

No. 612,261.

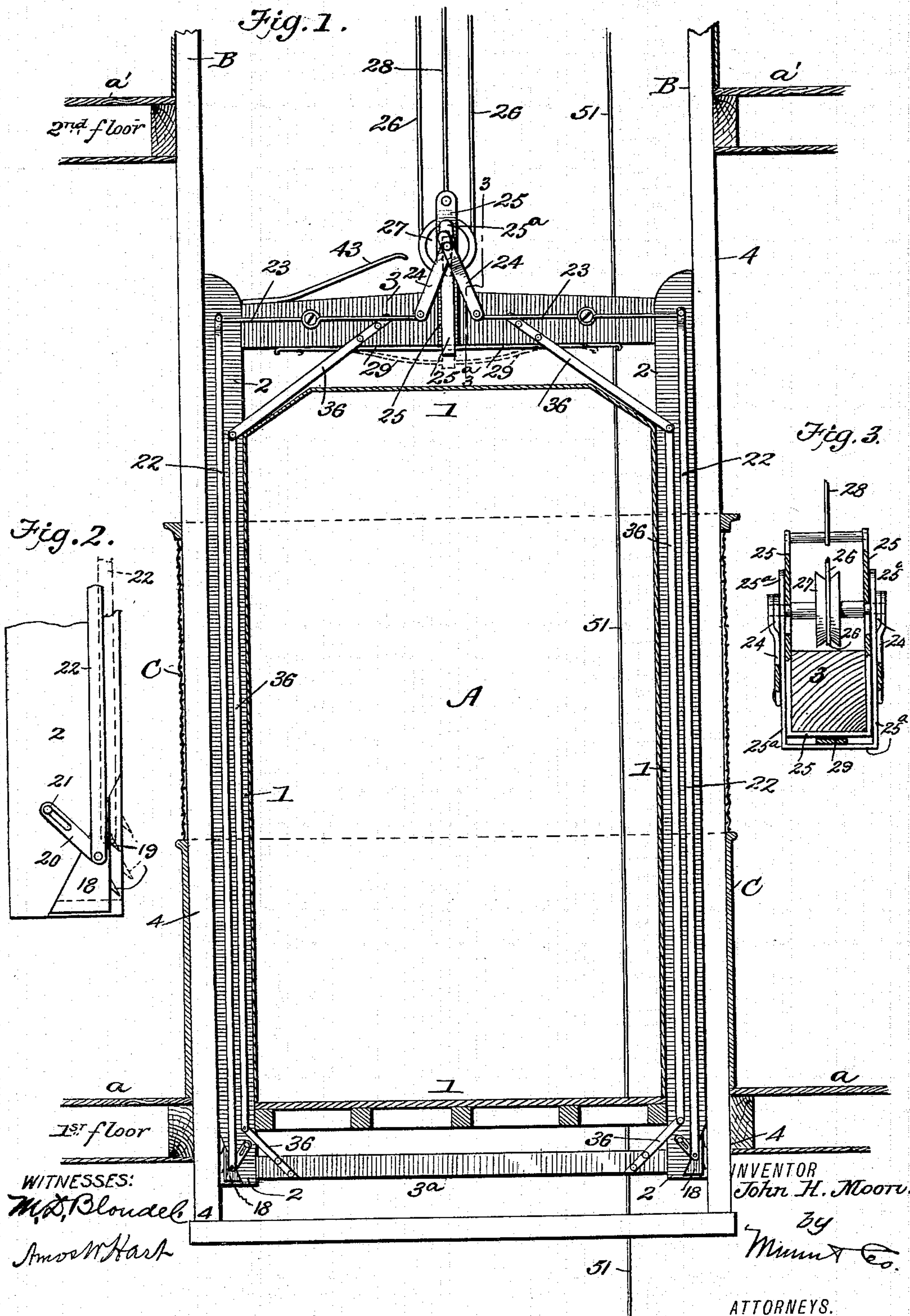
Patented Oct. 11, 1898.

J. H. MOON.

FREIGHT AND PASSENGER ELEVATOR.

(Application filed June 11, 1897.)

(No Model.)



UNITED STATES PATENT OFFICE.

JOHN H. MOON, OF PORTLAND, OREGON.

