

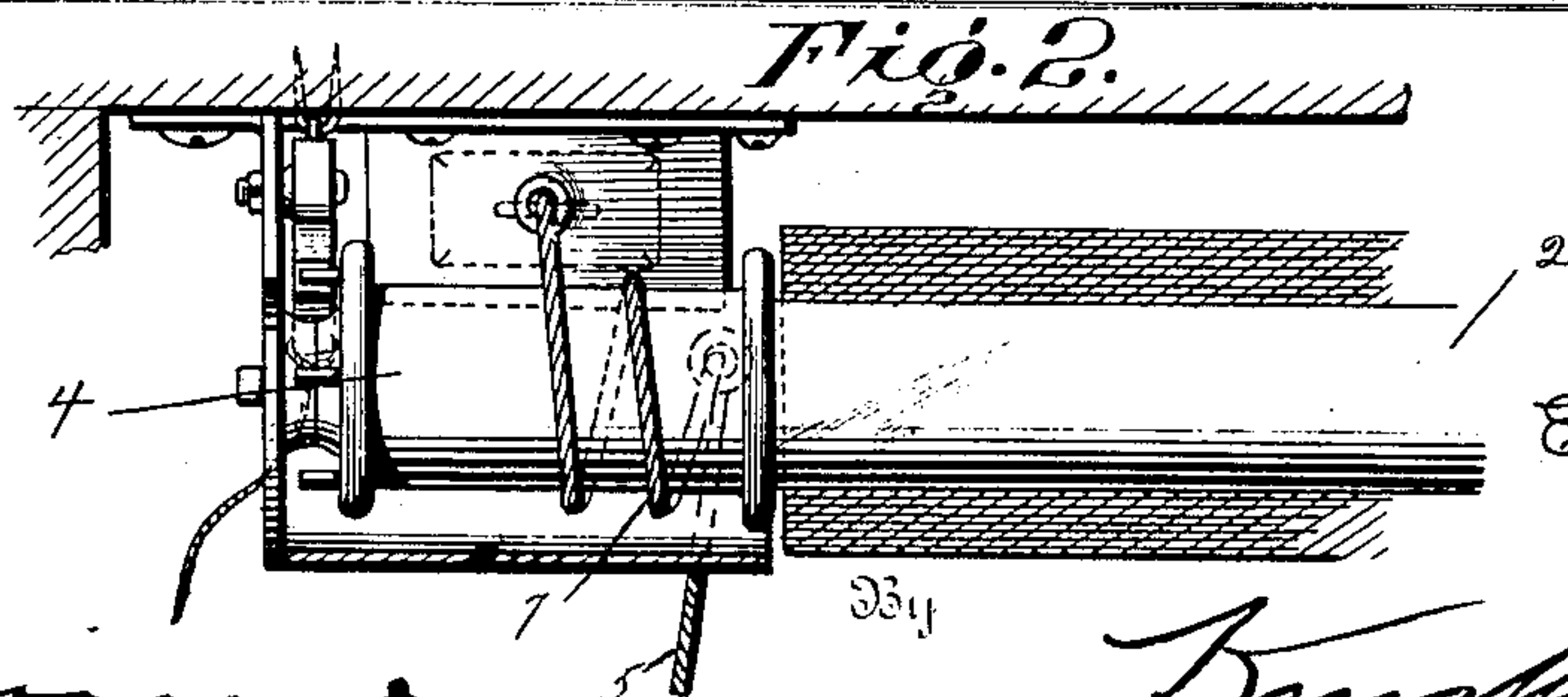
