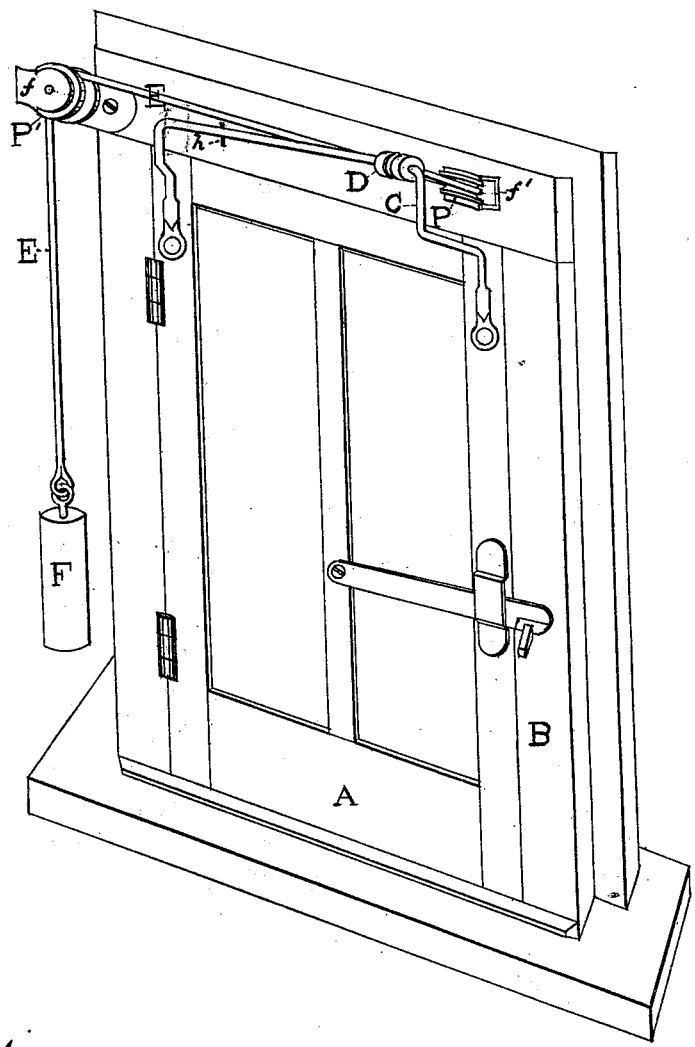


I. S. DOTEN.
DEVICE FOR CLOSING DOORS.

No. 188,728.

Patented March 27, 1877.



Witnessed
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UNITED STATES PATENT OFFICE.

IRA. S. DOTEN, OF BRISTOL, ILLINOIS.

IMPROVEMENT IN DEVICES FOR CLOSING DOORS.

Specification forming part of Letters Patent No. **188,728**, dated March 27, 1877; application filed December 12, 1876.

To all whom it may concern:

Be it known that I, IRA S. DOTEN, of Bristol, Keudall county, Illinois, have invented certain Improvements in Devices for Closing Doors, of which the following is a specification:

This invention consists of an improved method of closing doors, the object of which is to so apply the power, that when the door is closed the power for holding it is greatest, and when the door is wide open, or nearly so, the power for closing it is least; hence when the door commences to close it will begin slowly and will move with an accelerated motion. The invention consists in a novel arrangement of bent rod, movable sleeve, cord, and weight, by means of which the door is closed, and which will also hold the door wide open, if desired; there being also a suitable adjusting-pin, all as hereinafter more fully described and definitely claimed.

In the drawing accompanying this specification, and forming a part thereof, A represents the door, and B the frame of the same. C is a rod bent in a peculiar manner, and attached firmly to the door. D is a movable sleeve, which slides on the rod C. E is a cord attached at one end to the movable sleeve D. This cord runs around a horizontal pulley, P, and over a vertical pulley, P', and has a weight, F, attached to the other end. The pulleys are mounted in frames *f f'*, which are fastened to the door-frame or other suitable part of the wall of the room. *h* is an adjusting-pin in the rod C. The bent rod C is fastened to the door near its top. This rod is bent somewhat in the form of a wide "staple," with a loop having nearly right angles, and of a width of loop corresponding to the width of the door, or a little less. On the leg of the bent rod nearest the hinge is made a small offset of, say, about one inch, which will bring the upper part of the rod at that point away from the door the distance corresponding with the offset. On the other leg of the rod is an offset corresponding with the other in distance from the end of the rod, but this offset is much greater, say from six to ten inches, which will carry the upper part of the rod, at that point, a correspondingly greater distance from the door than the other, so that the horizontal part of the rod will stand at an inclination of several degrees to the plane of the side or face of the door, and having the part nearest the door, on the side

that the hinges are on. The loop of the rod or horizontal part of the same projects a short distance above the top of the door, and is made as straight as practicable, for the purpose of allowing the movable sleeve D to slide easily upon it when the door is opened or shut, and the projection of the rod above the door is for the purpose of allowing the cord E, which is attached to the movable sleeve, to travel with the same, and clear the top edge of the door. The object of having the bent rod C made with a small offset on the part near the hinge is that the door may open to the widest extent practicable, without having the rod strike the door-frame, and the object of having the greater offset in the other leg of the rod is that there may be room, when the door is closed, between the rod and pulley P, so that the weight and cord may operate properly. Another reason for having a small offset on the rod near the hinge is that the point of attachment of the cord to the door, through the medium of the movable sleeve and rod, may, when the door is wide open, be as near the hinge as necessary for holding the door open, when required. The adjusting-pin *h* is for the purpose of preventing the movable sleeve D from sliding too far on the rod when it is not wanted that the door should be left wide open. This adjusting-pin is movable, and several holes for it may be made in the rod at different points along the same, if desired.

Among the advantages which this device has over springs and the like is, that the least part of the power is applied to start to close the door, and the greatest amount of power is applied to hold the door tightly closed, while with springs as usually arranged the reverse is the case.

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

1. The bent rod C, in combination with the movable sleeve D, cord E, pulleys P P', and weight F, when arranged, constructed, and operating for the purpose, and substantially in the manner hereinbefore specified.

2. The adjusting-pin *h*, in combination with the bent rod C, and movable sleeve D, substantially in the manner described and shown, for the purpose specified.

Witnesses: IRA S. DOTEN.

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