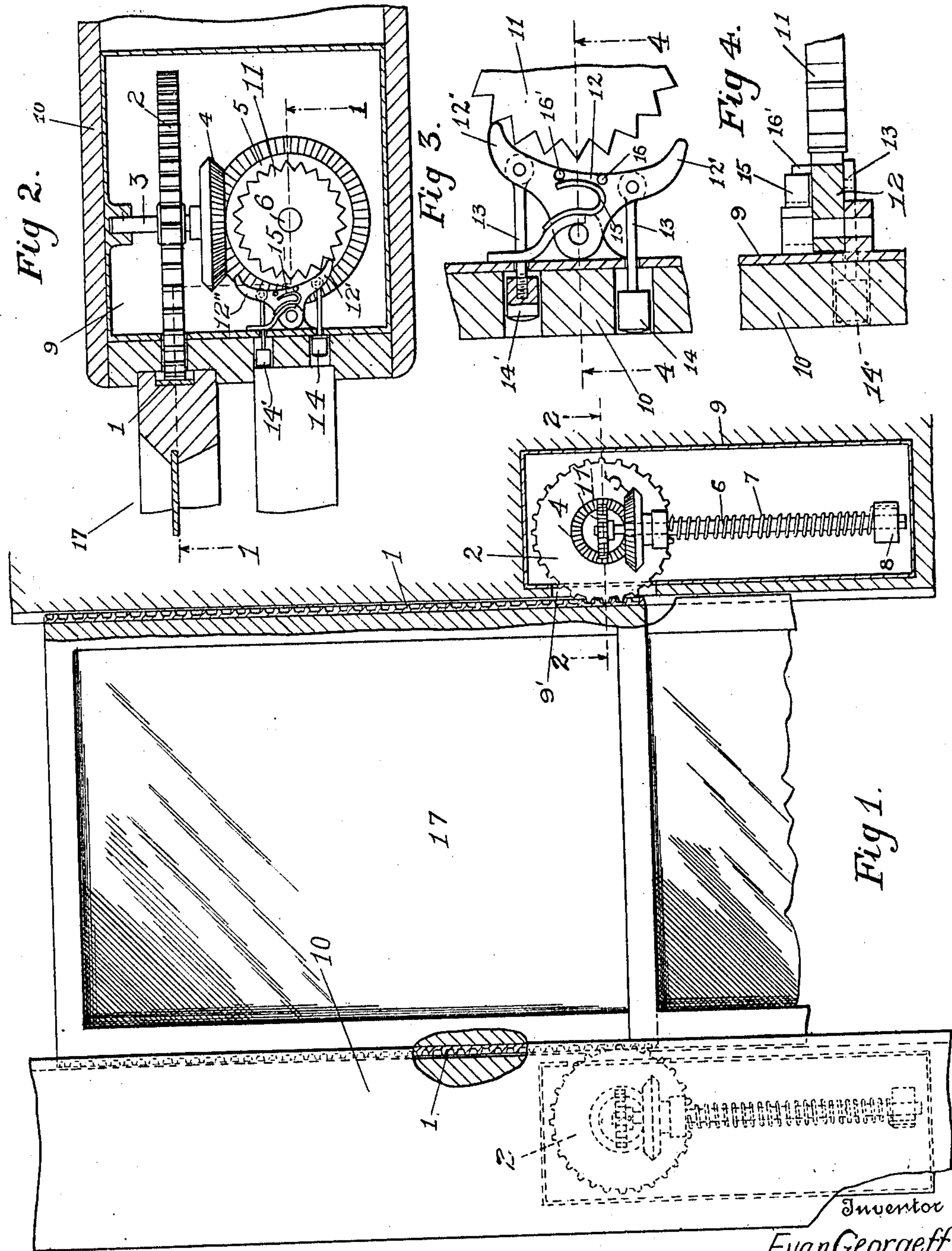


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SASH CLOSING MECHANISM.
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970,036.



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SASH-CLOSING MECHANISM.

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To all whom it may concern:

Be it known that I, EVAN GEORGEFF, a subject of the King of Bulgaria, and a resident of the city of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Sash-Closing Mechanism, of which the following is a specification.

