No. 641,357. Patented Jan. 16, 1900.

E. E. ANGELL.

FOLDING HATCH ATTACHMENT.

(Application filed May 26, 1899.)

(No Model.)

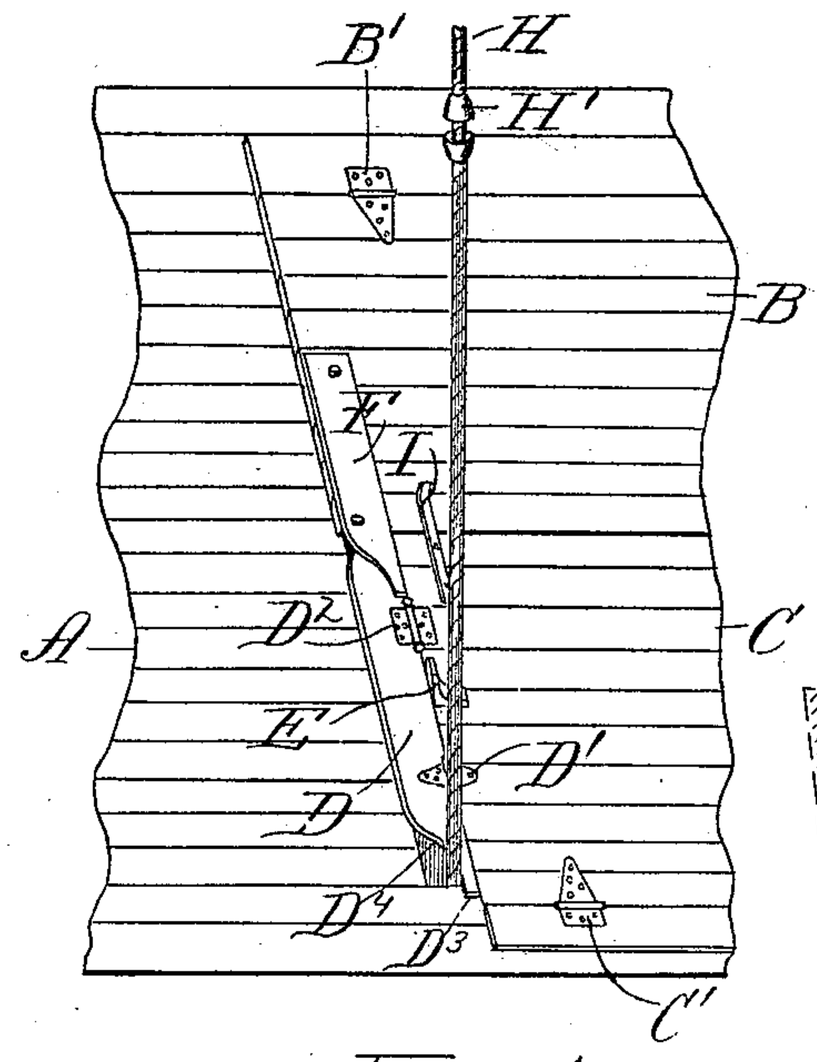

FIG. 1.

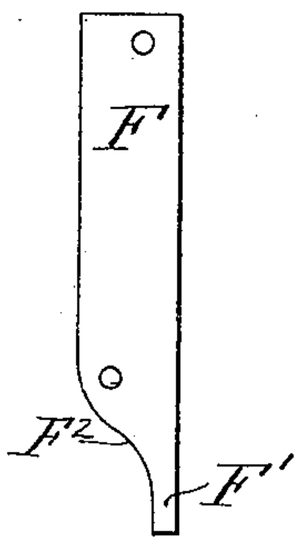

FIG. 3.

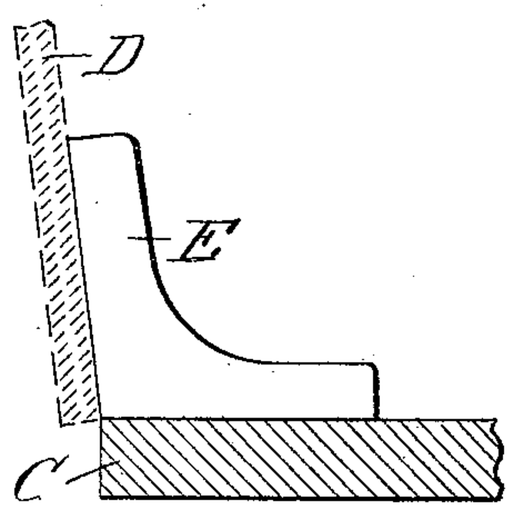

FIG. 5

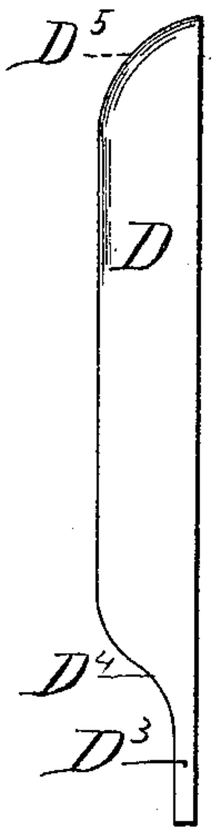

FIG. 4.

