

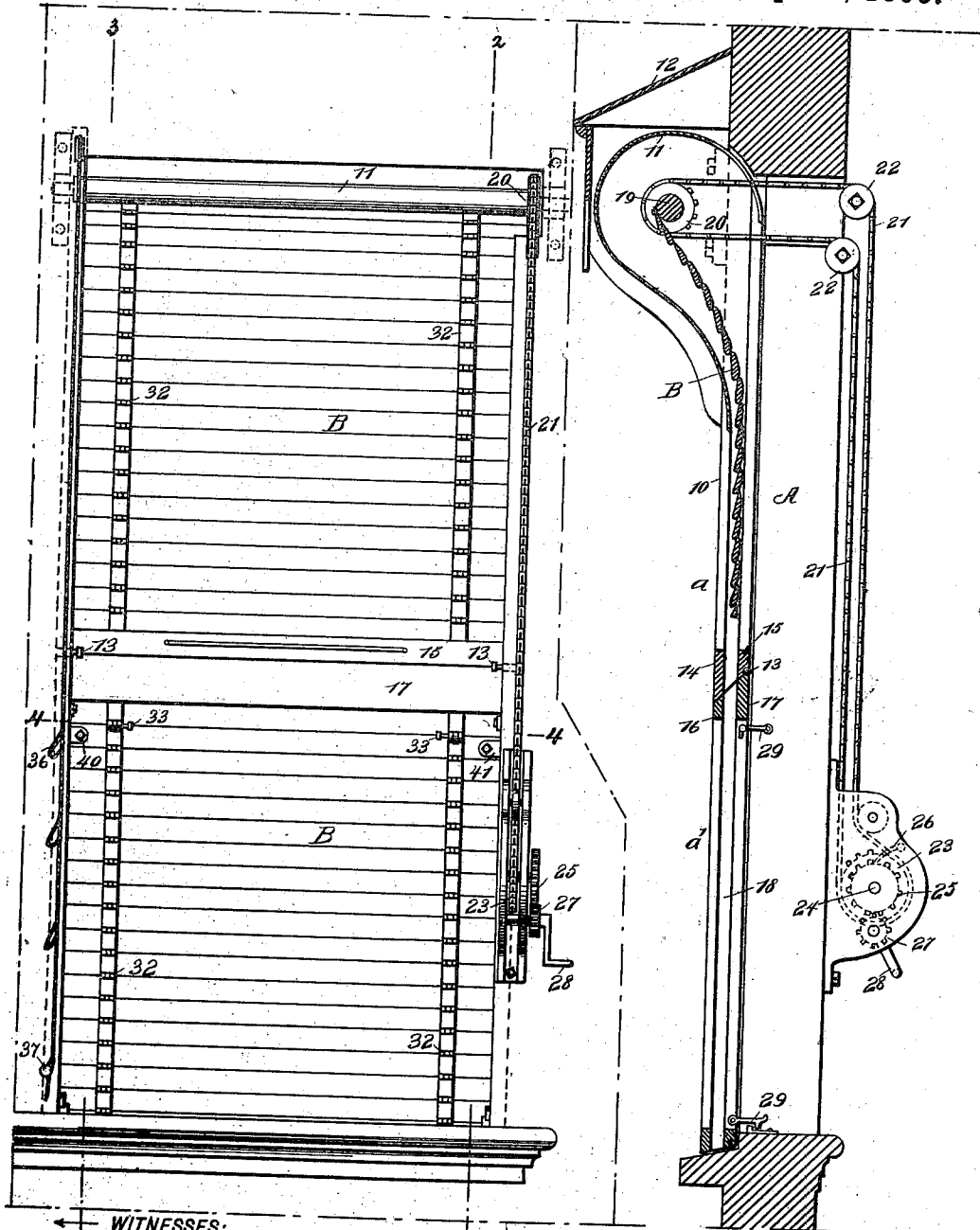
(No Model.)

