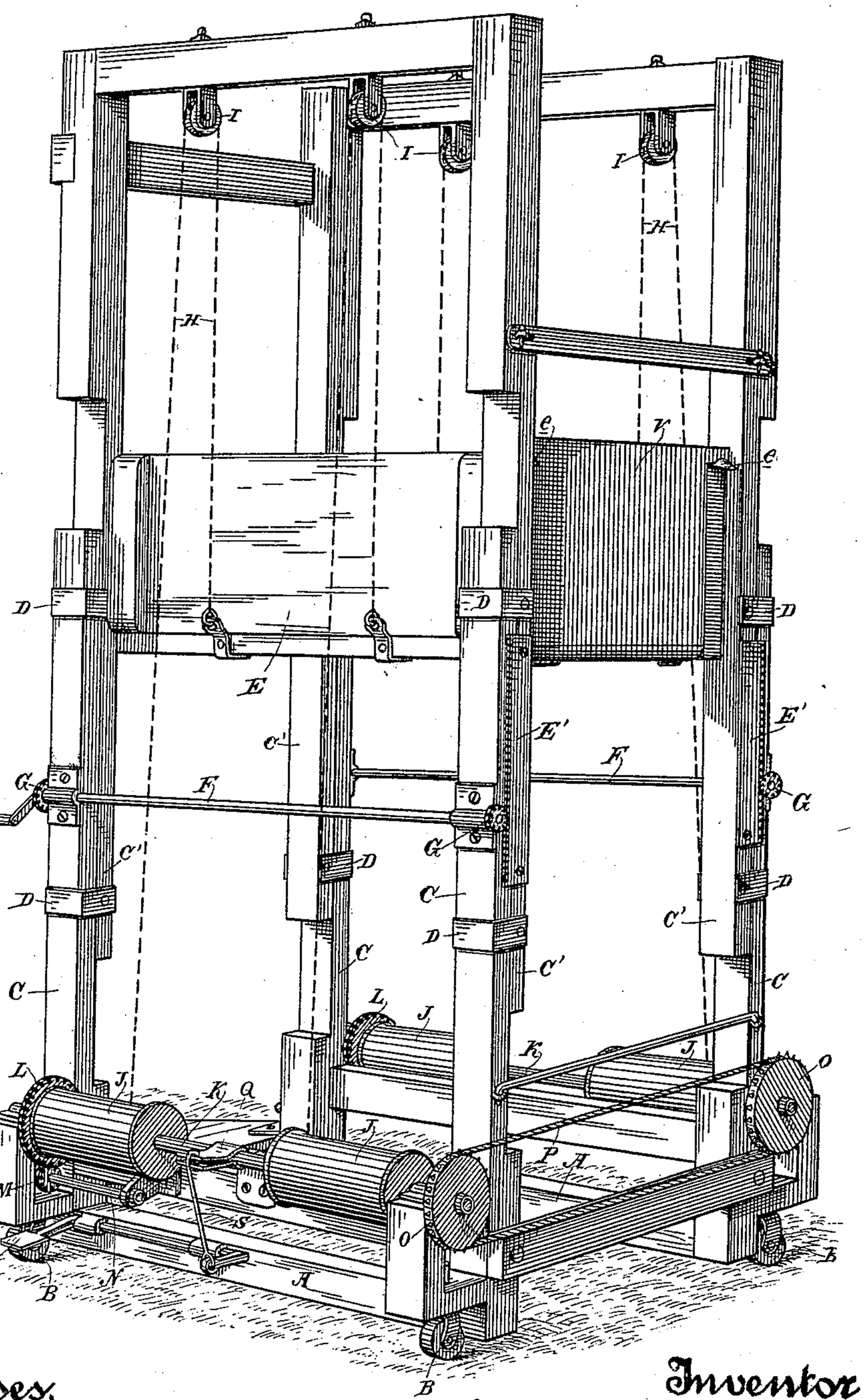
(No Model.)

N. ANDERSON.

PORTABLE ELEVATOR.

No. 449,026. Patented Mar. 24, 1891.



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UNITED STATES PATENT OFFICE.

NICKALAUS ANDERSON, OF MARYSVILLE, CALIFORNIA.

PORTABLE ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 449,026, dated March 24, 1891.

Application filed August 12, 1890. Serial No. 361,827. (No model.)

To all whom it may concern:

Be it known that I, NICKALAUS ANDERSON, a citizen of the United States, residing at Marysville, Yuba county, State of California, have invented an Improvement in Portable Elevators; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an improvement in elevators.

It consists of a frame-work mounted upon wheels, so as to be transported from one portion of a warehouse to another, vertical guides, made adjustable in height, a cage or platform suspended so as to travel between these guides, and a means for raising and lowering it, and certain details of construction, all of which will be more fully explained by reference to the accompanying drawings, in which—

The figure is a view of my improved apparatus.

My elevator is especially designed for use in warehouses where grain or other substances are to be stored, and where it is necessary to transport the material over the floor and then lift it to a considerable and varying height to reach the point of storage.