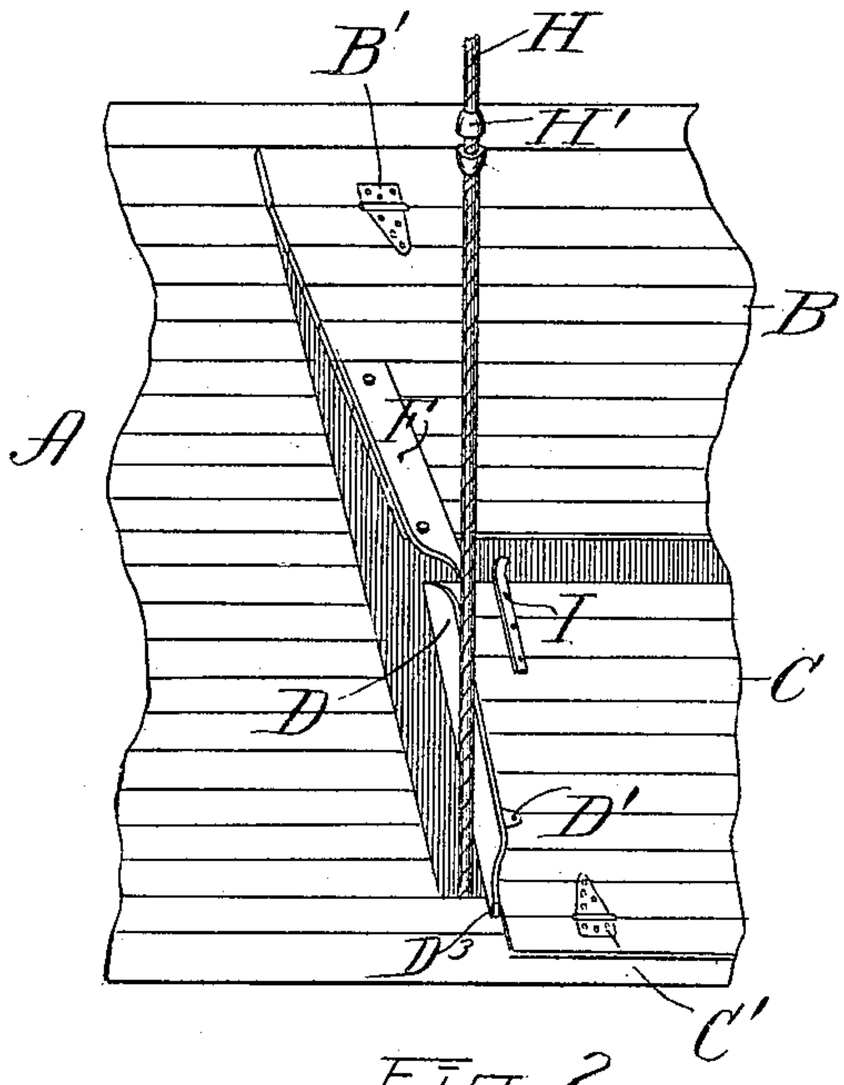

FIG. 2.

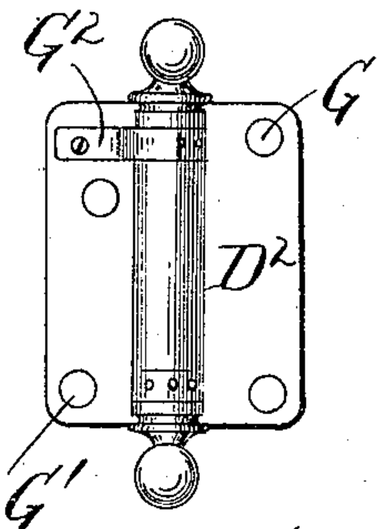

FIG. 6.

WITNESSES—
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INVENTOR—
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Atty

UNITED STATES PATENT OFFICE.

EDWIN E. ANGELL, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR TO THE ANGELL ELEVATOR LOCK COMPANY, OF SACO, MAINE.

FOLDING-HATCH ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 641,357, dated January 16, 1900.

Application filed May 26, 1899. Serial No. 718,315. (No model.)

To all whom it may concern:

Be it known that I, EDWIN E. ANGELL, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Folding-Hatch Attachments, of which the following is a specification.

My invention relates to new and useful improvements in folding-hatch attachments.

The main object of my invention is to provide a construction whereby the shipper-cable controlling the elevator is brought into the well for the purpose of attaching the elevator-lock for controlling the car, which lock is shown, described, and claimed in an application filed by me simultaneously herewith.

In elevator-hatchways in common use there is difficulty in reaching the shipper-cable to stop the elevator when the car is approaching a floor, because the cable is out beyond the car and runs through holes in the floors, and it would be dangerous for an attendant to attempt to take hold of the shipper-cable when in close proximity to a floor when the car is ascending, and, further, when the hatch is raised it is impossible for the operator to reach the shipper-cable above the hatch. By my arrangement the controlling shipper-cable runs in the well within convenient reach of the attendant on the elevator, which practically makes it the same as an open-well elevator and allows the elevator to be stopped at any point without danger to the attendant.

