

(No Model.)

E. F. HARTSHORN.
SHADE FIXTURE.

No. 582,739.

Patented May 18, 1897.

Fig. 1,

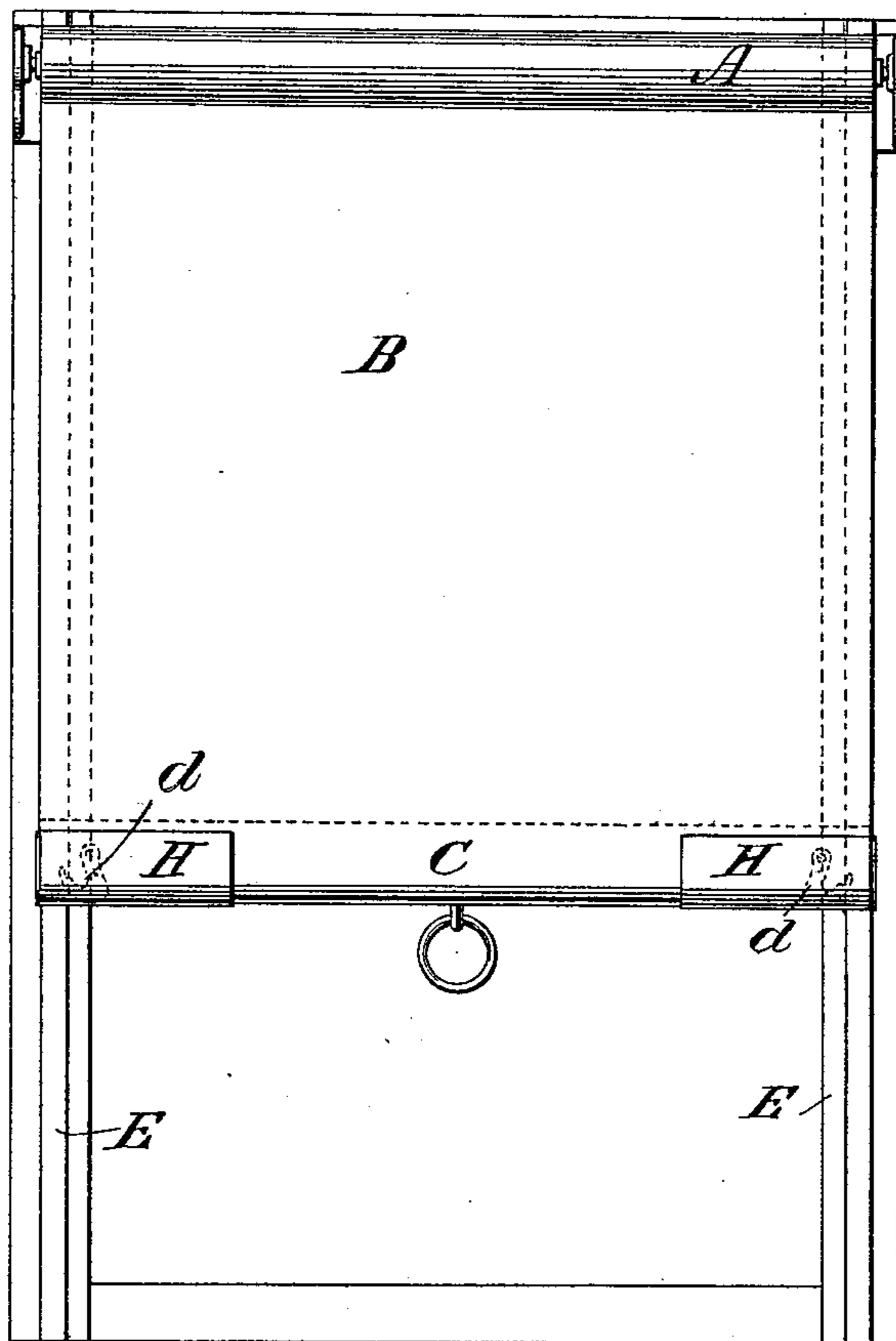


