

A. J. Heavner.

Imp't in Adjustable Scaffolding.

118128

PATENTED AUG 15 1871

Fig. 1.

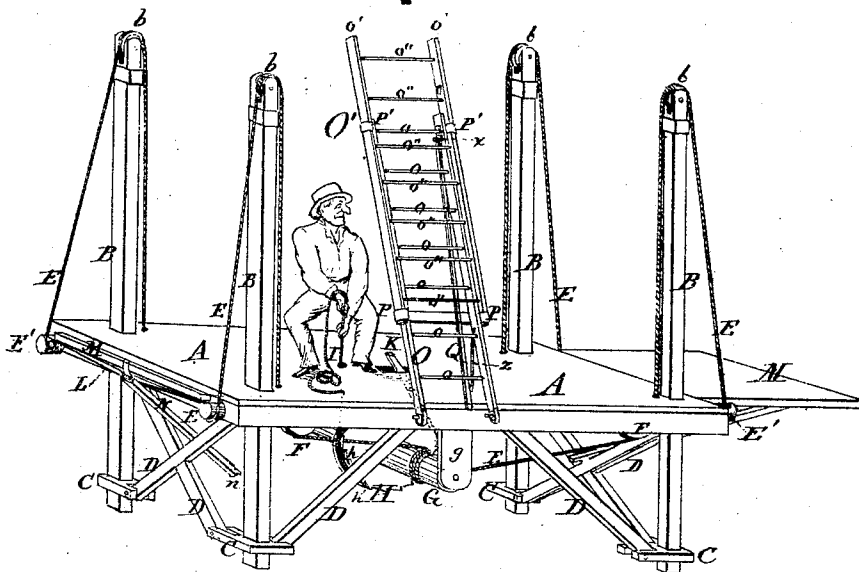


Fig. 2.

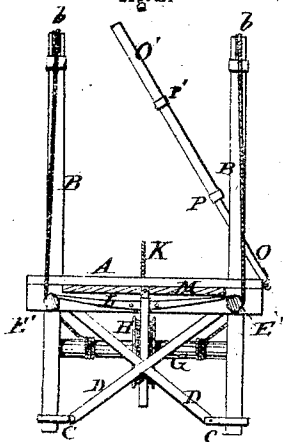
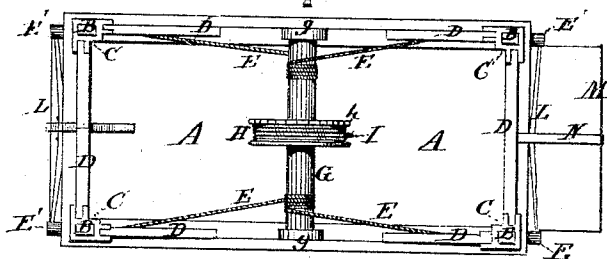


Fig. 3.



Witnesses.

W. H. Poole
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Inventor.

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UNITED STATES PATENT OFFICE.

ANDREW J. HEAVNER, OF PITTSFIELD, ILLINOIS.

IMPROVEMENT IN ADJUSTABLE SCAFFOLDINGS.

Specification forming part of Letters Patent No. 118,128, dated August 15, 1871.

To all whom it may concern:

Be it known that I, ANDREW J. HEAVNER, of Pittsfield, in the county of Pike and in the State of Illinois, have invented certain new and useful Improvements in Adjustable Scaffolding; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a perspective view of my device as arranged for use. Fig. 2 is an end elevation of the same; and Fig. 3 is a plan view of its lower side.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to furnish a support for use of workmen and their materials when engaged in building operations that shall be readily adjustable to vertical position and to uneven or sloping ground; and it consists principally in the peculiar construction of the platform and its combination with the vertical supports, substantially as and for the purpose hereinafter specified. It consists, further, in the means employed for adjusting to and securing in position the platform, substantially as is hereinafter shown. It consists, further, in the means employed for effecting a relative vertical adjustment of each corner of the platform and its post independent of other portions of the device, substantially as and for the purpose hereinafter set forth. It consists, further, in the construction of the horizontally-extensible ends of the platform, and their combination with the same, substantially as and for the purpose hereinafter shown and described.

In the annexed drawing, A represents a platform, constructed preferably of wood, in a rectangular form, and provided near each corner with a square opening that extends vertically downward through the same, and receives and contains a post, B, which corresponds therewith in shape and size. A metal slide, C, having the form shown in Figs. 1 and 3, and provided with a suitable vertical opening, is placed upon the post B, about two feet below the platform A, and connected with the latter by means of two braces, D, which are attached at one end to said slide, and from thence extending upward and outward, have their opposite ends secured to or upon the lower side of said platform, and thereby secure the same said slide and the post in their relative

positions, while allowing the former to be freely moved up or down upon the latter. In order to permit the platform to be adjusted to and secured in vertical position upon the posts, one end of a cord, E, is attached to each corner, and from thence passes upward over a shive, b, pivoted within the upper end of the post B; from thence vertically downward through said platform and around a second shive, F, pivoted beneath and to the same; and from thence, passing inward, has its opposite end secured to or within a shaft or roller, G, that is pivoted horizontally beneath said platform within suitable bearings g, secured to and extending downward from the same.