G. NEUENSCHWANDER.
WINDOW BLIND.

2 Sheets—Sheet 1.

No. 537,351.

Patented Apr. 9, 1895.



WITNESSES:

John J. Doughton
Frederick A. Kees

Fig. 1

Fig. 2

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G. Neuenschwander
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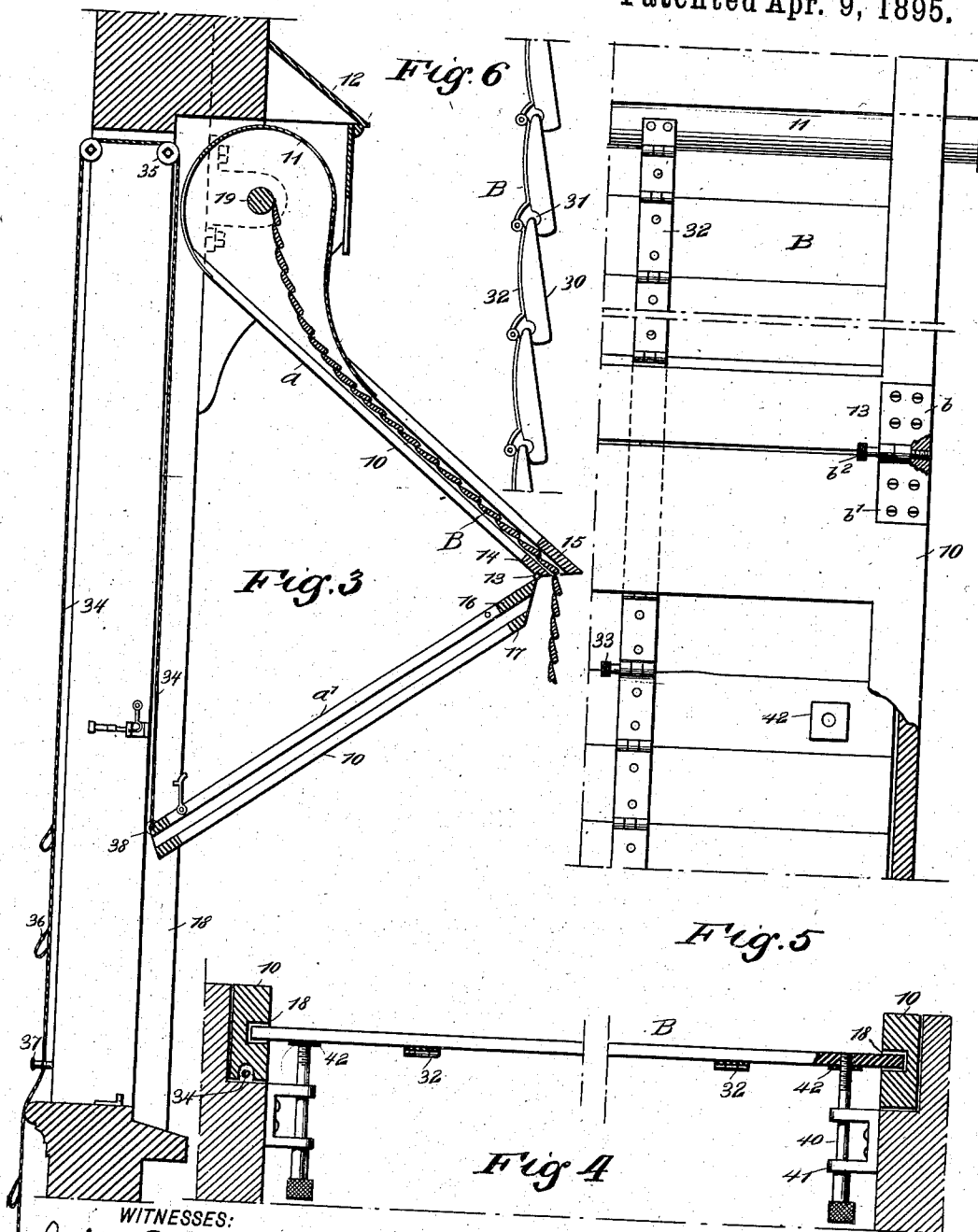
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John A. Doughton
Frederick A. Lee

INVENTOR

G. Neuenschwander

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UNITED STATES PATENT OFFICE.