Fig. 4,



Fig. 2,

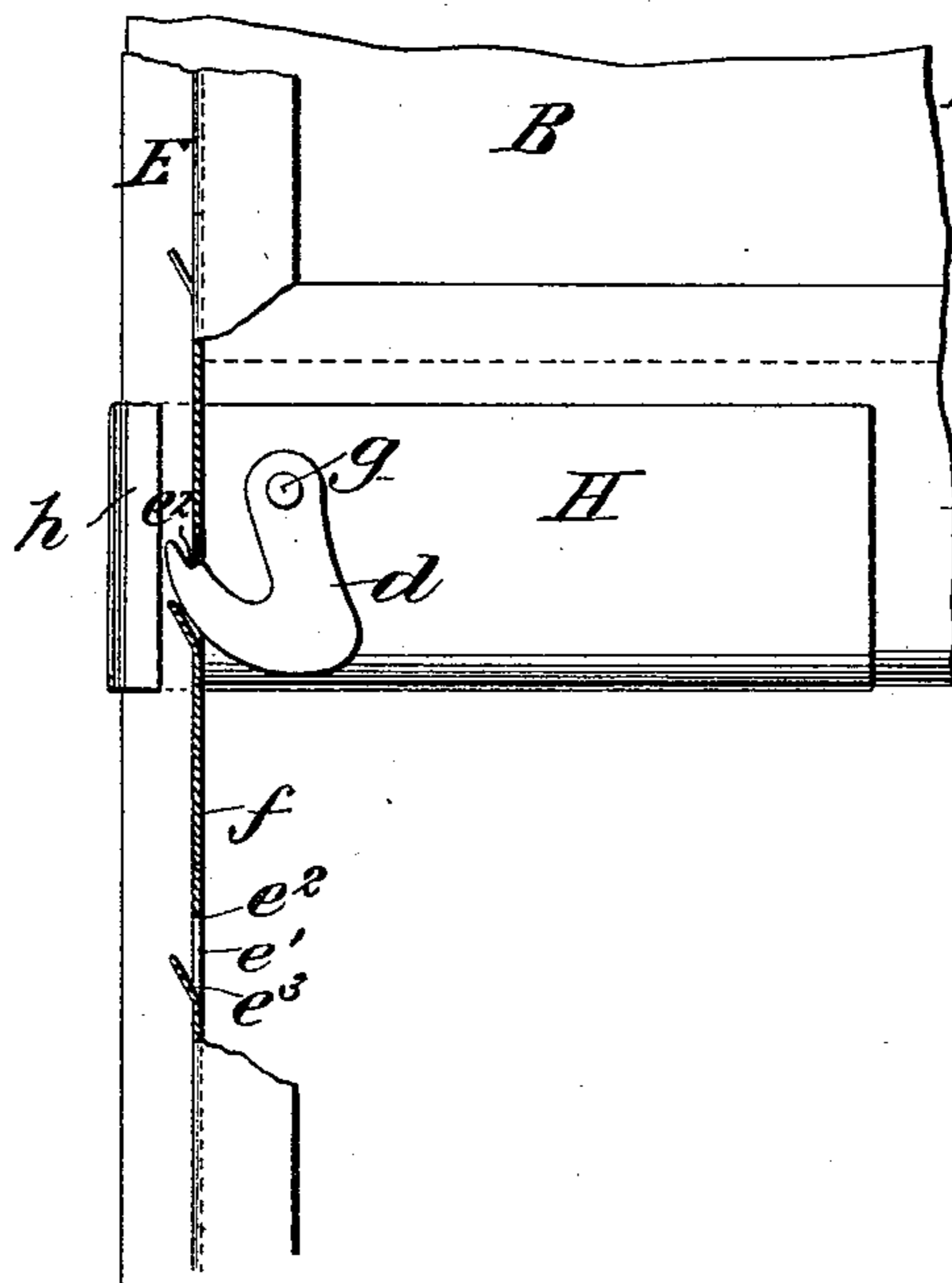
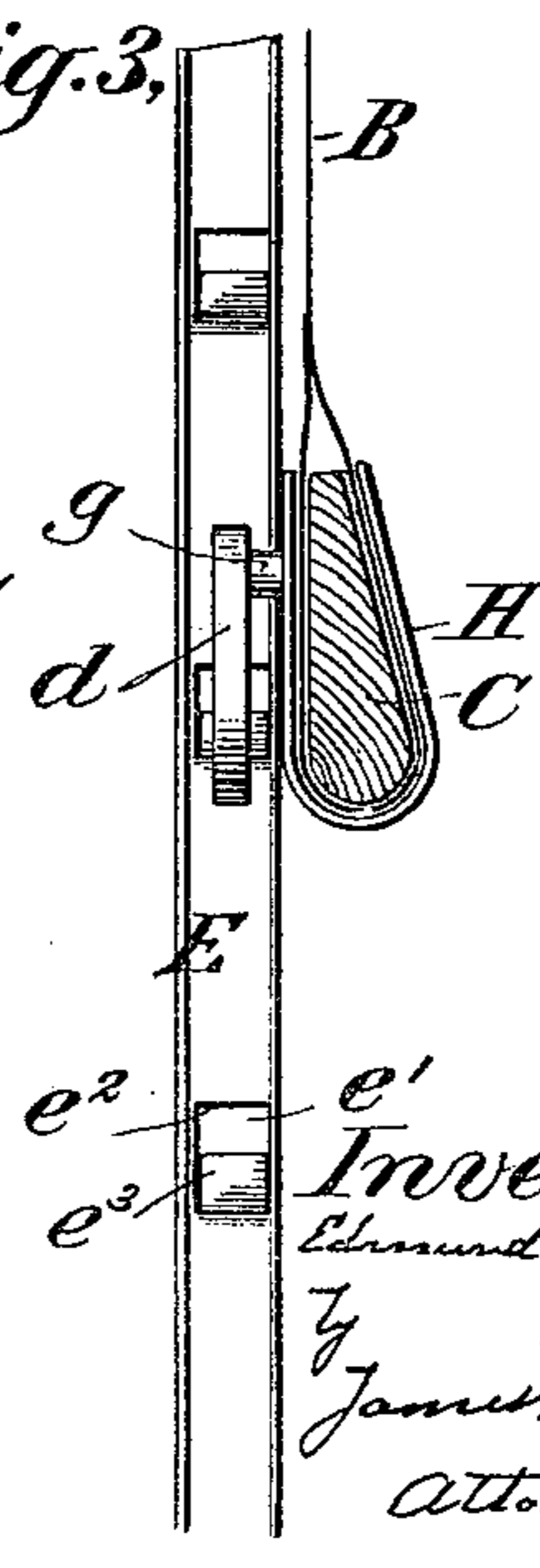


