

Jan. 14, 1930.

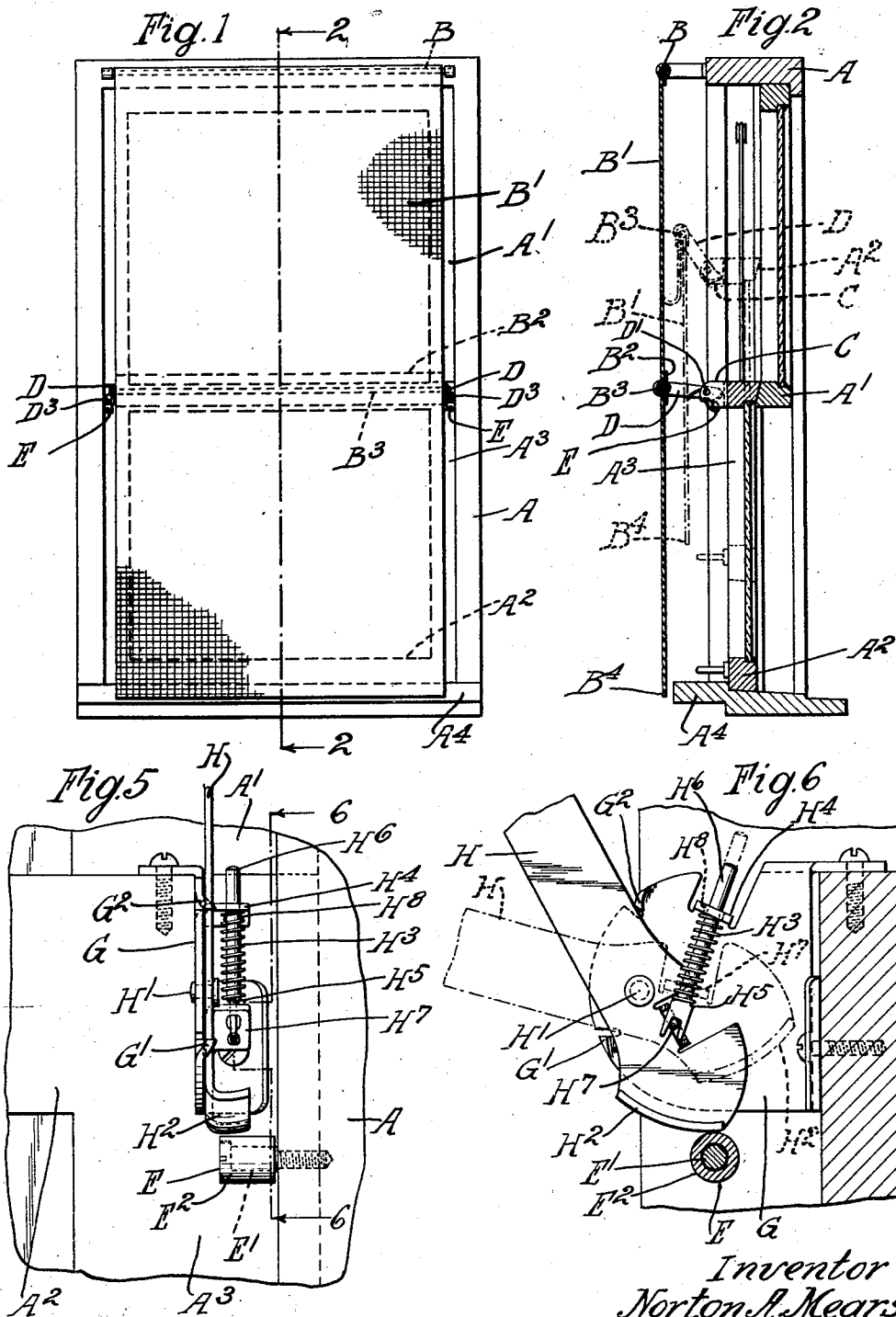
N. A. MEARS

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WINDOW ATTACHMENT

Filed July 5, 1928

2 Sheets-Sheet 1



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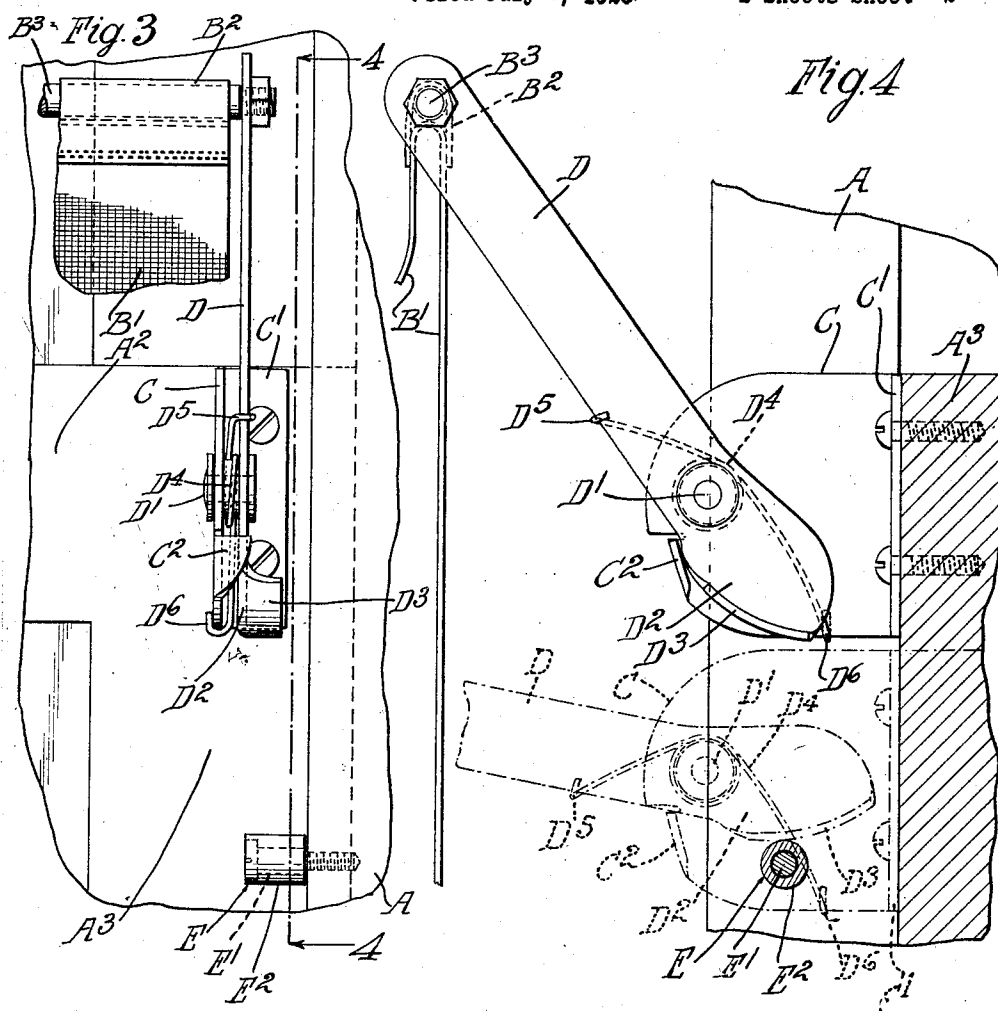
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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WINDOW ATTACHMENT

Application filed July 5, 1928. Serial No. 290,478.

My invention relates to a curtain raising and lowering device and has for its principal purpose the provision of a device for raising and lowering curtains in response to the raising and lowering of a window sash. One object of my invention is to provide a simple and efficient mechanism for accomplishing the above function, which shall be cheap, simple to manufacture, sturdy in construction and efficient in use. Another object is the elimination of guiding devices on the window frame.

Other objects will appear from time to time in the course of the specification and claims. I illustrate my invention more or less diagrammatically in the accompanying drawings, wherein—

Figure 1 is an elevation of a window illustrating my invention associated therewith;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a detail; and

Figure 4 is a section on the line 4—4 of Figure 3;

Figure 5 is a view similar to Figure 3 of a variant form of my device; and

Figure 6 is a section on the line 6—6 of Figure 5.

