No. 704,738. Patented July 15, 1902.

O. M. EDWARDS.

SHADE ROLLER.

(Application filed Feb. 26, 1900.)

(No Model.)

Fig. 1

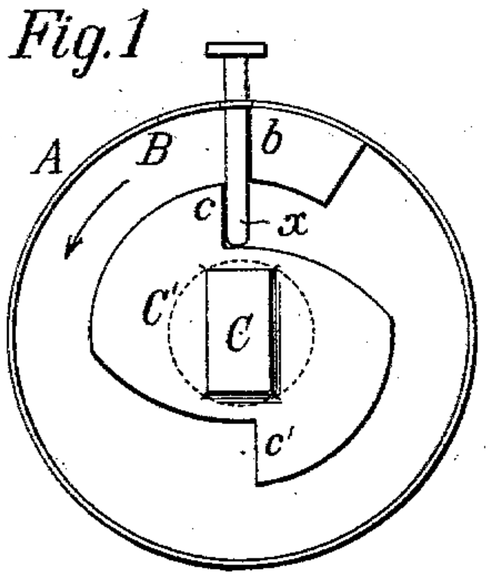


Fig. 2

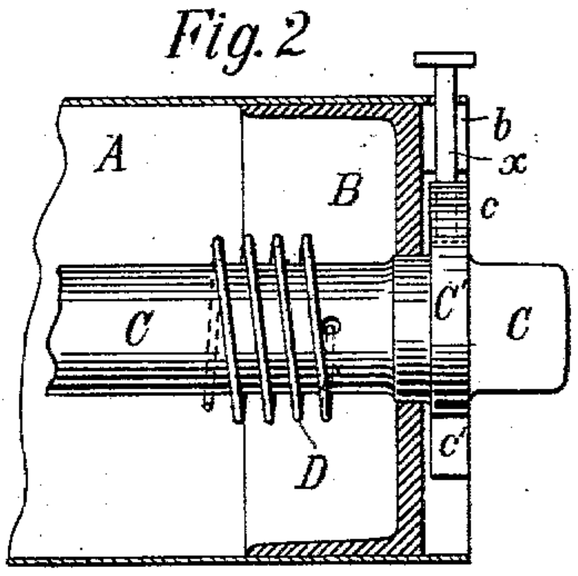


Fig. 2a

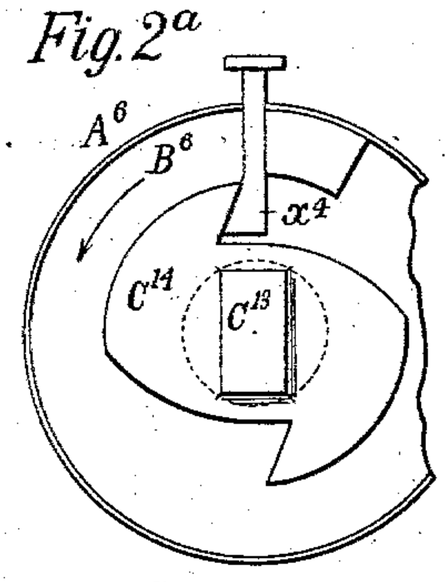


Fig. 3

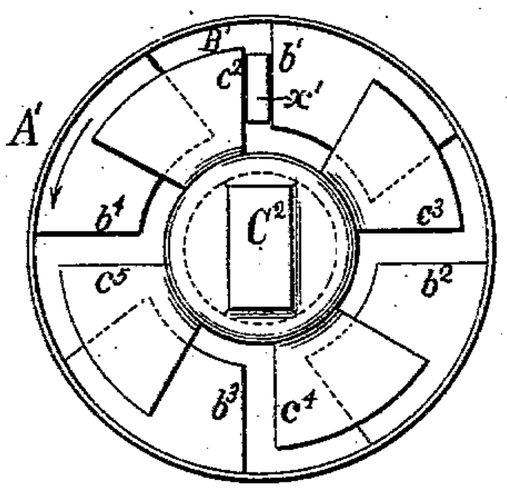


Fig. 4

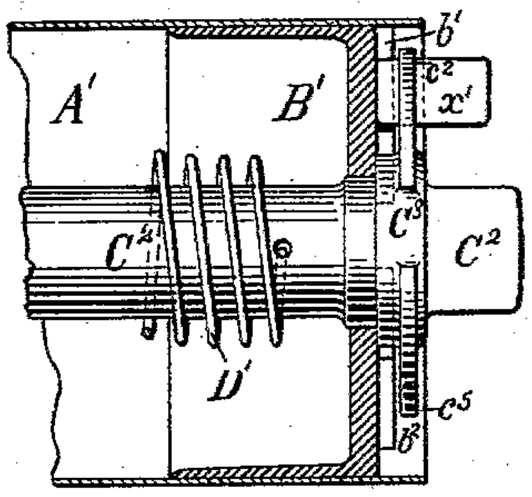


Fig. 2b

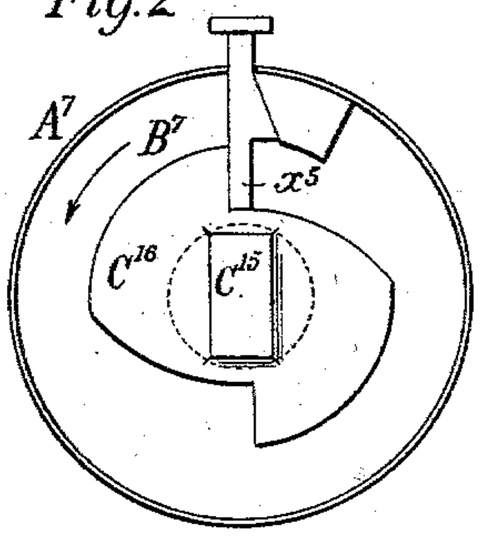


Fig. 6

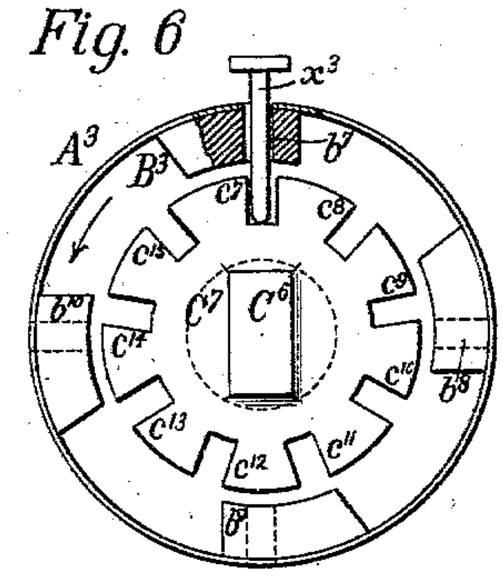


Fig. 7

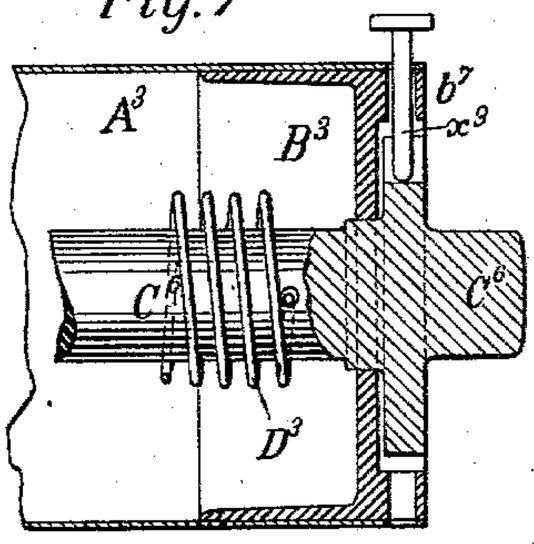


Fig. 5

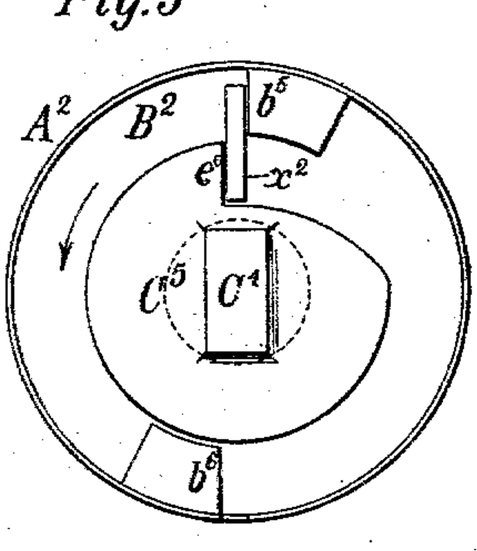


Fig. 8

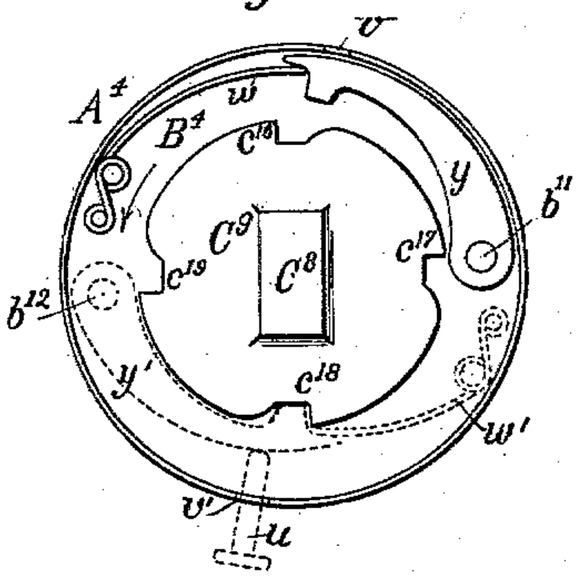


Fig. 9

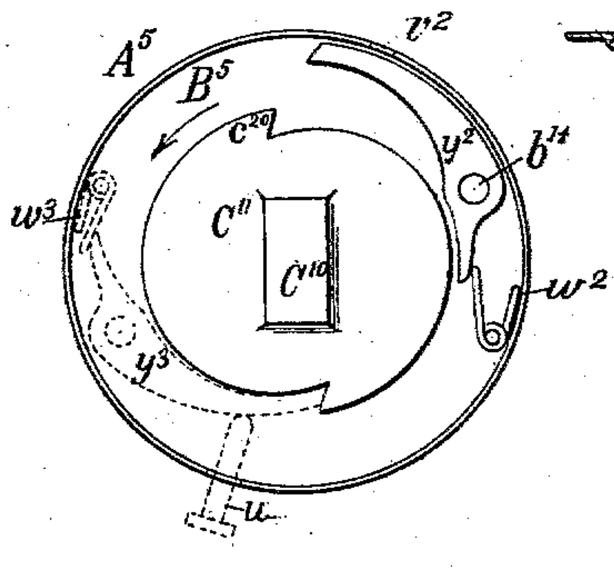
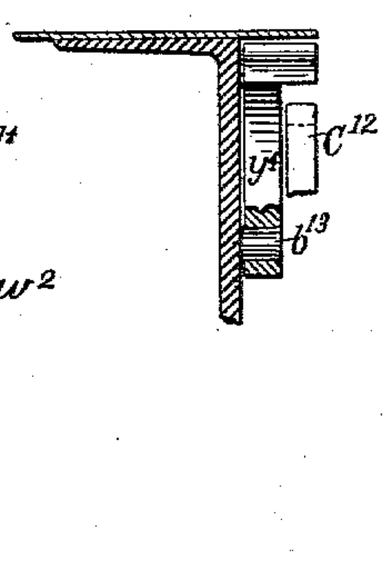


Fig. 8a



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Oliver M. Edwards, Inventor
by Young L. Newburg. Atty

UNITED STATES PATENT OFFICE.

OLIVER M. EDWARDS, OF SYRACUSE, NEW YORK.

SHADE-ROLLER.

SPECIFICATION forming part of Letters Patent No. 704,738, dated July 15, 1902.

Application filed February 26, 1900. Serial No. 6,543. (No model.)

To all whom it may concern:

Be it known that I, OLIVER M. EDWARDS, a citizen of the United States, residing at Syracuse, county of Onondaga, State of New York, have invented new and useful Improvements in Shade-Rollers, of which the following is a full, clear, and exact description, reference being had to the drawings accompanying and forming a part of the same.