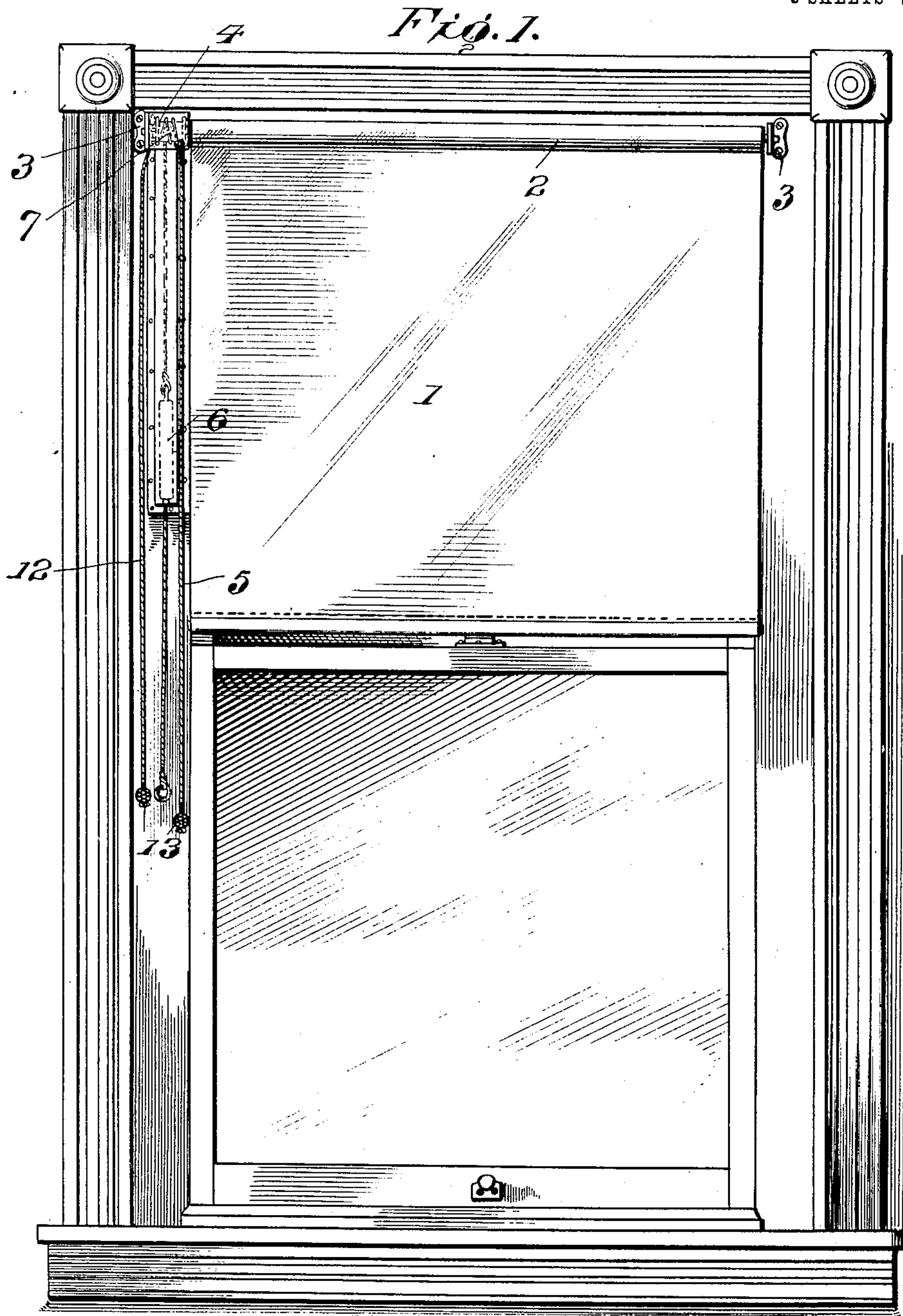
No. 856,144.

