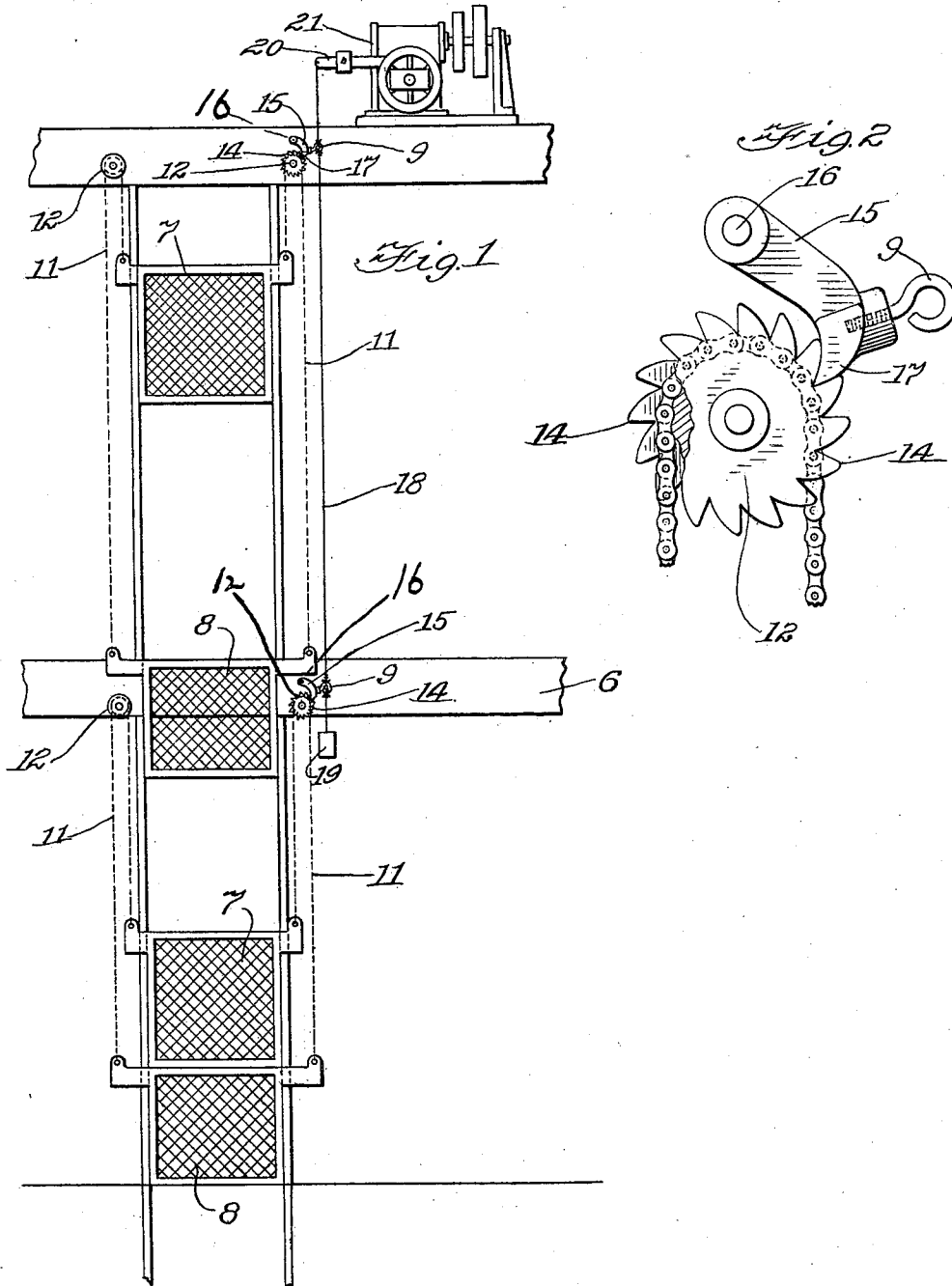


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ELEVATOR ATTACHMENT.
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992,438.

Patented May 16, 1911.



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UNITED STATES PATENT OFFICE.

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ELEVATOR ATTACHMENT.

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To all whom it may concern:

Be it known that I, CHRISTIAN NIELSEN, a citizen of the United States, residing in the city of Chicago, county of Cook, and State of Illinois, have invented a certain new and useful Improvement in Elevator Attachments, of which the following is a specification.

