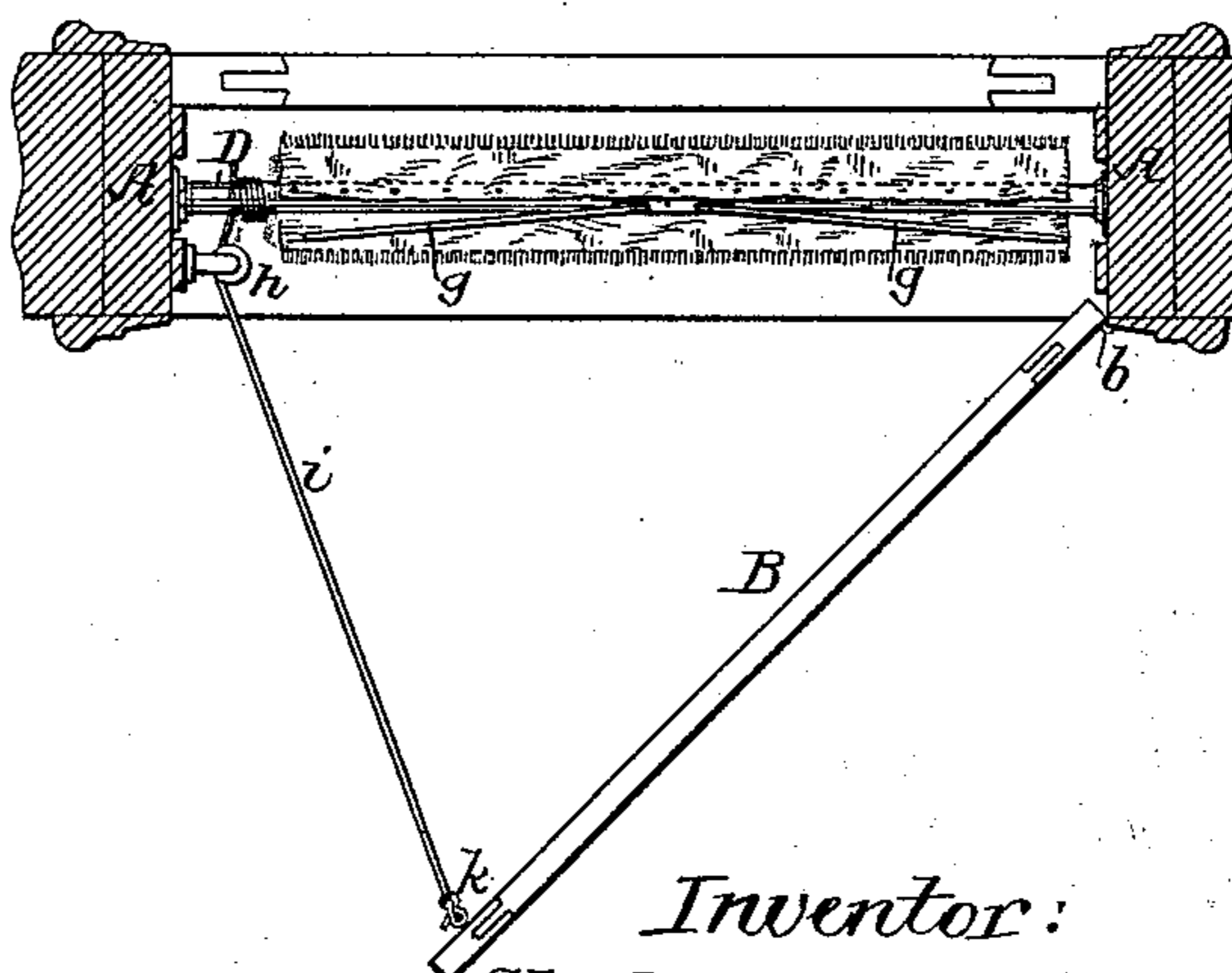
