W. B. NOYES.

Curtain Roller and Bracket.

No. 208,417. Patented Sept. 24, 1878.

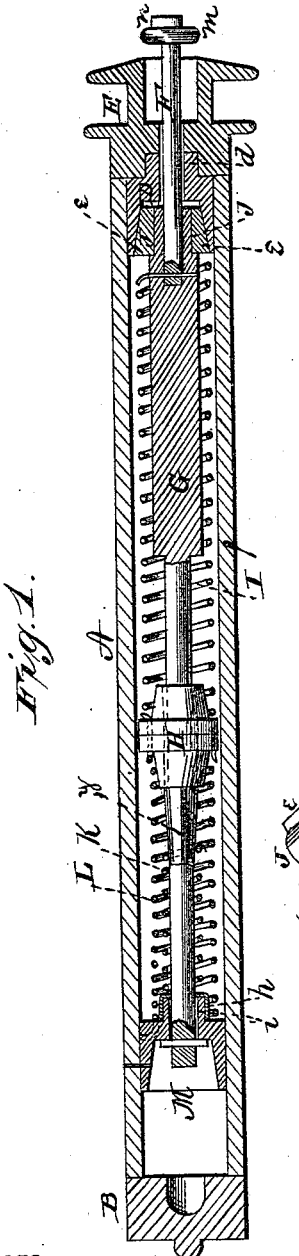

Fig. 1.

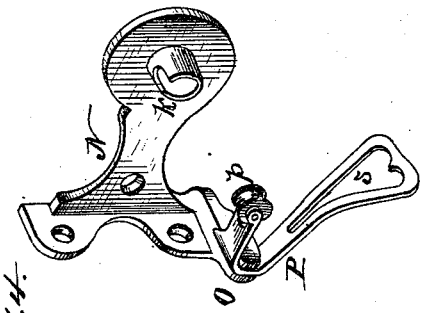

Fig. 4.

Fig. 2.

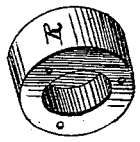

Fig. 3.

WITNESSES

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WALTER B. NOYES, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CURTAIN-ROLLER AND BRACKET.

Specification forming part of Letters Patent No. **208,417**, dated September 24, 1878; application filed July 25, 1878.

To all whom it may concern:

Be it known that I, WALTER B. NOYES, of Boston, in the county of Suffolk, and in the State of Massachusetts, have invented certain new and useful Improvements in Spring-Curtain Rollers and Fixtures; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a spring curtain roller and fixtures, to be used either as a balance-curtain or a stop-curtain, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal section of my curtain-roller. Fig. 2 is a perspective view of a ferrule used therein. Fig. 3 is a view of one end piece for the roller when used as a balance curtain-roller. Fig. 4 is a perspective view of the curtain-bracket.

A represents a hollow curtain-roller, to which the curtain is to be secured in any suitable manner.

One end of the hollow roller is closed by a head, B, which is fastened by a nail or otherwise, and has in the center a projecting pivot, *b*, to rest in a socket, *a*, formed on the bracket C, secured to the window-frame in the usual manner.

In the opposite end of the roller is inserted a plug, D, which is suitably secured therein. The inner end of the plug is formed with a conical recess, as shown in Fig. 1, and on its outer end is formed a round tenon or projection, *d*, on which is placed and secured the pulley E by any convenient means.

Through the pulley E and plug D is passed a spindle, F, the inner end of which is inserted in the end of a wooden shaft or spindle, G, placed inside of the hollow roller A. In this roller is placed a loose collar, H, capable of rotation on the shaft, and also of lengthwise movement thereon.

I represents a spiral spring placed around the shaft G, with one end fastened to the collar H, and the other end passed through the shaft G and through the inner end of the spindle F, thus securing said spindle to the shaft. On this end of the shaft G is placed a tapering metal collar, J, against a shoulder on the shaft, and this collar is formed with V-shaped wings *e e*, projecting sufficiently far beyond the collar to enter the shoulder on the shaft, and thus hold the collar permanently thereon. The body of the collar J is smaller in circumference than the interior of the tapering plug D, so that when the parts are in position, as shown in Fig. 1, the wings *e* on the collar J alone act against the interior of the plug D.

Around the other end of the shaft G are placed two spiral springs, K and L, one within the other. The outer spring, L, has one end fastened in the loose collar H, while the other end is fastened in a head, M, placed on the end of the shaft G. This head has a shoulder at *i*, over which is placed a metal cap, *h*, to protect the wood from the wear of the springs. The inner spring, K, is arranged in such a manner as to force the spindle F outward from the roller, the head M being held stationary in the roller by nails or otherwise, while the shaft G can turn and move lengthwise therein, one end of the said spring K bearing against the head M and the other end against an enlargement, *y*, on the shaft G.

It will be noticed that the springs I and L are of unequal size, and the inner ends of both springs are attached to the loose collar H. Hence, in pulling down the curtain the smaller spring, L, will be wound tight, and then as the curtain is pulled down still more, and of course becomes still more heavy, the larger spring, I, is brought into play, thus compensating for the increased weight of the curtain.

The outer end of the spindle F is formed with a collar, *m*, and outside of said collar, on said spindle, is a projection, *n*, which fits in a slotted socket, *k*, on the bracket N. At the lower end of this bracket is formed a slotted arm, O, in which is inserted a bent metal plate, P, forming two arms. In the upper arm is mounted a roller, *p*, under which the curtain-cord from the pulley E is passed. The

lower arm of the plate P has a tapering slot, *s*, through which the cord is passed, and can be held at any point desired.

The spindle F is held stationary in the bracket N, and the opposite end of the roller resting in the bracket C. By pulling the curtain-cord the roller is made to rotate to unwind the curtain and wind up the springs L I. When the cord is released the springs will unwind and wind up the curtain.

The spring K holds the roller in the brackets. It can readily be removed from them when desired, and the tension of the springs I L regulated by pressing inward the spindle F and turning the same in either direction. The spring K then throws the collar J into the recessed plug D, when the wings *e* on said collar will hold the springs from unwinding by frictional contact against the inside of said recessed plug D.

When the spindle F is placed in its bracket N, the roller must be pressed toward said bracket before the other end of the roller can enter its bracket C sufficiently far to clear the collar J entirely from the recess in the plug D. When it is desired to change from a stop-curtain to a balance-curtain the pulley E is removed and any ordinary head put in its place. The head B is also removed, and the head R (shown in Fig. 3) substituted. In the outer end of this head is a circular recess, to fit over a cork washer, *t*, placed around the socket *a* on the bracket C, to create a sufficient friction. The tension of the springs must also be reduced to the proper amount.

It will be noticed that the collar H, which forms a coupling for the two springs I L, has its central bore larger than the outer circumference of the shaft G; hence it is thrown with greater or less force against the inside of the roller, thus creating friction to aid in holding the balanced curtain.

It must be understood that by a "stop-curtain" I designate such a curtain as requires a device to stop and hold it at any desired height, whereas a "balanced curtain" designates one that requires no such stop to hold it.

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

1. In a spring curtain-roller, the springs I L, having their inner ends coupled together by the loose collar H, in combination with the shaft G and roller A, substantially as and for the purposes herein set forth.

2. The combination, with the roller A, shaft G, and springs I L, of the tapering recessed plug D, tapering collar J, having wings *e* arranged in frictional contact with the plug D, and the spring K, for preventing the recoil of the springs I L while inserting the roller in its brackets, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of July, 1878.

WALTER B. NOYES.

Witnesses:
J. M. MASON,
W. T. JOHNSON.