

May 23, 1961

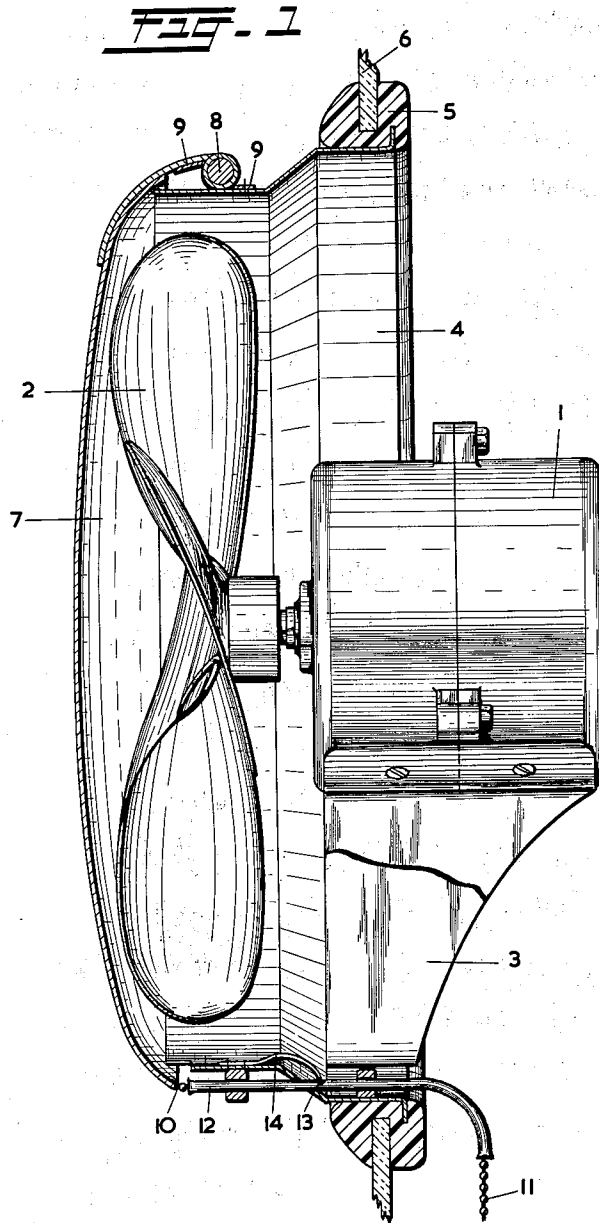
W. H. BRASKAMP

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LOCKING AND OPERATING MECHANISM FOR A CLOSURE

Filed Feb. 7, 1958

2 Sheets-Sheet 1



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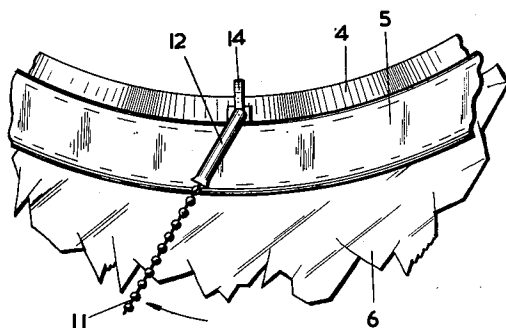
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Filed Feb. 7, 1958

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FIG. 2



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LOCKING AND OPERATING MECHANISM FOR A CLOSURE

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Filed Feb. 7, 1958, Ser. No. 713,926

Claims priority, application Netherlands Sept. 28, 1957

3 Claims. (Cl. 268—74)

The invention relates to a locking and operating mechanism for a flap, shutter, window, venetian blind or similar device operated by means of a flexible pulling member, the movement in one direction of said device being obtained by means of a spring or by its own weight while the movement in the opposite direction takes place by means of the pulling member. Such mechanisms are used for flap windows, venetian blinds, ventilating flaps, shutters for window-ventilators and the like and in their most simple and most occurring form are formed by a cord, a cable or a chain, which has to be wrapped around a hook or has to be secured to a hook or nail by means of rings to fasten the device to be operated in a certain position. The reliability of such a mechanism of course depends on the handiness of the operating person or of the condition of the hook or the like.