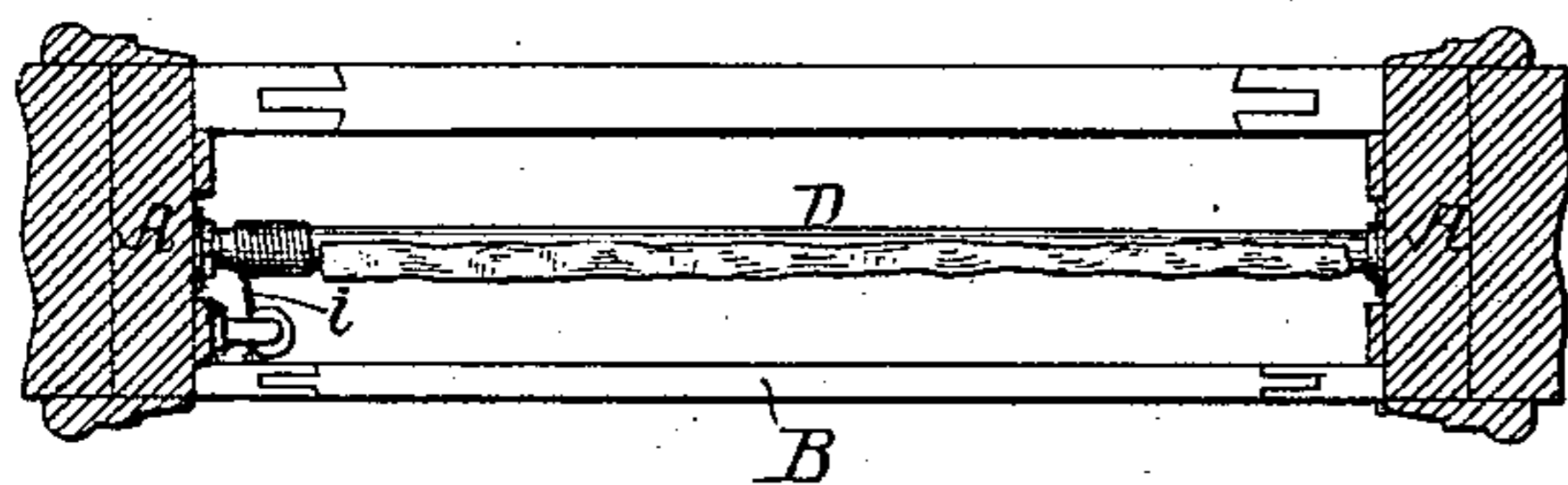


