

(No Model.)

N. H. RICHARDSON.
DEVICE FOR CLOSING DOORS.

No. 316,571.

Patented Apr. 28, 1885.

Fig. 1.

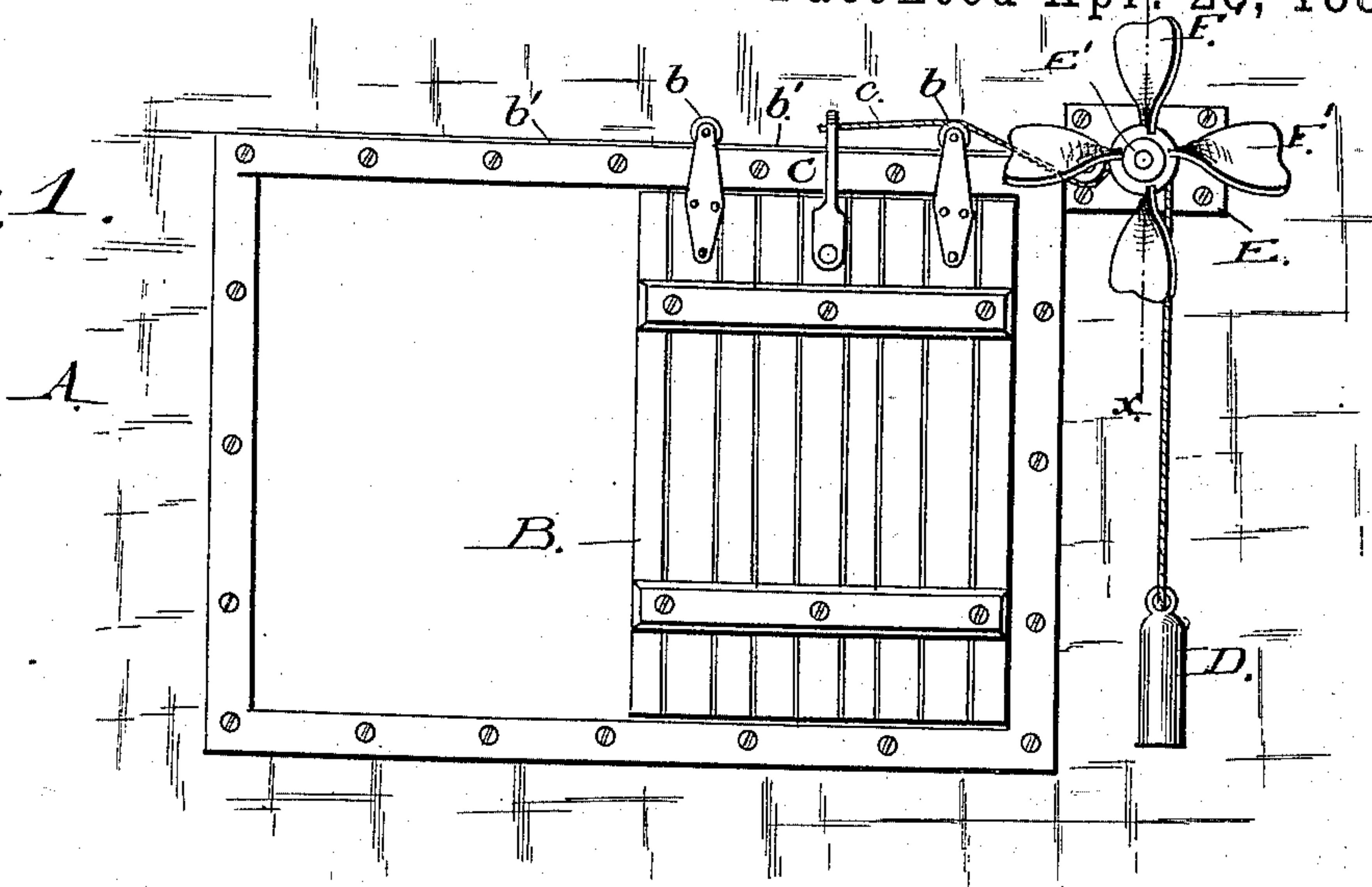


Fig. 2.