Purpose of the invention is the provision of a simple mechanism which always operates reliable and is easy to handle.

According to the invention this purpose is obtained due to the fact that the pulling member extends through a pipe mounted adjacent to the device to be operated and adapted to rotate about its own axis, that pipe being bent downwards on the operating side and having a transverse groove in which engages a spring pressed strip, the width of which being greater than the length of the groove whereas that portion of the pulling member extending through the pipe has been provided with thickenings adapted to pass through the pipe but not underneath the strip extending into the groove. The pulling member preferably is formed by a chain of spherical or similar elements.

Due to that construction of the locking and operating mechanism hooks or the like for securing the pulling member has become superfluous. The locking is obtained by means of the strip extending into the groove of the pipe said strip arresting the thickenings of the pulling member, which locking, however, may be raised easily by laterally pulling the pulling member such that the pipe is rotated as result of which the strip is lifted by the edge of the groove.

This strip extending into the groove may be formed by a leaf spring which is the most cheap and simple solution, whereas further the end of the strip or leaf spring cooperating with the pulling member may be bevelled somewhat for instance bent obliquely such that the thickenings of the pulling member may be drawn underneath it in one direction whereas a movement in opposite direction is prevented. This has the advantage that on pulling the pulling member the pipe needs not to be rotated to raise the locking since the strip or leaf spring may ride over the thickenings.

If the mechanism is used with a shutter which is maintained in the open position by means of a spring, the shutter may be brought in a more or less closed position by pulling the pulling member, in which position the

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shutter always will be arrested whereas lateral pulling of the pulling member to raise the locking is sufficient to again open the shutter by letting run out the pulling member in said lateral position.

The invention will be further elucidated with reference to the drawing in which the invention has been applied to a window-ventilator.

Figure 1 shows in cross-section a window ventilator with the locking device according to the invention.

Figure 2 is a view on the back side of the lower portion of the ventilator according to Figure 1.

The window ventilator shown in the drawing consists of a motor 1 having a fan 2 said motor being secured in a housing 4 by means of a bracket 3, that housing 4 being secured in the glass pane 6. This housing 4 is provided with a cover 7 pivotally secured to the housing at 8, a spring 9 being provided which urges the cover 7 in the open position. At the lower end of the cover at 10 a pulling member 11 has been connected extending through a pipe 12 mounted for rotation about its own axis in the housing 4. Almost in the middle the pipe has been provided with a groove 13 extending into the half of the thickness of the pipe, a leaf spring 14 engaging that groove and having a width such that the spring engages the edges of the pipe at the end of the groove. The pulling member 11 is formed by a chain of spherical elements and the end of the spring 14 always extends between two balls of the chain. Due to this the chain is locked and consequently the cover 7. If in the open position of the cover 7 the chain 11 is pulled down that chain moves underneath the end of the spring thereby continuously raising the spring 14 until one stops pulling after which the chain is again locked by spring 14. If it is desired to open the cover 7 by means of the spring 9, the pulling member 11 is pulled laterally as indicated in Figure 2 as a result of which the end of the spring 14 is raised by the edge of the groove 13 and moved out of engagement with the balls of the chain due to which the pulling member may move in opposite direction.

What I claim is:

1. A flap operating mechanism comprising a chain coupled to said flap, said chain including a plurality of connected links, a tubular guide slidably accommodating said chain whereby the chain is effective to position said flap, said guide being provided with an aperture exposing said chain, spring means extendible through said aperture for engaging the chain and rendering the latter immobile, said spring means having a substantially fixed position relative to said guide, and support means rotatably supporting said guide to align and displace said aperture selectively relative to said spring means to render the latter respectively effective and ineffective to engage said chain, said guide including a radial extension through which said chain extends, said chain bearing laterally against said extension to rotate said guide.

2. A mechanism as claimed in claim 1, wherein said spring means is a leaf spring having a free end adapted for engaging said chain.

3. A mechanism as claimed in claim 2, wherein the end of the spring adapted for engagement with said chain is beveled.

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