

C. E. LILLOW.
SCAFFOLD.

APPLICATION FILED APR. 19, 1912.

1,060,914.

Patented May 6, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

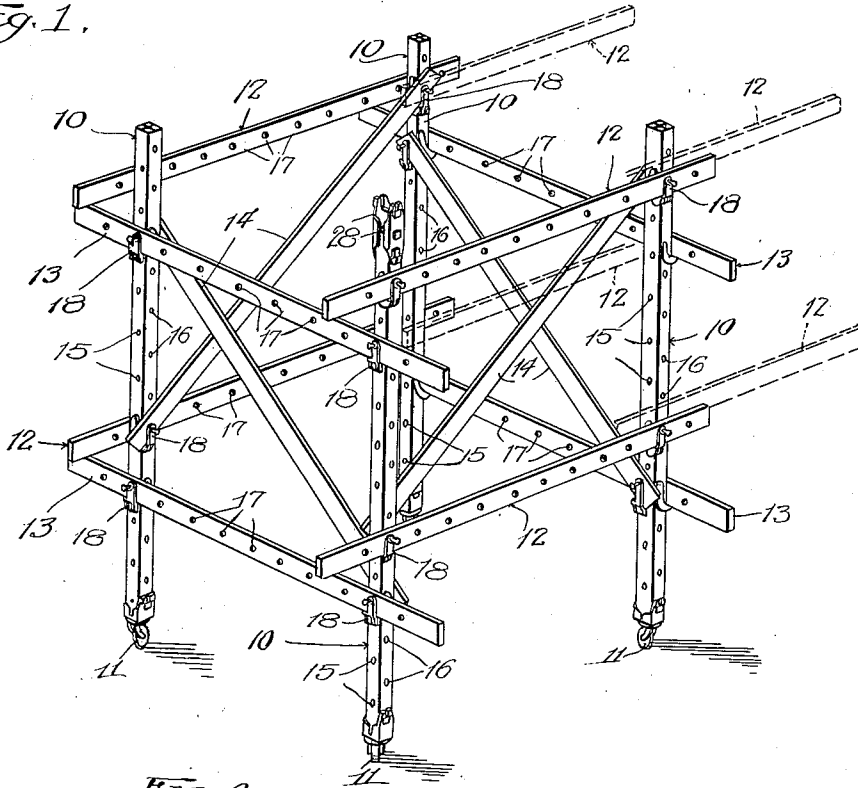
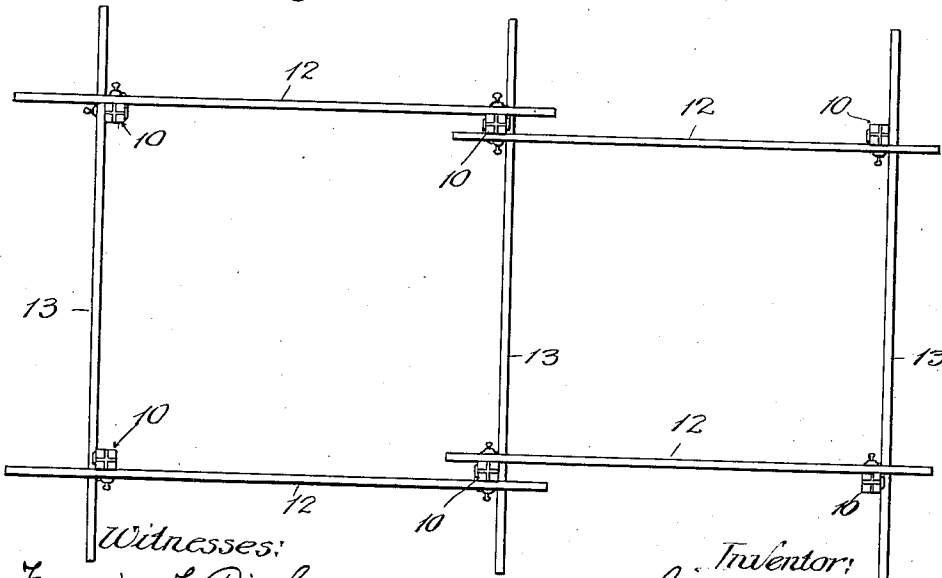


Fig. 2.