FREIGHT AND PASSENGER ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 612,261, dated October 11, 1898.

Application filed June 11, 1897. Serial No. 640,401. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. MOON, of Portland, in the county of Multnomah and State of Oregon, have invented a new and useful
5 Improvement in Freight and Passenger Elevators, of which the following is a specification.

My invention is an improvement in passenger and freight elevators having automatic
10 safety brake or stop mechanism for arresting the cage the instant the hoisting-cable breaks.

The invention is hereinafter described and the novel features specifically indicated.

In the accompanying drawings, Figure 1 is a
15 vertical section of the cage in connection with different floors of a building and a guard or inclosure fixed on the lower floor around the hatchway. Fig. 2 is a detail view hereinafter referred to. Fig. 3 is a detail section on line
20 3 3 of Fig. 1.

The body 1 of the cage A is supported and secured in an oblong rectangular frame composed of vertical bars 2 and shorter transverse top and bottom bars 3 and 3^a. This frame
25 is additionally braced by metal bars 36. The frame (1 and 2) surrounds or incloses the cage A at its middle vertically and slides on the central guide-beams 4 of the vertical elevator-frame B, which latter extends through
30 the hatchways of the several floors or stories *a a'* of the building. In this instance I show but two floors *a a'* in the drawings; but it is to be understood that the number is not restricted. On each floor is a wire-and-panel
35 inclosure C for the cage A, which is open on one side.

The cage A is open at the same side and on the corresponding side of the frame B. In practice I provide vertically-slidable gates
40 for the inclosure on each floor *a a'*.

The means for automatically braking and locking the cage A in case the hoisting-rope 26 breaks are as follows: As shown, triangular steel blocks 18 are arranged at the lower
45 truncated corners of the cage-frame (1 and 2) and provided with inclined teeth or prongs 19, which take into the frame-guides when the blocks are projected, as shown by dotted lines, Fig. 2, but are out of contact therewith when
50 the blocks 18 are retracted, as shown by full lines. The blocks 18 are connected with the cage-frame bars 1 and supported in due position by slotted links 20 and pins or screws

21, as shown. Vertical rods 22 are pivoted to the blocks 18 and to levers 23; Fig. 1, that
55 are pivoted horizontally on the upper cage-bar 3. The rope 28, which extends to a counterbalance, (not shown,) is attached to a clevis 25, which passes around the top cross-beam 3 of the cage. Another clevis 25^a embraces
60 clevis 25, and the latter has lengthwise slots in its parallel arms to receive the axle of a pulley 27 and allow a certain vertical play of the same. The hoisting-rope 26 passes around
65 said pulley 27, and the links 24 connect its axle with the inner ends of the spring-levers 23. A normally-curved plate-spring 29 passes between the bottom portions of the two
70 clevises 25 and 25^a and is held flat against the beam 3 when the cage is in normal operation by reason of the tension of the hoisting-rope 26 on the clevis 25^a. In case the said
75 rope should break the spring 29 will instantly draw the clevis 25^a down, as shown by dotted lines, which is permitted by the slot in clevis 25, and thus the axle of pulley 27 forces the
80 links 24 downward, and the latter, acting on levers 23, tilt the same, so that they draw the rods 22 upward, and thereby also draw up the toothed blocks 18, whose teeth, locking
85 with the ways 4, soon arrest the descent of the cage. The levers 23 are made elastic in order to break the otherwise too sudden shock of contact of the blocks 18 with the ways 4. To
90 lessen the shock of impact of the cage A at the limit of its up movement, it is provided with a curved plate-spring 43. 51 indicates
95 the ordinary pull cord or rope.

What I claim is—

The combination with one or more floors
100 having hatchways and guards or inclosures arranged around the latter, elevator guide-beams, and a cage adapted to slide on the latter, of the clevis embracing the top cage-bar, a spring arranged between the clevis and said
105 bar, a hoisting-rope and its pulley attached to said hanger, links pivoted on the pulley-axle which passes through the hanger, spring-levers connected with said links, and pendant rods and slidable blocks having projec-
110 tions for engaging the guide-frame, as shown and described.

JOHN H. MOON.

Witnesses:

DAN MARX,
JOHN F. CAPLES.