(No Model.) 2 Sheets—Sheet 1.

L. WEBER.

CURTAIN FIXTURE.

No. 336,610. Patented Feb. 23, 1886.

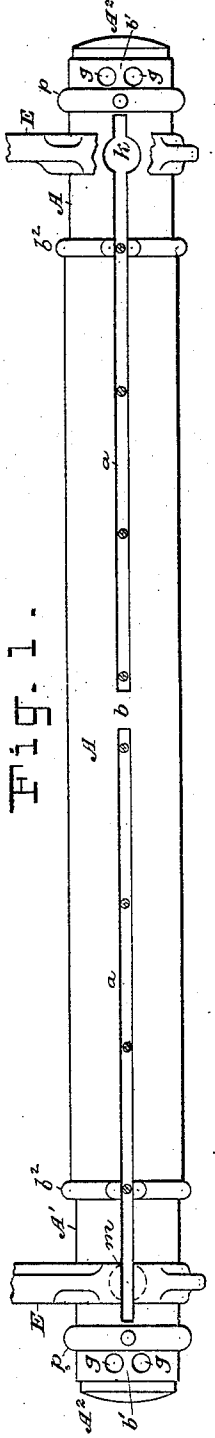


Fig. 1.

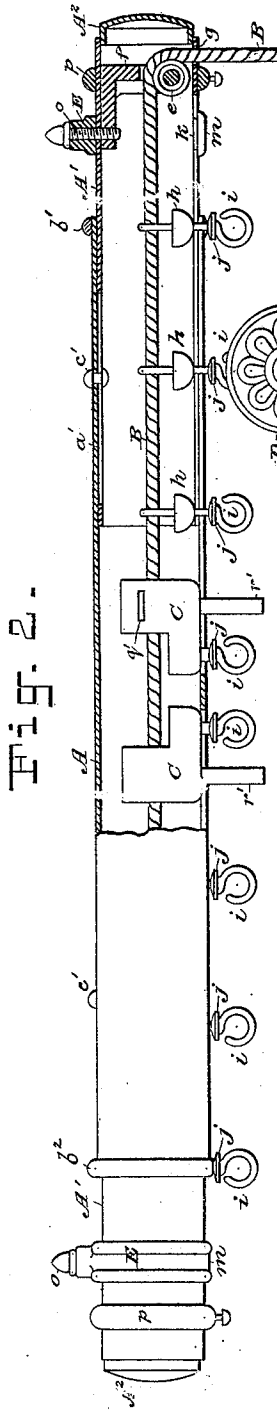


Fig. 2.

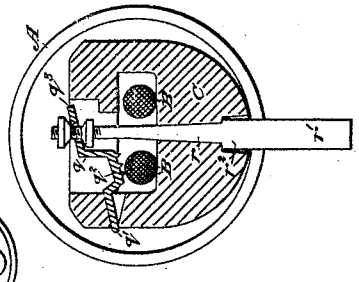


Fig. 7.

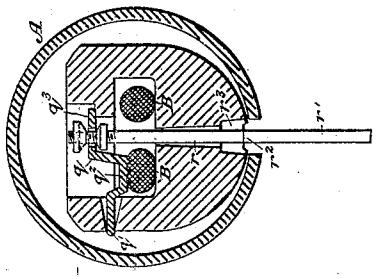


Fig. 6.

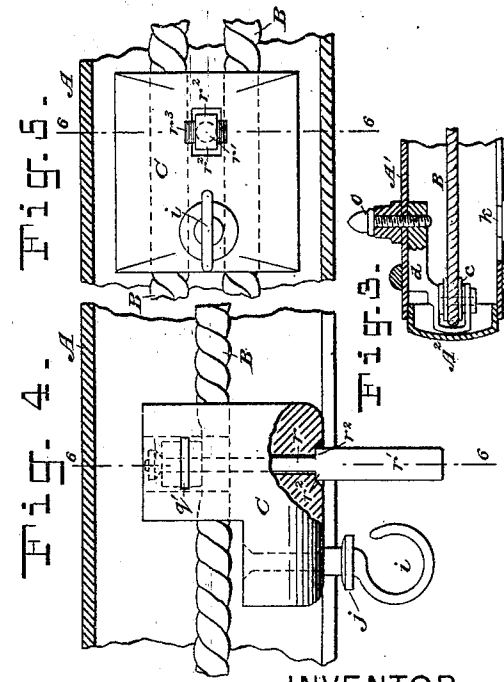


Fig. 5.