Like parts are indicated by like symbols throughout the specification and drawings.

Referring to the drawings A indicates any suitable window frame having the upper sash A¹ and the lower sash A² with the side members A³.

B indicates any suitable curtain rod or supporting structure from which depends the curtain B¹. The curtain is herein shown as having a hem or doubled portion intermediate top and bottom as at B², through which passes the rod B³ the ends of which are secured to the lifting mechanism below described. It will be observed that the lower edge B⁴ of the curtain normally depends to or beneath the window sill A⁴.

Mounted at the upper corners of the sash side members A³ are the outwardly projecting supports C herein shown as including a generally semi-circular body provided with the laterally extended flanges C¹ which may be screwed or bolted to the window frame.

Each body or support C is further provided with a flange or abutment C².

Pivoted to each support or body C is a lever D at the outer end of which is secured, in any suitable fashion, preferably removably, the rod B³. D¹ indicates the pivot or pivot point of the lever D and D² the arm of the lever opposite the pivot point from the connection with the rod B. Referring for example to the form indicated in Figures 1 to 4 the lever arm D² is provided with a flange or bearing surface D³. D⁴ generally indicates a spiral spring which tends to rotate the lever D in a clockwise direction as shown for example in Figure 4. The spring member includes an end D⁵ engaging the lever D and an end D⁶ engaging the base member C, the body of the spring being coiled about the pivot point of the lever. It will be understood from the construction, as shown in Figures 3 and 4 that the spring D⁴ tends normally to hold the lever in upwardly inclined position and the curtain is preferably so adjusted as to have its lower edge thereby raised to or above the level of the lower edge of the sash. It will be held in this position when the sash is raised.

When the sash is lowered the lever D will take the position in which it is shown in dotted line in Figure 4, owing to the engagement of its arm D² with the flange D³ with an abutment generally indicated as at E, which is positioned on the window frame in such fashion as to engage the lever arm when the sash is lowered. It is preferably so positioned as to depress the outer end of the lever D, and thus the rod B, when the sash is in fully closed position is at the bottom of its downward excursion. Preferably the location of the parts and the length of the curtain is such that at such lowered position of the sash the lower edge of the curtain depends beneath the lower edge of the sash and overhangs the sill A⁴ as shown in Figures 1 and 2. Any suitable member may be used for the abutment but I indicate the abutment E which includes a fixed stem E¹ and a cylindrical bearing or roller E² mounted thereupon.

Referring to the form shown in Figures 5 and 6 I indicate a body member G corre-

sponding to the member C of the earlier views. This member G is provided with two limiting abutments as at G¹ G². A lever H is pivoted as at H¹ to the body member G and is provided with a flange or abutment H² corresponding to the flange D³ of the earlier form. Referring to Figure 6, when the sash is in the lowest position the lever takes its dotted line position owing to the engagement of the abutment H² with the opposed abutment E on the window frame. When the sash is raised the lever H is moved into full line position by the action of the coil spring H³ which is compressed between an abutment H⁴ on the body G and an abutment H⁵ on the pin or plunger H⁶ which is pivoted or secured to an abutment H⁷ on the short arm of the lever H. The pin H⁶ which serves as a guide for the spring H³ passes through an aperture H⁸ in the abutment H⁴.

It will be understood that as to both forms of the device that the yielding means are employed normally to hold the curtain supporting levers in raised position, but that these yielding means are overcome by the engagement of the short arms of the levers with the abutments E fixed on the window frames at the sides of the sash. When the sash is lowered it causes the levers to engage the said abutments just prior to the termination of the downward excursion of the sash and such engagement, in response to further lowering of the sash, rotates the levers, against the springs, into normal downward position.

It will be realized that whereas I have described and shown a practical and operative device, nevertheless many changes might be made in the size, shape, number and disposition of parts without departing from the spirit of my invention. I therefore wish my description and drawings to be taken as in a broad sense illustrative and diagrammatic rather than as limiting me to my specific showing.

I claim:

1. In an apparatus including a frame, a sash movable in the frame, and curtain raising means associated with the sash, the combination with the curtain raising means of yielding means carried by the sash and adapted normally yieldingly to move the curtain raising means in raised position.

