

A. H. Knapp. Curtain Fixture.

N^o 90,366.

Patented May 25, 1869.

Fig. 1.

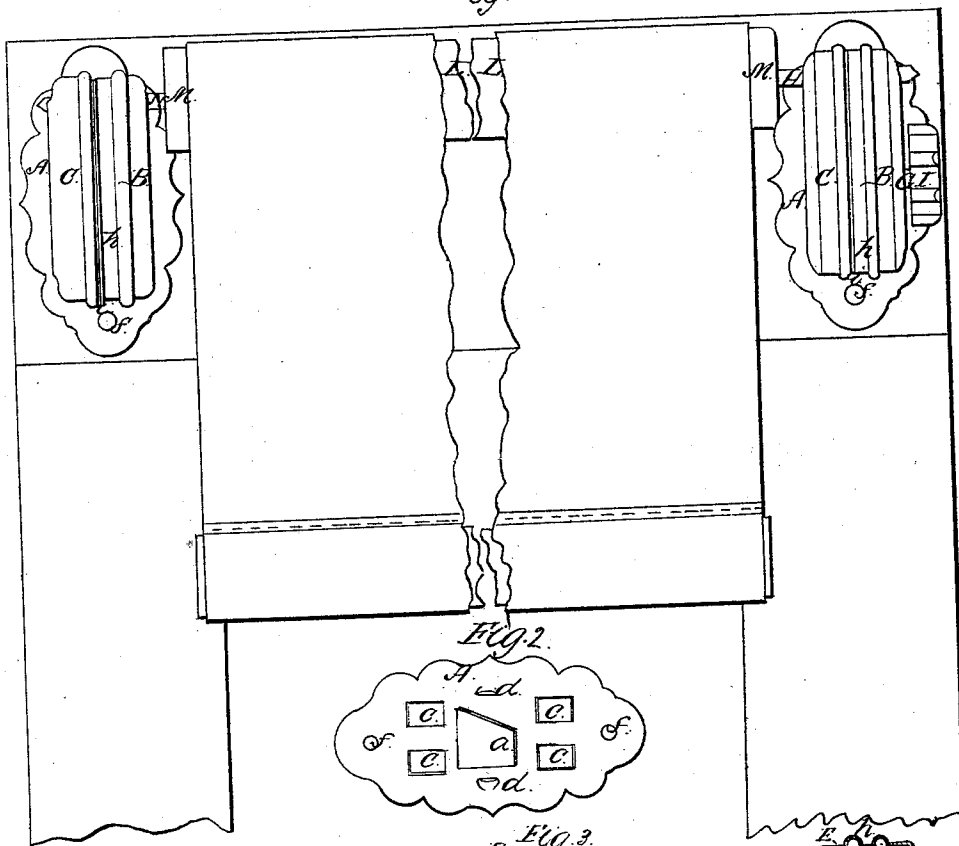


Fig. 2.

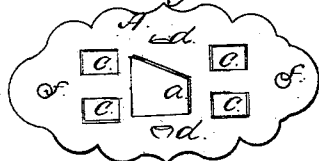


Fig. 3.

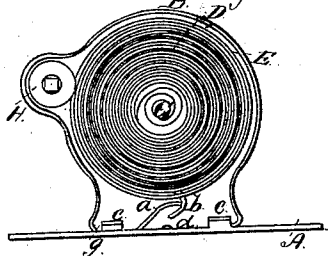


Fig. 4.

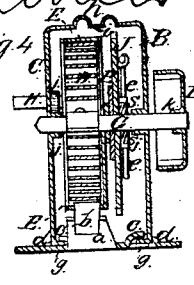


Fig. 5.



Fig. 6.

