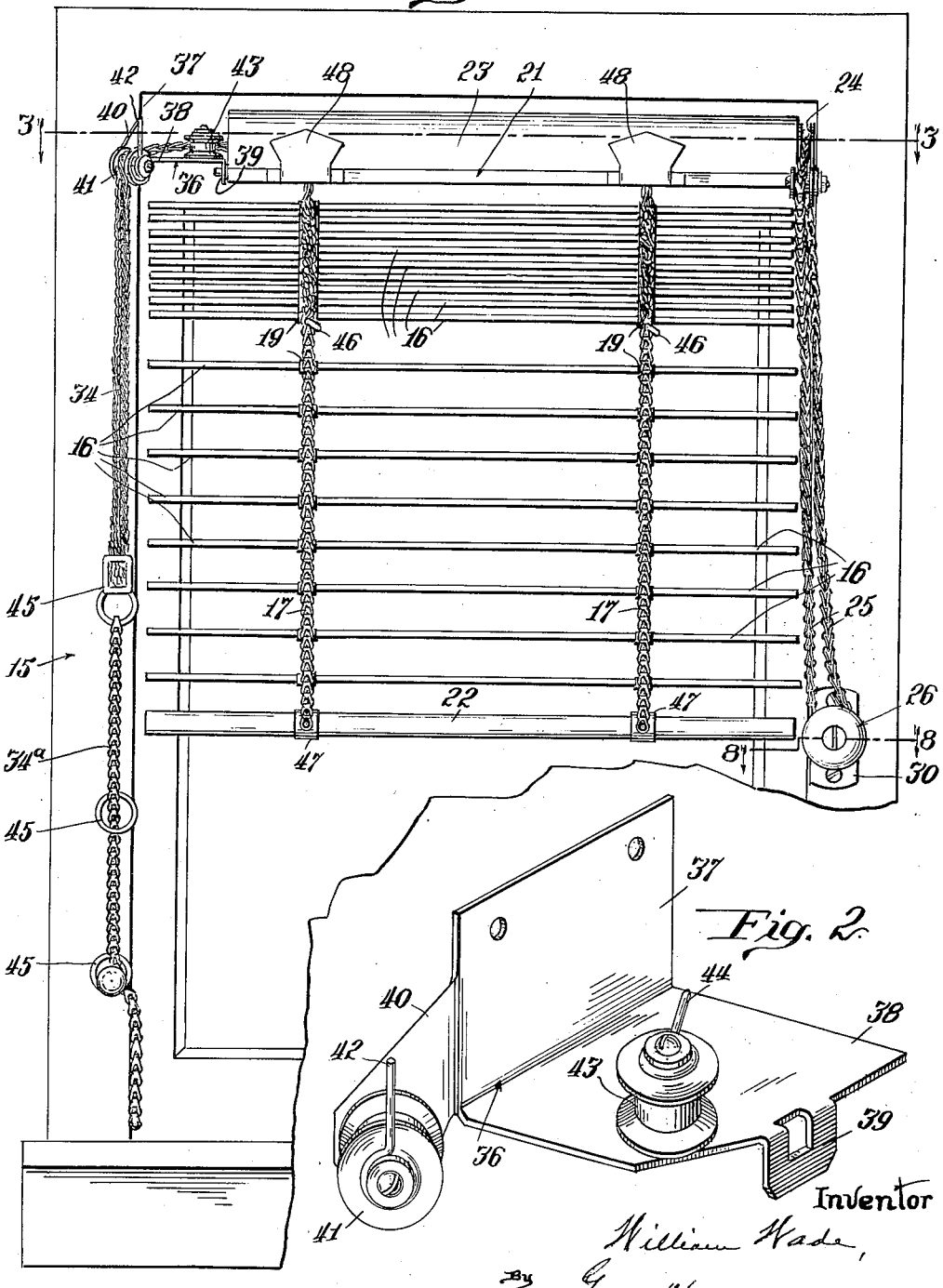
June 15, 1937. W. WADE 2,083,881

VENETIAN BLIND

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Fig. 1.



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Fig. 3.

