M. BRAGALDI.

ELEVATORS FOR BUILDINGS.

No. 186,455. Patented Jan. 23, 1877.

Fig. 1.

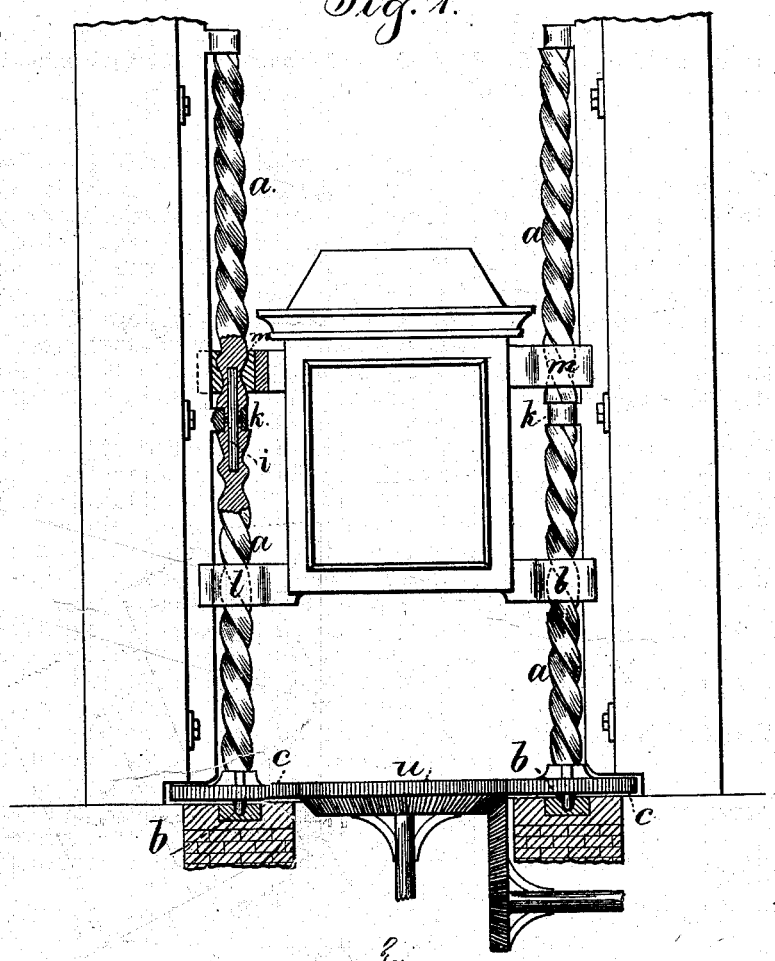
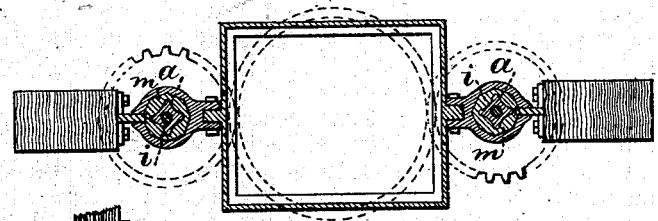


Fig. 2



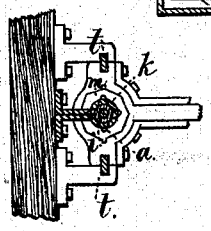


Fig. 3.

Witnesses
Chas. N. Smith
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UNITED STATES PATENT OFFICE.

MARIO BRAGALDI, OF NEW YORK, N. Y.

IMPROVEMENT IN ELEVATORS FOR BUILDINGS.

Specification forming part of Letters Patent No. **186,455**, dated January 23, 1877; application filed June 7, 1876.

To all whom it may concern:

Be it known that I, MARIO BRAGALDI, of the city and State of New York, have invented an Improvement in Elevators for Buildings, of which the following is a specification:

Elevators have been constructed with shafts containing screw-sections, and serving to elevate or lower a car; but, in consequence of the concussion of the screw-threads with the racks upon the car, an objectionable noise has been made.

I make use of a propeller with three or more threads made in sections, and in the end of one section is a coupling-bar, connecting with the next propeller-section, and at these points there are stationary supporting-bearings, and the propeller-sections do not rest at their ends one upon the other, but the weight and friction of each propeller-section rest upon its bottom bracket, and the propellers are geared together to revolve with uniformity.

I term my invention the "Archimedean Propeller Elevator."

In the drawing, Figure 1 is an elevation, partially in section, representing my improved elevator, and Fig. 2 is a sectional plan of the propellers and frame of the car or platform.

The propellers *a a* are of suitable size and length. Preferably they are made with four threads, and each propeller has a pivot, *b*, at the bottom, and also a gear-wheel, *c*, by means of which the propellers receive motion from the wheel *u*. Each propeller-section has a polygonal socket, receiving a polygonal coupling-bar, *i*, at the center of which is the round portion for the journal-box or bearing *k*, which is bolted to a frame, or to any suitable part of the building. The coupling-bar *i* serves to connect the propeller-sections *a* with each other, so that the said propellers may extend to any desired height; and I remark that the journals for the propellers in the boxes *k* may be a portion of the propeller-section turned cylindrically, and made hollow to receive the coupling-bar *i*, or they may be a separate piece. In all cases there is a space between one propeller-section and the next, and the weight and friction of each propeller-section rest upon the bracket at its lower end, thereby relieving the step at the bottom of the propeller-shaft from undue wear and friction.

The threads upon the surfaces of the vertical propeller-sections may be of any desired character. I have shown them of a curved sectional form, and they must extend entirely beyond the outside of the bearings *k*, so that the nuts will pass by those bearings freely.

The nuts *l l* are provided at the sides of the car or platform, and, where the improvement is used with a car, there is to be a second pair of nuts, *m*, toward the upper part of the car. These nuts *l* are not full and complete all around the propeller, but are open at one side, in order that they may pass freely by the bearings *k* as the car is moved up or down by the revolution of the propellers.

It will be apparent that the propellers will not require to be revolved rapidly, and that the movement of the car will be quiet and almost noiseless, because the four-threaded propeller is rapid in its operation.

There may be upright slides fixed to the building, parallel with the propellers, as at *t*, Fig. 3, so as to take the lateral strain off the propellers as much as possible.

My invention is applicable to propelling boats or cars up and down inclined planes; also, for raising a larger area of platform, by increasing the number of propellers, viz., one at each angle at its intersection. The weight will be properly distributed by reason of the bearings at different heights, as before stated.

I am aware that elevators for buildings have been actuated by single-threaded screws; but to obtain the required speed of movement the screw has to be driven so fast as to be very noisy and liable to heat. By my construction the propeller-shafts, having three or more threads, communicate an easy and rapid movement to the car with a comparatively slow speed of rotation, and cause an almost noiseless movement.

I claim as my invention—

1. The propeller-shafts *a*, having three or

more threads, and coupled together and supported, as shown, in combination with the open nuts *l* and car or platform, substantially as set forth.

2. The propeller-sections *a*, coupled together by the polygonal bars *i*, and sustained independently of each other by the bracket-bearings *k*, as set forth.

Signed by me this 3d day of June, A. D. 1876.

MARIO BRAGALDI.

Witnesses:
GEO. T. PINCKNEY,
CHAS. H. SMITH.