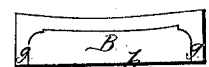
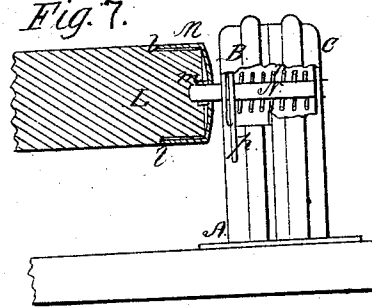


Fig. 7.



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Letters Patent No. 90,366, dated May 25, 1869.

IMPROVED CURTAIN-FIXTURE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, A. H. KNAPP, of Newton Centre, in the county of Middlesex, and State of Massachusetts, have invented Improvements in the Construction of Curtain-Fixtures; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a front elevation of a set of the improved fixtures, mounted with a curtain, or shade.

Figure 2, a plan of the base-plate of one of the brackets.

Figure 3, a side view of the right-hand, or main bracket, one of the halves, or parts of the case being removed.

Figure 4, a central transverse vertical section of the same bracket.

Figure 5, an inside view of the bracket-knob.

Figure 6, a bottom view of one of the case-plates.

Figure 7, an upper-side view of the left-hand bracket, (a portion of the case being broken away,) and central longitudinal section of the adjacent end of the curtain-roller.

Like letters designate corresponding parts in all of the figures.

My improvements are applied to adjustable, self-balancing fixtures, in which the curtain, or shade-balance is effected by means of a coiled spring, connected with the curtain-roller by a wheel and pinion, respectively, on the spring-shaft and roller-journal, and the adjustability of the balance is obtained by a ratchet-wheel and detent connected with the spring-shaft gear-wheel.

The improvements relate to various parts of the fixtures, and will be specified successively, and their object and advantages explained.

First, in the construction of the brackets in which the curtain-rollers are mounted, and in which the operative parts of the fixtures are located. The right-hand and left-hand brackets are constructed nearly alike, and may be described as one, with the exceptions to be mentioned in place.

The bracket is made in three pieces, of sheet-metal, (generally sheet-brass,) the base-plate A, and the two halves, or parts B C of the case.

The base-plate A has, besides the holes *f f*, by which it is attached to the window-casing, several projections and depressions, formed by the die from the metal of the plate.

Near the middle is a projecting lip, or catch *a*, to hold the hook *b*, on the outer end of the coiled spring D, (belonging only to the right-hand bracket.)

There are also four, or other suitable number of lips *c c c c*, two near each side edge, to receive, respectively, flanches *g g*, turned in on the lower edges of the case-plates B C.

Besides, there are two slight upward indentations

d d, one near each side edge, inside of which the said case-plates, respectively, spring, and are thereby held in position, though the indentations do not prevent the removal of the case-plates, by the exertion of a little force.

The two case-plates, or halves B C, may be struck into the shape represented, or any other suitable one, with such ornamentation of form as may be desired.

Their lower edges are turned inward, at right angles, and thus form flanches *g g*, which fit under the slightly-projecting lips *c c* of the base-plate, as above set forth, to secure them to the base-plate, and the inner edge *h* of one plate B fits and shuts over the adjacent edge *i* of the other plate C, closely enough to unite them firmly and fixedly.

The bearings *j j* of these case-plates, in which the spring-shaft G and roller-journals H turn, are extended in surface much more than the thickness of the metal, by punching through the metal, and forcing the burr of metal displaced by the punch inward, in the form of a short tube, as shown. By this simple and inexpensive means, an excellent and durable bearing is produced, out of very thin sheet-metal.

Next, for the spring D, I employ a spring-holder, E, which consists of a short cylinder, or hoop, of metal, surrounding the spring, and thus always holding the spring within its bounds, whether wound up or not, or more or less. It also has (or may have, for it is not a necessary, though a desirable part of the spring-holder,) a head at one end, to keep the spring from contact with the movements behind.

The outer end of the spring extends through an aperture in the holder, and is bent in the form of a hook, as at *b*, figs. 3 and 4.

