and a flexi-
ble connection that is twined around the hori-
10 zontal pieces and up over the pins, substan-
tially as specified.

9. In a clamping device, a movable block

or support, one or more cams rotatably mount-
ed thereon, and a flexible binding connection
adapted to loop around said cam or cams and 15
the pieces to be clamped together, substan-
tially as described.

In testimony whereof I affix my signature
in presence of two witnesses.

ASA DOOLITTLE.

Witnesses:

M. JACOBY,

H. M. PLAISTED.