Fig. 4.

Fig. 3.

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(No Model.) 2 Sheets—Sheet 2.

L. WEBER.

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Fig. 10.

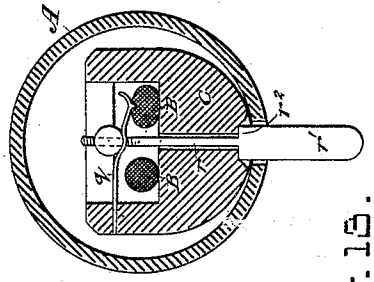


Fig. 9.

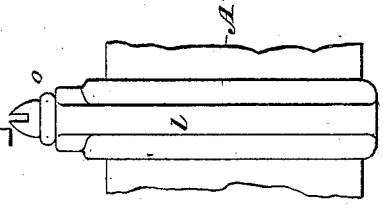


Fig. 8.

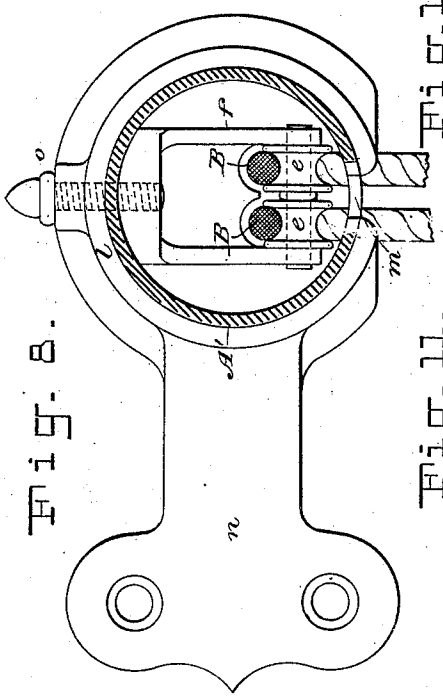


Fig. 15.

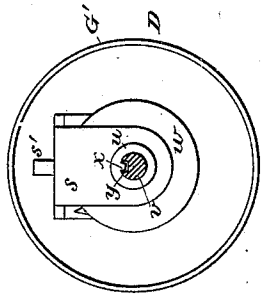


Fig. 12.

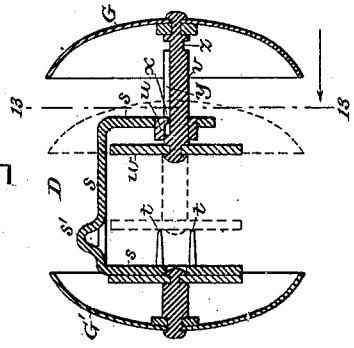


Fig. 11.

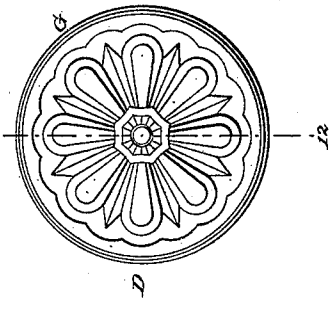
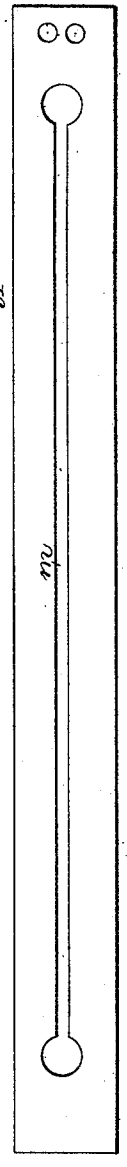


Fig. 14.