This invention relates to devices for the automatic closing of elevator gates. Its principal object is to provide simple and inexpensive means, applicable to all types of gates, for the automatic closing thereof as soon as the elevator machinery is set in motion, independent of any cams or other devices fastened to the car which are apt to work unsatisfactorily, especially in the cheaper grades of freight elevators, by reason of warping or tipping of the car by one-sided loading, etc. I attain this object by the means shown in the drawings, in which—

Figure 1 represents a diagrammatic elevation of the floors of a building, showing door closing apparatus embodying my invention as applied to what are known as "Meaker" elevator-gates; Fig. 2 is an enlarged detail elevation of the locking and releasing mechanism, with invisible portions shown in outline.

Referring to the drawings, 5 and 6 designate different floors of the building; 7 the upper and heavier, and 8 the lower and lighter members, respectively, of two Meaker elevator-gates, placed at said floors; 11 chains connecting such upper and lower members; 12 flanged pulleys over which chains 11 run; 14 ratchet teeth on the flanges of two of pulleys 12; and 15 dogs pivoted on pins 16, and adapted to engage with their claws 17 ratchet teeth 14 and the links of chains 11 which run over such of pulleys 12 as are provided with teeth 14.

18 designates a thin cable carrying at its lower end weight 19, and having its upper end connected to brake lever 20 of an overhead elevator machine 21 which runs the elevator passing said gates. Dogs 15 are connected with cable 18 by eyebolts 9 in such a way that whenever weight 19 is raised, claws 17 will be disengaged from teeth 14. Where there is no brake lever, or for any reason it is inconvenient to attach cable 18 to the brake lever, cable 18 may be attached to a special lever worked by the operating device for the elevator-machinery

and designed so as to raise weight 19 whenever, and as long as, the elevator machinery is running in either direction. It is not necessary that this lever should move upward in all cases when the machinery starts running. It may move downward, or sidewise; or in place of the lever an eccentric or other substitute may be used, adapted to exert a limited pull on cable 18 whenever the machinery starts, and maintaining such pull while the machinery is running. By means of running cable 18 over properly set pulleys this pull, no matter in which direction exerted, can readily be made to lift weight 19. The mechanical means for effecting such purposes are numerous and well known, vary with conditions, and need not be described in detail. Thus likewise it is apparent that it is not necessary to have elevator-machine 21 located above eyebolts 9. Where the elevator-machine is located under one of the lower ceilings, or on one of the lower floors, the upper end of cable 18 can readily be run over a suitable pulley located above the highest of eyebolts 9, and thence down to, and under another pulley, and up to the brake lever of the elevator-machine thus located, as will be readily understood.

The operation of my device is as follows:—When one of members 7 is raised, the corresponding member 8 by its own gravity is lowered, and the gate is opened. The car being at rest, brake lever 20 is down, dogs 15 are down, and their claws are in engagement with ratchet-teeth 14 and the links of contiguous chains 11, thereby preventing raised member 7 from going down. As soon however as the machinery is started in either direction, lever 20 is raised, thereby raising weight 19 and also lifting dogs 15 out of engagement with teeth 14 and contiguous chains 11, and raised member 7 is left free to go down by its own weight, and in going down also to pull up corresponding member 8, by reason of the superior weight of member 7.

Concerning elevator gates of other constructions than those shown in the drawings, it is readily apparent that they all can readily be provided with a weight or a spring and chain, such as shown in United States Patent #561,232, for closing them, and that the chain connecting such weight or spring with the door can readily be arranged to run over a flanged pulley con-

structed with ratchet-teeth, like pulleys 12, and controlled by a stopping and releasing apparatus such as hereinbefore explained.

I wish to point out that my automatic elevator gate closing device is differentiated from other devices serving the same purpose by the absence of all special connections between the car and the closing device:—the release being effected without any other means than those used to set the elevator-machine in motion.

I claim—

1. In elevator-attachments the combination with an elevator, machinery operating said elevator, and a gate designed to be automatically closed, of a ratchet wheel controlling the closing of the gate; a check adapted to engage said ratchet wheel; a lever connected with the machinery operating the ele-

vator, designed to occupy different positions when the machinery is standing still and when it is in motion; and a cable connecting said lever with said check, substantially as and for the purpose described.

2. In elevator-attachments, the combination, with a gate designed to be automatically closed, of a check holding said gate in open position; a hoisting engine; a lever, on said hoisting engine, designed to occupy different positions when said engine is standing still and when it is in motion; and means connecting said lever with said check, for the purpose described.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