A is a frame-work forming the base of my apparatus and having the stout caster wheels or rollers B, suitably journaled in said frame, so as to support it and enable it to be moved about the floor to any desired point where its work is to be done.

Upon the four corners of the frame are fixed the vertical guide-posts. These guide-posts are made in two parts C and C′, halved together and the two halves secured by the loosely-inclosing guide-straps D, so that the posts in their ordinary position are simply square posts which serve as guides between which the cage or platform E may be raised or depressed. As the goods are always required to be lifted to different heights, which vary according to the quantity of goods in the warehouse, the upper portion C′ of these posts is adapted to be raised so as to extend the guides whenever necessary. In order to do this, I have shown the racks E′ fixed upon the upper movable portion C′ of the guide-posts and shafts F journaled upon the lower stationary part C of the posts and having pinions G, which engage the teeth of the racks. These shafts are provided with cranks or other means by which they may be turned, and it will be manifest that when turned in one direction the teeth of the pinions engaging the racks will raise the guides to any desired point. When turned in the opposite direction, the guides are again lowered.

In the present case I have shown two shafts, each having two pinions, and when the guides are to be raised each of the shafts may be turned independently, or, if preferred, the outer ends of the shafts may be provided with sprocket-wheels over which a chain is allowed to pass, and by this construction when one of the shafts is turned the other will be turned in unison, thus raising the guides on both sides, whether one or both cranks be employed.

The elevator cage or platform is suspended by ropes H passing over pulleys I at the top of the guide-posts and thence passing down to the drums J, which are fixed upon the shafts K. These shafts are journaled one on each side of the frame-work in such a position as to be easily reached by an operator upon the floor.

In the present case I have shown each of the shafts having a gear-wheel L, which meshes into a pinion M upon the crank-shaft N. One set of drums and crank-shaft are journaled upon each side of the guides, and upon the outer ends of the two drum-shafts are fixed sprocket-wheels O. Around these wheels a chain P passes, and it will be manifest that by means of this chain the drums will be turned in unison, whether driven by power applied to both crank-shafts or to only one, and the elevator cage or platform will thus be raised equally upon each side. Any suitable form of brake may be employed.

In the present case I have shown a clamp or friction-brake applied to one of the winding-drum shafts, as shown at Q, and operated by a crank-shaft and foot-lever R with a connecting rod or cord S; but any suitable band, friction, or other brake may be employed which will serve to hold the apparatus wherever may be desired.

Upon one side of the frame-work, at the bottom, is hinged an incline U, which may be turned up against the side of the frame when the machine is to be moved from one

point to another; but when it is located in any desired position this incline is turned down so that the edge rests upon the floor, and when the platform has been lowered to the desired point the trucks containing the goods to be raised can be easily run in upon the platform.

In the present case I have shown a platform having low sides and made open at the end which corresponds with the incline U. The opposite end is hinged to the platform and is held in place by spring-catches when it is closed up, so that when used for lifting the platform is inclosed on three sides. When the point of discharge is reached, this hinged end V is disengaged from the catches and opens outward, resting upon any suitable support, so as to serve as a bridge or connection from the elevator to the point where the goods are to be deposited.

As the height of the tiers increases it will be manifest that the guides may be correspondingly extended by raising the movable portion C′ until they reach the desired height within the limits of the apparatus.

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

1. A portable elevator comprising the base or frame-work, the vertical guides formed of two parts, one of which is stationary and fixed to said base and provided with pinions and the other sliding upon the fixed portions and carrying racks adapted to engage said racks, whereby the upper portion of the frame is adjusted, a cage or platform adapted to travel between said guides, suspending-ropes attached to said cage or platform and passing over pulleys in the top of the movable guide, and the double series of winding-drums around which the ropes are passed, substantially as herein described.

2. A portable elevator comprising a base or frame-work having the caster wheels or rollers upon which it is supported, vertical guides consisting of two parts, one of which is fixed to the base and the other movable on the fixed portion, racks on the movable portions of said guides and crank-shafts mounted on the fixed portions, having pinions engaging said racks for adjusting the movable portions of the guides, a cage or platform having suspending-ropes passing over guide-pulleys in the top of the movable portions of the guides, winding-drums for the ropes, the crank-shafts, pinions and gears through which motion is transmitted to rotate the drums, sprocket-wheels upon each drum-shaft, and a connecting-chain whereby both shafts turn in unison, substantially as herein described.

3. A portable elevator comprising a base mounted upon caster wheels or rollers, vertical two-part guide-posts, the lower portions of which are fixed to the base or frame and the upper portions adapted to slide vertically upon the lower portions, racks fixed upon the movable portions of the guides, and crank-shafts upon the stationary portions, with pinions which engage the racks, so that by turning the crank-shafts the guides may be extended or shortened, substantially as herein described.

In witness whereof I have hereunto set my hand.

NICKALAUS ANDERSON.

Witnesses:
GEO. W. PEACOCK,
WILLIAM ENGLAND.