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BURGLAR CURTAIN FOR DISPLAY WINDOWS.
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2 SHEETS—SHEET 1.

Fig. 1.

Witnesses:
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To all whom it may concern:

Be it known that I, Max Richter, a citizen of the Empire of Germany, residing at Chicago, in the county of Cook and State of Illinois, United States of America, have invented certain new and useful Improvements in Burglar-Curtains for Display-Windows, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to burglar curtains for display windows, and the object of my invention is to provide a curtain and controlling means therefor, so arranged and disposed that the curtain will be permitted to move to closed position when the pane of the window with which the curtain is associated is broken.

In the accompanying drawings illustrating my invention Figure 1 is an elevational view of a window provided with the devices of my invention. Fig. 2 is a view illustrating the burglar curtain and the controlling devices therefor. Fig. 3 is a fragmentary detail view of the controlling devices for the curtain. Fig. 4 is a view partly in section and partly in elevation taken on the line 4-4 of Fig. 2, and looking in the direction indicated by the arrows. Fig. 5 is a sectional view taken on the line 5-5 of Fig. 3 looking in the direction indicated by the arrows, and Fig. 6 is a fragmentary detail view illustrating how the bar to which the lower ends of the strands or wires, to be hereinafter mentioned, are attached, is secured to the window frame.

Similar reference numerals refer to similar parts throughout the several views.

Secured to the upper part of the window frame and preferably concealed from a person on the outside of the window, is a pair of downwardly extending brackets 10 one disposed at each side of the window frame.

Rotatably mounted in the brackets 10 is a shaft 11 having a curtain 12 wound thereon. The curtain 12 is preferably constructed by securing a plurality of metal bars in or to a suitable fabric, but I do not limit myself to any particular form of curtain. It will suffice to say that any one of the well-known forms of flexible curtain may be wound upon the shaft 11. At the left hand end of the shaft 11 (Fig. 2) is a sprocket wheel over which passes a chain 13, this chain leading to another sprocket wheel not shown, the last mentioned sprocket wheel being operated in any suitable manner to wind the curtain 12 upon the shaft 11.

Rigidly secured upon the shaft 11 near each end thereof, are the wheels 14, each of which has ratchet teeth on the face thereof, adjacent to the curtain 12. The teeth of the wheels 14 are designed to be engaged by suitable detent bars to be hereinafter mentioned.

Secured to the brackets 10 and extending across the window frame is a bar 15, this bar 15 serving to support the detent bars or rods, to be hereinafter mentioned, and also providing a bearing for the latch which controls the position of the detent bars or rods. Extending freely through openings in the brackets 10 and provided with bearings 16 carried by the brackets 10 are the detent rods or bars 17, each one of which is provided with a beveled end 18 arranged to engage the teeth of one of the ratchet wheels 14. The inner end of each of the detent bars or rods 17 is supported in a bearing plate 19, supported by the bar 15.

As is most clearly illustrated in Figs. 3 and 5 each of the detent bars or rods 17 has rigidly secured thereto by means of a bolt 85 a U-shaped member 21, the arms of which embrace the bar 15 as is most clearly illustrated in Fig. 5. Interposed between each of the members 21 and the adjacent bearing 16 is a helical compression spring 22. It will be seen that each of the compression springs 22 tends to move its associated detent bar or rod 17 toward the other detent bar or rod.

The inner end of each of the locking bars 95 or rods is bifurcated to embrace a latch 23 extending upwardly through a bearing 24 on the bar 15 and provided near its upper end with a shoulder 25. Interposed between the shoulder 25 and the bar 15 is a comparatively light compression spring 26, as is most clearly illustrated in Fig. 3. As is illustrated in the drawings the lower end of the latch 23 is considerably wider than the other portions of the latch and the said lower portion is provided with inclined edges 27 which terminate in parallel edges 28 engaged by the bifurcated ends of the detent
bars or rods 17 when the latch 23 is in "set" position. The upper end of the latch 23 is connected by means of a link 29 with a lever 30 mounted on a pivot 31 carried by the upper portion of the window frame. Attached to the long arm of the lever 30 is a cord or other suitable device whereby the lever 30 may be tied or locked in the position shown in Fig. 4 to prevent operation of the controlling devices to permit the curtain 12 to fall. It is desirable to insure that the curtain will not fall when the window with which the curtain is associated is being cleaned.