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UNITED STATES PATENT OFFICE.

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CURTAIN-FIXTURE.

SPECIFICATION forming part of Letters Patent No. 336,610, dated February 23, 1886.

Application filed December 2, 1884. Serial No. 149,313. (No model.)

To all whom it may concern:

Be it known that I, LOUIS WEBER, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Curtain-Fixtures, of which the following is a specification.

My invention relates to improvements in that class of curtain-fixtures which employ tubular slotted curtain-bars, and inside curtain controlling and operating mechanism, the curtain or curtains being operated by a cord which plays longitudinally within the bar, and it embraces improvements upon the inventions described in Letters Patent No. 291,928 and 297,627, dated, respectively, January 15, 1884, and April 29, 1884.

The novel features of my invention consist:

First. In providing a slotted tube for a curtain-bar with an enlargement for the slot in the tube, through which enlargement may be passed the internal mechanism that carries the curtain when mounting, dismounting, and repairing the same.

Second. In a cut-ring bracket constructed and arranged to partly close the opening or enlargement in the slot, so as to make the slot continuous through or past the bracket.

Third. In the construction and arrangement of the frame for the cord-guiding sheaves, so that, while said frame is secured to the bracket which supports the curtain bar, yet the sheaves are arranged nearer the end of the bar than the bracket. This enables the curtain to be carried beyond the bracket, and it also leaves the end cap of the bar free to be removed without disturbing the sheaves.

Fourth. In a specific device or mechanism for securing the "master-ball" to the cord at any point on the latter from outside the bar, whereby this shifting of the master-ball may be readily effected without dismounting the bar. I do not herein claim, broadly, all means for effecting this shifting from the outside of the bar, as such a means was shown in one of the patents heretofore referred to.

Fifth. In an improved clamp for the curtain.

I will now describe my invention with reference to the accompanying drawings, wherein—

Figure 1 is a view of the under side of an extension curtain-bar constructed according to my invention. Fig. 2 is a front elevation, as to the left-hand end, and a vertical longitudinal mid-section as to the right-hand end, of said bar. Fig. 3 is a vertical longitudinal mid-section of the left-hand end of said bar, showing the mode of mounting the sheave-frame for carrying the operating-cord at that end. Figs. 4, 5, 6, and 7 illustrate on a larger scale the construction of the master-ball and its clamp. Fig. 4 is a side elevation of the master-ball, the curtain-bar being in section. Fig. 5 is a view of the under side of the master-ball, the curtain-bar being in section. Fig. 6 is a section taken on line 6 6 in Figs. 4 and 5. Fig. 7 is a similar view to Fig. 6, but showing the cord-clamp released. Fig. 8 is a side elevation, and Fig. 9 a front elevation, on a large scale, of the bracket for supporting the curtain-bar. Fig. 8 also shows the curtain-bar in section in the plane of the bracket, and the frame and cord sheaves arranged in the end of the bar. Fig. 10 illustrates a modification of the cord clamp for the master-ball, being a sectional view corresponding to Fig. 6. Figs. 11, 12, and 13 illustrate, on a large scale, the clamp for grasping and supporting the curtain, Fig. 11 being a front view, showing the ornamental cap which screens and conceals the operative mechanism; Fig. 12, a section on line 12 12 in Fig. 11, and Fig. 13 a section on line 13 13 in Fig. 12. Fig. 14 is a view of a simple non-extensible curtain-bar provided with my improvements, the view being taken from the under side, in order to show the slot and enlargements at its ends.

Like letters of reference designate like parts in all the figures.

When a hollow or tubular curtain-bar is slotted from end to end, in the usual way, it loses much of its rigidity, and becomes so distorted as to lose its symmetry.

The tube of my improved bar, as shown in Figs. 1 and 14, is unslotted at the ends, and when a two-part curtain is to be used is also unslotted at its middle.