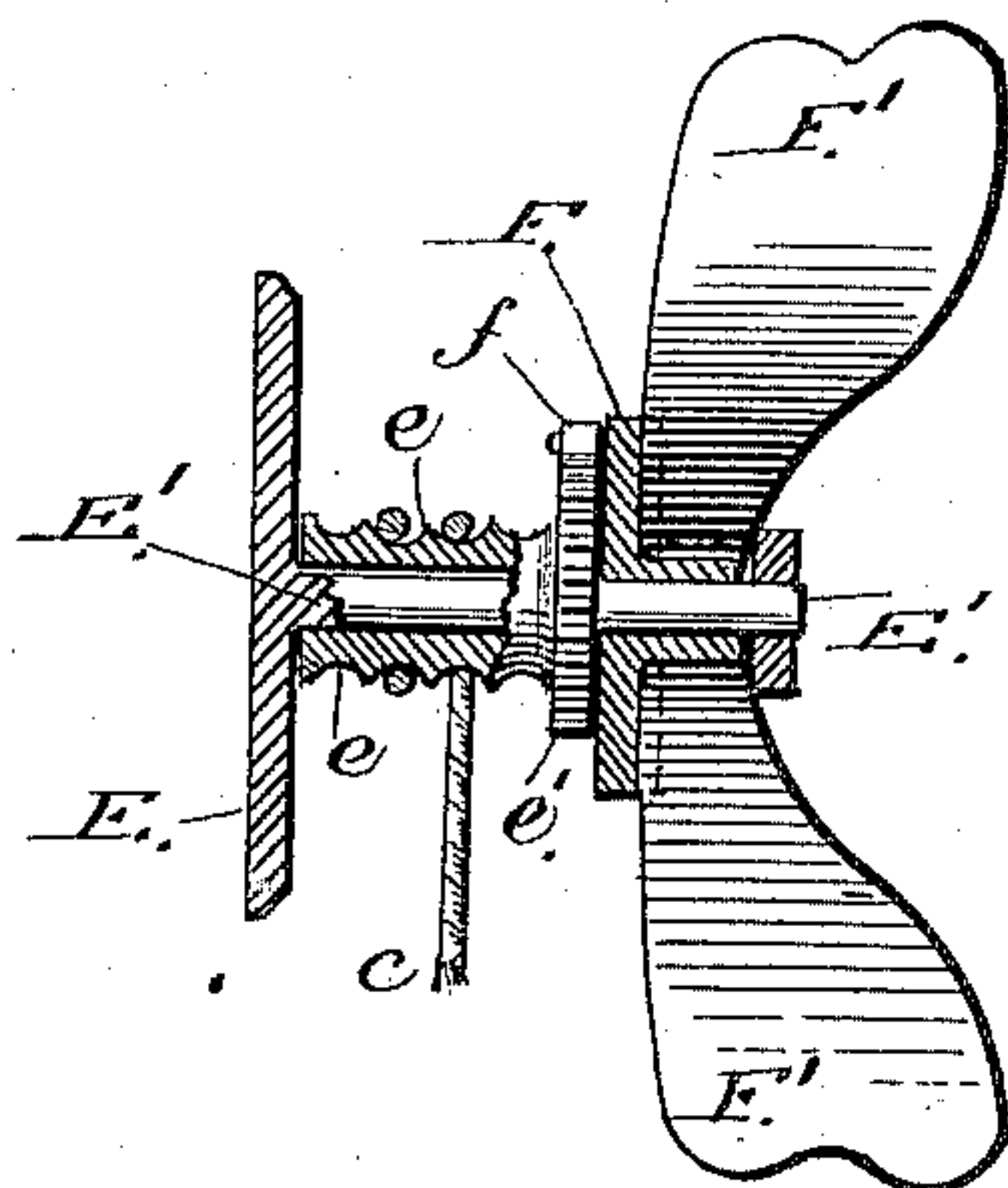


Fig. 3.