PATENTED JUNE 4, 1907.

E. HARRIS.
CURTAIN RAISER AND CONTROLLER.

APPLICATION FILED AUG. 18, 1906.

3 SHEETS—SHEET 1



Inventor

Edward Harris

Witnesses

E. A. Panabaker.

Knight & Co.
Attorneys

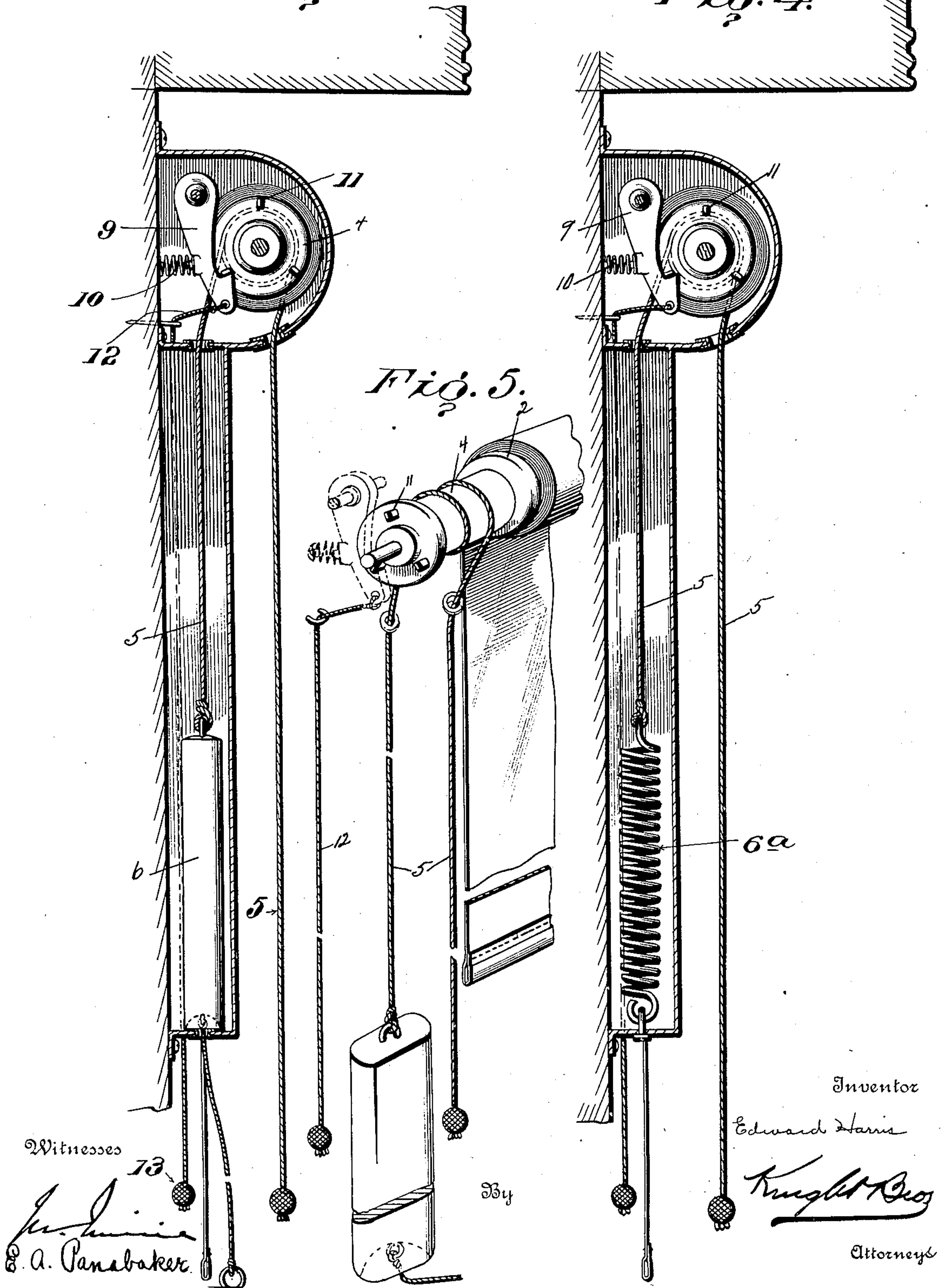
E. HARRIS.
CURTAIN RAISER AND CONTROLLER.
APPLICATION FILED AUG. 18, 1906.

3 SHEETS—SHEET 2.

Fig. 3.

Fig. 4.

Fig. 5.



No. 856,144.