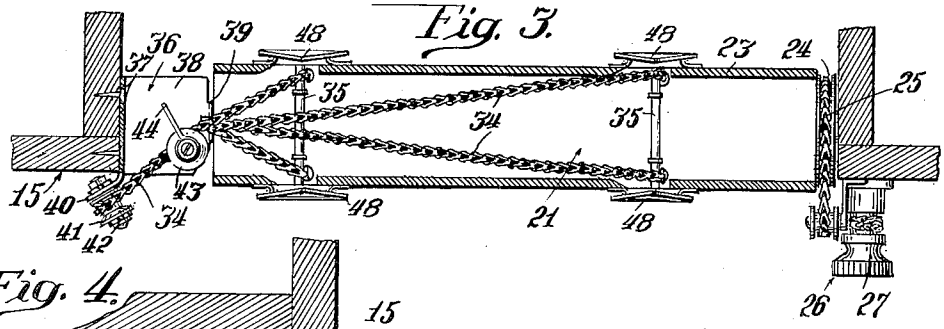


Fig. 4.

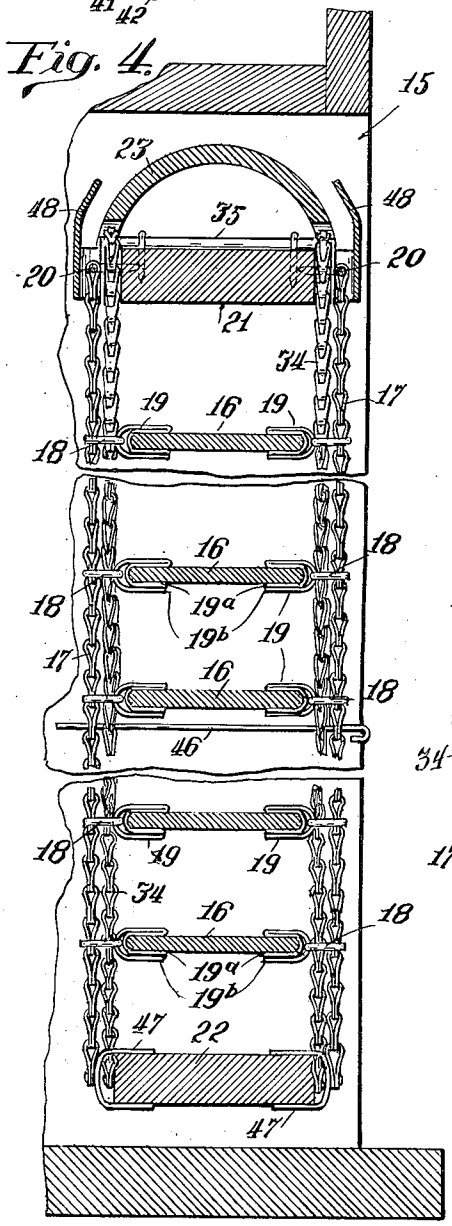


Fig. 5.

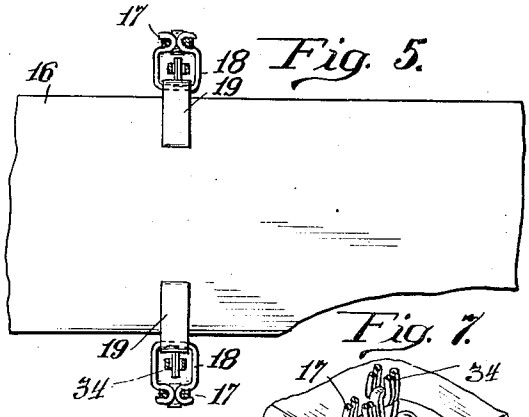


Fig. 7.

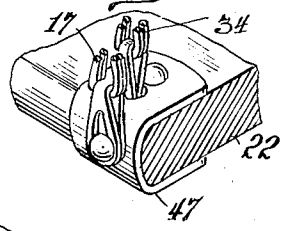
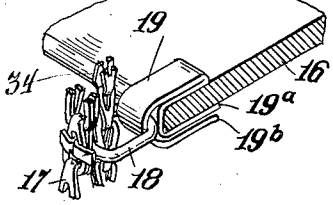


Fig. 6.



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Patented June 15, 1937 2,083,881

UNITED STATES PATENT OFFICE

2,083,881

VENETIAN BLIND

William Wade, Chicago, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware

Application October 10, 1935, Serial No. 44,403

5 Claims. (Cl. 156—17)

My invention relates to louvre or Venetian blinds wherein the slats are removably secured in spaced relation to suitable chains and a rugged weather resisting construction provided.

The present invention relates to an improved blind supporting and chain guiding bracket whereby the blind raising and lowering chains will be maintained to one side of the window frame.

The invention involves the use of chains of comparatively small links which will permit a compact folding of the slats so they may overlap and provide a substantially closed weather tight blind; the chains being such that small rods or pins may be inserted through the links at any desired point whereby the slats will be caused to "pile up" on said rods or pins.