15 Formed in the lower end of the latch 23 is an elongated slot 32 in which is secured by means of a bolt 33 a small plate 34 having a plurality of openings 35 formed in its lower end. Secured in the openings 35 in the plate 34 and radiating from the plate 34 across the window pane with which the curtain 12 is associated and fitting closely against the inner surface of the pane is a plurality of fine wires or strands 36, the lower end of each of said wires or strands being attached to a bar 36 extending across the bottom of the window frame as is clearly shown in Figs. 1 and 6. The bar 36 is secured in position by means of a very simple arrangement. At each end of the bar 36 is disposed a plate 37 having its lower end bifurcated to receive the plate 36. The plates 37 are secured to the window frame as illustrated.

20 When the several parts are in the positions illustrated in the drawings, the bifurcated ends of the locking bars 7 engage the parallel edges 28 of the latch 23; therefore, the beveled ends 15 of the locking bars or rods are held in engagement with the teeth of the ratchet wheels 14 and the curtain 12 is maintained in raised position. Should any one throw an object through the window pane, if the resulting opening in the pane is to be sufficiently large to permit the merchandise inside the window to be reached, the object which is thrown through the pane will engage one of the fine wires or strands 36, thereby drawing the latch 23 slightly downward so that the bifurcated ends of the detent bars 17 engage the surface 27 of the latch. When this occurs a cam action results and the springs 29 thrust the bars 17 inwardly, thus drawing the beveled ends 18 of the detent bars out of engagement with the ratchet wheels 14. As soon as this occurs the curtain 12 falls, due to gravity. The parts are so arranged that the curtain is released almost instantly after the latch 23 has been drawn downward.

25 When the curtain is to be placed in "set" condition, the same is wound up on the shaft 11 and the lever 30 is operated to draw the latch 29 to the position shown in Fig. 5, thus forcing the ends 18 of the detent bars or rods 17 into engagement with the teeth of the ratchet wheels 14. In practice it is very desirable to have the wires or strands 36 stretched quite tight when the devices are in "set" condition.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A burglar curtain for a display window comprising a shaft upon which the curtain is wound, a ratchet wheel mounted upon either end of said shaft, a pair of rods, each arranged to engage one of said ratchet wheels, spring means associated with each rod normally tending to move it from engagement with its associated ratchet wheel, a latch common to both of said rods provided with riding faces disposed on opposite sides of the latch normally tending to prevent the rods from moving under the action of their associated springs and a plurality of strands connected with said latch and stretched across a window pane arranged when engaged by an object thrown through the window pane to actuate the latch to permit the rods to move under the action of their associated springs.

2. A burglar curtain for a display window provided with a shaft upon which the curtain is wound, a ratchet wheel at each end of said shaft, a detent rod arranged to engage each of said ratchet wheels, means associated with said detent rods normally tending to move them from engagement with their associated ratchet wheels, a cam latch common to both of said rods arranged when in one position to permit the rods to move to release said ratchet wheels, means for manually operating said cam latch to force the rods into engagement with their associated ratchet wheels and a plurality of strands connected with said cam latch and stretched across the window pane arranged when engaged by an article thrown through the pane to operate the latch to permit said rods to move from engagement with their associated ratchet wheels.

3. In combination a curtain arranged when released to fall by gravity, a detent arranged to retain said curtain in raised position, spring means tending to move the detent to non-locking position, a latch normally engaged and retaining the detent in locking position, spring means normally holding the latch in position to retain the detent in locking position, a cam surface formed on said latch and means arranged when operated to move the latch to bring the cam surface thereof into engagement with the detent, whereupon the spring means associated with the detent may move the latch out of the path of the detent and move the latter to non-locking position.

4. In combination, a curtain arranged when released to fall by gravity, a detent
arranged to retain said curtain in raised position, spring means tending to move the detent to non-locking position, a latch normally engaged by the detent serving to retain the detent in locking position, a cam surface formed on said latch, and means arranged when operated to move the latch to bring the cam surface thereof into engagement with the detent whereupon the spring means associated with the detent may move the latch out of the path of the detent and move the latter to non-locking position.

In witness whereof, I hereunto subscribe my name this 28th day of March, A. D. 1914.

MAX RICHTER.

Witnesses:
A. G. McCALBER,
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Copies of this patent may be obtained for five cents each, by addressing the “Commissioner of Patents, Washington, D. C.”