This spring-holder serves a fourfold purpose, namely, first, of containing the spring within a circle of constant size, whether wound up or not, so that it cannot bear against the pinion-shaft, or roller-journal H, nor against the bracket-case; second, of keeping the spring separated from the cog-wheel and ratchet adjacent to it; third, of keeping the outer, hooked end *b* of the spring always in position to seize and hold against the catch *a* of the bracket, so that, however the spring may be inserted or situated, it never fails to take and keep its hold; fourth, of containing the spring in a compact position, after once manufacturing and putting in shape for packing to transport, and for easily inserting in place in the bracket, or, in case of removal therefrom at any time, for readily reinserting.

The head and periphery of the spring-holder are generally made in two pieces, and separable, and one may be used without the other.

A ratchet, *s*, and spring-detent *e*, are used, in connection with the cog-wheel J, so that the spring can be wound up, by turning the fixed knob I, on the end of the spring-shaft G.

The spring-case E and free hook end *b* of the spring,

in connection with the ratchet and detent, allow a free adjustment of the force of the spring, to perfectly balance the curtain at any time, and there is no danger of any part getting out of position or order.

The knob *I* is struck out of sheet-metal, for cheapness, and to correspond in appearance with the other parts of the bracket. In order to give proper strength and firmness to the sheet-metal, it is made of cup-shape, and its periphery is formed in corrugations, substantially as shown, and its central bearing *k* is formed into a short cylinder, by punching the metal inward, as before described, for the bearings of the spring-shaft in the bracket-case.

The left-hand bracket, fig. 7, consists of the base-plate *A* and side cases *B C*, similar to the right-hand bracket. It contains only a sliding journal, *N*, for that end of the curtain-roller *L*, and a (preferably coiled) spring, *r*, for keeping the journal pressed forward into the socket-bearing *m* of the roller.

There is also a thumb-piece, or knob, *p*, attached to the journal, and projecting outward through a slot, or opening in the bracket-case, so that when the roller is to be taken down or put-up, by pressing the said thumb-piece back, the journal is moved out of the roller-socket.

Then, when the roller is put in position, on letting the thumb-piece free, the spring *r* forces the journal into the socket *m*, and holds it there.

In order to form durable and secure socket-bearings in the ends of the curtain-roller *L*, socket-caps *M* are driven over these ends of the roller, there being a rabbet, *l*, fig. 7, turned in the wood, of the thickness of the sheet-metal of which the cap is formed, so that the surface of the metal is flush with the surface of the roller.

The extended socket-bearing *m* of the cap is formed by punching the metal inward, as before described, for the bearings of the bracket.

The socket to receive the journal of the right-hand bracket is square, angular, or otherwise shaped, to receive a fitting form of the journal, so that it will turn therewith.

The socket and journal of the left-hand bracket are round.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Forming the bracket-case of two parts *B C*, one shutting and fitting over the other, and both secured to a base-plate, *A*, substantially as and for the purpose herein specified.

2. Also, the lips *c c* and the indentations *d d*, on the base-plate *A*, formed and arranged in relation to and in combination with the parts *B C* of the bracket-case, substantially as and for the purpose herein specified.

3. Also, the catch *a*, struck up from the metal of the base-plate *A*, and arranged in combination with the spring *D*, and its free or unattached holder *E*, substantially as and for the purpose herein set forth.

4. Also, the spring-holder *E*, constructed substantially as described, in combination with the spring, and applied to the fixture, thereby serving the several purposes, as herein set forth.

5. Also, the knob *I*, when formed, of sheet-metal, into a hollow, or cup-shape, with peripheral corrugations, for the purpose herein set forth.

6. Also, the left-hand bracket, having mounted in it the sliding journal *N*, spring *r*, and projecting thumb-piece *p*, substantially as and for the purpose herein specified.

The above specification of my improvements in the construction of curtain-fixtures, signed by me, this 20th day of May, 1868.

A. H. KNAPP.

Witnesses:

EDM. F. BROWN,
J. S. BROWN.