

(No Model.)

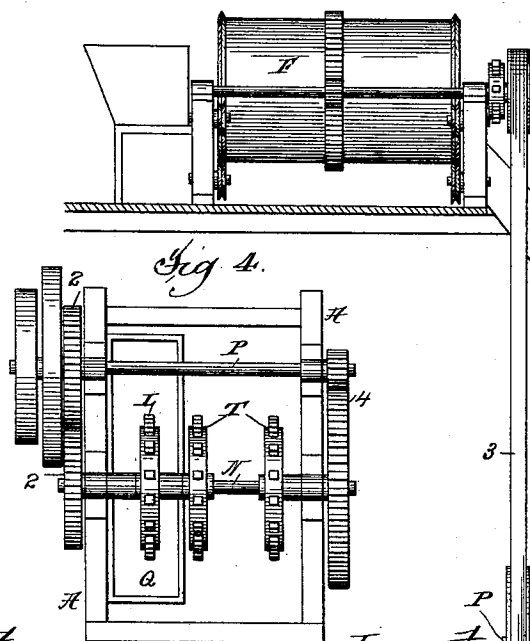
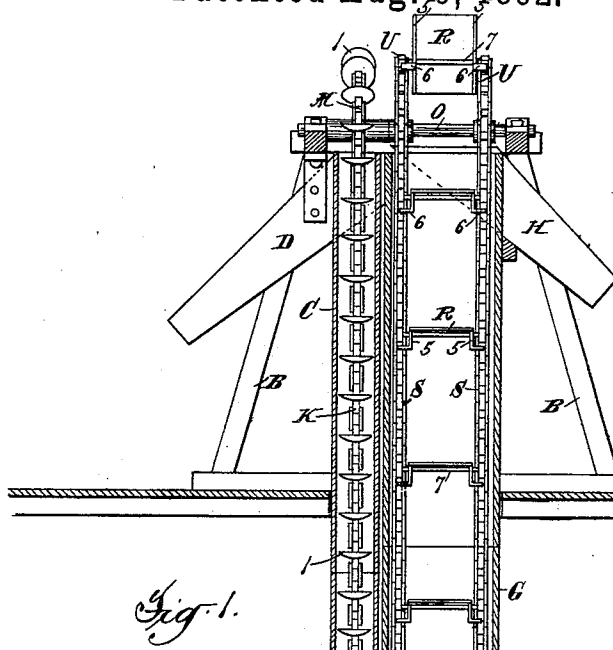
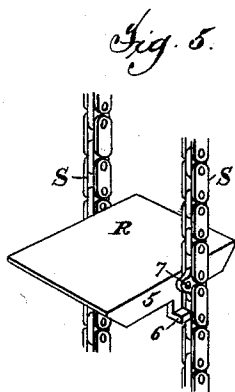
2 Sheets—Sheet 1.

J. J. KIERST.

BUILDING MATERIAL ELEVATOR.

No. 480,329.

Patented Aug. 9, 1892.



Attest:
Geo. H. Dotts.
C. J. Sawyer

Inventor:
John J. Kierst
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(No Model.)

