

(No Model.)

L. M. RICE.
WINDOW SHADE APPLIANCE.

No. 516,315.

Patented Mar. 13, 1894.

Fig. 1

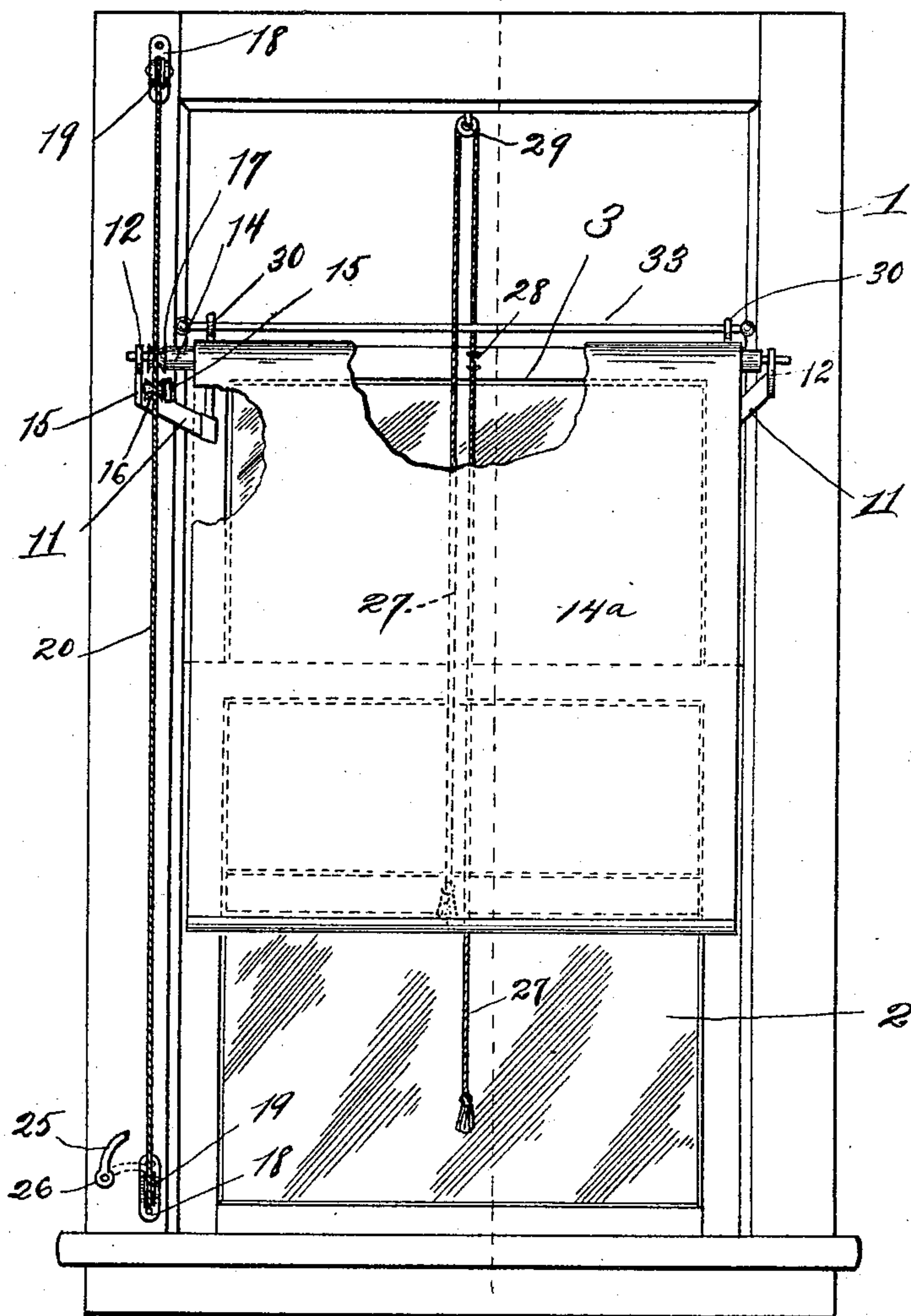


Fig. 2

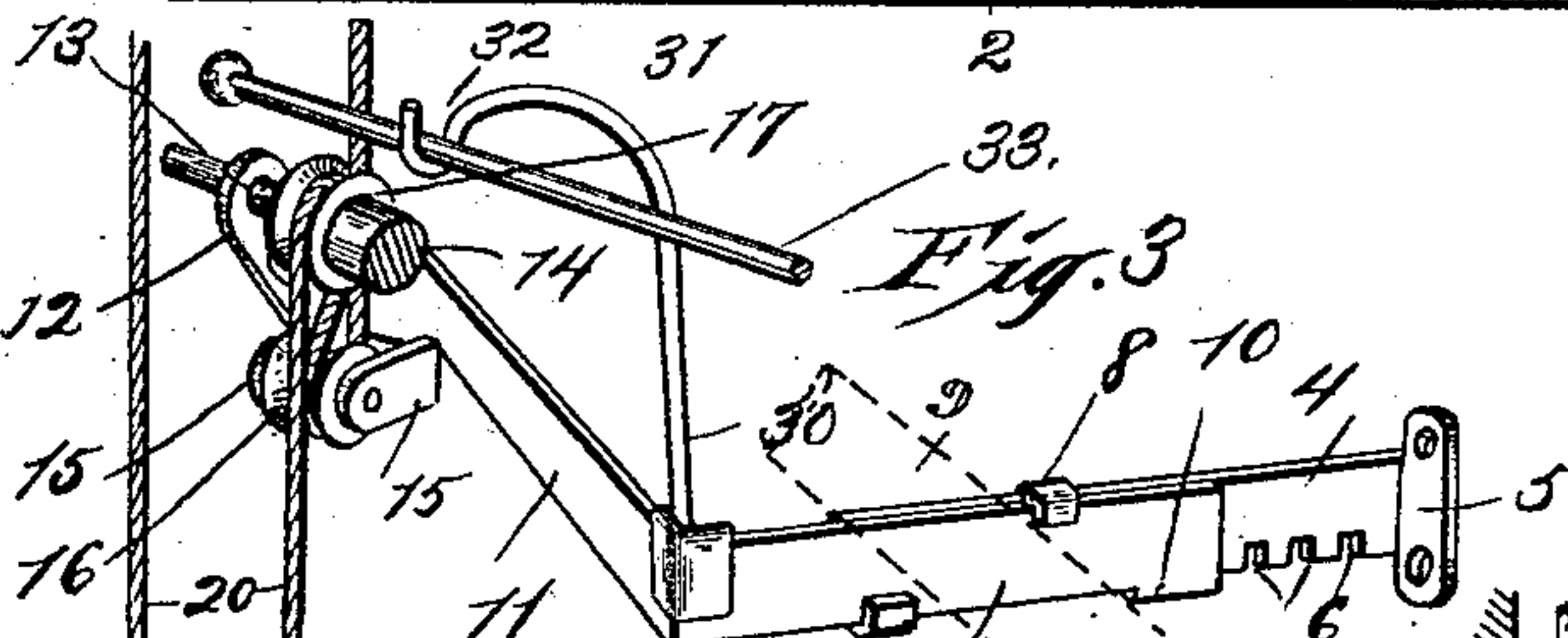
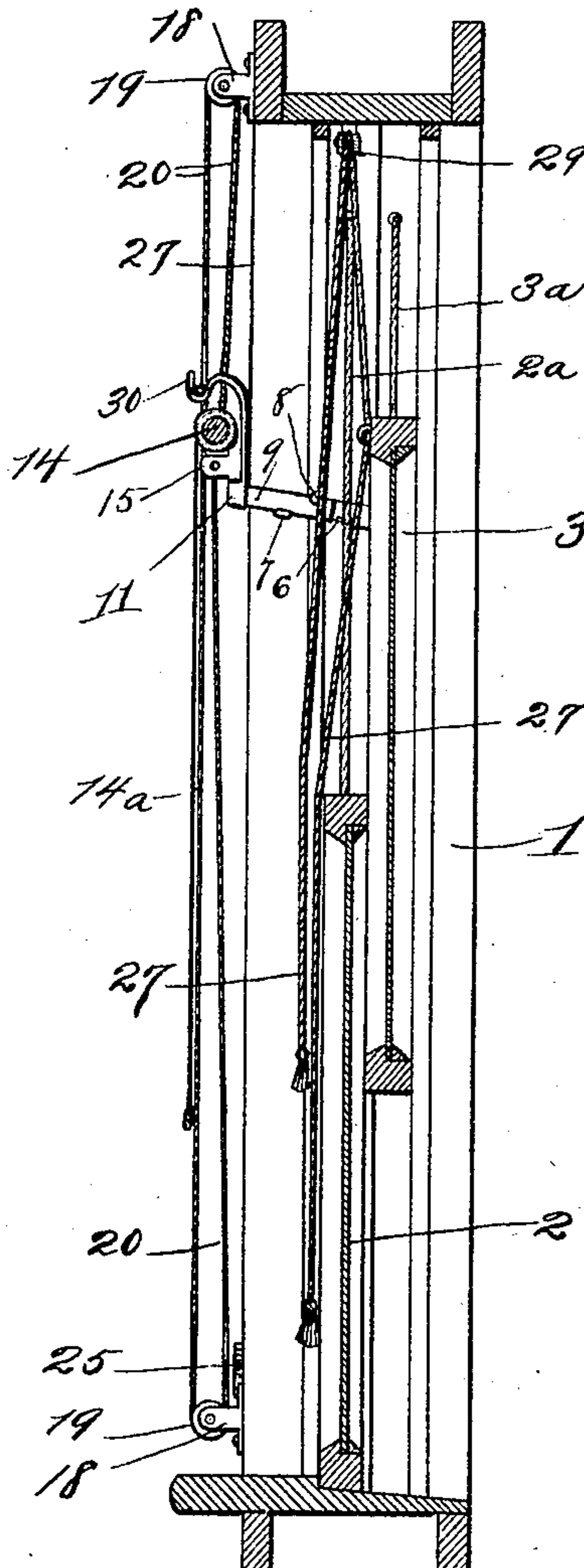


