J. E. YEAGLEY.

BUILDING SCAFFOLD.

APPLICATION FILED MAY 16, 1918.

1,307,610.

Patented June 24, 1919.

2 SHEETS—SHEET 1.

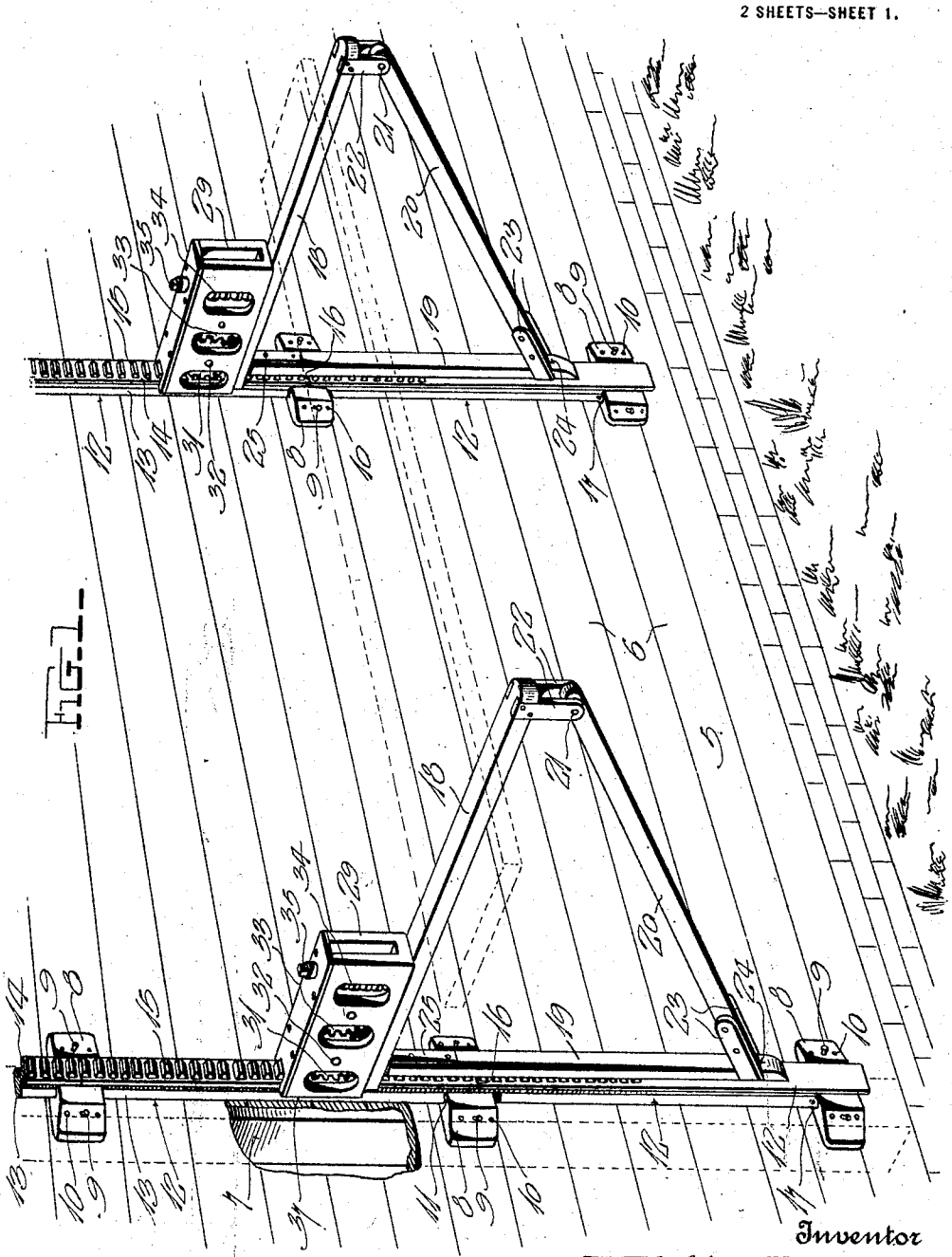

FIG. 1.

Witness
H. Woodard

Inventor
J. E. Yeagley

By H. B. Williamson & Co
Attorneys

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2 SHEETS—SHEET 2.

FIG. 2.