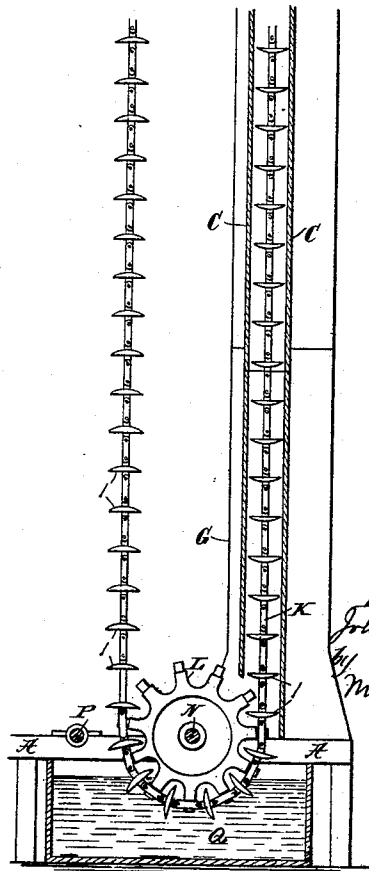
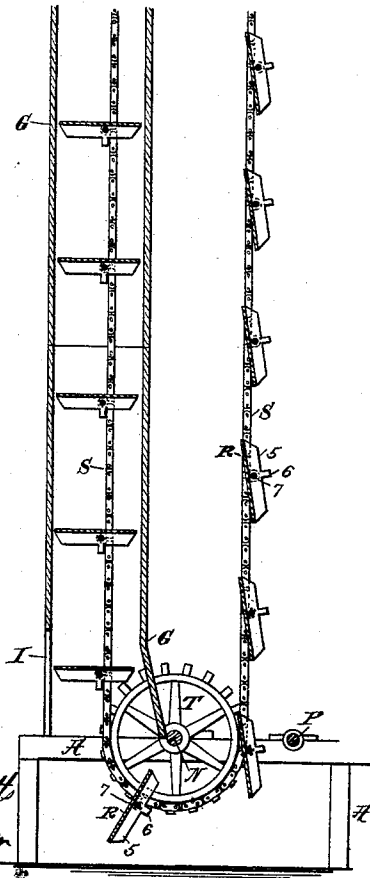
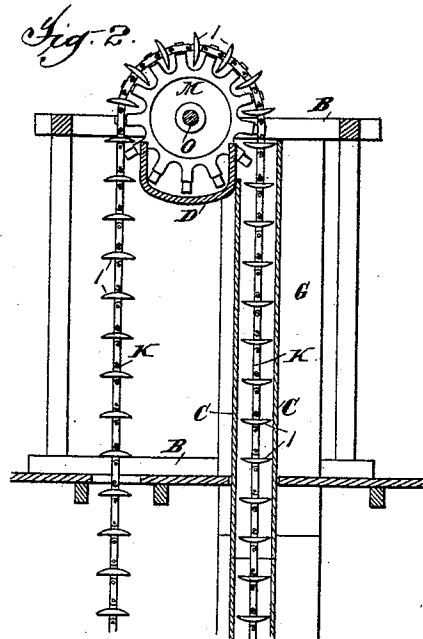
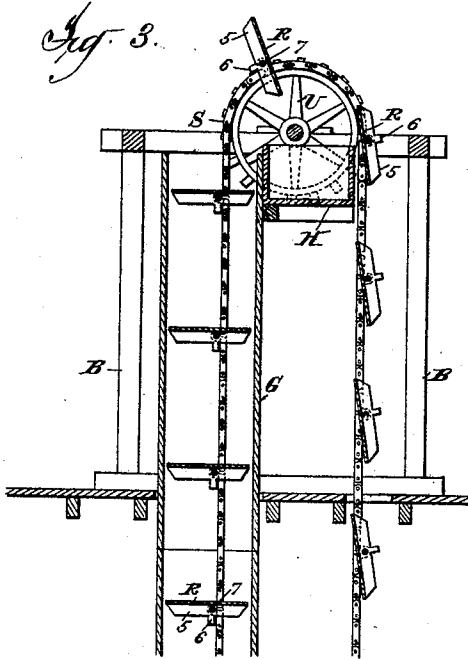
2 Sheets—Sheet 2.

J. J. KIERST.

BUILDING MATERIAL ELEVATOR.

No. 480,329.

Patented Aug. 9, 1892.



Attest:
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UNITED STATES PATENT OFFICE.

JOHN J. KIERST, OF NEW YORK, N. Y.

BUILDING-MATERIAL ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 480,329, dated August 9, 1892.

Application filed August 3, 1891. Serial No. 401,466. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. KIERST, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Elevators, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of the present invention is to provide an improved elevator for the delivery of mortar, brick, and other building materials at the level of the several stories, as the building progresses, in a safe and expeditious manner and without the risk of accidents from bricks and other material falling from the elevator.

My improved elevator is designed to work in connection with a mortar-mixing machine, so that the mortar is delivered automatically from the mixing-machine to the place of use; but it can be successfully operated independently of such a machine and the mortar delivered to it in any other manner.

For a full understanding of my invention a detailed description of a construction embodying the same in its preferred form will now be given, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a sectional elevation of the complete construction with a mortar-mixing machine, the casing of the mortar and brick elevators being sectioned to show the working parts. Fig. 2 is a vertical section of the mortar-elevator looking to the right in Fig. 1. Fig. 3 is a similar view of the brick-elevator looking to the left in Fig. 1. Fig. 4 is a plan view of the elevator-driving mechanism. Fig. 5 is a detail of one of the brick-elevator platforms.

Referring to said drawings, A is the lower and B the upper frame of the elevator, the latter being made of light construction, so that it may readily be raised and placed in the desired position upon the building. The casing C of the mortar-elevator consists, preferably, of a circular tube of metal made in sections, so that the length of the tube may be readily varied as the building progresses, this tube C connecting at its upper end with

chute D, through which the mortar is delivered, and at its lower end with chute E, through which the mortar is delivered to it from the mortar-mixing machine F, which may be of any suitable construction, the form shown being well known. The casing G of the brick-elevator is formed, preferably, of a square tube of wood or metal, preferably wood, and formed in sections, so as to be varied in length, as desired, this casing connecting at its upper end with the chute H, through which the brick is delivered, and at its lower end being provided with an opening I, through which the bricks are loaded upon the elevator.

