

No. 764,047.

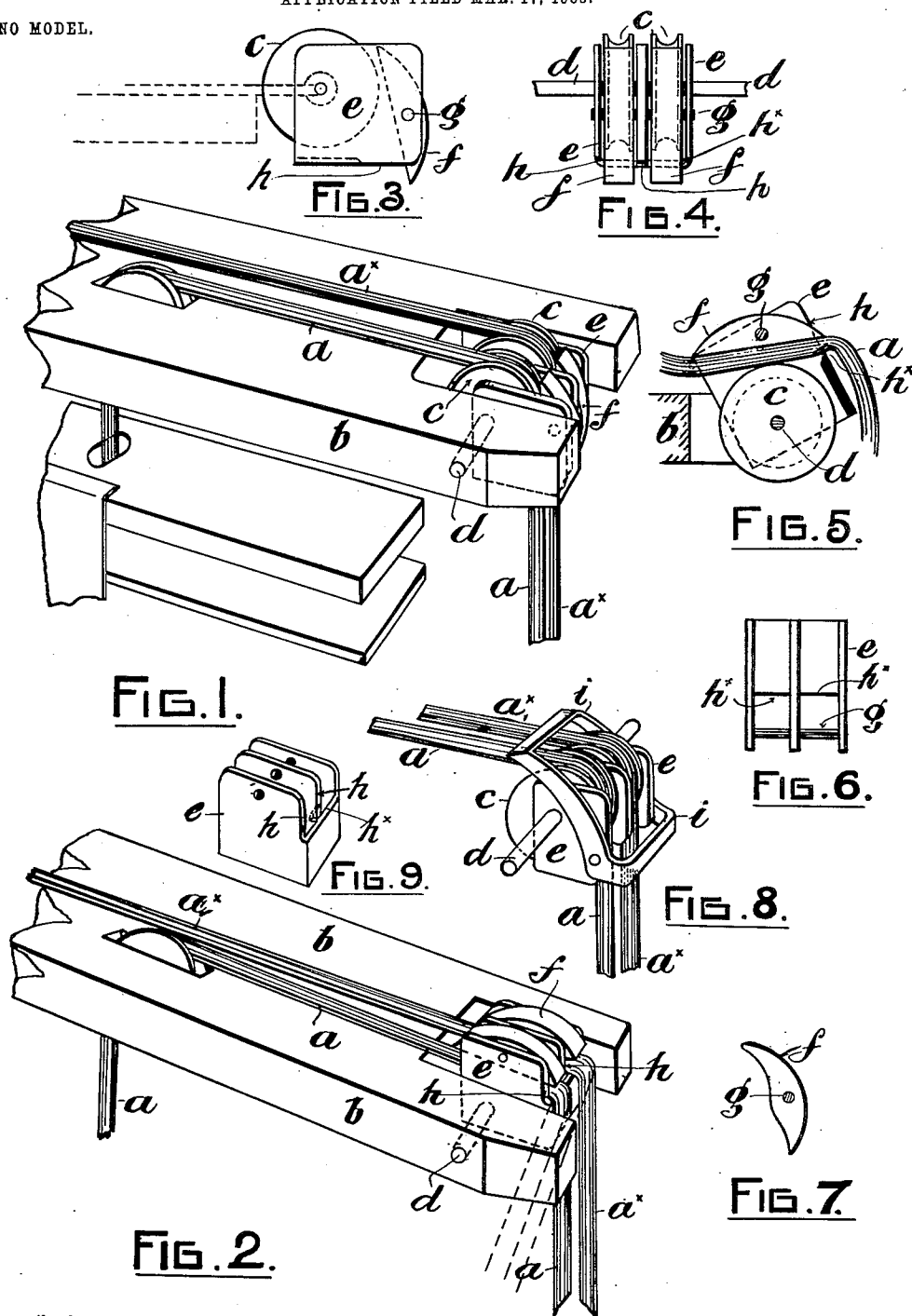
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G. F. FRENCH.

CORD GUIDING AND GRIPPING DEVICE FOR VENETIAN BLINDS.

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NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE FREDERICK FRENCH, OF MANCHESTER, ENGLAND.

CORD GUIDING AND GRIPPING DEVICE FOR VENETIAN BLINDS.

SPECIFICATION forming part of Letters Patent No. 764,047, dated July 5, 1904.

Application filed March 17, 1903. Serial No. 148,255. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FREDERICK FRENCH, a subject of the King of Great Britain and Ireland, and a resident of Manchester, England, have invented certain new or Improved Cord Guiding and Gripping Devices Chiefly for Use with the Cords of Venetian Blinds, of which the following is a specification.

10 This invention relates to means for guiding and automatically holding or gripping the operating-cords of Venetian blinds, clothes-racks, bird-cages, and the like, and has for its object to provide cord guiding and gripping devices which dispense with the need of a special operating-cord (as usually necessary with known devices for the same purposes) and besides being entirely automatic include and simplify the fitting of certain of the cord guide-
15 pulleys.

20 According to the preferred form of the invention the improved devices consist of two pulleys, a spindle or axle on which both such pulleys are mounted, a forked holder also
25 mounted upon the said axle, and two claw-like catches pivotally mounted in the said holder. As applied to a Venetian blind the said devices are by preference let into the pulley-rail, a gap or slot being cut in the rail and the pulley-axle passing through the rail
30 and the pulleys or being carried by a suitable liner. The cords in passing over the pulleys pass between the catches and the pulleys.

The action is as follows: When the cords are
35 held and operated vertically, the blind may be raised and lowered without the slightest resistance; but by holding the cords at an angle away from the window and then releasing them their movement is immediately arrested
40 and the blind held at the desired elevation.

