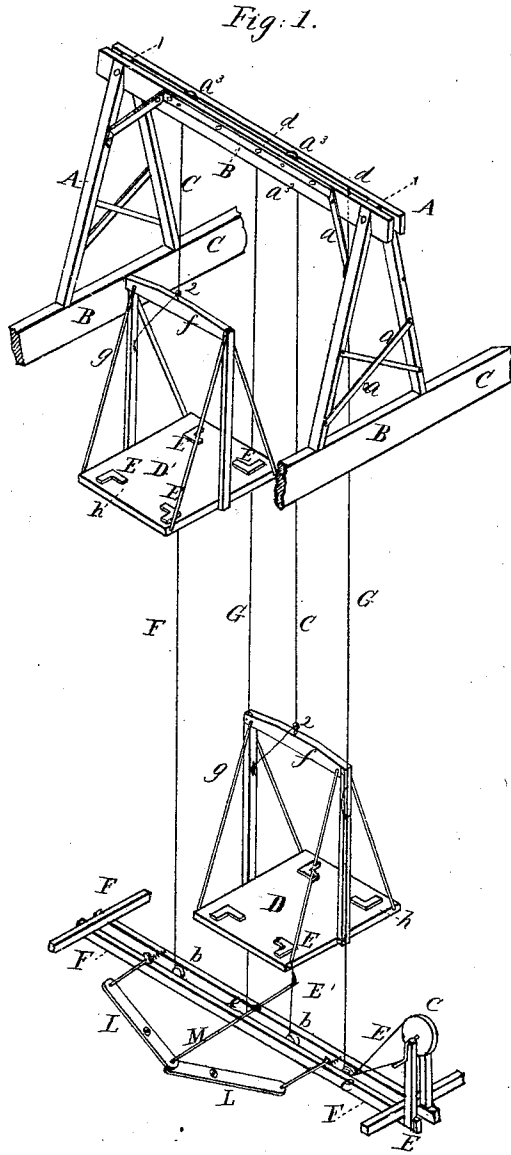


P. ANDERSON & J. A. WAIT.

Improvement in Elevators for Mortar and Bricks.

No. 130,889.

Patented Aug. 27, 1872.



Witnesses
H. A. Hartwell.
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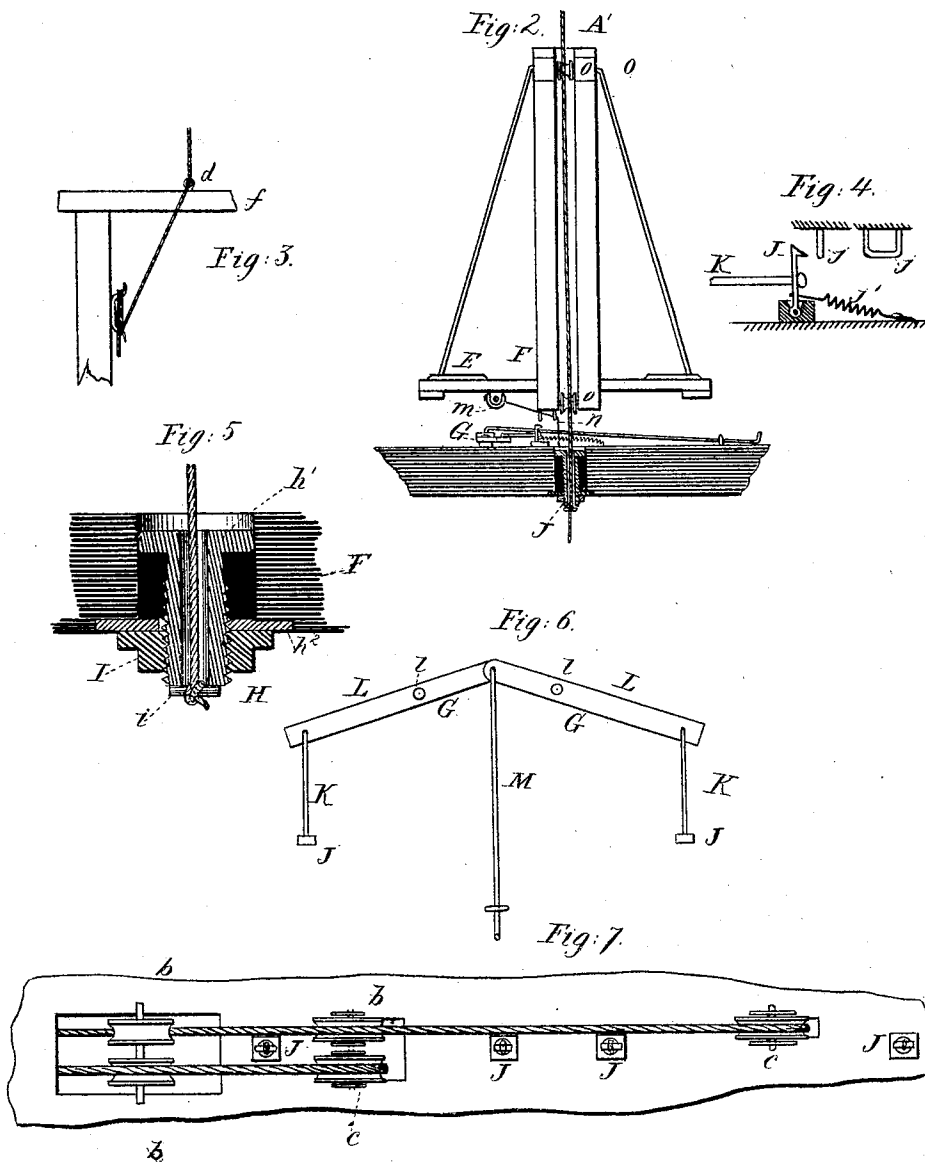
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UNITED STATES PATENT OFFICE.