GODFREY NEUENSCHWANDER, OF LOUISVILLE, KENTUCKY.

WINDOW-BLIND.

SPECIFICATION forming part of Letters Patent No. 537,351, dated April 9, 1895.

Application filed September 11, 1894. Serial No. 522,693. (No model.)

To all whom it may concern:

Be it known that I, GODFREY NEUENSCHWANDER, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and Improved Window-Blind, of which the following is a full, clear, and exact description.

My invention relates to an improvement in window blinds, especially to that class of blinds known as Venetian or slat blinds, and the object of the invention is to so construct the blinds that they may not only be rolled up but may be so placed as to form an awning waterproof and sun-proof; and another object of the invention is to construct the blinds in such a way that the upper portion may be rolled up exposing the upper section of the window while the lower portion of the window may be closed or concealed by the lower section of the blind.

Another object of the invention is to construct a blind possessing the above characteristics which will be exceedingly simple, durable and economic.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is an inner face view of the improved blind, illustrating it as closing the entire window. Fig. 2 is a section taken substantially on the line 2—2 of Fig. 1, the blind being partially elevated. Fig. 3 is a section taken substantially on the line 3—3 of Fig. 1, in which the blind is in position to form an awning. Fig. 4 is a horizontal section taken substantially on the line 4—4 of Fig. 1. Fig. 5 is a detail inner face view of a portion of the blind; and Fig. 6 is an edge view of the same.

In carrying out the invention a rail 10 is located at each side of the outer face of the window frame A, and each rail is preferably made wider at the top than at any other point in its length, and the upper portion of the two rails is connected by a hood or housing 11, which in turn is ordinarily protected by a

housing or hood 12 secured to the building. Each rail is made in two or more sections, preferably two, designated as *a* and *a'*, the rail sections being brought together at the center of the rail, their abutting ends being inclined; and the sections of each rail are connected at the inner face through the medium of a hinge 13, the said hinge comprising two knuckles *b* and *b'*, as shown in Fig. 5, one secured to each section, and a pintle *b*², passed through the knuckles and screwed into one section of the hinge, as is likewise shown in Fig. 5, whereby upon removing the pintles *b*² the sections of the rail may be separated, if desired. Each rail section at its abutting end is provided with two cross bars, an inner and an outer one, the cross bars of the upper rail sections being designated as 14 and 15, and the cross bars of the lower rail sections as 16 and 17. Each rail is furthermore provided upon its inner face with a longitudinal groove 18, extending virtually from the top to the bottom.

In suitable hangers attached for example to the outer sides of the window frame, a roller 19 is journaled, turning loosely in the upper ends of the rails 10. The roller 19 has attached to it the upper end of the blind B; and the said roller is usually provided at one end with a sprocket wheel 20, over which a link belt 21 is passed, the said belt being passed inward over guide rollers 22, and downward along the inner face of the window frame, and it is passed at its lower end over a sprocket wheel 23, the said sprocket wheel being fast upon a spindle 24, the said spindle being likewise provided with a gear 25, controlled by a pawl 26, the said gear being made to mesh with a pinion 27, operated through the medium of a crank arm 28. Thus by turning the crank arm 28 the roller 19 will be revolved in a direction to wind the blind thereon, or permit the blind to unwind therefrom. The rail sections are held in place, that is, in vertical alignment, through the medium of hooks 29 or their equivalents attached either to the sections of the rails and engaging with the window frame, or attached to the window frame, in which latter event they engage with the rails.