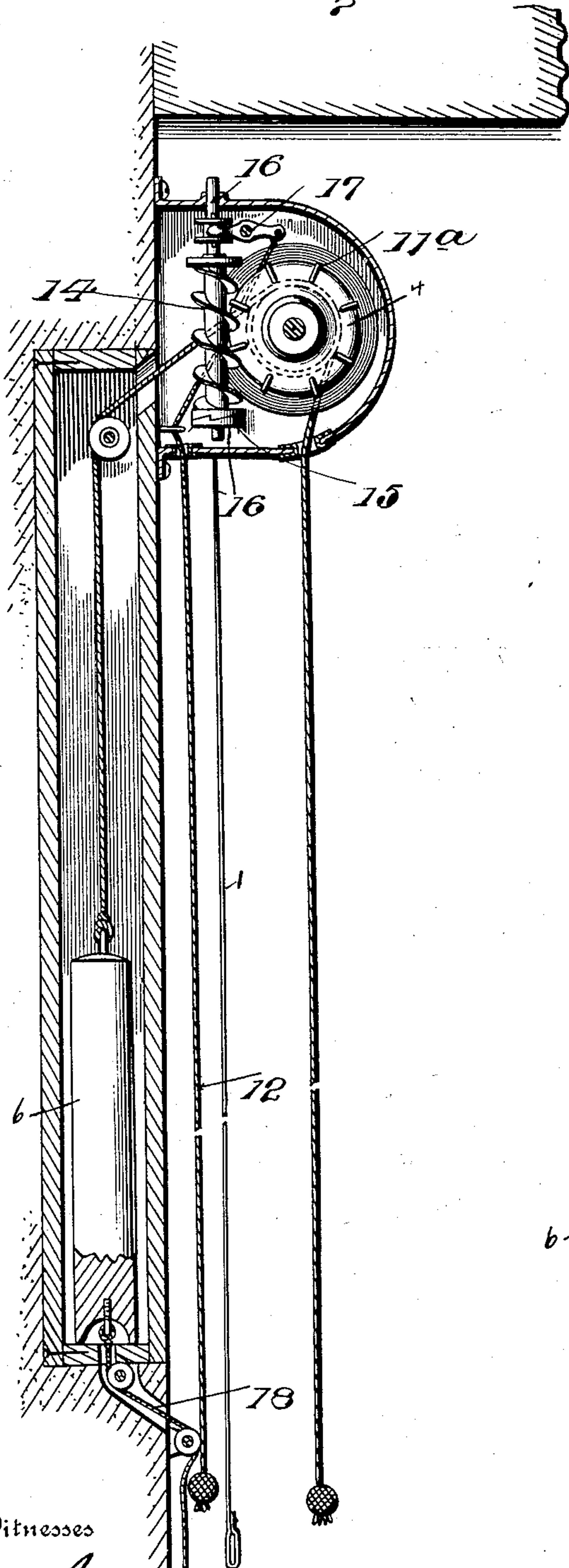
PATENTED JUNE 4, 1907.

E. HARRIS.
CURTAIN RAISER AND CONTROLLER.

APPLICATION FILED AUG. 18, 1906.

