

No. 678,050.

Patented July 9, 1901.

W. C. SMITH.
LOCK FOR ELEVATOR GATES.

(Application filed May 25, 1900.)

(No Model.)

Fig. 1

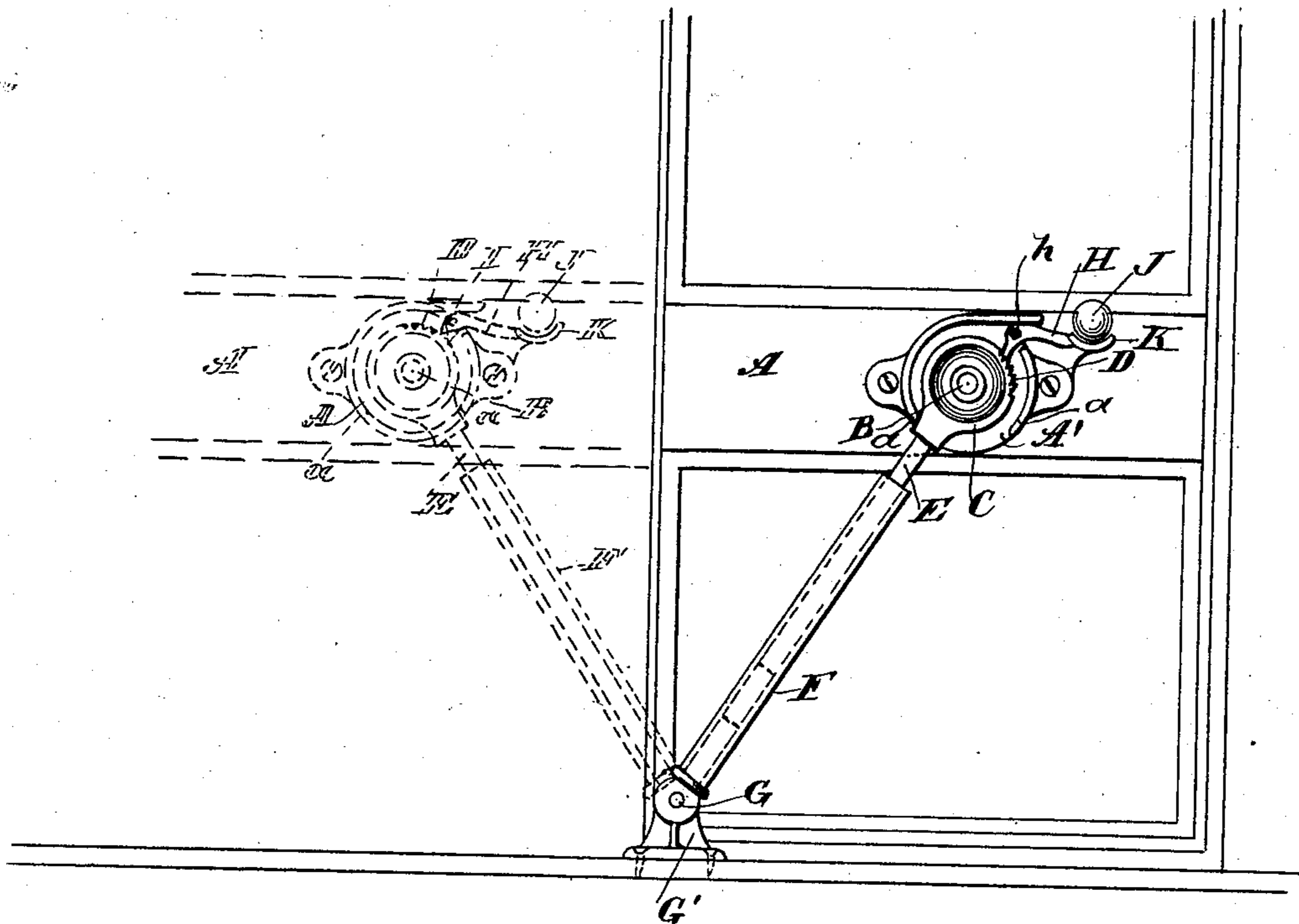
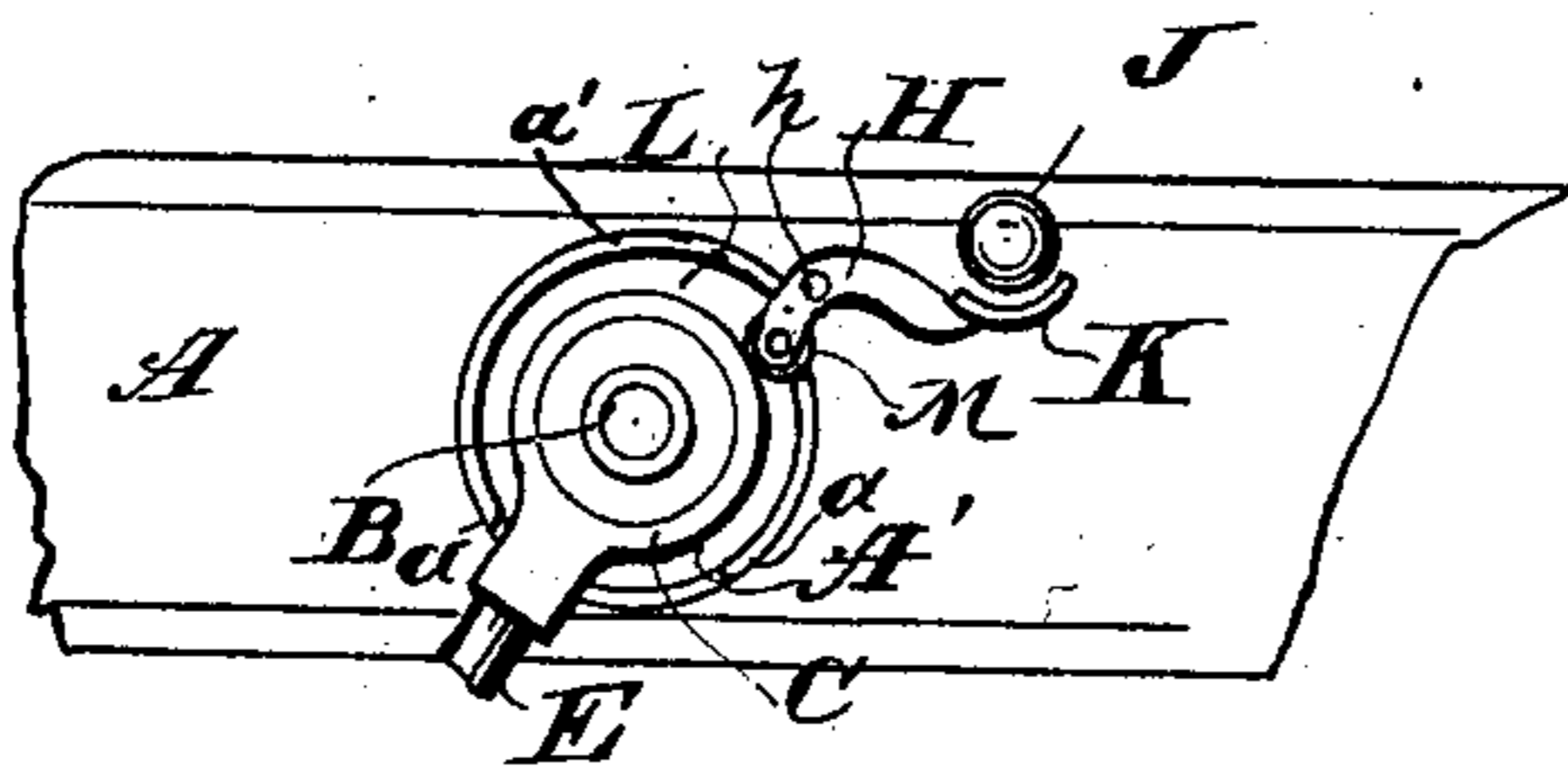