Referring to Figs. 1 and 2, which represent an extensible telescopic bar, A is the main or middle section of such a curtain bar; A′ A′, telescoping end sections whereby the bar is made extensible, and A^2 A^2 end caps, which

may or may not be used; or, in lieu of these caps, ornamental knobs may be employed.

a a represent the slots in the under side of the bar; *b*, the uncut portion at the middle of the bar, (which is shown herein as constructed for a two-part curtain,) and *b' b'* the uncut portions at the ends of the bar. These letters *b* and *b'* simply indicate the limits of the slots *a*.

In an extension-bar the ends of the middle section, A, are provided with stiff re-enforcing rings b^2, as it is of course necessary to extend slot *a* through the ends of this section.

The internal mechanism or movement for operating the curtains comprises a cord, B, the "bight" of which engages a sheave, *c*, in Fig. 3, mounted on a vertical axis in a frame, *d*, at one end of the bar, and the ends of which pass over two sheaves, *e e*, in Figs. 2 and 8, mounted on a common horizontal axis in a frame, *f*, at the other end of the bar. The ends then pass down through holes *g g*, Figs. 1 and 2, in the under side of the bar, and may be provided with buttons or tassels, if desired.

On the parallel sides of cord B are "threaded" balls or carriers *h h*, similar to those shown in the former patents herein referred to, and to the cord are secured master-balls C C, which will be more particularly described hereinafter. The balls or carriers *h*, as well as the master-balls C are provided with hooks *i*, or other equivalent devices, from which to suspend the curtain-clamps D, (one of which is shown in Fig. 2,) and the stems of said hooks, which pass up through the slots *a* in the bar, are each provided with a disk-like collar, *j*, which is too wide to pass up through the said slot, and which prevents the hook from being drawn up into the slot, as it is likely to be when the curtain is operated.

I do not herein claim providing the stems of the hooks with these collars, as such devices were shown in the Patent No. 297,627, before referred to; but in order that hooks so provided may be conveniently used in a bar wherein the slots do not extend to the end of the same, I now provide the slots with an enlargement, *k*, at one or both ends, as the case may be, through which the said collared hooks may be passed from the inside outward after the movement or operating mechanism has been passed in at the open end of the bar. I may also make the aperture *k* large enough to enable me to pass the whole internal mechanism through it, in which case the said mechanism could be dismounted or removed without removing the end caps or knobs from the bar.

In order to cover that portion of the aperture *k*, which extends laterally beyond the seat, and thus make said aperture a continuation of the said slot, I employ a cut-ring bracket, E, (shown enlarged in Figs. 8 and 9,) which is or may be so set with reference to said aperture *k*, as to limit the width of the same to that of the slot, as clearly shown. This bracket comprises the bar-embracing ring *l*, having a cut, *m*, in it as wide as the slot *a*, or substantially as wide, and a stem or flange, *n*, which serves to attach the bracket to the window frame or jamb or other part, and which may be of any form adapted to effect this object.

In Figs. 1 and 2 I have shown the slot *a* extended beyond the aperture *k*, and this construction may be adopted where the bracket E is to be set at some distance from the end of the curtain-bar; but in most cases the enlargement will be at the end of the slot, as in Fig. 14.

I may employ a bar with an aperture or apertures, *k*, in connection with ring-brackets, which are uncut, and wherein the bracket serves to cover and close said opening.

In order that the curtain may be extended beyond the bracket and the cord bearing or supporting sheaves be mounted on or attached to said bracket, I construct the frames which carry the said supporting-sheaves—as *f*, for example, in Figs. 2 and 8—so that when the attaching branch or flange of said frame is secured to the said bracket—by a screw, *o*, for example—the supporting-sheaves will stand beyond the plane of the bracket and near the end of the curtain-bar. This construction has several advantages. It enables me to remove the end cap of the bar without disturbing the internal mechanism, to carry the curtain beyond the jamb of the window where the bracket is attached, and at the same time to get a firm attachment of the sheave-frame to the bracket. I have shown the screw *o* as utilized to hold the bar from rotating or sliding endwise in the bracket, as well as for securing the sheave-frame to the bracket; but it is obvious that the bar might be secured to the bracket by one screw, and the sheave-frame secured to the bracket by a screw arranged to play in a slot in the curtain-bar. This construction would permit of adjusting the bar endwise with respect to the bracket and sheaves.