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2 SHEETS-SHEET 2.

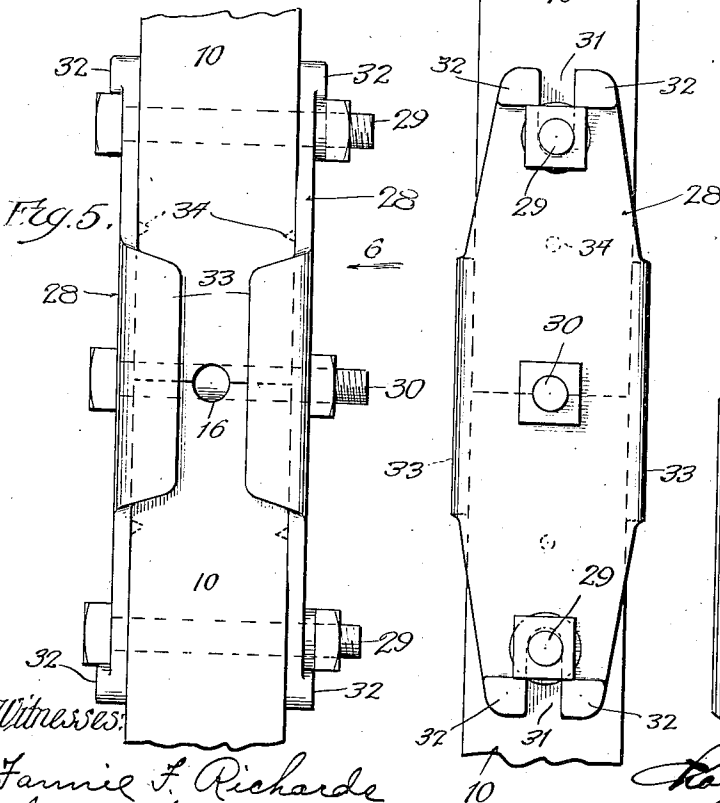
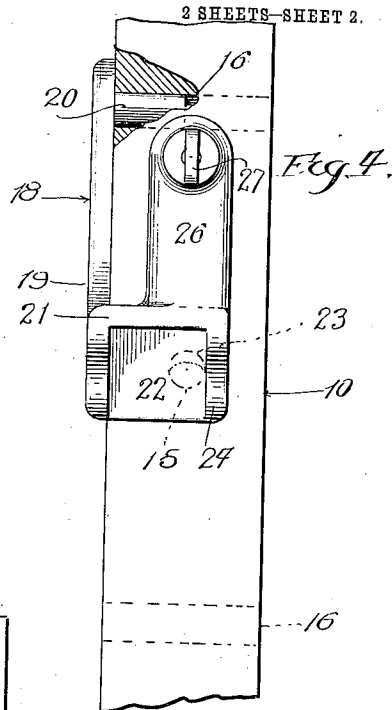
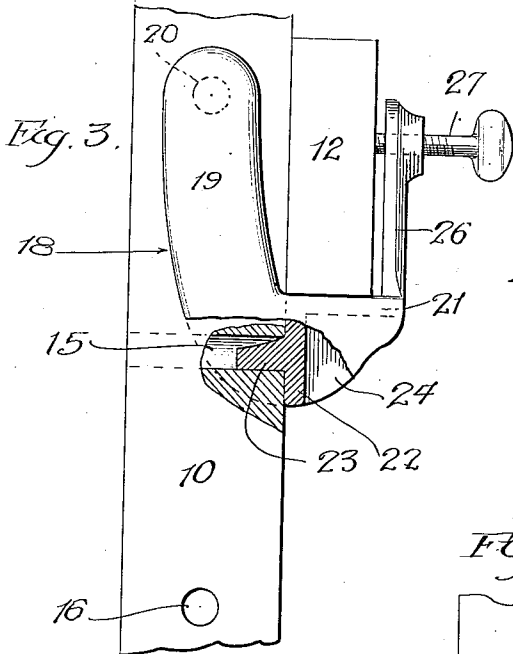


Fig. 6.