The slats 30 of the blind are made to over-

lap each other, as shown in Fig. 6, the lower portion of one slat being provided with a transverse groove 31 to receive the upper edge of the next lower slat, as is likewise shown in Fig 6, enabling the slats of the blind to be given a sharp bend. These slats are connected from the top one to the bottom one through the medium of a continuous hinge 32, one of such hinges being located at each side near each end of the series of slats and upon the inner face thereof, the joint being made in the hinge wherever the two slats overlap; and at predetermined slats, below the cross bar 17, removable pintles 33 are placed in the knuckles of the hinge, whereby upon removing said pintles the blinds will be in two sections, one independent of the other.

The blind, when lowered, travels in the grooves 18 in the rails, and the rails may be raised to form an angle more or less acute, as shown in Fig. 3, by attaching to the lower ends of their end sections cables 34, as shown in Fig. 3, carrying the said cables upward over suitable guide rollers 35, and downward along the inner face of the window frame, the cable being provided for example with series of loops 36 adapted to be passed over keepers 37. Thus by drawing downward upon the cable 34 the lower section of each of the rails will be raised, and the upper section will be carried outward, the two sections forming with the frame substantially a triangle. At that time the blind is wound partially, or almost entirely upon the roller. Now by unrolling the blind it will drop from the grooves in the upper sections of the rails vertically downward, forming, as shown in Fig. 3, an awning, serving as a protection from the weather and from the sun, the awning being raised or lowered by the adjustment of the rails; and in order that the lower rail sections may travel upward readily they are provided at their lower ends with friction rollers 38.

When the two sections of the blind are separated, and the upper one wound upon the roller, the lower blind section is held in place preferably by causing screws 40, located in suitable bearings 41 placed upon the inner faces of the window frame, to enter plates 42, placed for example upon the inner face of one of the slats below that whose hinge is provided with a removable pintle 33, as shown in Figs. 1 and 4. It will thus be observed that an awning blind may be constructed capable of use in car windows, or in connection with the windows of dwellings, or in fact any structure, whereby an awning may be expeditiously and conveniently formed from the blind, and the blind as readily restored to what may be termed its normal position.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. In a window blind, the combination with a blind, and means for raising and lowering the same, of a guide for the blind at each side of the window, said guide being hinged at its upper end and formed of sections hinged together, substantially as and for the purpose set forth.

2. In a window blind, the combination with a roller, and a blind adapted to be wound on the roller, of a guide for the blind at each side of the window, the said guides being formed of hinged sections, the upper sections of which are hinged to the window frame, whereby the lower sections may be raised and the upper section carried outward, substantially as and for the purpose set forth.

3. In a window blind, a rail hinged at its upper end and divided into hinged sections, a roller, a slat blind carried by the roller and guided by the rail sections, and means, substantially as described, for raising the lower sections of the rails, as and for the purposes set forth.

4. In a window blind, the combination, with rails pivoted at one end to the window frame, the said rails being provided with guide ways and constructed in hinged sections, whereby the lower sections of the rails may be raised and the outer sections carried outward, of a roller, means, substantially as described, for rotating the said roller, a slat blind attached to the roller, adapted to move in the guide ways of the rail, and means, for elevating the lower rail sections, as and for the purpose set forth.

5. In a window blind, the combination with a roller, of a slat blind carried by the roller, the slats of the blind being connected by hinges, sundry of which are separable, and means for locking the lower section of the blind in place when separated from the upper section, substantially as described.

6. In a window blind, the combination, with guide ways, a roller and a slat blind carried by the roller and traveling in said guide ways, the slats being connected by continuous hinges, sundry of the knuckles of which are provided with removable pintles, of sockets located upon sundry of the slats, and locking devices adapted for attachment to a window frame, and likewise adapted to enter the said sockets, whereby the blind may be divided and one section may be held stationary while the other section is rolled upon the roller, as set forth.

GODFREY NEUENSCHWANDER.

Witnesses:

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GEORGE HESTER.