2 Sheets—Sheet 1.

No. 464,333.

Patented Dec. 1, 1891.



Witnesses:
Murray Boyer
Fred W. Goodwin

Inventor:
Stephen H. Rapp
by his Attorneys
Howen & Howen

(No Model.)

2 Sheets—Sheet 2.

S. H. RAPP.
FAN ATTACHMENT FOR DOORWAYS.

No. 464,333.

Patented Dec. 1, 1891.

FIG. 6.

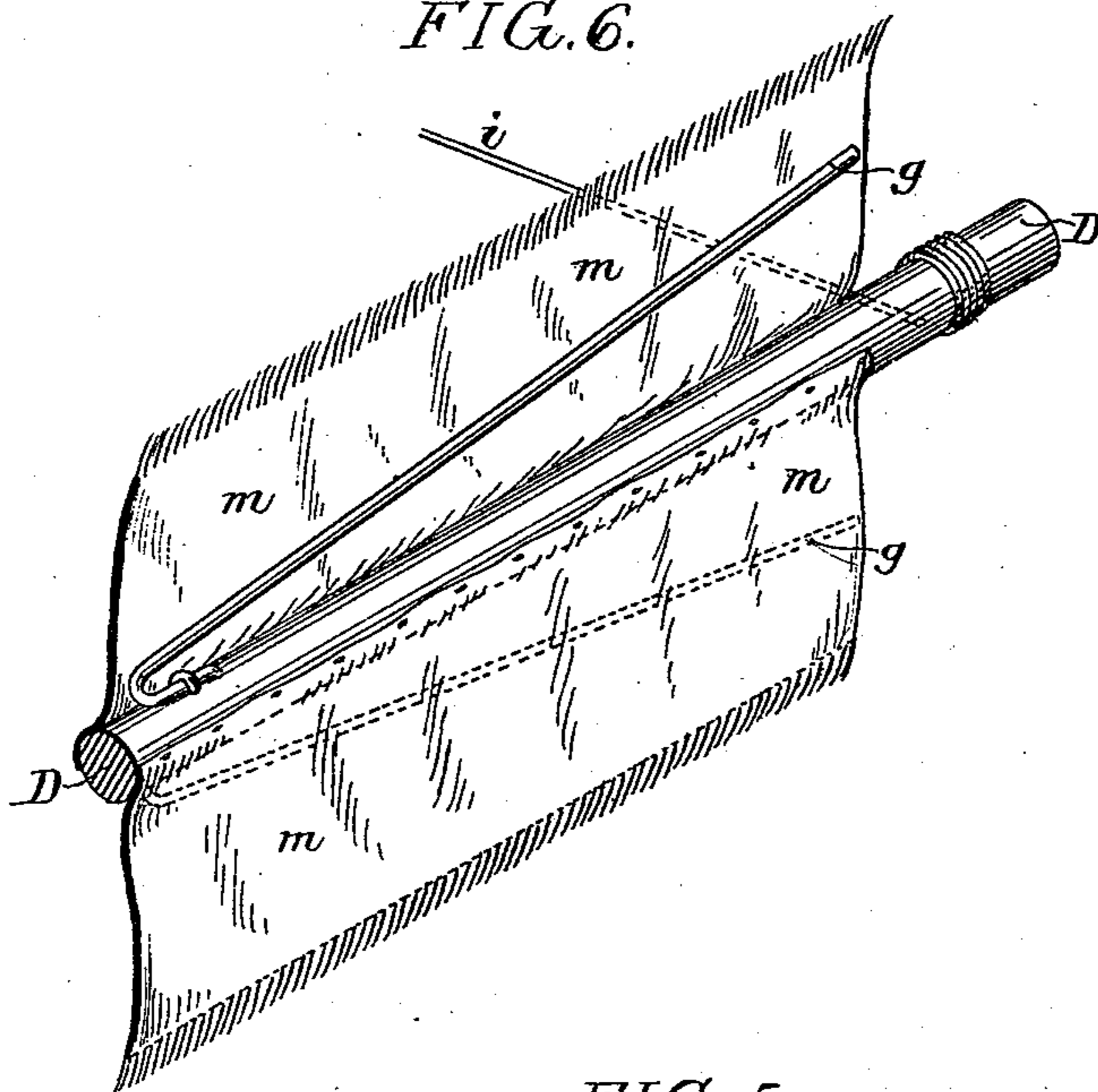


FIG. 5.

