L. W. GREENLEAF.

Elevator for Lumber or other Articles.

No. 220,137. Patented Sept. 30, 1879.

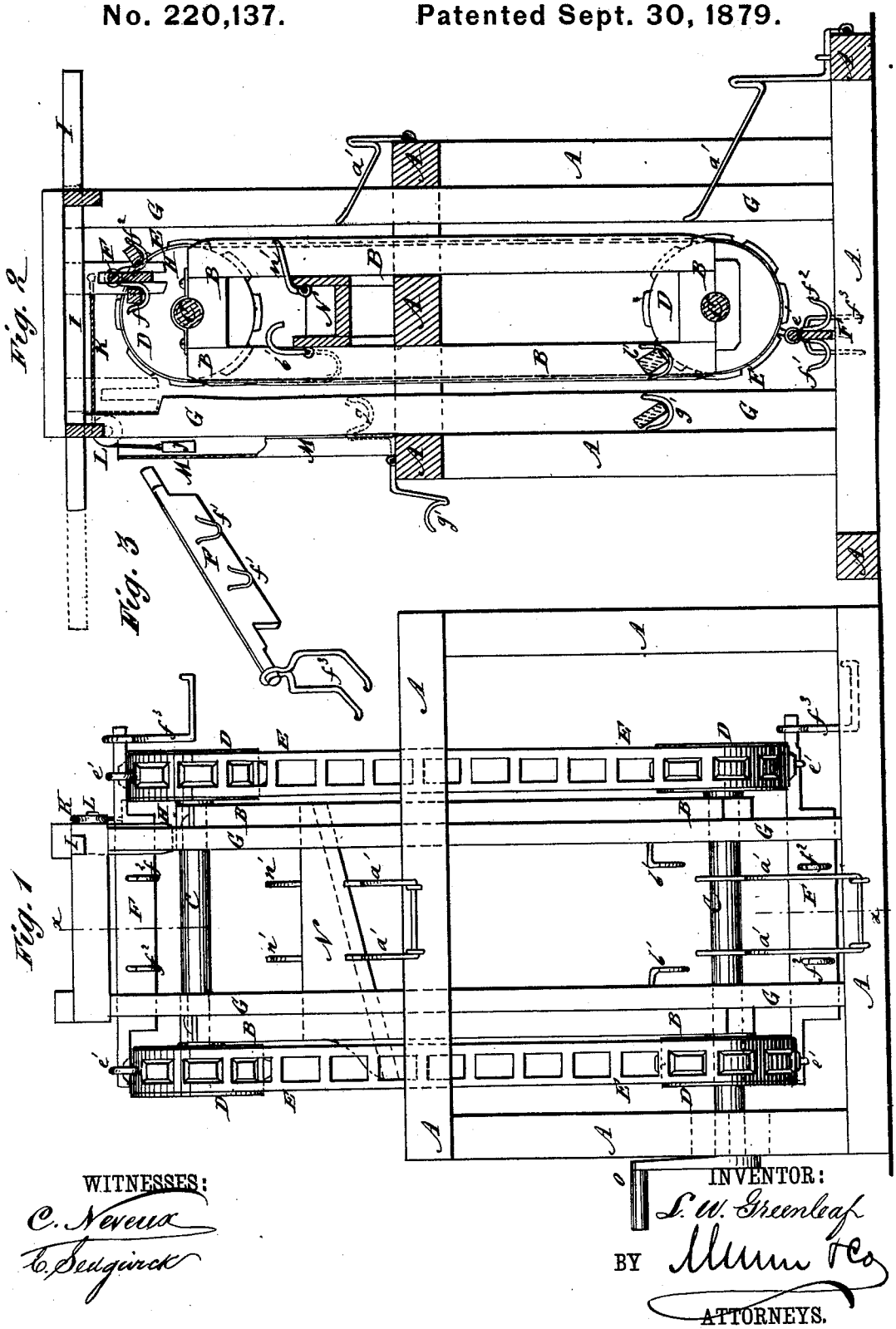

Fig. 2

Fig. 3

Fig. 1

WITNESSES:

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UNITED STATES PATENT OFFICE.

LATHAM W. GREENLEAF, OF TERRE HAUTE, INDIANA.

IMPROVEMENT IN ELEVATORS FOR LUMBER OR OTHER ARTICLES.

Specification forming part of Letters Patent No. **220,137**, dated September 30, 1879; application filed February 27, 1879.