My invention consists of certain novel features hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate a construction embodying my invention, Figure 1 is a perspective plan view of the elevator-hatch in its closed position. Fig. 2 is a perspective plan view showing the hatches beginning to open. Fig. 3 is a plan view of the closer secured to one of the hatches. Fig. 4 is a plan view of the hatch-flap, which is hinged to the other hatch. Fig. 5 is a detail view of the stop against which the flap strikes when turned upwardly. Fig. 6 is a plan view of the spring-hinge used for connecting the flap to one of the hatches.

Like letters of reference refer to like parts throughout the several views.

A represents the floor of a building, and B and C represent, respectively, two opposite hatches of an elevator-hatchway, which are respectively hinged by the usual hinges B′ and C′ to the floor A. One hatch C is cut away at one end about six inches, and in said space is located the hatch-flap D, which is hinged to the hatch C by a common hinge D′ and a spring-hinge D^2, which raises the flap D when the hatch is open. The flap D is provided with a finger D^3, which extends to the edge of the hatch and is cut away, as shown at D^4, to allow for the location of the shipper-cable H, which is provided with the usual buttons H′. On one end of the hatch B, opposite the flap D, is secured the flap-closer F, having a finger F′, which extends over the flap D and holds it down when the hatchway is closed.

The hatch-iron I provides a rigid support for the hatch C and extends over and rests on the hatch B, which in turn rests on the floor A, and by means of this arrangement makes a solid floor. Without this hatch-iron I the hatch C, if stepped on, would swing into the well.

The spring-hinge D^2 is secured to the hatch C by suitable screws passing through the holes G, and is secured to the hatch D by suitable screws passing through the holes G′. The spring G^2 tends to raise that part of the hinge which is secured to the flap D, and consequently the flap D normally tends to raise and hold its upper position, Fig. 5; but when the hatchway is closed it is held down by the flap-closer F.

The operation is as follows: Assuming the parts to be in the position shown in Fig. 1, as the hatch swings open the flap-closer F of the hatch B moves away from the flap D, secured to the hatch C, and the spring-hinge D^2 opens and raises the flap D upward to the fixed stop E. (See Fig. 5.) This allows the hatch C to be swung open, clearing the controlling shipper-cable H, and after the car has passed the hatch said hatch C is adjusted to close slightly ahead of the hatch B, and as the closer F projects over the flap D the rounded

edge F^2 of the closer F strikes the rounded edge D^5 of the flap D and moves said flap downwardly to the position shown in Fig. 1, with the finger F extending over and resting on said flap, so that the weight of the hatch B holds the flap and closes the opening between the hatch C and the floor A, thus preventing any draft through the well, practically making a solid hatch. The forward end of the hatch-iron I is curved upwardly, so that it allows the hatch C to move slightly ahead in closing, and extends over and rests on the hatch B when the hatch is closed. The stop E is made at a slight angle, so that the flap D does not stop in a vertical position when raised. By reason of the incline, as shown in Fig. 5, the rounded edge F^2 immediately acts on the rounded edge D^5 and causes the flap D to move downwardly into its closed position. If the flap D were vertical, the closer F would rest on the flap D and not be closed by it and would also hold the hatch B open.

I do not limit myself to the arrangement and construction shown, as the same may be varied without departing from the spirit of my invention.

Having thus ascertained the nature of my invention and set forth a construction embodying my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a folding-hatch attachment, a hatch, a flap hinged to said hatch, a spring acting on said flap and tending to hold the same in a raised position, and means adapted to contact with said flap and hold the same down when the hatch is in its closed position.

2. In a folding-hatch attachment, two opposite hatches, a flap hinged to one of said hatches, means acting on said flap and tending to hold the same in a raised position, and means on the other hatch adapted to contact with said flap and hold the same down when the hatches are closed.

3. In a folding-hatch attachment, two opposite hatches, a flap hinged to one of said hatches, a spring acting on said flap and tending to hold the same in a raised position, and means on the other hatch adapted to contact with said flap and hold the same down when the hatches are closed.

4. In a folding-hatch attachment, two opposite hatches, a flap hinged to one of said hatches and cut away at one end to allow the movement of the shipper-cable and rounded at the opposite end, a spring acting on said flap and tending to hold the same in a raised position, a flap-closer secured to the other hatch and having a rounded edge adapted to engage with the rounded edge of the flap and to move said flap downwardly as the hatches close.

5. In a folding-hatch attachment, two opposite hatches, a flap hinged to one of said hatches and cut away at one end to allow the movement of the shipper-cable and rounded at the opposite end, a spring acting on said flap and tending to hold the same in a raised position, a flap-closer secured to the other hatch and having a rounded edge adapted to engage with the rounded edge of the flap and to move said flap downwardly as the hatches close, and a hatch-iron secured to the hatch to which is hinged the flap adapted to rest upon the opposite hatch.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 18th day of May, A. D. 1899.

EDWIN E. ANGELL.

Witnesses:
A. L. MESSER,
C. A. STEWART.