2. In an apparatus including a frame, a sash movable in the frame, and curtain raising means associated with the sash, the combination with the curtain raising means of yielding means carried by the sash and adapted normally yieldingly to move the curtain raising means in raised position, and means for opposing said yielding means and for moving the curtain raising means into lowered position when the sash is lowered.

3. In an apparatus including a frame, a sash movable in the frame, and curtain raising means associated with the sash, the com-

bination with the curtain raising means of yielding means carried by the sash and adapted normally yieldingly to move the curtain raising means in raised position, and means for opposing said yielding means and for moving the curtain raising means into lowered position when the sash is lowered, such means including abutments mounted on the window frame adjacent the path of travel of said sash.

4. In an apparatus including a frame, a sash movable in the frame, and curtain raising levers in pivotal relation with the sash, the combination with the curtain raising levers of yielding means carried by the sash and adapted normally to hold said levers in raised position.

5. In an apparatus including a frame, a sash movable in the frame, and curtain raising levers in pivotal relation with the sash, the combination with the curtain raising levers of yielding means carried by the sash and adapted normally to hold said levers in raised position, and means for opposing said yielding means and for rotating said levers into lowered position when the sash is lowered.

6. In an apparatus including a frame, a sash movable in the frame, and curtain raising levers in pivotal relation with the sash, the combination with the curtain raising levers of yielding means carried by the sash and adapted normally to hold said levers in raised position, and means for opposing said yielding means and for rotating said levers into lowered position when the sash is lowered, said means including abutments mounted on the frame adjacent the path of movement of such sash and adapted to engage the inner ends of said levers.

7. In an apparatus including a frame, a sash movable in the frame, and curtain raising means associated with the sash, the combination with the curtain raising means of yielding means carried by the sash and adapted normally yieldingly to move the curtain raising means to raised position after the initiation of the upward movement of the sash from its closed position.

8. In an apparatus including a frame, a sash movable in the frame, and curtain raising means associated with the sash, the combination with the curtain raising means of yielding means carried by the sash and adapted normally yieldingly to move the curtain raising means to raised position after the initiation of the upward movement of the sash from its closed position, said curtain raising means being constrained to lower position when the sash is closed.

9. In an apparatus including a frame, an upper and a lower sash movable in the frame, curtain raising levers pivoted upon the lower sash, said levers being in lowest position when the lower sash is at the lower extremity of its

excursion, and means for lifting said levers and the curtain after the initiation of the upward movement of the sash, said lifting means being inoperative until after the upward movement of the sash is initiated.

5 10. In an apparatus including a frame, an upper and a lower sash movable in the frame, curtain raising levers pivoted upon the lower sash, said levers being in lowest position
10 when the lower sash is at the lower extremity of its excursion, and lifting means mounted on said lower sash, adapted to lift said levers and curtain after the initiation of the upward movement of the sash, said lifting
15 means being inoperative until after the upward movement of the sash is initiated.

11. In an apparatus including a frame, an upper and a lower sash movable in the frame, curtain raising levers pivoted upon the lower
20 sash, said levers being in lowest position when the lower sash is at the lower extremity of its excursion, and yielding means mounted on said sash and associated with said levers and adapted to rotate said levers into
25 curtain lifting position after the initiation of the upward movement of the sash.

12. In an apparatus including a frame, an upper and a lower sash movable in the frame, curtain raising levers pivoted upon the lower
30 sash, said levers being in lowest position when the lower sash is at the lower extremity of its excursion, and yielding means mounted on said sash, associated with said levers and adapted to rotate said levers into curtain
35 lifting position after the initiation of the upward movement of the sash, said yielding means being constrained to inoperative position until after the upward movement of the sash is initiated.

13. In an apparatus including a frame, a
40 sash movable in the frame, curtain raising levers pivoted to said sash and yielding means, mounted on said sash and adapted to rotate said levers to raised position, said
45 yielding means being constrained to inoperative position and the levers being held in lower position when the sash is closed.

Signed at Chicago, county of Cook, and State of Illinois, this 26th day of June, 1928.

50 NORTON A. MEARS.

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