To all whom it may concern:

Be it known that I, LATHAM WILEY GREENLEAF, of Terre Haute, in the county of Vigo and State of Indiana, have invented a new and useful Improvement in Elevators for Lumber or other Articles, of which the following is a specification.

Figure 1 is a rear view of my improved elevator. Fig. 2 is a vertical section of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a detail perspective view of a carrier cross-bar.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved elevator for use in manufactories, shops, planing-mills, store-houses, warehouses, wholesale houses, and other places where lumber and other articles are to be taken from lower to higher and from higher to lower floors, which shall be so constructed as to load and unload itself while in motion, and which shall be simple in construction and reliable in use.

The invention consists in combining endless belts and bars connected by eyes and pivots having hooks with hook guard-bars; in combining guard-bars with cross-bars and frame; and in combining a slotted hanger, sliding bar, weight, and cord with cross-bars and frame-work, all as hereinafter described.

A represents the frame of the building, to the floor-timbers of which is attached a frame, B, extending up through the well-hole. To the upper and lower ends of the frame B are pivoted two shafts, C, having spur-wheels D attached to their ends. E are endless chains or belts, which pass around the pairs of wheels D at the opposite sides of the frame B. F are bars, which are made wide and thin, and have pivots formed upon the upper corners of their ends to pass through and work in eyes *e'*, attached to the endless chains or belts E. To the outer sides of the bars F are attached hooks f^1, and to their inner sides are attached hooks f^2, to receive the articles to be carried.

The cross-bars F are kept in a vertical position while moving up at the front side of the machine and down at its rear side by two pairs of bars, G, attached to the floor-timbers of the frame A, and placed parallel with and at such a distance from the corner-posts of the frame B that the bars F can readily pass up through, but cannot turn in, the space between them.

The bar F is kept upright while passing over the upper shaft C by entering a slot in the lower end of a hanger, H, the upper end of which is rigidly attached to the horizontal bar I. The bar I slides in mortises in the upper ends of the guide-bars G, or in timbers attached to the said upper ends, so that the bar F may carry the hanger H with it as it passes over the upper shaft C.

As the hanger H is released by the descent of the bar F at the rear side of the frame B, the bar I is drawn back by the weight J, attached to the end of a cord, K, which passes over a guide-pulley, L, pivoted to the upper part of the guide-bar G, and its other end is attached to the hanger H, or to the sliding bar I. The weight J moves up and down through a guard-tube, M, attached to the bar G.

When articles are to be carried from a lower to an upper floor they are hung upon holding-hooks *g'*, attached to the guard-bars G, or hinged to the floor-timbers A, in such positions that the carrying-hooks f^1 of the bar F, as the said bar is carried upward, may take the articles from the said hooks *g'* and carry them up to and over the shaft C, and down upon the rear side of the elevator, the hooks f^1 being now upon the inner side of the said bar F. As the bar F comes to the floor where the articles are to be left, the said articles are stopped by the inclined receiving-hooks *n'*, down which they slide into the inclined chute N, down which they slide to the floor. The receiving-hooks *n'* are hinged to the chute N, so that they can be turned back out of the way when it is desired that the articles should be carried to a lower floor.

When the articles are to be carried to a lower floor they are hung upon holding-hooks *b'*, attached to the frame B, and are taken off by the carrying-hooks f^2, upon the inner side of the bar F, are carried up to and over the shaft C, and down upon the rear side of the said elevator, the hooks f^2 being now upon the outer side of the bar F. As the bar F reaches the lower floor, where the articles are to be left, the said articles are stopped by the inclined receiving-hooks *a'*, down which they slide to the floor or into a recess in the lower parts of the said in-

clined hooks a', whence they may be removed when convenient.

The inclined hooks a' are attached to the floor-timbers.

Articles may also be raised and lowered from floor to floor by hooks f^3, hung from the ends of the bars F, and upon which they are placed and from which they are removed, in the manner hereinbefore described.

The elevator may be operated by hand by means of a crank, O, or by power from a motor by means of a belt and pulleys, as may be desired or convenient.

With this construction articles are raised and lowered from floor to floor by the continuous forward movement of the elevator.

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

1. The endless belts E and hook-bars F, connected by eyes and pivots, and provided with hooks, in combination with the guard-bars G, as and for the purpose specified.

2. The combination of the guard-bars G with the cross-bars F and the frame B of the elevator, substantially as herein shown and described.

3. The combination of the slotted hanger H, the sliding bar I, and the weight and cord J K with the cross-bars F and the frame-work G of the elevator, substantially as herein shown and described.

LATHAM WILEY GREENLEAF.

Witnesses:
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