My invention relates to that class of shade-rollers which are movable from and replaceable in their brackets with the usual facility that this is done in ordinary shade-rollers and in which a pawl or dog is employed for purposes of adjusting the stress or tension of the springs while the rollers are wholly or partially removed from their supporting-brackets and is inoperative during the normal use of the rollers. Shade-rollers of this class (which are many times known as "bottom" or "single-notch" spring-rollers) as usually used have one or two pawls or dogs attached to the body portion of the roller, so as to move relatively thereto by gravity, and only one point of engagement with the spindle. In use the spindle is placed in its bracket, so that this point of engagement, usually a notch in a disk on the spindle, is beneath the spindle, and gravity in this case causes the pawl or dog, as the under side of the spindle is approached in the revolution of the body portion of the roller around it, to fall away from the spindle and its notch or point of engagement and prevent the engagement of the pawl therewith. Consequently the pawl or pawls are inoperative in the normal use of the roller. The stress or tension of the rollers of this class is usually adjusted before the rollers are mounted in their brackets, but after the material to be wound thereon is secured to the rollers and while both spindle and body portion of the roller are free to rotate. The material to be wound upon the roller is, as usual with these single-notch rollers, of such dimensions relatively to the roller and is so secured thereto that the pawl or dog is readily accessible when it is desired to lift the dog against the action of gravity and cause it to engage with the spindle. To adjust the stress of the spring, the roller is held so that when the dog or pawl is opposite the notch in the spindle it will fall into it, and as soon as this occurs the spindle and body portion of the roller are held in fixed relation to each other, so that the roller can be mounted in its bracket, as explained. When this is done, the body portion is turned a little to relieve the frictional contact of the dog and notch, when the dog is free to fall by gravity, and it cannot engage with the spindle again until forced upward against gravity and made to enter the notch. Spring-rollers of this class are thus used when the thing, whatever it may be, is held in desired positions by means outside of the rollers themselves—as, for instance, the automatic raising of window-sashes, where the sash is held in the desired positions by devices acting directly upon the sash. If rollers of this class be placed in brackets, with the notch or point of engagement for the dog uppermost or above the spindle, each time a dog or pawl passes such notch or point of engagement it can fall into the notch and engage therewith, if the movement of the dog and body portion of the roller be slow enough to permit of its doing so. Many times rollers of this class have been placed in their brackets with the notch of the spindle uppermost, when the reverse should have been the case, and quite serious accidents have occurred by reason of window-sashes falling from this cause.