Fig. 7

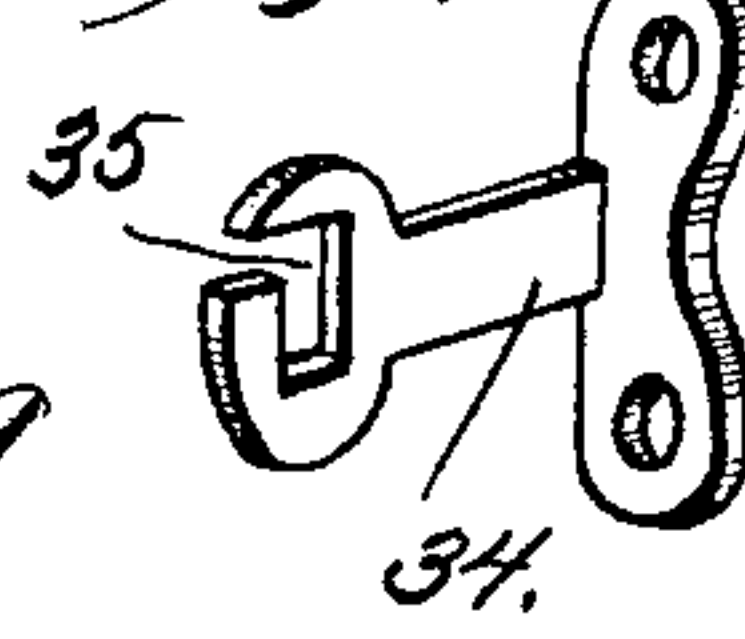


Fig. 6

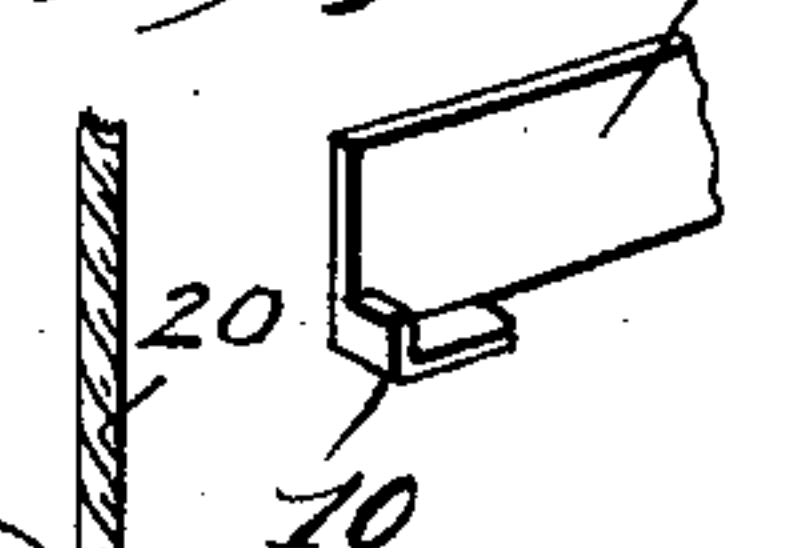


Fig. 4

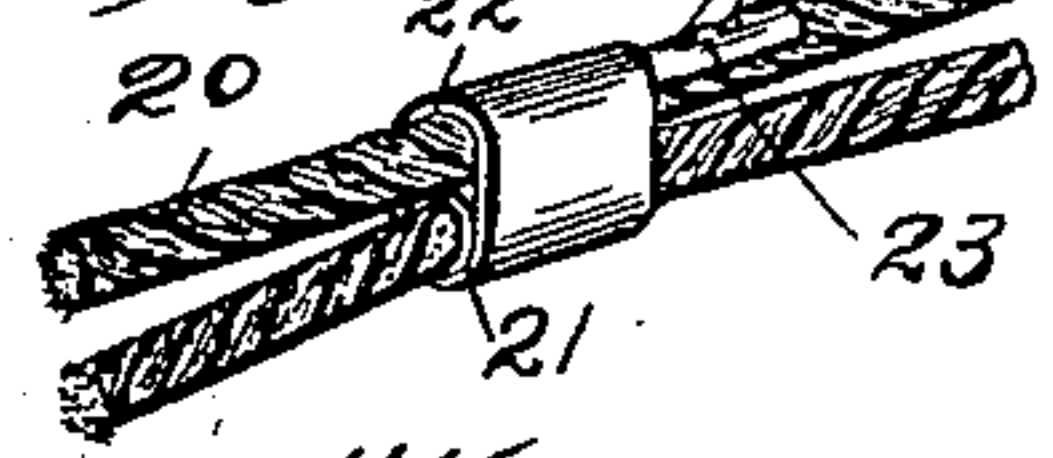


Fig. 5

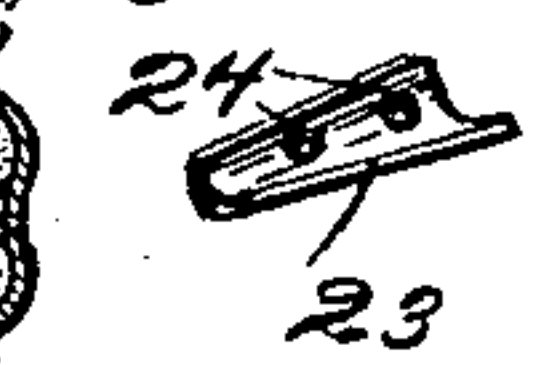
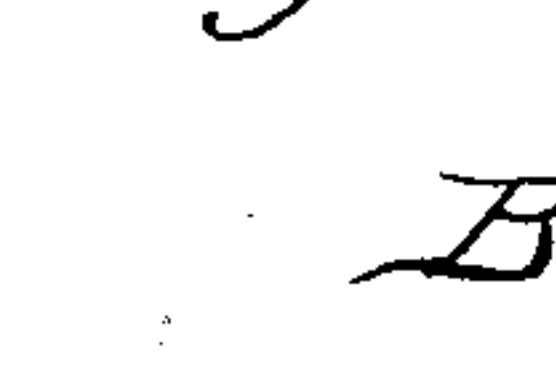


Fig. 8



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UNITED STATES PATENT OFFICE.

LAFAYETTE M. RICE, OF LEAVENWORTH, KANSAS.

