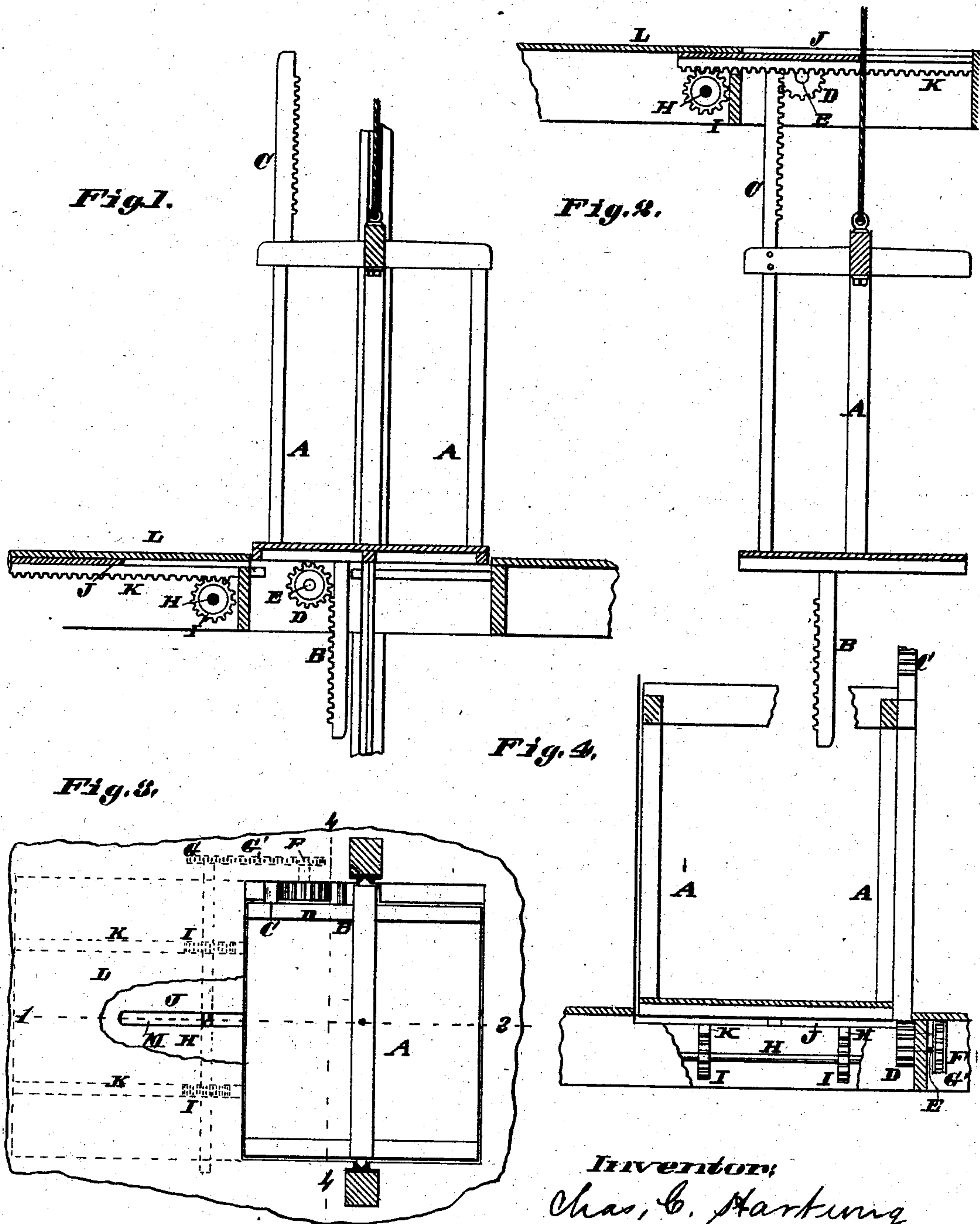


(No Model.)

C. C. HARTUNG.
SELF CLOSING HATCHWAY.

No. 290,048.

Patented Dec. 11, 1883.



Attest:
Wm. J. Danner
Wm. J. Fayard

Inventor:
Chas. C. Hartung
By *Knight Bros*
attys.

UNITED STATES PATENT OFFICE.

CHARLES C. HARTUNG, OF ST. LOUIS, MISSOURI.

SELF-CLOSING HATCHWAY.

SPECIFICATION forming part of Letters Patent No. 290,048, dated December 11, 1883.

Application filed April 3, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. HARTUNG, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful
5 Improvement in Self-Closing Hatchways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

10 Figures 1 and 2 are vertical sections taken on line 1 2, Fig. 3, showing the cage in different positions. Fig. 3 is a top view. Fig. 4 is a horizontal section taken on line 4 4, Fig. 3.

My invention relates to a self-closing hatch-
15 way wherein the doors are opened and closed horizontally by racks on the cage; and my invention consists in points of novelty herein-after fully described, and pointed out in the claim.

20 Referring to the drawings, A represents the elevator-cage, to the bottom of which is secured a downwardly-projecting rack, B, and to the top of which an upwardly-projecting rack, C, each provided with cogs, as shown.
25 These racks, as the elevator-cage ascends and descends, engage with and turn a cog-wheel, D, on a short horizontal shaft, E, journaled near or beneath each floor of the building.

On the other end of the shaft E is a chain-
30 wheel, F, connecting with a similar wheel, G, by a suitable belt, G', on the end of a horizontal shaft, H, journaled beneath the floor. On this shaft are two cog-wheels, I I, rigidly secured thereto.

35 J represents the door of the hatchway, beneath which are secured two cog-racks, K K, which engage with the wheels I I on the shaft H. The door preferably opens beneath a covering, L, as shown. It will thus be understood
40 that as the cage ascends the rack C will engage the cog-wheel D, and by turning it will

open the door, (through means of the connection described,) and then as the cage continues to ascend the rack B will engage with the cog-wheel D, and by turning it in the opposite direction (it engages with the other side 45 of the wheel from that C, as shown) closing the door. In like manner, when the cage descends, the rack B will open and the rack C close the door. If desired, the shaft H may 50 carry more or less wheels I than two, as stated, and the door be provided with a corresponding number of racks, K, and, if desired, the door may be made in two parts, each part being provided with racks to engage with the 55 wheels on the shaft H. The forward part of the door has a slot, M, to receive the hoisting-cable. The required movement of the door is obtained by the number of cogs on the racks B C. 60

My improved hatch-closer may be applied to shafts of "dumb-waiters," if desired.

Instead of the chain-wheels F and G, and a chain-belt, G', a plain belt and pulleys may be used. 65

I claim as my invention—

In a hatch-closer, the combination of a cage provided with a rack, B, depending from the bottom, and rack C, projecting upwardly from the top, short horizontal shaft E, carrying a 70 cog-wheel at one end, to be engaged by the racks on the cage, and a chain-wheel at the other end, horizontal shaft H, having cog-wheel I secured thereto, and carrying a chain-wheel, G, at one end, chain G', connecting the 75 chain-wheels, and door J, having a rack, H, traveling on the cog-wheel I, as set forth.

CHAS. C. HARTUNG.

Witnesses:

SAML. KNIGHT,
GEO. H. KNIGHT.