In Fig. 1 I have broken away the bracket at the right, in order to show the aperture *k*. At the left it is indicated by dotted lines.

On the ends of the curtain-bar are or may be placed re-enforcing bands *p*, which may be utilized for attaching the outer non-moving margins of the curtain to, a pin, hook, or eye being provided for the purpose.

In Fig. 2 is illustrated the means I employ for preventing the rotation of one section of the cylindrical curtain-bar within another, and for limiting the extension of the bar. In the inner section, A', is a longitudinal slot, *a'*, which is parallel with the axis of the bar, and of the proper length to give the bar the necessary or desired extension. Through this slot, from the inside, is passed a rivet, *c'*, which is secured in the shell of the outer section, A. The shank of this rivet has a diameter equal to the width of the slot *a'*, and it thus serves to limit the movement of the sections endwise and to prevent their rotation one within the other. The head of the rivet extends over the margins of the slot, and I usually draw it down

snugly to the inner section, so as to prevent any looseness, and keep the sections in frictional contact. The slot might be made in the section A, in which case c' might be a screw screwed into the inner section through the slot. I make no claim to this device, as it is not new with me.

I will now describe my improved master-ball C, premising that heretofore means have been provided whereby these master-balls may be attached to and detached from the operating-cord B, through the medium of a clamping device operated from the outside of the bar. My present invention relates to a novel device for effecting this attachment and detachment, and I will describe it, with reference to Figs. 4, 5, 6, 7, and 10. The master ball itself may be of any suitable or convenient shape, and it is provided with an aperture for the passage of the two parallel sides of the operating-cord B. Mounted in a recess in the top of the master-ball is a lever-like cord-clamp, q, the tail q' of which has a fulcrum-bearing in the side of said recess. The middle portion, q^2, of the lever is arranged to press upon one side of the cord B, and may be provided with teeth or be made rough where it bears on said cord, the better to serve as a clamp. In the free end q^3 of the lever is loosely mounted the stem r of an operating-rod, which stem passes down through a hole in the master-ball and is provided with a shouldered extremity, r', which passes through and plays in the slot a in the curtain-bar. Figs. 4, 5, and 6 show the clamp q drawn down so as to clamp the ball C to the cord B. In order to retain the clamp in this position the operating rod, when the clamp is drawn down, is turned a quarter way around on its axis, when shoulders r^2 on said rod will engage the margins of the hole through which the rod plays and prevent the clamp q from lifting. When it is desired to free the cord from the clamps, the operating-rod is turned a quarter-way round and the shoulders r^2 are free to enter lateral enlargements r^3 of the hole, as shown in Fig. 7. This permits the clamp to be lifted by raising the rod. When the clamp is thus lifted, to prevent it from dropping back on the cord I usually make the stem r tapered or wedge-shaped, as seen in Fig. 7, to wedge fast in the correspondingly-tapered hole in which it plays. When in the clamped position indicated in Figs. 4, 5, and 6, the shoulders r^2 engage shallow recesses which prevent the former from being accidentally disengaged. A spring may be employed to throw up or free the clamp when disengaged, or the clamp itself may be a spring, as shown in Fig. 10. In this latter view I have shown the power applied between the ends of the lever.

I will now describe, with especial reference to Figs. 11, 12, and 13, my improved curtain-clamp D. In this clamp s, is a bent plate, somewhat in the shape of an inverted U, as clearly illustrated in Fig. 12, which shows the clamp open or extended. To the inner face of one pendent branch of this plate are fixed in any manner pins or prongs t, and in or on the other branch is mounted an elongated or tubular bearing-sleeve, u, in which plays longitudinally a cylindrical stem, v, bearing a disk or plate, w, which faces the pins t. In the sleeve u is a projecting stud or pin, x, and in the stem v is a longitudinal groove, y, and a circumferential groove, z. The pin x engages groove y and prevents rotation of the stem, but permits the latter to move endwise; but when the stem is pushed in until the circumferential groove z is in the plane of pin x, the latter engages said groove z and permits the stem to rotate. This position of stem v and its disk w is indicated by dotted lines in Fig. 12, and is the position when the curtain is clamped and pressed upon the prongs or pins t by plate w. The stem v is now rotated a little, until the pin x is out of line with groove y, when the said pin serves as a detent to prevent the clamp from opening. It may be opened by reversing the operation.