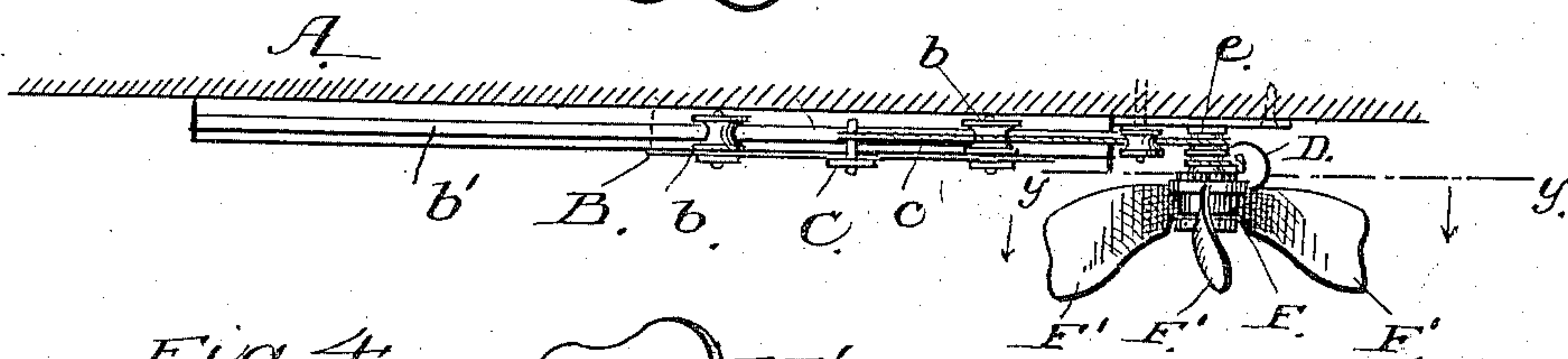
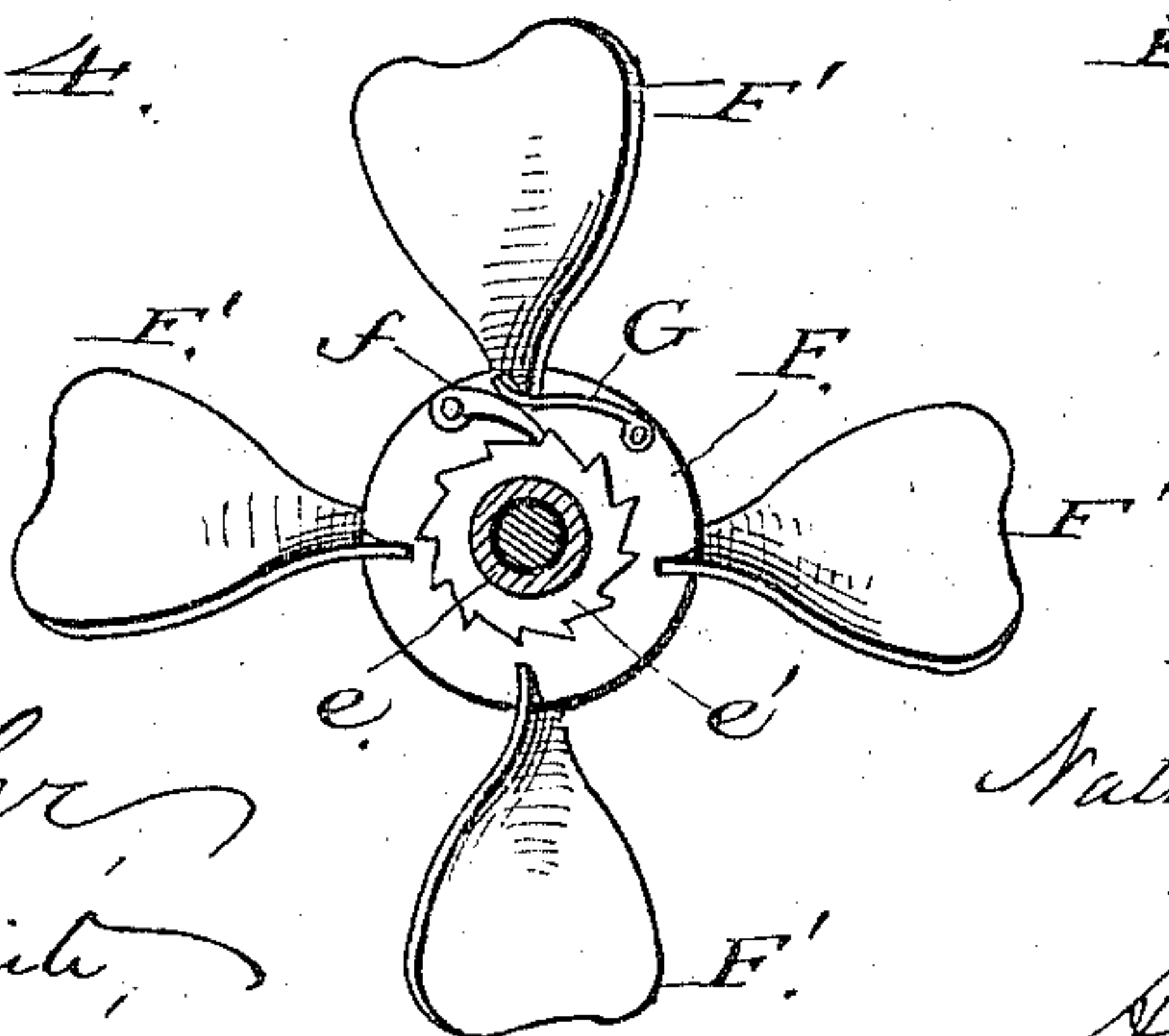