Fig. 2



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UNITED STATES PATENT OFFICE.

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LOCK FOR ELEVATOR-GATES.

SPECIFICATION forming part of Letters Patent No. 678,050, dated July 9, 1901.

Application filed May 25, 1900. Serial No. 17,935. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. SMITH, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Safety-Locks for Elevator-Gates, of which I hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in safety locking devices for elevator-gates; and it consists in the device hereinafter described, shown in the accompanying drawings, and specifically pointed out in the claims.

In the drawings, Figure 1 is a side view of the device, and Fig. 2 is a similar view of an equivalent form of latch.

In the drawings the solid lines show the lock in the position when the gate is closed and locked, and the dotted lines show the gate open and unlocked.

In the drawings, A is the gate. A' is a metal disk attached thereto by screws. B is a pin projecting therefrom, upon which is pivoted the disk C, which is provided with a limited number of ratchet-teeth D upon one-quarter of its periphery. This disk is provided with the rod or arm E, inserted within the sleeve F to make it extensible, which is pivotally secured to a standard G' by means of a pin G.

H is a pawl pivoted to the stationary disk A' at h and adapted to engage the ratchet-teeth D automatically wherever it is adjacent thereto by the action of the weighted extremity K and prevent opening the door.

Stops a a upon the stationary disk prevent the movement of the gate beyond the desired limits.

It will be seen that in the dotted figure the pawl is quite clear of the ratchet-teeth and the gate is unlocked, since it is not necessary to lock it in the open position, because the elevator operator would not be likely to leave it so far open; but when nearly shut or only a foot or so open it is necessary to lock it, since the opening might escape the attention of the operator, so a few ratchet-teeth will suffice to hold the door at slight intervals when only partially open.

In use the operator raises the latch K against the handle J, and thus releasing the pawl from the teeth pushes back the door.

In Fig. 2, I show an equivalent form of

latch, where a roller M is substituted for the point of the pawl, and the roller enters the narrowing space L, between the disk and the eccentric ridge a, thus wedging the roller tightly wherever placed.

I believe this device to be extremely simple, noiseless, and efficient for the purpose.

The exact construction of rod and sleeve shown is not essential to my invention, since any form of extensible connection between the disk and floor which will turn the disk as the gate moves and have pivotal connection with the floor will be within the spirit of this invention.

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

1. In a safety-lock for an elevator-door a face-plate, mounted upon the elevator, a disk pivotally secured thereto, an extensible connection between said disk and floor pivotally attached to the floor, and means for retaining the gate where placed consisting of a gravity-operated pawl pivoted upon the face-plate and adapted to engage the periphery of the disk, substantially as described.

2. In a safety-lock for an elevator-gate the combination with a disk provided with ratchet-teeth on its periphery, and pivotally attached to a face-plate upon the gate of an extensible connection comprising an arm and sleeve pivoted to a standard upon the floor, and means for retaining the gate where placed consisting of a gravity-operated pawl upon the face-plate adapted to engage said teeth, substantially as described.

3. The combination with a gate and floor in front thereof, of a plate upon the gate, a gravity-dog pivoted on said plate, a disk pivoted on said plate provided with ratchet-teeth arranged to be engaged by said dog, and an extensible device connecting the disk and floor, constructed and arranged to rotate the disk as the gate moves to right or left, and having pivotal connection with the floor, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM C. SMITH.

Witnesses:

C. H. OLDS,

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