In order to provide a hand-hold for operating the stem v, I secure to its end an ornamental plate, G, which also serves to screen the mechanism of the clamp, and I may also provide the clamp with a like or similar back plate, G', to serve also as a screen to hide the mechanism from that side. The disk or plate w may also be provided with prongs or teeth; but in this case it must be mounted rotatively on the stem, otherwise the stem could not be rotated after the clamp was closed on the curtain. The bent plate or frame s is provided with a loop or eye, s', whereby the clamp is suspended from the hook i of the curtain-operating movement.

It will be unnecessary to explain the mode of operating the curtain or curtains along the bar by the cord, as this is fully disclosed in the patents I have referred to, and is well understood.

I am aware that it has been proposed to mount a U shaped curtain-bar within a recess in the under side of a bracket, whereby the curtain may be so mounted that it can be drawn past the brackets; but this I do not claim. I employ a cylindrical or tubular bar with a slot in its under side and mount it in ring-like projecting brackets that embrace said bar, and are cut where they would otherwise cross and obstruct said slot.

Having thus described my invention, I claim—

1. A bar for a curtain-fixture, comprising a tube having a slot, a, in its under side, which does not extend to the end of the tube, and an enlargement, k, in said slot, substantially as and for the purposes set forth.

2. The combination, with a tubular curtain-bar provided with a slot, a, and an enlargement, k, of said slot, of a cut-ring bracket, E, arranged to cover said enlargement k, all constructed and arranged substantially as and for the purposes set forth.

3. The combination, with a tubular slotted curtain-bar and a cut-ring bracket constructed

and arranged substantially as shown, of the frame for the cord-bearing sheave or sheaves, and the said sheaves arranged substantially as shown, whereby the curtain may be drawn beyond the bracket, as set forth.

4. As a means for attaching the master-ball to and detaching it from the operating-cord, a clamp comprising a movable jaw arranged over the cord where the latter passes through the master-ball, and a shouldered stem rotatively attached to said jaw at its upper end and depending through an aperture in the ball, and the slot in the curtain-bar, the shoulder on said stem being arranged to engage a shoulder on the master-ball when the stem is drawn down and the clamping effected, substantially as set forth.

5. As a means for attaching the master-ball to and detaching it from the operating-cord, the combination, with the master-ball provided with an aperture for the passage of the said cord and a hole for the passage of the operating-rod provided with lateral enlargements r^3, of the cord-clamp, and the operating-rod connected loosely to said clamp and provided with shoulders r^2, all constructed and arranged to operate substantially as shown and specified.

6. In a curtain-fixture, the combination of the slotted curtain-bar, the operating-cord mounted therein, the master-ball C, provided with an aperture for the passage of the operating-cord, and a hole for the operating-rod that has lateral enlargements r^3, the cord-clamp q, provided with teeth, or their specified equivalents, to engage the operating-cord, and the operating-rod coupled to the clamp-lever and provided with shoulders r^2, and arranged to extend down through the slot in the bar, all constructed and adapted to operate substantially as set forth.

7. The curtain-clamp D, comprising the bent plate or frame s, provided with prongs t, and an elongated bearing, u, the pin x, the stem v, provided with the grooves y and z, arranged as shown, the disk or plate w, mounted on the one end of the stem v, and the plate G, secured to the other end of said stem to form a screen for the mechanism and to furnish a convenient means for operating the clamp, all substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

LOUIS WEBER.

Witnesses:
ROBERT CREUZBAUR,
HENRY FR. KOCH.