Fig. 4.



Attest:

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DEVICE FOR CLOSING DOORS.

SPECIFICATION forming part of Letters Patent No. 316,571, dated April 28, 1885.

Application filed February 4, 1885. (No model.)

To all whom it may concern:

Be it known that I, NATHAN H. RICHARDSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Devices for Closing Doors, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a sliding door with my improvements attached. Fig. 2 is a section on line *x x* of Fig. 1. Fig. 3 is a top or plan view. Fig. 4 is a section on the line *y y* of Fig. 3.

My invention relates to devices for preventing doors from slamming when being closed; and it consists in the combination of devices hereinafter described, and specifically set forth in the claims.

To enable others skilled in the art to make and use my invention, I will now proceed to describe the exact manner in which I have carried it out.

In the drawings, A represents the wall, and B a door constructed with grooved friction-rollers *b* to run on the guide-rail *b'* while the door is being opened or closed. Between the rollers I secure an arm, C, to which is attached the cord *c*, the said cord having on its free end the ordinary weight, D, which furnishes the power for closing the door in the usual way after it has been opened. To the side of the wall I secure a plate, E, to which is attached a shaft, E', projecting from the plate sufficiently far to receive the grooved pulley *e*, to which is rigidly attached a ratchet-wheel, *e'*. This pulley and ratchet move freely on the shaft E', and are revolved by means of the cord *c* passing around the pulley and moving as the door opens and closes. Outside of the ratchet is also fitted the flanged hub F, pro-

vided with the wings F' and with a latch or pawl, *f*, on the inside of the flange, the said latch being held to the ratchet by means of the spring G, thus forming a clutch mechanism by which the hub F and wings F' are rotated when the ratchet is moved to the right as the door closes; but when the door is being opened, the clutch ceases to act and the wings remain stationary.

It is evident from this description of my device that when the door B is being closed by means of the cord *c* and weight D, the wings F will be put in motion, and by their contact with the air will cause the weight to descend uniformly its whole distance, and thus avoid a too sudden slam or jar of the door. Whatever force is given the wings, which depends upon the size of the weight used, is spent on the air, and the wings remain motionless until the door has been again opened and is in the act of being closed.

While I have shown my device in connection with a sliding door, it is evidently applicable to doors swung on hinges.

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

1. In a door-closer, the flanged hub F, provided with the revolving wings F', and combined with suitable machinery, operated by the door, for revolving the same, whereby a door is prevented from slamming, substantially as herein described.

2. In combination with a door, the plate E, shaft E', the pulley *e*, ratchet *e'*, flanged hub F, provided with the wings F', pawl *f*, and spring G, all constructed to operate substantially as and for the purpose herein described.

NATHAN H. RICHARDSON.

Witnesses:

MARK W. RICHARDSON,
L. M. BARBER.