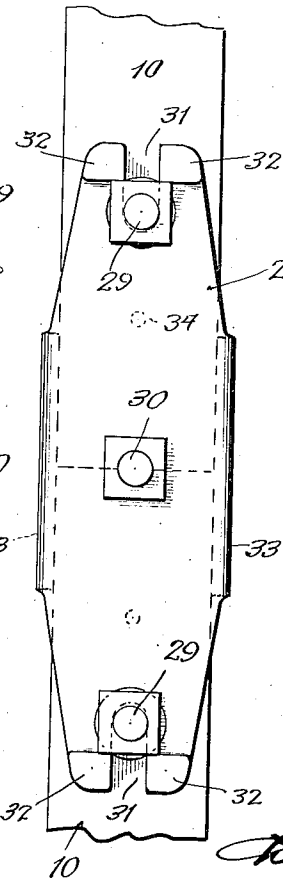
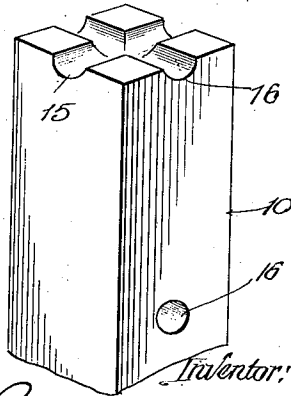


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES E. LILLOW, OF CHICAGO, ILLINOIS, ASSIGNOR TO JAMES M. LILLOW, OF STRATFORD, ONTARIO, CANADA.

SCAFFOLD.

1,060,914.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed April 19, 1912. Serial No. 691,883.

To all whom it may concern:

Be it known that I, CHARLES E. LILLOW, a subject of the King of Great Britain, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Scaffolds, of which the following is a specification.

This invention relates to scaffolds of that class that are used by workmen as a support or platform upon which to stand in doing various kinds of work in connection with buildings or other raised structures.

The main object of this invention is to provide a scaffold of cheap, simple and improved construction; one which may be readily assembled or taken apart and which may be extended both vertically and horizontally to increase its height and longitudinal extent.

Another object is to provide a scaffold which shall be of rigid and substantial construction.

Another object is to provide a scaffold that may be erected without the use of nails or other like fastening devices for securing together the several parts of the scaffolds.

Other objects and advantages will appear in the course of this specification and with all of said objects and advantages in view, this invention consists in the several novel features of construction, arrangement and combination of parts hereinafter set forth and particularly defined in the claims.

The invention is clearly illustrated in the drawings furnished herewith, in which:

Figure 1 is a perspective view of one section of a scaffold embodying the present invention and showing in dotted lines certain longitudinal members of a second section, Fig. 2 is a plan of a scaffold containing two sections, Fig. 3 is a side elevation, partly broken away, of a connecting bracket forming part of the present invention, showing the same in operative position on an upright with a horizontal member clamped thereby, Fig. 4 is a side view of the parts seen in Fig. 3, and looking in the direction of the arrow 4, Fig. 5 is a side elevation of a joint between two uprights set end to end, Fig. 6 is a view of the parts seen in Fig. 5, looking in the direction of the arrow 6, in Fig. 5, and Fig. 7 is a perspective view of a fragment of one end of an upright.

Referring to said drawings and particularly to Figs. 1 and 2, a number of uprights

or posts represented at 10, are shown, said uprights being preferably provided with removable casters or other rolling supports 11, at their lower ends. Connected to said uprights are a series of longitudinally extending supporting bars 12, a series of transverse supporting bars 13, and diagonal brace bars or struts 14. Each upright 10, is provided with two series of transverse holes 15, 16, the holes 15, extending therethrough in one direction and the holes 16, extending therethrough at right angles to the holes 15, and intermediate said holes. The holes are spaced equidistant from each other in staggered relation beginning with a hole at the very top edge and ending at the bottom edge of the upright. At the ends of the uprights, however, two holes or rather semi-circular intersecting notches, (see Figs. 5 and 7) are provided, so that whenever any two uprights are placed end to end, two complete holes are formed at the joint. The longitudinal and transverse supporting bars 12, 13, may be provided with equidistant holes 17, to aid the person, erecting the scaffold, in locating the bars, and if desired the parts, heretofore described, may be fastened together by bolts and nuts, which will make a perfectly rigid structure, although it is preferred to use the brackets, one of which will now be described.