The object of this invention is to obviate this difficulty by dispensing with the use of gravity or other automatically-acting pawls or dogs in this class of rollers and providing other means by which the barrel and spindle may be held or locked in fixed relations to each other for the purpose of adjusting the tension of their springs and yet have all of the convenience of removal and replacement of such rollers in their brackets and of adjustment of the stress or tension of their springs now had in the single-notch roller hereinbefore described and also to provide a construction which is simple and may be cheap to manufacture, convenient to use, and without liability of being wrongly placed in its brackets, and thereby causing accidents; and it consists in combining with the barrel and spindle of spring-rollers of fixed abutting surfaces, the surface or surfaces on the barrel being adapted to move past the surface or surfaces on the spindle, the surface

or surfaces on the spindle being arranged with a portion of such surface or surfaces in a circle of greater diameter than the body of the spindle, whereby means adapted to engage with the abutting surfaces may be employed solely for locking the spindle to the roller and which are normally free from a locking position between the abutting surfaces, but are manually movable into such locking position; and my invention also consists in certain other novel and useful combinations of parts, all of which will be hereinafter fully described, and pointed out in the claims.

Like letters of reference, wherever they occur, indicate corresponding parts in all of the figures.

Figure 1 is an end elevation of a spring-roller having my improvement applied thereto. Fig. 2 is a longitudinal sectional view of a portion of the roller seen in Fig. 1. Figs. 2^a and 2^b show modifications of the construction seen in Figs. 1 and 2. Fig. 3 is an end elevation of a spring-roller, illustrating a modified construction of my improvement applied thereto. Fig. 4 is a longitudinal sectional view of a portion of the roller seen in Fig. 3. Figs. 5, 6, 8, and 9 are end elevations of spring-rollers having modified constructions of my improvement applied thereto. Fig. 7 is a longitudinal sectional view of the construction seen in Fig. 6. Fig. 8^a is a longitudinal section of a modification shown in Fig. 8.

In Figs. 1 and 2, A is the barrel, and it is formed, as is usual with this class of rollers, of sheet metal, cylindrical in form, and provided with the usual slot (not shown) to receive the end of the shade or other material to be secured thereto and the rod which secures such end to the roller. The barrel A is supplied with the usual heads or end pieces, one of which, B, receives the spindle C, the spindle passing loosely through the head B in the usual manner, so that a portion of it is within the barrel A and a portion extending beyond it, the latter portion being flattened on opposite sides, adapting it to be received by the usual slotted bracket and held therein against turning by the slot in the bracket engaging with the flattened sides of the extending end of the spindle. One end of the spring D is connected with the barrel A, and the other end is connected with the spindle C in the usual manner, and as the barrel is turned in the direction of the arrow on Fig. 1, the spindle remaining stationary, the spring is unwound or uncoiled, and the reverse movement of the barrel relatively to the spindle winds up the spring D and puts it under stress or tension to enable the roller to do its work, all as is usual with this class of rollers. The barrel A at its end opposite the extending end of the spindle is provided with the usual journal or bearing, which is received in the usual form of bracket used with this class of rollers. The head B is provided with a fixed abutting surface *b*, which may be formed integral with the head B, as shown, or otherwise, as the judgment of the constructor dictates. The spindle C is provided with a disk C′, which disk, as shown, is provided with two fixed abutting surfaces *c c′*, formed therein, as desired, the surfaces *c c′* on disk C′ being arranged, preferably, as shown, wholly in a circle of greater diameter than the body of the spindle—as, for instance, taking the body at a point between the end of the spring which is secured to the spindle and where the spindle is enlarged to pass through the head B of the barrel; or the surface *c* or *c′* may be otherwise arranged so long as the portion farthest from the axial line of the roller is arranged in a circle of greater diameter than the body of the spindle, so that such portion may serve to extend the leverage of the abutting surface to a point beyond the circumference of the body of the spindle, which is usually the smallest portion thereof. These surfaces *c* and *c′* are preferably formed in the same radial plane with the surface *b*, and they are preferably made so as to pass in close proximity one with the other, but without contact therewith. This construction and arrangement of abutting surfaces on the spindle permits of two, three, or more of such surfaces being formed thereon without unduly weakening the spindle at what is usually its weakest point and also gives to the abutting surface an increased leverage, and consequently a smaller and weaker device may be manually inserted between the abutting surfaces on the barrel and spindle than otherwise would be the case, the action of the surfaces on the device being of the character of a shearing action and not that of simply a bending one.