The mortar-elevator consists of an endless chain K, carrying a series of circular buckets 1, these buckets being so constructed as to fill the tube C, while moving freely therein. These buckets may be of any suitable form, but are preferably constructed, as shown, of circular metal disks flat on their upper sides. The chain K passes over sprocket-wheels L M, carried by sleeves loose on the shafts N O, mounted, respectively, in the frames A B, and the chain is driven by sprocket-wheel L, the sleeve of which extends outside of the base-frame A and is actuated from the main driving-shaft P through gears 2, the driving-shaft P being driven by a pulley and the mortar-mixing machine being shown as driven from the same shaft through pulleys and a belt 3. Any other suitable driving mechanism may be used. A tank Q of water is provided inside the frame A and below the tube C, and the buckets 1 pass through the water, so that they are constantly washed as they pass upward to receive the mortar. The buckets are placed at such a distance as to secure a practically continuous flow of mortar into the chute D, and the action of the disks causes a thorough tempering of the mortar, preventing its setting and delivering it fresh for use, while the action of the water upon the disks keeps it from sticking to the disks and tends, also, to temper the mortar and keep it in proper condition for use.

The brick-elevator consists of a series of platforms R, carried by a pair of endless link chains S, these chains passing over sprocket-wheels T U, mounted, respectively, on shafts

N O and actuated by the shaft N, which is shown extending through the frame A and driven by gears 4 from the main shaft P. The platforms R are set at a considerable distance
 5 apart and, as will be seen, the brick-elevator is driven at a much lower rate of speed than the mortar-elevator, so that time is allowed for loading the bricks upon the elevator at the foot of the machine. The platforms or
 10 buckets may be of any suitable construction and may be mounted rigidly on the chains, so as to remain in a fixed position relatively to the chains during their entire movement; but to economize space they are preferably formed,
 15 as shown, with flanges 5, extending downward at each side and provided with projecting lugs 6, which engage the sides of the elevator-chains, so as to hold the platforms in a horizontal position as they ascend, the platforms
 20 being pivoted on the chains by rods 7, so as to swing freely between them. The platforms are pivoted on one side of their centers of gravity, as shown, so that they are normally held in position with the lugs 6 pressing
 25 against the chains during the upward movement while swinging over to deposit the bricks in chute H as they pass over the shaft O at the top of the machine.

The operation of the machine will be understood from the drawings without further
 30 description.

While I have shown the mortar and brick elevators as combined in a single construction, and I prefer to thus combine them, it
 35 will be understood that either may be used without the other.

It is obvious that the specific construction of many of the parts may be varied widely and many modifications may be made in the
 40 construction shown without departing from my invention.

What I claim is—

1. The combination, with a mortar-mixer, of a casing, a chute through which the mortar is delivered from the mixer to the casing,
 45 an endless carrier and series of buckets moving in said casing, and a water-tank through which the buckets pass before receiving the mortar, substantially as described.

50 2. The combination of a casing, a chute through which mortar is delivered to the casing, an endless carrier and series of buckets

moving in said casing, and a water-tank through which the buckets pass before reaching the chute, substantially as described. 55

3. The combination, with a mortar-elevator having an endless carrier and series of buckets, of a water-tank through which the buckets pass before receiving the mortar, substantially as described. 60

4. The combination, with chains S, of platforms R, pivoted on said chains outside their centers of gravity and having lugs 6, engaging the chains to support the platforms during their upward movement, substantially as described. 65

5. The combination, with a mortar-elevator consisting of a casing, a chute through which mortar is delivered to the casing, and an endless carrier and series of buckets moving in said casing, of a brick-elevator consisting of a casing having a loading-opening, and an endless carrier and series of platforms moving in said casing, and driving mechanism by which the brick-elevator is driven at a lower speed than the mortar-elevator, substantially as described. 70 75

6. The combination, with a mortar-mixer, of a casing, a chute through which the mortar is delivered from the mixer to the casing, an endless carrier and buckets moving in said casing, a brick-elevator consisting of a casing having a loading-opening, and an endless carrier and a series of platforms moving in said casing, and driving mechanism for the brick and mortar elevators, substantially as described. 80 85

7. The combination, with a mortar-mixer, of a casing, a chute through which the mortar is delivered from the mixer to the casing, an endless carrier and series of buckets moving in said casing, a water-tank through which the buckets pass before receiving the mortar, a brick-elevator consisting of a casing having a loading-opening, and an endless carrier and series of platforms moving in said casing, and driving mechanism for the brick and mortar elevators, substantially as described. 90 95

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN J. KIERST.

Witnesses:

C. J. SAWYER,

T. F. KEHOE.