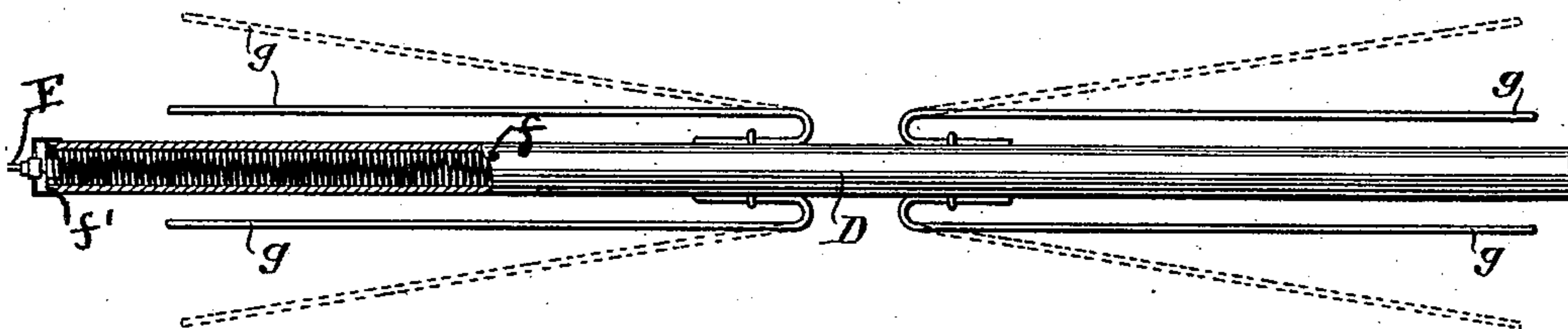
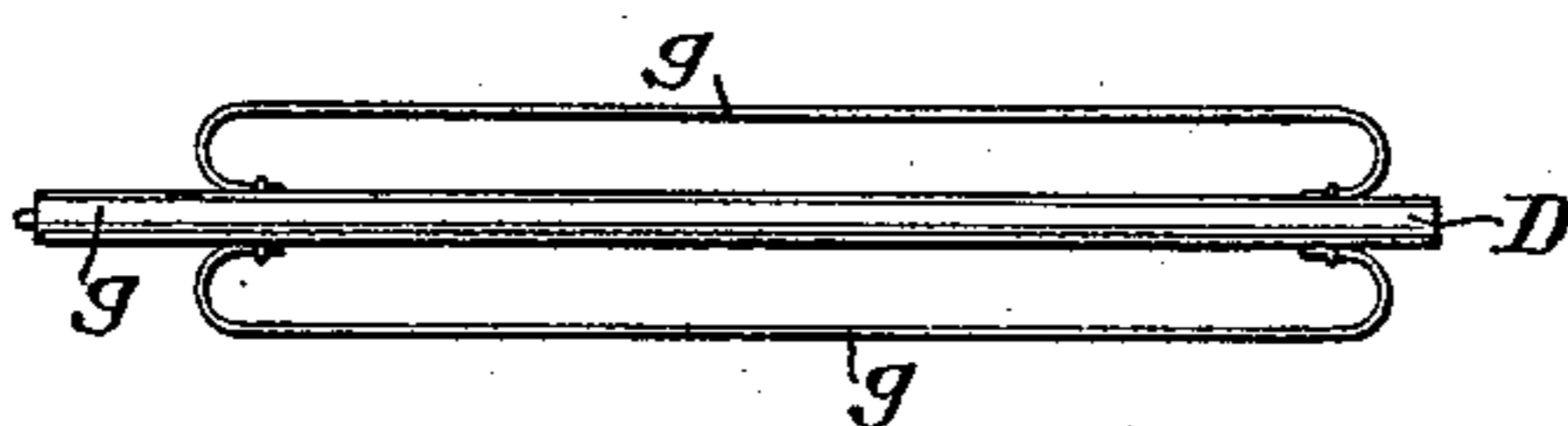


FIG. 7.



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UNITED STATES PATENT OFFICE.

STEPHEN H. RAPP, OF WEST CHESTER, PENNSYLVANIA.

FAN ATTACHMENT FOR DOORWAYS.

SPECIFICATION forming part of Letters Patent No. 464,333, dated December 1, 1891.

Application filed August 27, 1891. Serial No. 403,849. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN H. RAPP, a citizen of the United States, and a resident of West Chester, Chester county, Pennsylvania, have invented certain Improvements in Fan Attachments for Doorways, of which the following is a specification.