In order to adjust the stress or tension of the spring D, the barrel A, before the roller is placed in its brackets, is turned relatively to the spindle C in a direction opposite to that indicated by the arrow on Fig. 1 until the desired stress or tension is obtained, and then a pin *x* may be manually inserted between the abutting surface *b* and abutting surface *c*, (or *b* and *c′*,) as seen, and the stress or tension of the spring D allowed to force the lower portion of the pin *x* against surface *c* by contact of surface *b* with the middle portion of pin *x*, when the barrel A and spindle C will be temporarily held in fixed relations to each other, and in this condition the roller can be placed in its supporting-brackets, as usual. To release the barrel and spindle from such fixed relations, it is only necessary to move the barrel in a direction to wind up the spring and remove the pin.

To remove the roller from its bracket, move the barrel against the stress of the spring until the pin *x* or a similar acting device can be manually inserted or moved in between the surface *b* and either *c* or *c′*, as the case may be,

and permit the barrel to force the pin in contact with the surface c or c', when the barrel and spindle will again be temporarily held in fixed relations to each other and the roller can be removed from its brackets and any desired work be done thereon and the roller returned into position for doing its normal work. The pin x forms means which is manually movable into and out of locking position between the abutting surfaces b and c or b and c' to temporarily hold or lock the barrel and spindle in fixed or locked relation to each other. The pin x is independent of the roller, being unattached thereto, but is manually movable into position to lock the spindle to the roller whenever it is desired to adjust the tension of the spring.

Instead of the abutting surfaces being arranged in the same radial plane, as seen in Figs. 1, 2, 5, 6, and 7, they may be arranged in different radial planes, as seen in Figs. 3 and 4, wherein abutting surfaces, four in number, b', b^2, b^3, and b^4, are secured to the head B′ in any desired manner, all in one radial plane, and four abutting surfaces c^2, c^3, c^4, and c^5, are formed on the spindle C^2, as shown, and arranged in another radial plane and preferably to pass in close proximity to the surfaces b', b^2, b^3, and b^4, but so that one series of surfaces may pass the other without contact therewith. In this case the pin x' may be interposed between any one of one series and any one of the other in a direction parallel with the axis of rotation of the roller, and it is shown as being interposed between the surface b' and c^2; but it may be otherwise inserted, if desired—as, for instance, in the direction shown in Figs. 1 and 2. In Figs. 3 and 4, A′ is the barrel; B′, the head; C^2, the spindle, and D′ the spring. Otherwise than as just explained the construction and mode of operation are the same as in case of the construction seen in Figs. 1 and 2.

Instead of having one abutting surface b on the head B and two, c c', on the spindle C, as shown in Figs. 1 and 2, there may be two such, b^5 and b^6, on the head B^2 and one, c^6, on the spindle C^4, if desired, as seen in Fig. 5, the construction of head and spindle there shown otherwise being the same as in Figs. 1 and 2. In this case the pin x^2 or other device adapted to serve a similar purpose may be manually inserted in a direction parallel with the axis of rotation of the roller, if desired, as indicated in dotted lines in Fig. 5. Also the abutting surfaces may be formed on head B^3, as shown in Figs. 6 and 7, and of any desired number—as, for instance, the four, b^7, b^8, b^9, and b^{10}, seen in Fig. 6. In this case a hole is drilled from the exterior of the roller in a radial direction to form these surfaces on the barrel-head, and notches are formed in disk C^7, on spindle C^6, to receive the lower end of pin x^3, the holes and notches being arranged in substantially the same radial plane. As seen in Fig. 6, there are nine of these notches, c^7 c^8, c^9 c^{10}, c^{11}, c^{12}, c^{13}, c^{14}, and c^{15}, each one of which forms an abutting surface on the spindle, against which the lower end of pin x^3 may abut when placed in any one of the four holes through which the lower portion of such pin may be thrust. In Figs. 6 and 7, A^3 is the barrel; B^3, the head; C^6, the spindle; C^7, the disk thereon, and D^3 the spring. Otherwise than as above the construction and mode of operation are the same, as in case of the construction seen in Figs. 1 and 2.

More than one abutting surface formed on the barrel-head is advantageous, because it provides for the interposition of the pin or similar acting device from more than one direction relatively to the axis of rotation of the roller, when it is in the bracket, and the roller does not have to be turned so far against the stress of the spring to reach a given abutting surface on the spindle. Also more than one abutting surface on the spindle is advantageous, because, with two of such surfaces, as seen in Fig. 1, the roller can be placed in its bracket with the spindle either side up and the pin inserted from below the spindle or above it, as desired; if there be more than two, as seen in Figs. 3 and 6, then the pin can be inserted at different points in the rotation of the barrel relatively to the spindle, as the circumstances may make it most convenient to do so, also it permits of a closer adjustment of the stress or tension of the spring, as well as of placing the roller in its brackets in position for the removal of the pin, if that be the means employed are manually movable into locking position between the abutting surfaces, or if other means be employed, then to give ready access to the portion of such means, which means are manually movable into locking position between the abutting surfaces when the roller is to be removed from its brackets for any reason.