In order that my invention may be more readily understood, I will further describe the same with the aid of the accompanying drawings, in which—

45 Figure 1 illustrates a perspective view of the top or pulley rail of a Venetian blind with the improved cord guiding and gripping devices applied thereto, such view showing the parts in the position they occupy when the blind is
50 fully lowered or while the blind is being

raised or lowered. Fig. 2 is a like view, but showing the parts in the position they occupy when the cords are gripped and the blind thereby sustained in an elevated position. Fig. 3 illustrates a geometric side view, Fig. 4 a geometric end view, and Fig. 5 a vertical section, of the improved cord guiding and gripping devices separate from the pulley-rail. Fig. 6 illustrates a plan of the holder alone. Fig. 7 illustrates a modification of the claw-like catches, and Fig. 8 a further modification. Fig. 9 illustrates a perspective view of the holder in the position shown in Fig. 2.

Referring to Figs. 1 and 2, a a^x designate the two cords to be guided and gripped, and b the usual pulley-rail of an ordinary Venetian blind. In the end of such rail is a gap (or slot) wherein is arranged the improved cord guiding and gripping devices, which, as
65 aforesaid, comprise a pair of pulleys c , a spindle or axle d , whereon such pulleys are mounted and which in turn is carried by a suitable fitting (not shown) let into the slot or passes through the rail from side to side, as shown, a trifurcated holder e , also mounted on the
70 said axle d , (with the middle portion separating the two pulleys c), and a pair of freely-moving claw-like catches f , mounted in the said holder upon a cross-pin g common to both. The breach or bridge part of the holder
80 e is cut away at one part to produce a space for the cords to pass through, and the section of the metal is by preference as shown in Fig. 5. The cords a a^x are threaded through the said spaces between the catches f and the pulleys c , thence over such pulleys, and then over the pulleys in the slots, through which the cords respectively pass to the bottom lath of the blind.

With the free ends of the cords held and
90 operated vertically the cords are free to travel up or down and over the pulleys c , the position of the improved gripping devices being as shown in Fig. 1. Upon, however, the blind being raised or lowered to the extent
95 desired and the cords then held and released at an angle—i. e., at a slight inclination from the window, as shown by dotted lines in Fig. 2—they engage the edges h of the holder e (see Fig. 2) and binding against
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such edges cause the holder, under weight of the blind, to rotate bodily on the axle *d* until it assumes the position shown in Fig. 2, when its motion is arrested, due to the catches *f*, which by being forced upward by the cords at one end are caused to press the cords at the opposite end downward against the edges *h* of the holder, (see Figs. 2 and 5,) the nip (or angle at which the cords are bent around the edges *h*) being such as to entirely prevent the further traverse of the cords under the pull or weight of the blind, and thus sustaining the blind at the desired height.

Upon desiring to lower or readjust the blind the cords are pulled or operated in a vertical direction, thereby causing the holder *l* to rotate back to its former position and free the cords until they are again held and released at an angle. In such way I provide a self-acting cord-grip, no special or separate cord (as common with other cord-grips) being required. Moreover, I also provide a cord-grip which by embodying the two pulleys usually fitted to the top rail *b* acts as a guide, and being fixed in the manner shown, also operated or operating in the manner described, is easier and cheaper to make and fit than the ordinary grips, as well as equally, if not more, efficient. The edges *h*^x may be roughened. Likewise the edges *h* may be roughened, and the central edge may have a notch, as shown by dotted lines in Fig. 9.

As a modification and where it is not material how high the cord-gripping devices stand above the rail *b* I may mount the axle *d* in a plate fitted upon the top face of the rail *b* with the pulleys and holder partly in a slot (or otherwise) or with them overhanging the end of the rail *b*, as shown by dotted lines in Fig. 3.

By experiment I find the catches *f* if of regular segmental shape (see Fig. 3) give good results; but they may be of the shape shown in Fig. 7 or of any other shape by which they may effectually press the cords against the edges *h* of the holder. To give increased efficiency, the upper part of each catch is or may be longer than the lower part. While preferring two catches and two pulleys, there may be one catch common to two pulleys.

As a further modification I may employ in place of the inner catches *f* (see Fig. 1) an outer catch *i*, lying outside the holder *e* (or

pulleys *c*) and of the form shown in Fig. 8. The action of the cords upon the holder when held at an angle and the action of the holder and the catches upon the cords are precisely similar to those aforesaid, the longer arms of the catch by acting through the shorter arms and by extending well over the pulleys giving a powerful grip upon the cords.

The exact disposition, form, and action of the several parts of the invention may vary, the essential requirements being a rotary holder having cord-engaging edges moving around a pulley or pulleys and carrying a catch or catches whereby when the cords run vertically they are free and whereby when held at an angle are engaged by the holder and catches, and thus retained. Of course, if so desired, a separate operating-cord may be provided, but it is not necessary.

When one, three, four, or more cords are used, a corresponding number of pulleys and catches are employed, and when the devices are intended for other than Venetian-blind purposes the strength and size of the parts may be varied to suit.

In conclusion, I would observe that it is not strictly necessary to mount the holder on the same axle as the pulleys or concentric therewith and that in lieu of pulleys I may employ a fixed curved block with or without balls or rollers to reduce friction.

What I claim is—

In automatic cord guiding and gripping appliances, grooved pulleys and a forked holder, means for axially mounting the same, swivel-catches carried by the said holder and cords passing over the said pulleys and between the pulleys and swivel-catches, and in such manner that when the cords are held vertically they run freely while when such cords are held at an angle of about thirty degrees to the plane of the movements of the holder and then released they engage the edges of the forks of the holder and cause the holder to rotate and the swivels to tightly press the cords against the transverse edges of the holder, as set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

GEORGE FREDERICK FRENCH.

Witnesses:

WALTER GUNN,
JOHN CAMP.