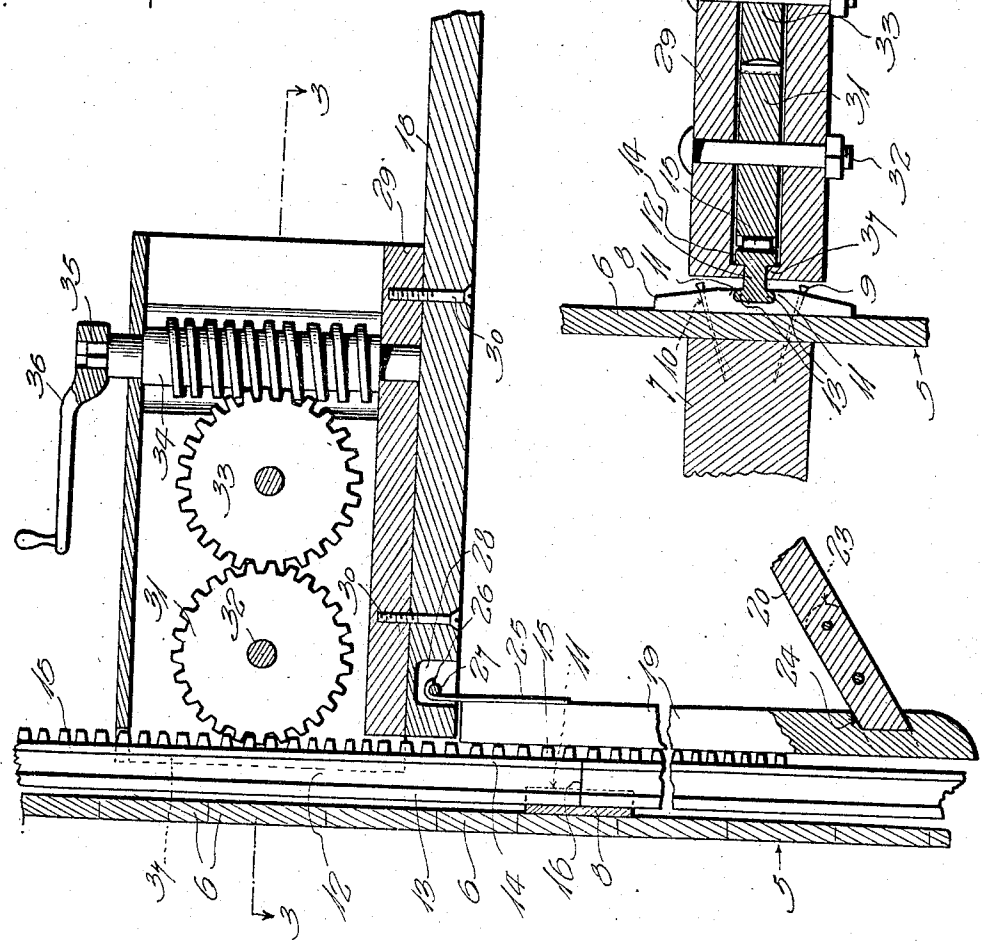

FIG. 3.

Witness
H. Woodard

Inventor
J. E. Yeagley

By H. B. Williamson & Co

Attorneys

UNITED STATES PATENT OFFICE.

JOHN E. YEAGLEY, OF ASHLAND, OHIO.

BUILDING-SCAFFOLD.

1,307,610. Specification of Letters Patent. Patented June 24, 1919.

Application filed May 16, 1918. Serial No. 235,015.

To all whom it may concern:

Be it known that I, JOHN E. YEAGLEY, a citizen of the United States, residing at Ashland, in the county of Ashland and State of Ohio, have invented certain new and useful Improvements in Building-Scaffolds; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to building scaffolds, and it relates more particularly to an improved adjustable and knock-down scaffold.

The object of the invention is to provide a simply constructed, vertically adjustable scaffold bracket which may be readily folded when not in use and which will be positively held against possible collapse while being used.

With the foregoing object in view, the invention resides in the novel construction and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings.

Figure 1 is a perspective view illustrating a pair of my improved scaffold brackets supported on the side of a building, a board or platform, on which one or more workmen stand, being shown in broken lines;

Fig. 2 is an enlarged vertical sectional view illustrating the gearing and other mechanism whereby the platform is raised and lowered;

Fig. 3 is a horizontal sectional view along the line 3—3 of Fig. 2.

Referring to these drawings in detail, in which similar reference characters correspond with similar parts throughout the several views, a wall of a building is represented by the numeral 5, the same being constructed of boards 6 which are secured on the usual studs 7 by any ordinary means.

A plurality of cleats or inwardly flanged securing elements 8 are secured to the vertical surface of the wall 5 by means of nails or spikes 9 which extend through apertures 10 of the cleats into the wall, and preferably into the studs 7. For this purpose I prefer employing casing nails, as such casing nails have tapering heads which project beyond the apertures 10 sufficiently to enable a workman to engage the same with a claw-hammer or other device so as to withdraw the nails when it is desired to remove the cleats. Each of the cleats 8 is provided with two vertically extending rows of apertures 10, so that if one of these apertures should register with a crack, knot or knot hole, the nails may be placed in other apertures 10 so as to obtain the most secure anchorage for the nails.

Each of the cleats 8 is formed with a transverse slot which has outwardly converging walls, so that flanges 11 are formed at opposite sides of the groove and extend inwardly toward one another. In other words, cleats 8 are formed with dovetail grooves, and these grooves are vertically alined when the cleats are arranged as shown in Fig. 1. A plurality of vertically alined beams 12 are each formed with a pair of oppositely extending flanges 13 and 14, and each beam 12 is preferably formed with a rack 15, although the racks 15 may be formed separately and secured on the beams 12 if desired. The outwardly extending flanges 13 are normally seated within the dovetail grooves of the cleats 8, so that the flanges 11 and 13 coöperate for preventing disengagement of the beams from the cleats by a lateral movement of the beams, but allowing longitudinal movement of the beams, or movement of the cleats longitudinally of the beams. Each of the cleats is sufficiently wide to securely engage the meeting ends of the two beams 12 and secure them in alinement with one another as illustrated at 16 in Figs. 1 and 2.