PETER ANDERSON AND JOHN A. WAIT, OF CHICAGO, ILLINOIS, ASSIGNORS
OF ONE-HALF THEIR RIGHT TO NICHOLAS R. GRAHAM, OF SAME PLACE.

IMPROVEMENT IN ELEVATORS FOR MORTAR AND BRICKS.

Specification forming part of Letters Patent No. 130,889, dated August 27, 1872.

Specification describing certain Improvements in Mortar and Brick Elevators, invented by PETER ANDERSON and JOHN A. WAIT, both of Chicago, in the county of Cook and State of Illinois.

Our invention relates: First, to the construction of the frame or trestle from which the platforms of the elevator are suspended. The second part of our invention relates to the manner in which the suspension-rope is made fast to the platforms. The third part of our invention relates to the construction of the lower frame. The fourth part of our invention relates to the catching and retaining device. The fifth part of our invention relates to the mechanism for releasing and controlling the tension of the guide-ropes. The sixth part of our invention relates to the portable elevator as a whole, and as described hereinafter. The object of the invention is to produce an elevator that is simple in construction; cheap in manufacture; reliable under all circumstances; easily transported, put up, and taken down; and one that can be used on buildings of any height, and inside or out of the same.

Description of Drawing.

Sheet 1, Figure 1, is a perspective view of the elevator with the guide-ropes of the left-hand platform removed. Sheet 2, Fig. 2, is an end and partly sectional view of one of the platforms, showing the catching and retaining mechanism and the tension device. Fig. 3 is a broken view of the upper frame-work of a platform, showing on an enlarged scale the manner in which we attach our supporting rope or chain to the platforms. Fig. 4 is a side view of the catch that grasps the staple on the bottom of the platforms to hold them in place. Fig. 5 is an enlarged vertical sectional view of the mechanism for controlling the tension of the guide-ropes, and showing the manner in which the guide-rope is made fast around the cross-bar. Fig. 6 is a plan view of the means for operating the retaining catches to release their hold on the platforms. Fig. 7 is a view of the bottom of the lower frame, showing the arrangement of the lowering and elevating ropes or chains on the pulleys and the tension-controlling devices.

A A represents the upper frame or trestle,

made preferably of wood, the horizontal part of which is made in two pieces and held a short distance apart by blocks 1; the legs meet with these bars and are bolted to them at the top. Iron braces *a* are bolted to the trestle-frame, and the frame itself is bolted together in such a manner that the same can be easily taken apart and put together again, thus facilitating the putting of it up and taking of it down, and making it handy of transportation. On the outside of each horizontal bar is fastened a metal strip, *a*², having holes in it, which serve as bearings for pulleys *a*³ situated in the space between the bars. B B represent supports for the trestle; they may be two joists (the intermediate ones being removed) or timbers fastened up inside for the purpose, or planks laid across the joists. If the elevator is to be used outside of the building timbers are protruded from the side of the same, and fastened firmly within, and the trestle set outside on the same. C is the supporting rope or chain that suspends the platforms D D and connects them together. It passes from one platform up and over the two pulleys *a*³ and down to the other platform. E is the rope or chain that is fastened to the bottoms of the platforms for operating the same—viz., elevating one while the other is being lowered. F is the lower frame, made of two bars, which are held a short distance apart by cross-pieces at the ends. This lower frame is to be fastened to the lower floor of a building by means of chains or otherwise. Between the bars are situated pulleys *b b*, around which the rope or chain F runs to a drum, *c*, in the usual manner, as clearly shown in Figs. 1 and 7, for working the platforms. G G are the guide-ropes, which are securely attached to the trestle at *d d*, and to the lower frame by passing through a device hereinafter described, situated at *e e*. These ropes pass along two sides of each platform, and serve to steady the same and keep them in their places as they are raised and lowered. On the upper side of the frame F of the platforms there is a ring or an eyebolt, 2, and on the side frame there is a cleat, *g*. The rope or chain C is fastened to the platforms as follows, viz., it is passed through the ring 2 and thence to the cleat *g*, around which it is made fast.

