

(No Model.)

2 Sheets—Sheet 1.

J. DALTON.

ELEVATOR.

No. 371,437.

Patented Oct. 11, 1887.

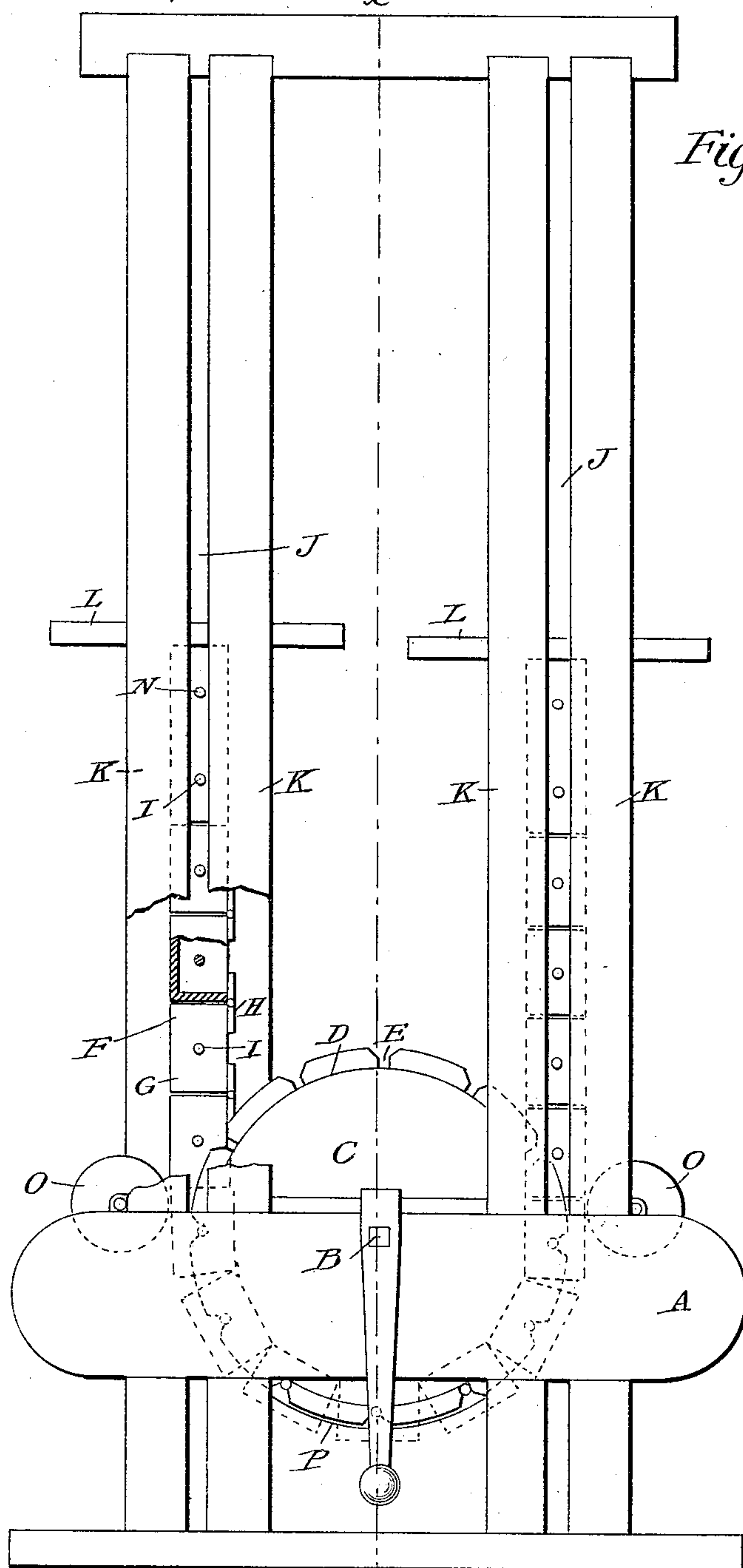


Fig. 1.