Fig. 3,



Witnesses:

D. H. Raymond
J. E. Green

Inventor:
Edmund F. Hartshorn
by James T. Sew
Attorney.

UNITED STATES PATENT OFFICE.

EDMUND F. HARTSHORN, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE STEWART HARTSHORN COMPANY, OF NEW JERSEY.

SHADE-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 582,739, dated May 18, 1897.

Application filed September 7, 1895. Serial No. 561,821. (No model.)

To all whom it may concern:

Be it known that I, EDMUND F. HARTSHORN, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Shade-Fixtures, of which the following is a specification.

My improvement relates to those automatic spring shade-fixtures in which a spring-roller is controlled by a pawl and ratchet or other stopping device operated simply by the manipulation of the shade; and it consists in applying the stopping device heretofore mounted on the roller, by which the movement of the roller is controlled, to the foot-stick, or stick at the bottom of the shade, whereby the shade may be freely run up or down and arrested and retained at any desired point by the manipulation of the shade itself, and at the same time the bottom of the shade will be held against the window-frame and the shade kept taut and in place in front of the window.

In the accompanying drawings, which show one construction of my improvement, Figure 1 is a front view of a window-casing with my shade-fixture in place thereon. Fig. 2 is a rear view of a portion of the foot-stick, showing the pawl thereon, and of the ratchet with the window-casing removed. Fig. 3 is a side elevation of the pawl and ratchet, and Fig. 4 is a perspective view of a portion of the ratchet-strip.

In the construction shown in the drawings, A is an ordinary spring shade-roller mounted in brackets in the window-frame in the usual manner and without any stopping or controlling mechanism to arrest its motion.

B is a shade attached to and wound on the roller, and C is the usual foot-stick at the bottom of the same. On the end of the foot-stick C, and preferably on both ends, is a pawl or detent *d*, and on the side of the window-frame is a ratchet-bar or series of ratchets E, so placed as to engage with the end of the pawl *d* on the stick. The pawl is hung on the stick by the pivot *g*, so that it can swing freely thereon, and is so constructed that, when free to do so, it will swing outward toward the side of the window-frame and enter the ratchet on the latter. On the end of the pawl is a notch *d'*, which engages with the

edge of the ratchet-opening. In the particular construction shown in the drawings the ratchet or series of ratchets consists of a metallic strip E bent or folded into the desired shape, as shown in Fig. 4, and fastened along the side of the window-frame, from the top to the bottom of the latter. On one of the sides *f* of this strip, facing the window-opening, are a series of openings *e'*, forming the ratchet-spaces, and with the upper edge *e²* of which the notch *d'* of the pawl engages. The metal face of the strip at the bottom of the openings is inclined inward, as at *e³*, and serves to bring the end of the pawl into and out of engagement with the upper edge *e²* of the ratchet.