Instead of the pin shown the pawls y y' and springs w w' may form the means a portion of which is manually movable into position to engage with the abutting surfaces on the head B^4 and spindle C^8, as seen in Fig. 8. Abutting surfaces c^{16}, c^{17}, c^{18}, and c^{19} are formed on disk C^9 of spindle C^8, as seen, and abutting surfaces b^{11} and b^{12} are formed on the head B^4, the latter surfaces being round and in the form of pivots on which the pawl y or y' turns and against which a portion of such pawl abuts. When it is brought into the position, pawl y' is seen in dotted lines in Fig. 8, where such portion also abuts against the surface c^{18} on the spindle. The pawls or dogs y y^2 are manually movable from the positions shown in Figs. 8 and 9 into locking positions between the abutting surfaces on the barrels and spindles against the stress or tension of the springs w w^2, which serves to normally hold the pawls or dogs free from the locking position between the abutting surfaces. These dogs or pawls are thus manually movable whether the rollers are mounted in their brackets or removed therefrom

and without disturbing the material wound upon the rollers. As shown in Fig. 8, the disk C^9, in which the abutting surfaces c^{16}, c^{17}, c^{18}, and c^{19} are formed, is arranged in the same radial plane with the abutting surfaces b^{11} and b^{12} as is the case in Figs. 1 and 2, as this arrangement requires less space at the end of the roller for the adjusting and holding devices thereof; but they could be arranged in different planes, as indicated in Fig. 8^a, wherein the pawl y^4, partly broken away to show surface b^{13}, and a portion of the disk C^{12} are seen in side elevation, the free end of pawl y^4 extending from one radial plane to the other, as seen, so that such free end engages with abutting surface in disk C^{12}. In other respects the construction shown is the same as in Fig. 8.

If for any reason it should be thought that by handling of the roller after the stress or tension of its spring had been adjusted and before it is placed in its supporting-brackets the pawl y or y' might by reason of the stress of spring w or w' move out from the position between the abutting surfaces, (seen in dotted lines in Fig. 8,) one of the abutting surfaces may be undercut, as seen in Fig. 9—that is, the surfaces on the barrel or on the spindle may be cut, so that when the pawl y^2 or y^3 is once in full engagement with its abutting surface, as seen in dotted lines in Fig. 9, the barrel A^5 will have to move bodily relatively to the spindle C^{10} against the stress or tension of the spring D^5 (not shown) spring w^2 or w^3 would naturally be made so that it could not overcome the stress or tension of spring D^5 when the roller was in the brackets and doing its normal work. Consequently pawl y^2 or y^3 when once it has engaged with its surface it cannot become disengaged until outside force is applied to the barrel or spindle, or both, and move one relatively to the other against the stress of spring D^5 and permit spring w^2 or w^3 to do its work. In Fig. 9, A^5 is the barrel; B^5, the head; C^{10}, the spindle, and C^{11} the disk thereon; b^{14}, abutting surface on head B^5, and c^{20} abutting surface on disk C^{11}, and w^2 spring for pawl y^2. The same result is accomplished by constructing the abutting surfaces c and c' and the pin x (seen in Figs. 1 and 2) as shown in Fig. 2^a or Fig. 2^b, the barrel being cut away, if desired, to permit of the pin being inserted in a radial direction, the pin x^4 or x^5 in each case being preferably made rectangular in cross-section. Otherwise than as just explained the constructions shown in Figs. 2^a and 2^b are the same as that found in Figs. 1 and 2, and the mode of operation is also the same. In Fig. 2^a portions of the roller are broken away, as seen. In Fig. 2^a, A^6 is the barrel; B^6, the head thereof; C^{13}, the spindle, and C^{14} the disk on the same. In Fig. 2^b, A^7 is the barrel; B^7, the head; C^{15}, the spindle, and C^{16} the disk on the spindle.

To adjust the stress or tension of the spring in the construction shown in Figs. 8 and 9, a pin u in the hand of the operator may be made to engage with pawl y' through an opening v' in the barrel A^4, if desired, by means of which the free end of the pawl is manually moved toward disk C^9 against the stress of spring w' until the pawl engages with one of the abutting surfaces formed on such disk, as seen in dotted lines in Fig. 8, where it is shown in engagement with surface c^{18}, the barrel and spindle being manipulated as before to obtain the desired stress or tension of the spring. After the roller is placed in its supporting-brackets it is only necessary to move the barrel against the stress of the spring a short distance, when spring w' is free to move pawl y' into the position seen in full lines in Figs. 8 and 9, when the barrel and spindle are no longer held in fixed relations or locked to each other and the roller is ready to perform its normal work in connection with a window-shade, sash, or other thing which it is adapted to support and move from one position to another, it being immaterial for the purposes of my improvements what particular use the shade-rollers be put to so long as they are adapted for the work to be done; but they are especially useful in supporting and moving the window-sash of railway-cars.