Referring now to Figs. 3 and 4, the bracket 18, is shown as comprising a vertical arm 19, arranged to lie against one side of an upright 10, and having a pin 20, extending at right angles to said arm 19, and arranged to be thrust into any one of the holes 15, 16, in any of the uprights 10. At its lower end said arm 19, extends forward beyond the upright and is formed with a horizontal ledge 21, arranged to extend across the side of the upright that lies at right angles to the side against which is placed the arm 19. The lower end of said arm 19, is formed with a vertical flange 22, which also extends down from the rear edge of the horizontal ledge 21, and said flange 22, is arranged to bear against said side of the upright. The arm 19, and flange 22, form a right angle adapted to embrace one corner of the upright. The vertical flange 22, is provided with a transversely extending pin 23, that is arranged to enter and be seated in one of the holes 15, 16, next below and at right angles to the hole in

which the pin 20, is seated. The upper face of said pin 23, is cut away on an arc struck from the axis of the pin 20, as a center to permit of the insertion of the pin 23, into its hole after the pin 20, has been inserted.

The horizontal and vertical flanges 21 and 22, are further reinforced by a flange 24, to make a perfectly solid and substantial construction, and at the forward edge of the ledge 21, is an upright post 26, through the upper end of which is inserted a screw 27, threaded in said post 26, and adapted to bear against any bar that may be placed upon the ledge 21, of the bracket 18. The bracket may be readily attached to any upright at any place thereon where the holes occur and in securing the bracket in place, the pin 20, is first inserted in one of the holes 15, 16, after which the vertical flange 22, is swung down against the side of the upright, bringing the pin 23, into the next hole below and at right angles to the one in which the pin 20, has been inserted. The weight of the bar resting upon the ledge 21, is transferred to the upright by both pins 20, 23, and when the set screw 27, is screwed up tight, it is practically impossible for the bar to work loose and the bracket to become detached from the support.

The joint between any two uprights is best seen at Figs. 5 and 6, and as shown comprises two plate like members 28, adapted to lie on opposite sides of two end to end arranged uprights, and said parts are bolted together by bolts 29, 30, extending through said plates and uprights. The ends of each plate 28, is formed with notches 31, for the reception of the bolts 29, and adjacent to said notches the plate is provided with lugs 32, that form shoulders against which bear the heads of the bolts 29, and their nuts or washers. Said plates are formed with lateral flanges 33, adapted to embrace the sides of the uprights at their meeting edges and if desired the inner face of each plate 28, may be provided with one or more sharp prongs 34, that sink into the uprights. In fastening two uprights together, two plates placed on either side of the two uprights to be joined together, the center hole of the plates being made to register with the holes formed by the semi-circular notches at the joint between the two uprights. The bolts are then thrust through the holes in the uprights and plates and the nuts screwed down. To disconnect the two uprights the nuts are partially unscrewed to bring the heads of the upper and lower bolts and their nuts and washers beyond the lugs 32, whereupon the upper upright may be disconnected from the remainder, the upper bolt 29, moving out through the notches 31, in the plates. The plates may then be removed from the lower upright by lifting them off the upright, inasmuch as the bolt

29, is free to pass out through the open notches 31, at the lower end of the plates. It is seen that the pairs of plates 28, remain held together by the middle bolt and nut 30, whereas the bolts 29, may remain in the ends of the uprights.

In erecting the scaffolds the brackets 18, are secured in place at the proper points to bring the horizontal members at the desired heights, the horizontal bars and diagonal brace bars laid upon said brackets and clamped in place by the set screws 27. If desired the ends of the horizontal bars 12, 13, may be caused to project sufficiently beyond the uprights to receive planks for the workmen to stand upon. If it is desired to extend the scaffolding in a horizontal direction either lengthwise or crosswise, other horizontal supporting bars may be secured in place upon the uprights by means of the brackets 18, and other uprights, transverse horizontal bars and diagonal brace bars may be added thereto to complete the extended structure. If it is desired to extend the scaffold vertically, other uprights may be secured in place upon the upper ends of the uprights first installed in place and thereafter the horizontal and diagonal brace bars clamped in place by the brackets. In this way scaffolding may be built whose extent is practically unlimited and which because of its rigidity and strength may be built to reach great height.