The above enumerated objects as well as others which, together with those enumerated, will all be more readily comprehended from the detailed description of the accompanying drawings wherein:—

Figure 1 illustrates in elevation my improved blind applied to a window casing, (a portion of which is broken away) and partly raised.

Figure 2 is a perspective view of one of the supporting brackets.

Figure 3 is a sectional plan of the top rail with the upper part of the rail removed, taken substantially on the line 3—3 of Figure 1, looking downwardly.

Figure 4 is a vertical sectional view, with the upper part of the top rail and intermediate sections of the blind removed.

Figure 5 is a plan view of a portion of a slat and illustrating my improved slat holding clips and chain-carrying loops.

Figure 6 is a detail perspective view of a portion of a slat and the slat holding clip and chain-loop disclosed in Figure 5.

Figure 7 is a detail perspective view showing a manner of fastening the lower end of a chain to the lower rail.

For purposes of exemplification, my improved blind is shown applied to a usual window frame 15, with the slats 16 cut to length so as to freely fit into the frame as shown in Figure 1. The slats are held in equal spaced relation by means of the chains 17, 17, provided with loop members 18 secured to the links of the chains at preselected spaced distances apart lengthwise of the chains as shown in Figure 4; the slats being supported from the loop members by suitable clips 19.

The upper ends of chains 17 are fixedly secured, as at 20, to the lower section 21 of the top rail, while the lower ends of the chains 17 are secured to the bottom rail 22 as shown in Figures 4 and 7. With the chains 17 fixedly attached to the top and bottom rails and with the loop members 18 immovably secured to the chains 17, it is apparent that the bottom rail and all the slats 16 will be compelled to move with the top rail 21.

One end of the top rail—composed of lower section 21 and an upper concaved section 23—is provided with a grooved disc or wheel 24 fixedly secured to the top rail so as to cause the two to move together. This grooved disc receives the flexible element or chain 25 and is controlled thereby, while the other end of the chain 25 is non-yieldingly secured to the hand operated control member 26.

As is apparent from the construction, rotation of member 26 in a given direction, will cause the chain 25 to rotate disc 24 and with it the top rail and thereby tilt the top rail and all of the suspended slats and the bottom rail; the direction and degree of tilt depending upon the direction and extent of rotation of the disc 24 and the top rail.

In order that a comparatively small degree of rotation of member 26 be required for a complete tilting of the slats 16, I show the grooved disc 24 of materially greater diameter than the chain receiving spindle portion of member 26.

The chains are preferably of the type shown in my co-pending application Serial No. 7,528 Feb. 21, 1935, made of slotted sheet metal blanks of hour-glass shape and each blank folded back upon itself,—because this type of chain permits of close folding of the links upon each other. This type of link also enables the loops 18 to be rigidly secured through the slot in a link and thereby hold the loops at right angles to the chain, as more clearly shown in Figures 5 and 6. The loops 18, aside from effecting a holding relation with the slat gripping clips 19, also constitute guide-ways for the blind raising chains 34, maintaining the latter in place, rearward of the slat holding and tilting chains 17. If the loops 18 were not held rigidly at right angles as shown, they would drop down into lapping and binding relation with chains 34 and prevent operation.

The chains 34 are secured at their lower ends to the bottom rail 22, preferably by the same fastening means or tack as the lower ends of chains 17—see Figure 7—while the upper ends pass through suitable openings or slots in the lower section 21 of the top rail and extend along the top of the lower section across the wear-

receiving rods 35, 35, toward the same end of the top rail as shown in Figure 3.

One end of the top rail, namely the right hand end in the exemplification, is provided with the usual trunnion pin employed on the well known spring controlled roller shades, so as to permit the top rail to oscillate freely. The other or left hand end of the top rail is provided with a roller carrying bracket 36, see Figure 2, which is intended to be disposed between the end of the lower section 21 of the top rail and the side rail of the window casing 15.

The bracket 36 preferably consists of a single piece of sheet metal formed to provide an upstanding portion 37 which is adapted to extend flush with and be secured to the side rail of the casing, while the horizontally disposed portion 38 is disposed toward the bottom section 21 of the top rail and is provided with an angularly disposed slotted lobe 39 which is intended to receive a trunnion forming pin (similar to that employed at the opposite end) which may be inserted through the open end of the slot at the top of lobe or ear 39.