It will be observed that whether the pin x, however formed, or the pawl or dog y be used each forms means which are manually movable, irrespective of the position of the spindle in its bracket, into locking position between the abutting surfaces formed on the barrel and spindle, respectively, which means are normally free from such locking position. In each case such means become operative to hold the barrel and spindle in fixed relations to each other when a portion of such means is moved into position between such abutting surfaces, and the stress or tension of the spring of the roller is sufficient to hold such portion in such position.

Various forms or shapes of devices to be manually moved into locking positions between the abutting surfaces in different ways and from different directions have been shown and described, and hence it is manifest that the shape, the way, or the direction the means or device is manually moved or inserted into locking position is immaterial so long as some means or device is manually moved into locking position between the abutting surfaces, irrespective of the position of the spindle in its bracket, so as to serve as a stop or abutment for such surfaces and temporarily lock the spindle and barrel together, whether the roller is mounted in its brackets or removed therefrom, and such means or device is normally free from such locking position. As shown in Figs. 1 to 7, the barrel, spindle, and abutting surfaces are so constructed and arranged relatively to each other that the manually movable or insertible means or device is independent of the roller—that is, not attached thereto—and such means or device is

employed solely for locking the spindle to the roller, and it is bodily removed from the roller before such roller can begin to serve its main purpose, and hence it is normally free from its locking position between the abutting-surfaces. In Figs. 8, 8ª, and 9 the parts are so constructed and arranged relatively to each other that the manually movable or insertible means or device is pivoted to the barrel-head; but in each case it is held out from the locking position between the abutting surfaces by the stress or tension of the spring bearing on such device or means, and hence it is normally free from such locking position, and it is also manually movable into such position irrespective of the position of the spindle in its bracket or whether the roller is mounted in its brackets or removed therefrom.

It is to be observed that in each form or embodiment of my improvement the use of a gravity or other automatically operating pawl or dog is dispensed with and only a manually-movable part or device is employed, which is manually movable into locking position irrespective of the position of the spindle in its bracket or whether the roller is mounted in its brackets or removed therefrom, which movable part is normally free from such locking position, and it is employed solely for locking the spindle to the roller.

In each construction herein shown and described, which is the preferred form, the abutting surface or surfaces with which the spindle is provided are formed on a disk or enlargement found on the body of the spindle, and as a result such surface or surfaces are arranged in a circle of greater diameter than the body of the spindle. The body of the spindle is usually, as shown, of the smallest diameter of any of its parts. Such surface or surfaces may be arranged as desired, so long as the portion farthest from the axial line of the roller is arranged in a circle of greater diameter than the body of the spindle, so that such portion may serve to extend the leverage of the abutting surface beyond the circumference of the body of the spindle, and thus may aid in opposing or overcoming the stress or tension of the spring when the spindle and barrel are locked together. This arrangement of the abutting surface or surfaces of the spindle with those portions farthest from the axial line of the roller in a circle of greater diameter than that described by such body not only increases the leverage of such surface or surfaces, but also permits, if desired, of the manual movement or insertion of the means or devices into locking position from different directions, as shown, which is very advantageous in certain uses to which rollers of the general form of single-notch rollers are put.

The several constructions and arrangements of abutting surfaces and manually-movable means or devices herein shown and described are the first, so far as I know, in which the rollers can be placed in their brackets or mountings and removed therefrom with the ease and convenience of the single-notch rollers heretofore described and at the same time without danger of causing accidents by wrongly placing them in working position. Also, so far as I know, the present constructions are the first to retain all of the advantages, including cheapness of construction, of any of the prior constructions without any of the disadvantages pertaining thereto. No matter how the spindle of any one of these constructions may be placed in its bracket or mounting when the manually-movable means or device is removed from its locking position between the abutting surfaces there is nothing which can in the normal condition of the roller lock or hold the barrel and spindle together, and thereby cause the accidental fall of a window-sash or similar object connected to the roller and injury to persons using the window containing such sash.

Of course there is the possibility that springs w, w', and w^2 (seen in Figs. 8 and 9) may break and permit the pawls or dogs to move into position between the abutting surfaces therein shown; but the roller then would not be in a normal condition. It is because of this possibility, among other things, that the constructions shown in Figs. 1 to 7, inclusive, are preferred over those shown in Figs. 8 and 9.

I have herein shown and described differing embodiments of my improvement, and it will be manifest to those skilled in this art that other forms or embodiments than those shown may be employed and yet embody in substance one or more of the combinations of elements or devices hereinafter recited. Therefore I do not wish to confine myself to the several constructions shown.

What I desire to claim is—

1. In a shade-roller the combination, substantially as set forth, of a barrel provided with a fixed abutting surface, a spindle provided with a fixed abutting surface arranged with a portion of such surface in a circle of greater diameter than the body of the spindle, a spring one end of which is connected with the barrel and the other is connected with the spindle, and means adapted to engage with the abutting surfaces, said means being employed solely for locking the spindle to the roller, and normally free from the locking position between the abutting surfaces but manually movable to such locking position.