WINDOW-SHADE APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 516,315, dated March 13, 1894.

Application filed May 26, 1893. Serial No. 475,558. (No model.)

To all whom it may concern:

Be it known that I, LAFAYETTE M. RICE, of Leavenworth, Leavenworth county, Kansas, have invented certain new and useful Improvements in Window-Shade Appliances, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to that class of window shade appliances, whereby the shade is carried by the upward and downward movement of the upper sash, and winds or unwinds a distance corresponding to the downward or upward movement of the said sash, and whereby the shade may be also wound or unwound independently of the movement of said sash; and the objects of the invention are to produce a device of this character which is positive and reliable in operation, and which is simple, strong, durable and inexpensive of construction.

To the above purposes my invention consists of certain peculiar and novel features of construction and arrangement as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1, is an inner face view of a window, and showing applied thereto in operative position a shade which is arranged in accordance with my invention. Fig. 2, is a vertical sectional view taken on the line 2—2 of Fig. 1. Fig. 3, is a detail perspective view of one end of the shade roller, and showing the mechanism by which it is carried and operated. Fig. 4, is a detail perspective view of the clamp and a portion of the cord for winding or unwinding the shade. Fig. 5, is a vertical sectional view of the same, and also a detail perspective view of the clamping wedge-plate for securing the ends of the cords together beneath the clamp. Fig. 6, is a detail perspective view of one end of one of the roller supporting brackets. Fig. 7, is a detail perspective view of a bracket for use when a spring roller curtain is used in connection with the invention. Fig. 8 is a ver-

tical sectional view to show the manner of clamping the shade roller operating cord.

In the drawings, 1 designates a window casing, 2 designates the lower sash thereof and 3 designates the upper sash thereof; these sashes being connected through the medium of ropes 2^a and 3^a with the counter weights (not shown) in the ordinary manner.

In order that the curtain may be carried by the upper sash, I provide brackets, having the horizontal and inwardly projecting portion 4 thereof, the sides of which are arranged to be vertical preferably, and the foot portion 5 which is arranged at right angles to the portion 4, and is adapted to be secured by screws or other suitable means to and near the upper ends of the side rails of the upper sash. The horizontal portions 4 of these brackets are also provided with a series of notches 6 in their lower margins or edges, and are further provided at their outer ends and lower edges each with a retaining and guide ear 7, and at their upper edges with the depending retaining and guide ear 8, the ears 8 being located a suitable distance inward of the ears 7 for a purpose to be presently explained. A pair of brackets consisting of the body portion 9 which is of similar size and form as the portions 4 of the brackets first mentioned, are provided at their lower margins and rear or outer ends with the right-angle flanges 10, and are also formed with the arms 11, which when the said brackets are operatively carried by the first mentioned brackets as hereinafter referred to, diverge outwardly and upwardly as shown in Fig. 1, and each of said brackets is also bent to form ears 12 at the outer ends, which extend forwardly and upwardly and parallel with each other. These ears 12 are provided with openings 13 for the reception of trunnions or spindles of roller 14, which is thus supported by and between said ears in a horizontal position.

In order that the roller may be properly connected to and supported by the upper sash, the rear or outer end of the brackets having the right angle flanges 10, are arranged obliquely, as shown in dotted lines in Fig. 3, so

that they may lie vertically against the side of the portions 4 of the brackets secured to the upper sash. The brackets carrying the roller are now operated pivotally so that their lower and upper margins will engage between the ears 7 and 8 respectively, and the right angled flanges 10 will engage one or the other of the notches 6 in the underside of the portions 4, according to the distance the curtain roller is desired to be held from the inner side of the window. It will thus be seen, that as the upper sash is raised or lowered the roller carrying the curtain 14^a will be carried with it.