The bracket 36 coincident with the upstanding portion 37 is provided with a rearwardly and downwardly extending leg 40 adapted to extend slightly to one side of the window opening as shown in Figure 3; and this leg 40 is provided with suitable chain guiding means, preferably in the nature of a grooved roller 41 whose trunnion is preferably provided with an upstanding and rigidly held guide pin 42 to prevent the chains accidentally jumping off the roller 41.

In order to properly guide the pull chains 34 toward roller 41, the horizontal portion 38 of the bracket 36, adjacent to the lobe or ear 39, is shown provided with a grooved roller 43, whose trunnion is also preferably provided with a guide pin 44, which, like roller 43, is horizontally disposed and prevents the chains 34 slipping off the roller.

With the roller carrying bracket 36 arranged as just described, the shade raising chains 34 secured to the bottom rail 22, and passing upward through slots or openings in top rail section 21, are arranged across the wear receiving pins 35, 35, passing over rollers 43 and 41 and permitted to hang down along the side rail of the window casing 15, as shown in Figure 1. The four pull chains 34, after passing over roller 41, are then preferably united or secured together into a single strand 34^a as it were and this strand, at suitably spaced points, provided with rings as at 45 which are adapted to be slipped over a suitable button or pin secured in the side rail of the casing 15, as shown in Figure 1, where the blind is shown partially raised.

Employing the type of chain hereinbefore mentioned permits raising or drawing up of the blind in any desired manner; as for example if it is desired to merely raise the blind part way, instead of having the slats at the lower end of the blind all pile up at the bottom in a more or less unsightly solid mass, the collapsing of the blind or piling up of the slats may be made to occur at the upper or any other desired point.

This can be accomplished by inserting a small rod or pin from front to rear, transversely of the slats, through the corresponding chain links at the front and back of the blind as shown at 46 in Figures 1 and 4. With the pins 46 passed through the links of the chains, as shown in Figure 4, the shade will collapse or fold with the slats piled up at the top, as shown in Figure 1, when chains 34 are pulled downwardly in Figure 1.

The slats as previously stated are removably held in place by suitable resilient clips 19 which are forced edgewisely onto the slats 16. In the exemplification, these clips 19 are preferably made from a narrow strip of metal folded back upon itself and the folded strip then bent into U-shape in cross-section, with the folded portion on the inside of the clip constituting the slat gripping portion, while the outer part of the clip constitutes the chain-loop 18 receiving portion; the loop 18 being slipped between the two ends 19^a, 19^b of the clip, as shown in Figure 6.

In order to give proper finish to the blind, the upper concaved section 23 of the top rail is preferably extended over the horizontal portion 38 of bracket 36, with a suitable slot or opening for outward passage of the chains 34 to the roller 41.

In the exemplification, the chain fastenings in the longitudinal sides of the bottom section 21 of the top rail are shown covered by the shields shown at 48.

The exemplifications are believed to be the simplest embodiments of the invention, but modifications in certain details may be made without, however, departing from the spirit of my invention.

What I claim is:

1. In a blind of the character described, a bracket member comprising a casing engaging portion provided with a chain guide carrying extension, a horizontally disposed chain guide carrying portion and provided with a trunnion receiving apertured extension.

2. In a blind of the character described provided with a top rail, the ends whereof have trunnion providing pins for supporting the top rail in place; a single piece bracket member formed to provide a vertically disposed casing engaging portion provided at one side with a rearwardly inclining chain guide carrying extension and a horizontally disposed portion provided with a chain guide and with an angularly disposed and slotted trunnion receiving extension.

3. In a Venetian blind provided with a top rail having a trunnion providing pin at one end, and a pull-cord receiving element and trunnion secured to the other end; a single piece bracket member having a vertically disposed casing engaging portion provided at one marginal side with a chain guide carrying extension and a horizontally disposed portion provided with chain guiding means and with a slotted vertically disposed trunnion receiving extension.

4. In a Venetian blind provided with a top rail and pull-chains extending in a direction lengthwise of and toward one end of the rail, a bracket member comprising a fastening means receiving portion, a vertically slotted supporting pin receiving portion and horizontally and vertically disposed pull chain guiding portions.

5. In a Venetian blind of the character described, a single piece bracket member provided with a vertically disposed fastening screw receiving portion, a horizontally disposed portion provided at its free end with a depending slotted trunnion receiving lobe, the slot being open ended at the top, and horizontally and vertically arranged revoluble pull-chain guiding elements whereby the free ends of the pull-chains are suspendedly arranged at one side of the blind.

WILLIAM WADE.