2. In a shade-roller the combination, substantially as set forth, of a barrel provided with a fixed abutting surface, a spindle provided with a fixed abutting surface arranged with a portion of such surface in a circle of greater diameter than the body of the spindle, one of which surfaces is undercut, a spring one end of which is connected with the barrel and the other is connected with the spindle, and means adapted to engage

with the undercut surface, said means being employed solely for locking the spindle to the roller, and normally free from the locking position between the abutting surfaces but manually movable to such locking position.

3. In a shade-roller the combination, substantially as set forth, of a barrel provided with a fixed abutting surface, a spindle provided with a fixed abutting surface arranged with a portion of such surface in a circle of greater diameter than the body of the spindle, a spring one end of which is connected with the barrel and the other is connected with the spindle, and a device independent of the roller adapted to be manually inserted between the abutting surfaces, whereby the spindle and barrel may be locked together and thus be held until after the roller is placed in working position in its brackets.

4. In a shade-roller the combination, substantially as set forth, of a barrel provided with a fixed abutting surface, a spindle provided with a fixed abutting surface arranged with a portion of such surface in a circle of greater diameter than the body of the spindle, the two abutting surfaces being arranged in the same radial plane, a spring one end of which is connected with the barrel and the other is connected with the spindle, and a device independent of the roller adapted to be manually inserted between the abutting surfaces, whereby the spindle and barrel may be locked together and thus be held until after the roller has been placed in working position in its brackets.

5. In a shade-roller the combination, substantially as set forth, of a barrel provided with a fixed abutting surface, a spindle provided with a fixed abutting surface, arranged with a portion of such surface in a circle of greater diameter than the body of the spindle, the two abutting surfaces being arranged for one to pass in close proximity to the other, a spring one end of which is connected with the barrel and the other is connected with the spindle, and a device independent of the roller adapted to be manually inserted between the abutting surfaces, whereby the spindle and barrel may be locked together and be thus held until after the roller is placed in working position in its brackets.

6. In a shade-roller the combination, substantially as set forth, of a barrel provided with a fixed abutting surface, a spindle provided with a plurality of fixed abutting surfaces arranged with a portion of such surfaces in a circle of greater diameter than the body of the spindle, a spring one end of which is connected with the barrel and the other is connected with the spindle, and a device independent of the roller adapted to be manually inserted between the abutting surfaces, whereby the spindle and barrel may be locked together at different points on the spindle and thus be held until after the roller is placed in working position in its brackets.

7. In a shade-roller the combination, substantially as set forth, of a barrel provided with a plurality of fixed abutting surfaces, a spindle provided with a plurality of fixed abutting surfaces arranged with a portion of such surfaces in a circle of greater diameter than the body of the spindle, a spring one end of which is connected with the barrel and the other is connected with the spindle, and a device independent of the roller adapted to be manually inserted between any one of the abutting surfaces on the barrel and any one on the spindle, whereby the spindle and barrel may be locked together at different points on the spindle and of the revolution of the barrel and be thus held until after the roller is placed in working position in its brackets.

8. In a shade-roller the combination, substantially as set forth, of a barrel provided with a fixed abutting surface, a spindle provided with a fixed abutting surface arranged with a portion of such surface in a circle of greater diameter than the body of the spindle, the two abutting surfaces being arranged to frictionally hold a device independent of the roller adapted to be manually inserted between them, and a spring one end of which is connected with the barrel and the other is connected with the spindle whereby the spindle and barrel may be locked together by the manual insertion of a device independent of the roller between the abutting surfaces and be thus held until after the roller is placed in working position in its brackets.

9. In a shade-roller the combination, substantially as set forth, of a barrel provided with a fixed abutting surface, a spindle provided with a fixed abutting surface open or accessible from the end of the roller in a circle of greater diameter than the body of the spindle, a spring one end of which is connected with the barrel and the other with the spindle, and a device independent of the roller adapted to be manually inserted between the abutting surfaces from the end of the roller, whereby the spindle and barrel may be locked together by a device manually inserted between the surfaces from the end of the roller by the access given to that portion of the surface on the spindle which is thus open or accessible in a circle of greater diameter than the body of the spindle and is held locked until after the roller is placed in working position in its brackets.

10. In a shade-roller the combination, substantially as set forth, of a barrel provided with a fixed abutting surface open or accessible from the end of the roller in a circle of larger diameter than the body of the spindle, a spindle provided with a fixed abutting surface, a spring one end of which is connected with the barrel and the other is connected with the spindle, and a device independent of

the roller adapted to be manually inserted between the abutting surfaces from the end of the roller, whereby the spindle and barrel may be locked together by a device manually inserted between the surfaces from the end of the roller by the access given to that portion of the surface on the barrel which is thus open or accessible and be held locked until after the roller is placed in working position in its brackets.

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