The object of thus fastening this rope or chain will be hereinafter set forth. On the upper surfaces of the platforms are fastened stop pieces *h*, into the corners of which the legs of a wheelbarrow are placed as it rests on the platform. These serve to keep it in place as it is raised and lowered by the platform. In Fig. 5, H is a hollow screw having a square head, *h*¹, which is placed in a square opening in the lower frame F, at *e*. Each guide-rope passes through one of these screws at the bottom, and each of the two platforms have two or more guide-ropes. *h*² is a metal washer, and I is a common nut screwed upon the end of screw H and against the washer *h*². *i* is a strong metal bar placed across the end of the screw, around which the guide rope or chain G is fastened in any secure way. To increase the tension of the latter the nut I is turned, while the screw is prevented from turning and twisting the rope or chain by its square head in the square mortise or hole in the lower frame F. As there is a large coil of rope left below or one side of the lower frame, the fastening around cross-bar *i* can be readily removed or thrown off, thus permitting the upper frame or trestle to be carried to any height or story and the rope or chain G to run loosely through the hollow screw, when another fastening around cross-bar *i* is made and the rope or chain strained up as before. J is a hinged latch, situated on the lower frame beneath each platform. *j* is a staple securely fastened to the under side of each platform, into which the catch is made to take by the spring *j'* every time the platform descends to the lower frame. K K are rods connecting the two catches J with pivoted arms L L. These arms are pivoted to the lower frame or to a board connected thereto at *l l*, and at their short ends a rod, M, is fastened in a slot in each short arm. The purpose of this mechanism is to draw the catches off the staples at the right time to permit the platforms to rise and fall alternately. This is done by drawing on the outer end of the rod M, which overcomes the springs *j'*. The catches grasp the staples automatically, and hold one platform firmly down upon the lower frame and the upper platform in its place also. *m*, in Fig. 2, is a cylindrical bar of metal, with journals at each end, which have bearings under and on the platforms. The rope or chain E is connected to the under side of the platforms by passing through a rim, *n*, and thence through the cylindrical roller *m*, where a knot is tied on the back side or otherwise secured there. Through the roller *m* are holes running transversely, into which an iron bar can be placed to turn the roller to wind up any slack that might be in the rope, or to slacken the rope, if necessary. An iron bar is then placed and left in one of the holes to keep the roll from turning. *o o* are anti-friction rolls on the outside of the platforms, over which the guide-ropes run.

By constructing the upper frame or trestle as described, it does not require the work of a carpenter to put up our elevator or to take it down. All that has to be done is to put it together with a wrench and set it on the joists or fasten up some other support for it.

By fastening the suspension-rope to one side of the frame of the platform on a cleat a man can stand on the platform and take up or let out the rope as he pleases, and thus adjust one platform in relation to the other, or to the upper floor and the lower frame, or to allow for shrinkage or stretch of the rope under different kinds of weather. The simple construction of the lower frame makes it light to carry, easy to fasten to the lower timbers of a building or to the ground on the outside of a building. The pulleys and tension mechanism being made fast in the same, the parts are not liable to be lost or get out of order. The four stops *h* on the platforms permit a wheelbarrow to be rolled on the latter from either side, the two stops on one side serving to keep the legs in place when the wheelbarrow is rolled on from that side, and the other two when it is rolled on from the opposite side. Moreover, these stops do not prevent the platforms from being used for other purposes.

In some cases we use our elevator without the guide-ropes with good effect.

It will be evident that the construction of the two frames can be changed considerably without departing from the spirit of my invention.

I have thus described the construction and nature of my invention so that those skilled in the art may understand it.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. The portable upper frame or trestle, constructed substantially as described, for the purpose set forth.
2. The combination of the platform D, cleat or other fastening *g*, ring 2, and the suspension rope or chain C, substantially as set forth.
3. The portable lower frame, constructed as described, for the purpose set forth.
4. The combination of the two catches J, staples *j*, spring *j'*, rods K, pivoted arms L, and rod M, as and for the purpose set forth.
5. The combination of the hollow screw H, having a square head *h*¹, washer *h*², nut I, cross-bar *i*, and the rope or chain G, substantially as described.
6. The portable elevator herein described, consisting essentially of the independent trestle A, lower frame F, and the platforms, substantially as and for the purpose hereinbefore set forth.

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JOHN A. WAIT.

Witnesses:

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T. T. OVIATT.