The form and construction of the pawl and its connection with the foot-stick are such that its free end presses against the face of the ratchet-strip as it moves up with the shade under the action of the spring in the roller, and, when permitted to do so, swings into the ratchet-opening *e'* and against the edge *e²*. At the same time the form of the pawl is such that when the shade is allowed to run up rapidly under the action of the spring and the pawl thus caused to slide quickly up the face of the strip the end of the pawl is carried past the ratchet-openings and is not allowed to swing into and engage therewith.

To bring the pawl and ratchet into engagement, therefore, and arrest the further revolution of the roller, it is only necessary to cause the shade to move up slow enough to permit the pawl to swing into one of the ratchet-openings, when the engagement is effected, and, on the other hand, to keep the pawl and ratchet out of engagement and allow the shade to move up all or part of the way on the window it is only necessary to permit the shade to run up rapidly under the action of the spring in the roller until the desired point of attitude is reached, when the motion of the shade is checked and slowed until an engagement is effected between the pawl and one of the ratchets and the shade is held at that point.

To disengage the pawl and ratchet, the shade is pulled down a short way, when the pawl, coming in contact with the inclined piece *e³*, is thrown out of the ratchet and the

disengagement effected. Therefore to run the shade up to any desired point the shade is pulled down a little way and then allowed to run up rapidly as far as wished and then the motion slowed until engagement is effected with the stopping device and the shade held. As will thus be seen, the operation of the pawl and ratchet or stopping device is effected simply by the manipulation of the shade itself in the same manner as with the present automatic shade-roller fixture, in which the stopping device is mounted on the roller, and by thus transferring the stopping device to the foot-stick at the bottom of the shade I am enabled to apply the present automatic spring-shade-roller fixture and have it operated in the same manner as it does now to uses for which this present construction is not applicable—for instance, to car-windows—where it is necessary to keep the bottom of the shade against the window and prevent it from swinging out and the shade taut and close against the window-frame.

In the construction shown in the drawings the pawl is mounted on a metallic sheath or end piece H on the foot-stick. The end h of this sheath on one side projects beyond the stick and is bent back and in, as shown in Fig. 2, so as to inclose one edge of one of the faces of the ratchet-strip E. This acts as a guide for the shade and insures it moving evenly and truly as it is run up and down on the window and wound on the roller.

While my improvement will operate with a pawl and ratchet on one side only, it is preferable to have a stopping device on both sides of the shade, not only to insure better action but to hold the shade more effectually against the window-frame.

It will be evident that any form and construction of detent or of pawl and ratchet may be used, and I do not limit myself to the constructions shown and described herein, and, furthermore, my improvement is equally applicable to those shade-fixtures where the spring-roller is placed at the bottom of the window and the shade pulled up toward the top of the window in unwinding.

By the term "normal manipulation of the shade" as employed in the claims is meant the ordinary up-and-down motion of the shade in winding and unwinding.

What I claim is—

1. A shade-fixture consisting of a spring shade-roller, a pawl arranged and adapted to be secured to the end of the shade opposite to the roller, and a ratchet adapted to be attached to the window-frame and arranged to engage with the pawl, whereby the operation of the pawl and ratchet is effected by the normal manipulation of the shade, substantially as described.

2. In a shade-fixture, in combination, a spring shade-roller, a shade mounted thereon, and a detent applied to the end of the shade opposite to the roller, whereby the operation of the detent and the revolution of the roller are controlled by the normal manipulation of the shade, substantially as described.

3. In a shade-fixture, in combination, a spring shade-roller, a shade mounted thereon, a pawl connected to the end of the shade opposite to the roller, and operated by the normal manipulation of the shade, and a ratchet secured to the window-frame and arranged to engage with the pawl, substantially as described.

4. In a shade-fixture for spring shade-rollers, having a pawl and ratchet for controlling the operation of the shade, a pawl mounted on the end of the shade opposite the roller, arranged and adapted to be thrown into and out of engagement with the ratchet by the normal manipulation of the shade, substantially as described.

5. In a shade-fixture for spring shade-rollers, having a pawl and ratchet for controlling the operation of the shade, a pawl mounted on a metallic base adapted to be attached to the foot-stick, the pawl being arranged to be thrown into and out of engagement with the ratchet by the normal manipulation of the shade, substantially as described.

6. In a shade-fixture for spring shade-rollers, having a pawl and ratchet, the pawl pivoted to the metallic sheath H adapted to be secured to the foot-stick, and arranged and adapted to be thrown into and out of engagement with the ratchet by the normal manipulation of the shade, substantially as described.

EDMUND F. HARTSHORN.

Witnesses:

E. L. DURGIN,
H. E. BULLIVANT.