3 SHEETS—SHEET 3.

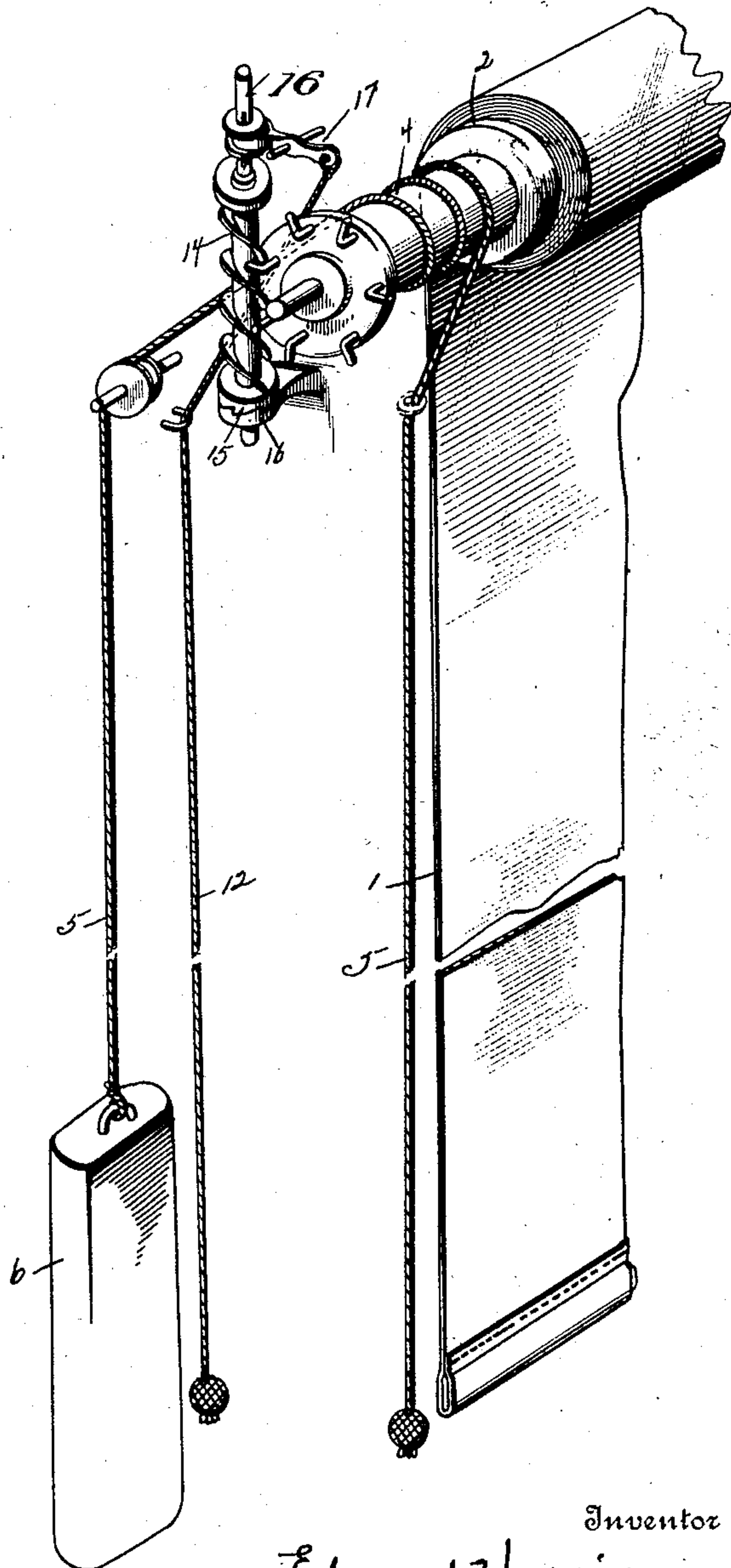
Fig. 6.



Witnesses

E. A. Canabaker
E. A. Canabaker

Fig. 7.



Inventor

Edward Harris

By

Knight Bros

Attorneys

UNITED STATES PATENT OFFICE.

EDWARD HARRIS, OF WAPANUCKA, INDIAN TERRITORY, ASSIGNOR OF ONE-THIRD TO ALBERT LEET, OF McALESTER, INDIAN TERRITORY, AND ONE-THIRD TO WILLIAM R. BELT, OF WAPANUCKA, INDIAN TERRITORY.

CURTAIN RAISER AND CONTROLLER.

No. 856,144.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed August 18, 1906. Serial No. 331,174.

To all whom it may concern:

Be it known that I, EDWARD HARRIS, a citizen of the United States, residing in Wapanucka, Central District, Indian Territory, have invented certain new and useful Improvements in Curtain Raisers and Controllers, of which the following is a specification.

The object of my invention is to provide a simple, convenient and effective means for raising a curtain by rotating the roller upon which it is wound and lowering the curtain by permitting its roller to rotate in the direction of unwinding while maintaining control over such rotation both as to the point of arresting it and the speed with which it rotates.

In carrying out my invention, I employ a winding drum or pulley rigidly connected with the roller so as to control the latter and a winding cord having one end connected to a means which offers a yielding resistance to a pull on said cord and having its intermediate portion wound around a drum or pulley a sufficient number of times (determined by the weight of the curtain) to insure an effective winding grip, while the remaining end of the cord is left free and within convenient reach to be grasped for imparting the winding movement to the roller; the arrangement of the parts being such that when the cord is pulled by its free end, the yielding resisting means attached to the opposite ends, will cause the cord to bind or grip the winding drum or pulley and to impart a rotation to the roller corresponding to the pull upon the cord, while the release of the free end of the cord will loosen the winding upon the drum or pulley and permit the cord to return under the influence of the means which imposes the yielding resistance to the winding pull so that the cord is in position to be again pulled and impart further winding movement to the roller. When the pull resisting means is at rest and the free end of the cord is released, the curtain tends to unroll under its own weight and in the absence of the means for breaking the unwinding movement, the curtain will run downward. This unwinding movement, however, can be regulated at will by imposing a slight pull upon the free end of the winding cord so as to impart the amount of resistance necessary to retard without stopping the unwinding movement. If