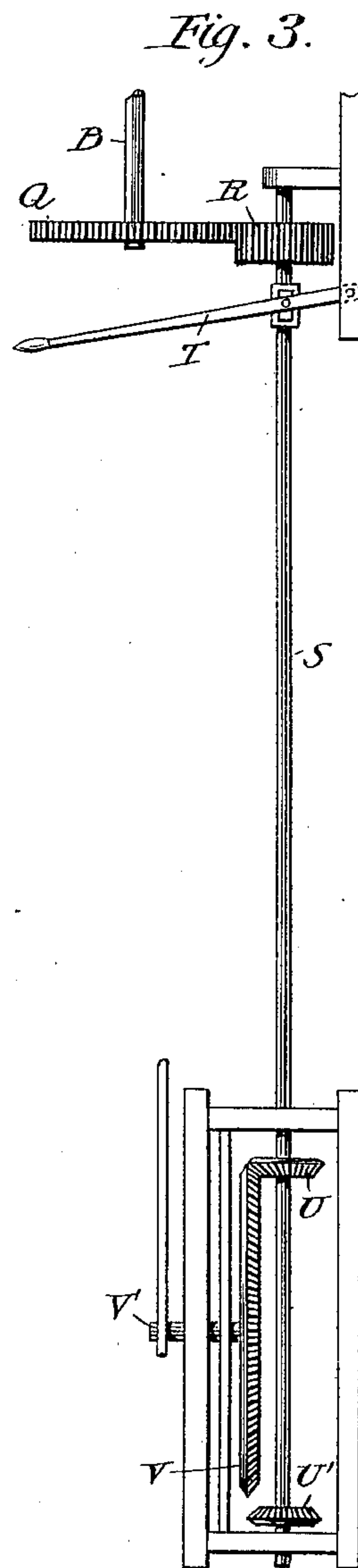


Fig. 3.

WITNESSES:

J. Clark.
C. Sedgwick.

INVENTOR:

J. Dalton
BY *Munn & Co.*
ATTORNEYS.

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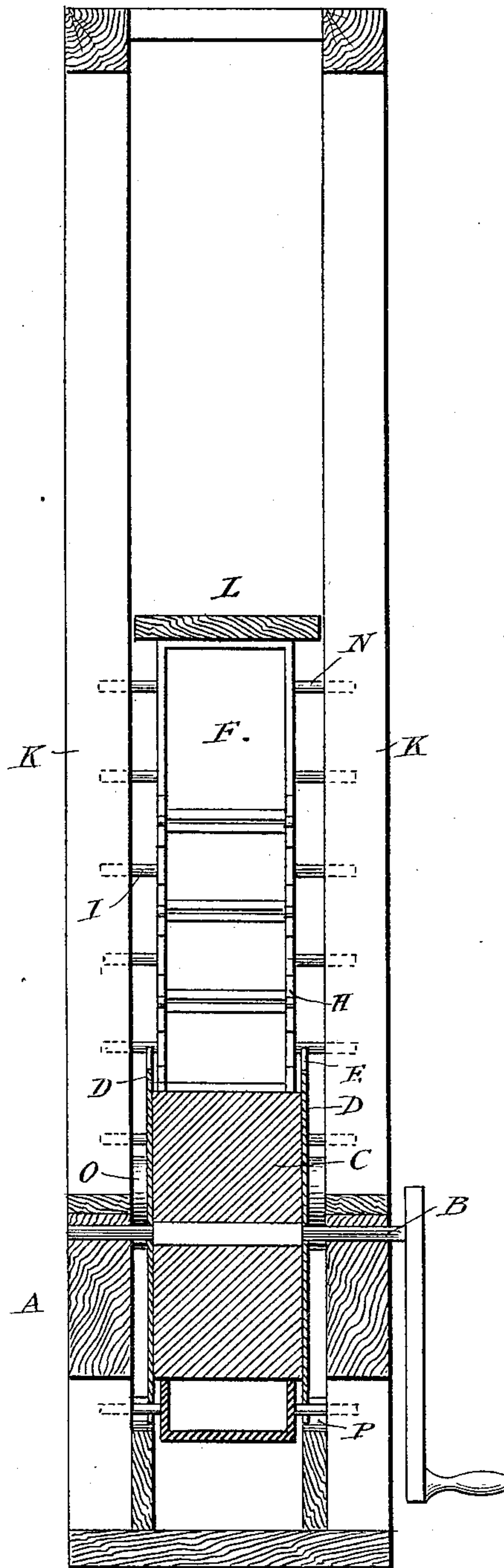
2 Sheets—Sheet 2.

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Fig. 2.



WITNESSES:

J. H. Clark.
C. Sedgwick

INVENTOR:

J. Dalton
BY *Munn & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN DALTON, OF ASHLAND, ASSIGNOR OF ONE-HALF TO FRANCIS I. McKENNA, OF OMAHA, NEBRASKA.

ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 371,437, dated October 11, 1887.

Application filed June 1, 1887. Serial No. 239,946. (No model.)