Although in practice it may be found expedient to form all of the cleats alike, and to form all of the beams 12 alike, the present drawings disclose the lower beams 12 as eliminating the gear-rack-teeth from the lower part thereof, as the same are not necessary where they are shown eliminated. Moreover, although it is contemplated that the cleats and beams shall be relatively movable as a rule, I may secure the lower cleats to the lower end of the lower beams 12, or I may provide each lower beam 12 with a lug 17 which prevents downward movement of this beam with relation to the lower cleats, or I may allow the lower beam 12 to rest upon the ground or upon any other support (not shown).

For supporting a scaffold board or platform, I provide a plurality of vertically movable brackets each of which comprises a normally horizontal beam 18, a normally vertical beam or support 19 and a normally inclined beam or support 20, the latter be-

ing pivotally connected at 21 to a pair of depending lugs 22 which are preferably mortised into the outer end of the beam 18 or otherwise secured to the latter. The lower end of the beam 20 is preferably provided with strips 23 which are secured on opposite sides thereof and extend beyond its lower end, said lower end being normally seated in a recess 24 formed in the lower end portion of the vertical beam 19. The upper end of the beam 19 is provided with a metal strip 25 which is formed with a hook 26 that engages with a bolt or pin 27. This bolt or pin extends horizontally through a recess 28 which is formed in the lower side of the beam 18. The hook 26 may be disengaged from the bolt 27, and the beam 19 may be disengaged from the beam 20 so as to allow the latter to be folded into parallel relation with the beam 18 when it is desirable to knock-down the device; but when in the assembled relation shown in Fig. 1, these elements 18, 19 and 20 form a triangular bracket which is supported by means of the adjacent rack 15 and the cooperating gear mechanism and casing which will now be described.

A gear casing 29 rises from and is securely united with each beam 18 by means of screws 30 or other appropriate means. A gear wheel 31 meshes with the rack 15 and is rotatable on an axle 32 which is supported by the casing 29. A gear wheel 33 meshes with the gear wheel 31 and with a worm 34 which is journaled in the top and bottom of the casing and has its top portion squared, as indicated at 35 for the reception of a crank 36 or other means whereby the worm 34 may be rotated. Obviously the wheel 33 could be dispensed with, and the worm 34 caused to mesh with the wheel 31; but the interposition of the wheel 33 enables the worm 34 to be located a sufficient distance from the rack 15 to allow the crank 36 to have free play. By rotating the crank 36 in one direction, the beam 18 and its adjuncts will be raised, and by rotating it in the opposite direction, these elements will be lowered. It will be seen that the pitch of the worm 34 is such that any tendency of the wheel 33 to turn is offset by the engagement of its teeth with the threads of the worm 34, so that it is impossible for the beam 18 and its adjuncts to be accidentally lowered.

In order that the casing may be prevented from moving outward or laterally with relation to the beam or beams 12, the same is provided with inwardly extending flanges 37 which engage with the flanges 14 of the bars 12. This construction allows the casing 29 to move up and down along the bars 12, and it will be seen that such movement may be effected by a workman while he is supported by the horizontal beam 18 or by a board or platform thereon.

Particular attention is directed to the fact that due to the engagement of the flanges 37 with the flanges 14 of the beams 12, and to the contacting of the gear 31 with said track, the horizontal bar 18 cannot be swung upwardly until the entire bracket is removed from the track. Such upward swinging of the bar 18 is required to remove the lower end of the brace 20 from the socket or notch 24, and it will thus be seen that this brace cannot be accidentally disengaged from the socket while the device is in use.

Although I have described this embodiment of my invention very specifically, it is not intended to limit the invention to these exact details of construction and arrangement of parts, but I am entitled to make changes within the scope of the inventive idea disclosed in the foregoing description and following claim.

What I claim as my invention is:

In a vertically adjustable foldable scaffold bracket, a vertical track having rack teeth, a vertical bar contacting slidably with the toothed side of said track, a horizontal bar pivoted at one end to the upper end of said vertical bar and adapted to support a scaffold board, an inclined brace bar pivoted at its upper end to the other end of said horizontal bar, the lower end of said vertical bar having a socket in which the lower end of said brace bar is received, said brace bar being removable from said socket when said horizontal bar is swung upwardly; a gear case rigidly mounted on and rising from said horizontal bar, said gear case having guide means slidable along said track, a gear in said case meshing with said rack teeth, and means for rotating said gear to adjust the bracket vertically along the track, said guide means and said gear coacting with said track to prevent upward swinging of said horizontal bar until the bracket is removed from the track and consequently preventing accidental removal of said brace bar from said socket.

In testimony whereof I have hereunto set my hand.

JOHN E. YEAGLEY.