The object of my invention is to prevent flies from entering a house over the screen-doors when open, as I have found that while the screen-doors when shut keep the flies out of the house, the moment the door is opened they will enter over the top of the door; but by agitating the air at this point I prevent the admission of the flies. At the same time my device is so arranged as to act as a spring tending to keep the door shut.

In the accompanying drawings, Figure 1 is a face view of a doorway illustrating my improvement. Fig. 2 is a section on the line 1 2, Fig. 1. Fig. 3 is a sectional view on the line 3 4, showing the door closed. Fig. 4 is a similar view showing the door open. Figs. 5 and 6 are detached views of the fan-shaft, partly in section. Fig. 7 is a view illustrating a modification of the fan-shaft.

A is the door-jamb.

B is the door, hinged at *b*. This door in the present instance is illustrated as a screen-door.

D is a fan-shaft adapted to sockets *d* and *e* on each door-jamb. The shaft D is partially hollow, as shown in Fig. 5, and adapted to this hollow portion is a spring E, secured at *f* to the shaft and at *f'* to the squared pintle F, which is adapted to the socket *e*.

Attached to the shaft D is a cord *i*, which wraps around the shaft at one end or may be adapted to a grooved pulley mounted on the shaft, if necessary. This cord passes over a pulley *h* on a bracket projecting from the door-jamb and is attached to the door at *k* in any suitable manner. Attached to the shaft in the present instance are four blades *g*, which are bent, as illustrated in Fig. 5, being made of wire or any other suitable material; but being made of wire they can be bent so as to be adjusted to different thicknesses of door-jamb, as it will be remembered that in most cases the device must rotate within the space between the inner and outer doors. If

the space is narrow, the wires are bent close to the shaft, as shown in full lines in Fig. 5; but if the space is wide the wires are bent outward, as shown by dotted lines in Fig. 5.

Mounted on the shaft D are two sections of cloth *m* or other suitable material, which are preferably wider than the wire blades, so that as the shaft D revolves the blades carry the cloth around; but the cloth will yield when it strikes a projection, so that by means of the cloth I am enabled to increase the sweep of the fan and to agitate the air to a greater extent.

When it is desired to make a fixed blade, I may make it in the manner shown in Fig. 7, each blade being a permanently-fixed wire secured to the shaft in any suitable manner. As the door is opened, the cord will unwind from the shaft D, and consequently turn the shaft, revolving the fans, which are situated in the upper portion of the doorway, as shown, agitating the air sufficiently to prevent the admission of flies or other insects through the upper portion of the doorway when the door is opened. As soon as the door is released the spring E in the shaft returns the door to its closed position and winds the cord upon the shaft. The shaft being revolved in the reverse direction, the fans are also reversed and the air again agitated until the door is closed. By this means I prevent the admission of flies into the room as the door is opened, and my device also acts as a spring to return the door when released.

I claim as my invention—

1. The combination of the door and door-frame, a horizontal fan-shaft on the door-frame, blades on said shaft, an internal spring having one end secured to the shaft and its opposite end secured to one of the shaft-pintles, and a cord connected to the door and wound upon the fan-shaft, whereby on opening the door the cord will be unwound and the shaft rotated in one direction, and on closing the door the shaft will be rotated in the opposite direction by its spring and the cord will be rewound, substantially as specified.

2. The combination of the door and door-frame, the horizontal fan-shaft, a cord connected to the shaft and to the door, cloth sections mounted on said shaft and forming flaps,

and bent-wire blades secured to the shaft and forming backings for said flaps, substantially as specified.

3. The combination of the fan-shaft mount-
5 ed in the upper portion of the doorway, a cord wrapped around the shaft and secured to the door, and blades formed of wire secured at one end only to the shaft and bent substantially as described, whereby they can be extended
10 and adjusted to different widths of doorways,

with flexible portions adapted to rest against the blades and act as fans, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 15 two subscribing witnesses.

STEPHEN H. RAPP.

Witnesses:

BARNET R. RAPP,
JOHN A. RUPERT.