the pull resisting means is not at rest when it is desired to permit the curtain to unwind, the return of the weight under the release of the pulling end of the cord (especially if sufficient tension be maintained to continue the gripping of the cord on the drum), will start the unwinding movement of the curtain and the length of curtain thus put in pendent position will be sufficient to thereafter hasten the unwinding movement until the curtain reaches the position to which it is desired to arrest it. If the curtain is completely wound up at the time it is desired to lower it so that there is not sufficient of its length in pendent position to unwind the roller, a pull on the cord in the direction of winding the pull resisting means into action, during which time the completely wound curtain continues to revolve with the roller, will put the pull releasing means in position to start the unwinding of the curtain, the free end of the cord being held as already explained to maintain the gripping action.

The device is preferably provided with a dogging or braking means to arrest the roller at any position to which it may be rotated, so that the curtain may be allowed to rest at any point.

My invention will be fully understood upon reference to the accompanying drawing and the following detailed description; in which drawings—

Figure 1 is a front elevation of a window frame to which my invention is shown applied; Fig. 2 is a detail view in top plan illustrating parts of my invention; Figs. 3 and 4 are side elevations partly in section illustrating my invention with one form of dogging device and showing two different forms of pull resisting means, namely, a weight and a spring; Fig. 5 is a detail perspective view illustrating the invention; and Figs. 6 and 7 are perspective views showing another form of dogging or braking device; Fig. 6 also showing means for positively returning the pull resisting means (in this instance, a weight) to its position of rest in case it should bind in its casing or otherwise be prevented from gravitating to its seat.

1 represents a window curtain wound upon a roller 2 mounted in brackets 3 in a manner to freely rotate in its bearings. Secured to

one end of the roller 2 is a pulley or winding drum 4, rigidly connected with the roller so as to rotate therewith.

5 represents the winding cord, one end of which is connected to a weight 6 or any other equivalent means which resists a pull on said cord with a yielding force, while the intermediate portion of the cord makes one or more turns as shown at 7, around the drum 4 and the unconnected or free end of the cord hangs within convenient reach for operating the curtain. When the pull resisting means 6 is in the form of a weight, it is preferably mounted in a suitable guide or otherwise arranged, so that its path will be defined in a vertical line and it will be arrested at a suitable point to limit its downward movement. The number of turns 7 of the cord around the drum 4 will depend upon the weight of the curtain to be raised, these turns being sufficient in number to insure an effective grip from the pull on the free end and the resistance of the weight 6. It will be obvious that the winding effect produced by a single pull on the cord 5 will be determined by the travel of the pull resisting means or weight. Thus, while I prefer to give the weight or resisting means a limited travel and to raise the curtain by a number of successive short pulls, it is to be understood that the travel of the weight may be such as to permit the winding of the entire length of curtain by a single pull.

Referring to Figs. 3, 4 and 5, 9 represents a pawl or dog arranged either to gravitate into engaging position or to be pressed into such position by a spring 10, and 11 represents stops or projections of any suitable kind located on or in connection with the winding drum or roller into position to be engaged by the dog 9 to arrest rotation of the roller in the direction of unwinding of the curtain.

Thus it will be seen that in the normal operation, the curtain may be raised by one or more pulls of the cord until it reaches the desired point, after which it may be released and will be arrested at the position to which it is adjusted while the weight returns to its position of rest. When it is desired to permit the curtain to descend, a cord or other suitable connection 12 is pulled from its lower end 13 to withdraw the dog 9 and release projection 11 that is engaged by the dog. I have shown three projections 11, Figs. 3—5, but I desire it understood that these projections may vary in number as may be found necessary, the number being increased for arresting the curtain more accurately or with the least amount of retrograde movement. When the dog 9 is released and the curtain begins to descend, a slight pull upon the cord 5 may be imposed to brake the unwinding action of the roller, the cord 12 being released immediately the

curtain reaches the point desired so as to arrest the unwinding movement.