To all whom it may concern:

Be it known that I, JOHN DALTON, of Ashland, in the county of Saunders and State of Nebraska, have invented a new and Improved Elevator, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved elevator which is simple and durable in construction, effective in operation, and easily increased or decreased in length or height.

The invention consists of a drum having notched flanges, a hinged block-chain having projections or trunnions engaging the notches of the flanges of the drum, and a guide frame or track in which are held and travel the projections or trunnions of the chain.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my improvement, parts being in section. Fig. 2 is a vertical cross sectional elevation of the same on the line *x x* of Fig. 1, and Fig. 3 is a plan view of a mechanism for operating the drum-shaft.

On a suitably-constructed frame, A, is mounted the drum-shaft B, carrying the drum C, provided with the flanges D near each end, each flange having a number of notches, E, placed equal distances apart. Around the drum is placed a block-chain, F, consisting of a number of blocks, G, hinged together at their inner edges by hinges H. The blocks G are preferably of box shape, and each is provided at its ends in the middle with projecting pins or trunnions I, adapted to pass into the notches E of the flanges of the drum C, and also adapted to pass into and be guided in the slots J, formed by the elevator-shaft posts K, erected on and secured to the main frame A. The two uppermost lengths or blocks of the chain F are provided, besides the pins or trunnions I, with additional pins or trunnions N, extending into the slots J and preventing said uppermost

links or blocks from turning. On top of each uppermost link or block G is secured a platform, L, on which platforms are placed the material to be elevated. On the main frame A, near each end, are also mounted the rollers O, in contact with the outer surfaces of the blocks G of the chain F. On the frame A are also formed the semicircular projections P, against which rest the trunnions or pins I when passing around the drum C.

Any suitable mechanism may be employed for rotating the drum-shaft B, which can be turned by a crank-arm, as shown in Fig. 1, or by the mechanism illustrated in Fig. 3, in which the drum shaft B carries a gear-wheel, Q, meshing into a pinion, R, secured to a shaft, S, mounted to rotate and to slide in suitable bearings and being moved sidewise by a lever, T, as shown. The shaft S is provided with two bevel pinions, U and U', which, by sliding the shaft S, can be alternately thrown in and out of contact with the bevel gear-wheel V, mounted on the shaft V', rotated in any suitable manner by horse or steam power. It will be seen that when the lever T is shifted the motion of the drum C is reversed.

The operation is as follows: When the drum-shaft B is rotated, as above described, the drum C by its flanges D imparts motion to the block-chain F by means of the trunnions I of the latter engaging the notches E of said flanges D, whereby one end of the chain F moves vertically downward in the posts K, while the other end moves vertically upward in the opposite posts K, so that a load placed on one platform L is lowered, while at the same time a load placed on the other platform is raised.

The hinges H permit an easy folding around the lower half of the drum C, and the trunnions or pins I, held in the slots J, formed by the posts K, prevent the chain from falling out sidewise and endwise. Any number of blocks G may be hinged together, so as to increase or diminish the height or length of the elevator.

It will be seen that my improved elevator can easily be moved about from place to place and can be used in front of stores or warehouses for raising and lowering merchandise, or it can be employed in steamships for rais-

ing and lowering the cargo out of and into the ship's hold.

My improvement may also be used as a fire-escape; but in this case I prefer to mount it
5 on a truck, so as to move it in front of a building from one window to another.

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

10 1. In an elevator, the combination, with a drum having notched flanges, of a chain provided with trunnions adapted to engage said notches of the drum flanges, and guide posts, each having a slot in which travel said pins or
15 trunnions of the chain, substantially as shown and described.

2. In an elevator, the combination, with a drum having notched flanges, of a chain consisting of a number of blocks hinged together
20 and having trunnions formed thereon adapted to engage said notches of the drum flanges, guide-posts, each having a slot or track in which travel said pins or trunnions of the blocks, and means, substantially as described,
25 for imparting motion to said drum, as set forth.

3. In an elevator, a drum having notched side flanges formed thereon, and guide-posts having slots or tracks, in combination with a chain consisting of blocks hinged together, there being trunnions or pins formed at the
30 ends of said blocks, said trunnions being adapted to engage the notches in said flanges, and also the slots in said posts, substantially as shown and described.

4. In an elevator, a drum having notched
35 side flanges formed thereon, and guide-posts having slots, in combination with a chain consisting of blocks hinged together, there being trunnions or pins formed at the ends of said
40 blocks, said trunnions being adapted to engage the notches in said flanges, and also the slots in said posts, and a platform secured to the upper end of each end block of said chain, substantially as shown and described.

JOHN DALTON.

Witnesses:

T. B. WILSON,
S. L. SEARS.