As thus arranged, by revolving the roller G the cords E will be wound thereon and shortened, so as to raise the platform upon the standards or posts, and by reversing said roller said cords will be lengthened and said platform correspondingly lowered. In order to rotate the roller G at will, and secure the same and the platform in position when adjusted, a pulley, H, is secured to or upon its center, lengthwise, and has attached to its periphery one end of a cord, I, which cord, after passing several times around said pulley, extends upward through said platform, with its end within convenient reach of the operator. Upon one edge of the pulley is provided a series of ratchet-teeth, h, which receives and engages with the lower end of a pawl, K, that from thence passes upward through and is pivoted within the platform A, with its upper end within a short distance of the cord I. A suitable spring is applied to said pawl for the purpose of holding the same in engagement with the teeth h, except when purposely removed therefrom by the operator. If, now, the cord I be pulled upward by a person standing upon the platform, the roller G will be rotated, and said platform raised upon the standard and prevented from descending when said cord is slackened by the action of the pawl upon the ratchet-teeth. When it is desired to lower the platform the cord is grasped by the operator, and the pawl released from engagement with its ratchet by placing his foot upon its upper end, after which said cord is allowed to pass slowly downward through said platform and around the pulley until the desired adjustment is effected, when said pawl is released and immediately locks the parts in position.

As the device will usually stand upon an un-

even or inclining surface, it is necessary that a special and independent adjustment of each standard or post should be provided for. This result is accomplished by connecting the end of each cord E with a stud, E', that extends horizontally outward from the corner of the platform within which it is pivoted, so as to be capable of a vertically-rotary movement. A series of teeth cut within its periphery receives and engages with the free end of a spring-pawl, L, so that while permitting said stud to revolve freely in one direction said pawl will prevent the same from turning an opposite direction. If, now, the stud is turned so as to wind thereon or unwind therefrom the cord, the latter will be shortened or lengthened, as may be desired, in order to insure the relative adjustment of the standard and platform.

It being desirable that the platform should be capable of longitudinal extension, a section, M, somewhat less in width than said platform, is placed within a corresponding recess provided at and within its end, and may be withdrawn from or returned within the same, as is desired, a suitable stop being provided upon the inner end of said section which prevents the same from being entirely disengaged from said recess. A brace, N, pivoted at one end to the center of the section M, and from thence passing inward beneath the platform and over the crossed braces D, is provided at its inner end with a suitable notch, n, which, when said section is drawn outward, engages with the outer upper corners of said braces D, and locks the same together so as to furnish a support for said section.

In order to afford facilities for reaching the platform from below, and also for ascending from the same to higher portions of buildings, a ladder, O, is hinged at one end to or upon the side of said platform, at or near its longitudinal center, in which position said ladder may either be turned upward, as shown in Fig. 1, or downward, so as to cause its lower end to rest upon the ground. As the height of the platform above the ground will continually vary, the ladder O is provided with a second section, O', which has a width inside of its rails o', and above its rungs o'', sufficient to contain said hinged section. A metal plate, P, passing over the faces of both sections at their upper ends, with its ends bent around and secured to the outer section O', and two metal bands, P', passing around the lower ends of the same and secured to the inner section, secure their relative positions transversely, while permitting said outer section to move freely in a longitudinal direction over or upon said inner section.

In order to lock the sections of the ladder together, when adjusted longitudinally, a lever, Q, having a length nearly equal to that of the same when closed together, is pivoted to or upon the inner face of one of the rails o of the inner section O, so as to vibrate in a horizontal plane. Attached to one end of said lever is a stud, a, which passes outward through the side rail o, and engages with any one of a series of holes provided within the contiguous face of the rail o' of the outer section, and locks said sections firmly in relative longitudinal position. A spring, x, secured upon the inner face of the rail o, and pressing outward upon the end of the lever opposite to that containing the locking-stud, holds said stud firmly in engagement with the openings in the outer section, except when purposely released therefrom for the purpose of extending or diminishing the length of the ladder.

The device thus constructed furnishes a simple, efficient, and comparatively inexpensive means whereby workmen may be supported at any convenient height above the ground, and may be elevated or lowered as occasion demands with the expenditure of but a trifling power.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. The platform A, constructed as described, and combined with the posts B by means of the slides C and braces D, substantially as and for the purpose specified.
2. In combination with the platform A and posts B, constructed as described, the cords E and I, the shives b and F, the roller G, and the pulley H, substantially as and for the purpose shown.
3. In combination with the platform A, the posts B, and the elevating devices above named, the pawl K pivoted within said platform, and engaging with the ratchet-teeth h of the pulley H, substantially as and for the purpose set forth.
4. In combination with the platform A, the posts B, and the cords E, the studs E' (provided upon their peripheries with ratchet-teeth) and the spring-pawl L, substantially as and for the purpose shown and described.
5. The sections M, provided with the pivoted braces N, and combined with the platform and with the braces D, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of June, 1871.

ANDREW J. HEAVNER.

Witnesses:

LUCIEN COVER,
ALBERT ST. JOHN.