Figs. 6 and 7 represent a braking device in the form of a spiral 14 of such pitch that the spiral will rotate under the action of pins 11^a carried by the drum, the spiral being provided with a ratchet 15 at its lower end which normally prevents it being rotated by the unwinding movement of the roller so that it becomes an effective dogging device to hold the curtain at any height desired. The spiral 14 is axially movable in its bearings 16 so as to release the ratchet 15 and this releasing movement may be imparted at will through the medium of the releasing cord 12, which in this case is connected through a suitably fulcrumed lever 17, which has lifting engagement with the spiral 14 without interfering with its rotation. The operation of the device as here shown is similar to that already described with reference to Figs. 1 to 5. As a precautionary means to positively return the pull resisting means when in the form of a weight and in the event that it becomes hung or otherwise interrupted in its gravitation, a cord 18 suitably guided from a point of convenient reach to a point of attachment with the weight, may be provided as suggested in Fig. 6.

It is obvious that the ratchet releasing cord and the free end of the winding cord may be grasped together to apply the braking effect to the winding drum and hold the dogging means out of action, or the lower ends of said cords could be connected so as to render more convenient the simultaneous handling of both cords.

As shown in Fig. 4, the pull resisting means is in the form of a spring 6^a which will yield to permit the necessary travel of the winding cord but will come to a position of rest at a point corresponding to the point at which the weight is arrested in order to permit the release of the cord's grip and the lowering of the curtain.

In the drawings, I have suggested two methods of inclosing the parts of the device, Fig. 6 showing the pull resisting means located within a window casing and the remaining working parts inclosed in a suitable housing on the face of the window frame, while Fig. 1, and Figs. 3 and 4 show the weight resisting means also inclosed in a housing attached to the window frame.

I do not, however, limit myself to any particular form of casing or housing but desire it to be understood that this may be of any material or form that may be found desirable in practice, or the housing and cover may be omitted altogether without departing from the scope of my invention.

The casing is shown as providing the guides for the cords but obviously these

could be provided in any other well known manner.

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

1. In a rolled curtain or shade, the combination of a roller upon which the curtain is to be wound adapted to unwind by the weight of the curtain and having a winding pulley, a cord having one end free to be pulled, wound upon said pulley, in a direction to cause winding of the curtain when the cord is pulled and having its other end provided with means imposing a yielding resistance to said pull, and means independent of said pull cord for arresting the pull resisting means, relieving the grip of the winding cord when the free end is released and permitting the curtain to gravitate downward.

2. In a rolled curtain or shade, the combination of a roller upon which the curtain is to be wound adapted to unwind by the weight of the curtain and having a winding pulley, a cord having one end free to be pulled, wound upon said pulley, in a direction to cause winding of the curtain when the cord is pulled and having its other end provided with means imposing a yielding resistance to said pull, and means arresting the pull resisting means, relieving the grip of the winding cord when the free end is released and permitting the curtain to gravitate downward; said winding cord and pull resisting means being adapted to develop a slight frictional resistance to the unwinding movement of the roller by a slight pull on the free end of the winding cord and thereby permit the descent of the curtain to be controlled.

3. In a roller curtain raising means, the combination of a cylindrical pulley, a cord having one end connected to a yielding resistance and having its intermediate portion

wound upon said pulley in a direction to cause winding of the curtain when the cord is pulled in opposition to said resistance and having a free end presented in position to receive the winding pull; said pulley being rigidly connected with the roller whereby the winding cord may serve as a retarding brake in the unwinding movement.

4. In a roller curtain raising means, the combination of a cylindrical pulley, a cord having one end connected to a yielding resistance and having its intermediate portion wound upon said pulley in a direction to cause winding of the curtain when the cord is pulled in opposition to said resistance and having a free end presented in position to receive the winding pull; said pulley being rigidly connected with the roller whereby the winding cord may serve as a retarding brake in the unwinding movement and a releasable dogging device normally preventing unwinding movement of the roller.

5. The combination of the curtain roller, the cylindrical pulley rigidly connected therewith, the cord having a free pulling end and wound upon said pulley in a direction to cause winding of the curtain when the cord is pulled, and a weight connected with the end of the cord opposite to the pulling end, and means for limiting the downward movement of the weight so that when said weight is arrested, the frictional driving connection between the cord and the pulley may be regulated at will to control the unwinding movement of the curtain.

The foregoing specification signed at Washington D. C. this 11 day of Aug., 1906.

EDWARD HARRIS.

In presence of two witnesses:

EDWIN S. CLARKSON,
ETHEL A. PANABAKER.