My invention relates to devices of the above type and has for its primary object to provide a simple construction wherein movement of the sash in one direction winds an operating spring thereby storing energy which is utilized in effecting movement of the sash in the reverse direction.

A further object resides in the provision of means through the medium of which the sash can be locked in closed position.

With these objects in view, my invention resides in the construction, and arrangements of parts hereinafter described and succinctly defined in my annexed claims.

Referring to the accompanying drawing wherein like numerals of reference indicate like parts throughout: Figure 1 is a fragmentary front elevation, parts being shown in section, illustrating a sash and frame of a window equipped with my invention. Fig. 2 is a section taken on line 2—2 of Fig. 1. Fig. 3 is a detail fragmentary section on enlarged scale, illustrating more particularly the pawl and ratchet mechanism. Fig. 4 is a section taken on line 4—4 of Fig. 3.

My invention comprises a rack 1, with which meshes a pinion 2 fixed to a shaft 3, the latter being suitably journaled and provided with a beveled gear 4 meshing with a similar gear 5, fixed to a vertical shaft 6. Encircling shaft 6 is a spiral drive spring 7, having one end secured thereto, in any suitable manner, and its other end secured to the fixed bearing 8 of the casing 9, which casing in practice is preferably arranged in the window frame, as 10.

Reference numeral 11 indicates a ratchet wheel, fixed to shaft 6, with which is associated a double pawl member 12, the diverging pawls or arms 12', 12'' of which are arranged to be alternately thrown into engagement with the teeth of said ratchet wheel, through the medium of pivotally connected stems 13, provided on their outer end portions with push buttons 14, 14', which are slidably received in suitable open-

ings, preferably provided in the slide for the lower sash, as shown. A spring 15 is adapted to hold one or the other of these pawls in operative engagement, being related to bearing parts, as lugs 16, 16', each provided on a respective pawl, to engage the same alternately, as shown in Figs. 2 and 3, the same riding out of engagement with one, by swinging of the pawl member, into engagement with the other to exert a yielding pressure thereon.

My invention as herein constructed is adapted for closing the upper sash, as 17, and in the operation thereof, two of my improved devices, as shown in Fig. 1, are employed for the sash, one being arranged at each side thereof with the racks preferably secured to the side bars of the sash and the related mechanisms secured to the window frame 10, with pinions 2 thereof projecting through slots 9' of the casings 9 into engagement with their respective racks.

When the sash is closed, pawl 12'' is held by spring 15 in engagement with ratchet 11, as shown in Fig. 3, thereby constituting a lock for the sash.

In the lowering of the sash, pushbuttons 14 are first operated to release the pawls 12'' and move the pawls 12' into operative position, during which movement spring 15 is shifted from lugs 16' to lugs 16 as shown in Fig. 2 to yieldingly hold the pawls 12' for riding engagement with the teeth of the ratchet wheel during lowering of the sash, which movement of the sash winds springs 7 so that the latter can lift the sash when push buttons 14' are operated to release shafts 6.

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

1. In combination with a window frame and a sliding sash therein, means for lifting said sash comprising a rack and cooperating mechanism one of which is secured to said sash and the other to said window frame, said mechanism comprising a pinion in mesh with said rack, a vertically disposed shaft supported for rotation, beveled gears on said shaft and pinion meshing with one another, a spring connected with said shaft to be wound by rotation thereof in one direction, and means for securing said shaft against rotation by action of said spring,

said last means including a pawl and ratchet mechanism the ratchet of which is fixed to said shaft.

2. In combination with a window frame
5 and a sliding sash therein, means for lifting said sash comprising a rack and coöperating mechanism one of which is secured to said sash and the other to said window frame, said mechanism comprising a pinion in mesh
10 with said rack, a vertically disposed shaft supported for rotation and connected to said pinion for simultaneous rotation, a spring connected with said shaft to be wound by rotation thereof in one direction, means for
15 holding said shaft against rotation in either direction comprising a ratchet wheel fixed

to said shaft, a double ratchet member, means for swinging said member to bring its pawls alternately into engagement with the teeth of said ratchet wheel, and a spring 20 for yieldingly holding said member with one or the other of its pawls in operative position, said spring being shifted by reverse movements of said member to act alternately on the pawls of the latter. 25

Signed at Seattle, Washington this 5th day of February 1910.

EVAN GEORGEFF.

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