It is to be observed that by reason of the herein described system of holes in the upright and other scaffold members connected thereto, the size and shape of each scaffold section may be varied to accommodate practically any given condition and requirement. By adding other sections thereto the scaffolding may be extended longitudinally, transversely or vertically to any practical extent.

I realize that various alterations and modifications of this device are possible without departing from the spirit of my invention, and I do not therefore desire to limit myself to the exact form of construction shown and described.

I claim as new and desire to secure by Letters Patent:

1. In a scaffold, the combination with an upright having two series of equidistant holes therein, the one series disposed at right angles to the other and midway therebetween, and a cross member to be secured to said upright, of a bracket for connecting together said upright and cross member, comprising a vertical arm having a horizontal pin, rigid thereon, and adapted to enter and seat in any of said holes in the upright, and a ledge portion projecting out from the lower end of said arm and having a pin, rigid thereon, and adapted to enter and seat in the next adjacent hole below the

one that receives the first named pin, said ledge being adapted to receive and support said cross member and having clamping means for clamping the cross member upon the upright.

2. In a scaffold, the combination with an upright having two series of equidistant holes therein, the one series disposed at right angles to the other and midway therebetween, and a cross member to be secured to said upright, of a bracket for connecting together said upright and cross members, comprising a vertical arm and flange of right angle formation arranged to embrace a corner of the upright, two horizontal pins, rigid on said bracket and disposed at right angles to each other, said pins being arranged to enter and seat in two adjacent, angularly disposed holes in the upright, a horizontal ledge formed upon the lower part of the bracket for receiving and supporting the cross member, an upright post extending up from said ledge and a screw, threaded in said post and adapted to bear against the cross member to clamp the same to the upright.

3. In a scaffold, the combination with an upright having two series of equidistant holes therein, the one series disposed at right angles to the other and midway therebetween, and a cross member to be secured to said upright, of a bracket for connecting together said upright and cross members, comprising a vertical arm and flange of right angle formation, arranged to embrace one corner of the upright, a horizontal pin, rigid with and projecting from said arm, and a horizontal pin, rigid with and projecting from said flange, said pins being disposed at right angles to each other and spaced apart a distance equal to the distance between any two adjacent, angularly disposed holes in the upright, and adapted to enter and seat therein, the lower pin having its upper edge cut away on an arc of a circle struck from the axis of the upper pin as a center, a horizontal supporting ledge,

for the cross member, formed on said flange, an upstanding post formed on said ledge, and a screw, threaded in the post and adapted to bear against said cross member to clamp the same to the upright.

4. In a scaffold, the combination with two upright members, set end to end, and each having two series of equidistant holes formed therein, one series beginning at the extreme or meeting ends of the uprights, and the other series being disposed at right angles to the first series and located midway therebetween, and each upright being further provided at its extreme or meeting end with a hole in line with the holes of the second series, of two oppositely arranged plates arranged at the meeting ends of the uprights, said plates having vertical side flanges arranged to embrace the sides of the uprights and having three bolt holes arranged in vertical alinement, and bolts and nuts for clamping together the plates and uprights, of which the bolts extend through the holes in the plates and the three nearest holes in the uprights, including one at the meeting edges thereof.

5. In a scaffold, a joint between two upright members, placed end to end, said joint comprising two vertical plates, arranged to lie on opposite sides of the uprights at their adjacent ends, and having vertical flanges embracing the other sides of said uprights, each plate being formed with a central bolt hole, and a notch at each end extending toward said bolt hole, and being further provided with shouldered portions adjacent said notches, and bolts extending through said bolt holes and notches, and through bolt holes in the uprights.

In witness whereof, I have hereunto signed my name at Chicago, Cook county, this 18th day of April, 1912.

CHARLES E. LILLOW.

Witnesses:

CHARLES O. SHERVEY,
FANNIE F. RICHARDS.