In order that the curtain may be wound or unwound upon the roller during the upward or downward movement of the sash a pair of parallel ears 15 is formed below the ear 12 of one of the roller carrying brackets, and journaled loosely to revolve between said ears is a grooved roller 16, which is arranged vertically beneath the roller 17 formed or secured upon the adjacent spindle or trunnion of the curtain roller. Secured near the upper and lower ends of one of the side rails of the window frame, and arranged in vertical alignment with the rollers 16 and 17 are the brackets 18, and journaled to revolve between the ears of said brackets are the grooved rollers 19. A cord 20 is passed over the upper roller 19, and is then carried downward in rear of the rollers 16 and 17, the cord is then carried around and up the front side of the roller 16 and diagonally upward and to the rear of the roller 17, and is then carried over said roller and vertically downward beneath and to the rear of the lower roller 19, and the end is brought upwardly to meet and is secured to the opposite end thereof which is pendent from the upper roller 19; thus forming an endless cord by which the curtain may be wound upon the roller. In order that the two ends of the cord 20 may be easily and quickly secured together, I provide a clamp-plate, which is formed with the two cylindrical passages 21 and 22; the portion 21 being preferably rigidly secured upon one end of the cord. The opposite end of the cord is then passed through the cylindrical passage 22, and a segmental wedge-plate 23 provided with holes 24—24 punched therethrough to form a roughened face on the inner side, has its smaller end inserted in the passage 22. The cord is now pulled in the direction of the arrow, Fig. 4, and the wedge-shaped plate 23 is forced into the passage 21, and the roughened under side thereof formed by punching the holes 24 therethrough bites upon the cord and secures it firmly in position.

When it is desired to prevent any accidental movement toward winding or unwinding the curtain, a pawl 25 which is pivoted at 26 to the window frame adjacent to the lower roller 19, is thrown downwardly, and frictionally engages that portion of the cord 20 which passes to the rear of the lower roller 19. In

order that the upper sash may be operated for ventilation or other purposes, an ordinary cord 27 is secured at 28 to the upper rail of said sash, and passes over a guide pulley 29 which is pendent from the upper horizontal portion of the window casing; this cord 27 being preferably arranged to pass upon opposite sides of the curtain 14^a. If preferred, the cord 27 may be secured as described, and have its pendent ends in rear of the curtain, and provided with tassels, as shown in Fig. 2.

Secured to the roller carrying brackets, preferably at the junction arms 9 and 11 thereof, are the standards 30, the upper ends of which are arched forwardly and inwardly at 31, and are then bent to form the hooks 32 at their forward ends. A cross rod 33 is adapted to be supported horizontally in said hooks 32, and is designed for use as a detachable rod by which lace curtains may be carried. A bracket 34 may be substituted for one of the roller carrying brackets and is formed with a rectangular recess or opening 35 for the reception of the squared spindle of a spring roller curtain when such is used.

When a spring roller curtain is used the cord 20 and mechanism therefor may be dispensed with or not as desired. In case it is dispensed with the curtain is adapted to be operated by hand in the usual manner. The curtain is secured to the roller in such manner that when the upper sash is closed or in its normal position, the curtain hangs pendently from the roller a distance corresponding to the length or depth of said sash, and when the upper sash is lowered by pulling downward upon that portion of the cord 27 in rear of the curtain the curtain is wound upon the roller a corresponding distance, so that when the upper sash is entirely lowered the curtain is entirely wound upon the roller, and when the sash occupies an intermediate position the curtain is wound a distance corresponding to the distance between the upper rail of the said sash and the lower side of the upper portion of the window casing. If desired, however, by operating the cord 20 the curtain or shade may be wound or unwound as desired.

From the above description it will be seen that I have produced window shade appliances by which the curtain automatically winds or unwinds upon the roller as the upper sash is lowered or raised, and by which also the shade or curtain may be operated independently of the sash, and which is simple, strong, durable and inexpensive of construction.

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

In a window-shade appliance, the combination with brackets secured to the window sash, and arms detachably carried by said

brackets, of a grooved roller 16, carried at the
outer end of one of said arms, and a second
grooved roller carried by said arm vertically
above the roller 16, and upon the shade roll-
er, and an endless cord extending diagonally
5 from the rear side of the upper roller to the
front side of the lower roller, over and under
said rollers and around rollers at the upper

and lower ends of the window-casing, sub-
stantially as set forth.

In testimony whereof I affix my signature in
the presence of two witnesses.

LAFAYETTE M. RICE.

Witnesses:

MAUD FITZPATRICK,
M. P. SMITH.