

(No Model.)

3 Sheets—Sheet 1.

P. M. KRICKL.
SASH LIFTER.

No. 561,896.

Patented June 9, 1896.

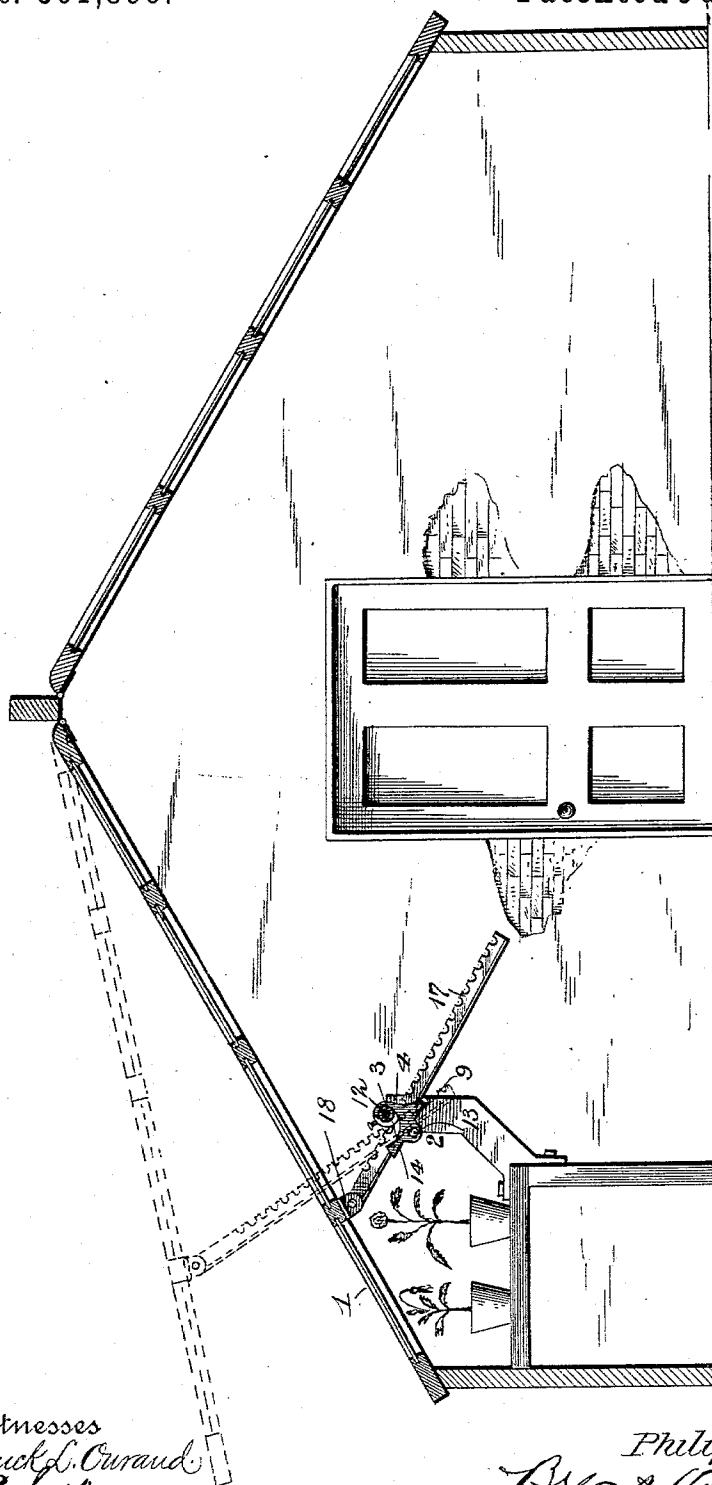


Fig. 1.

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(No Model.)

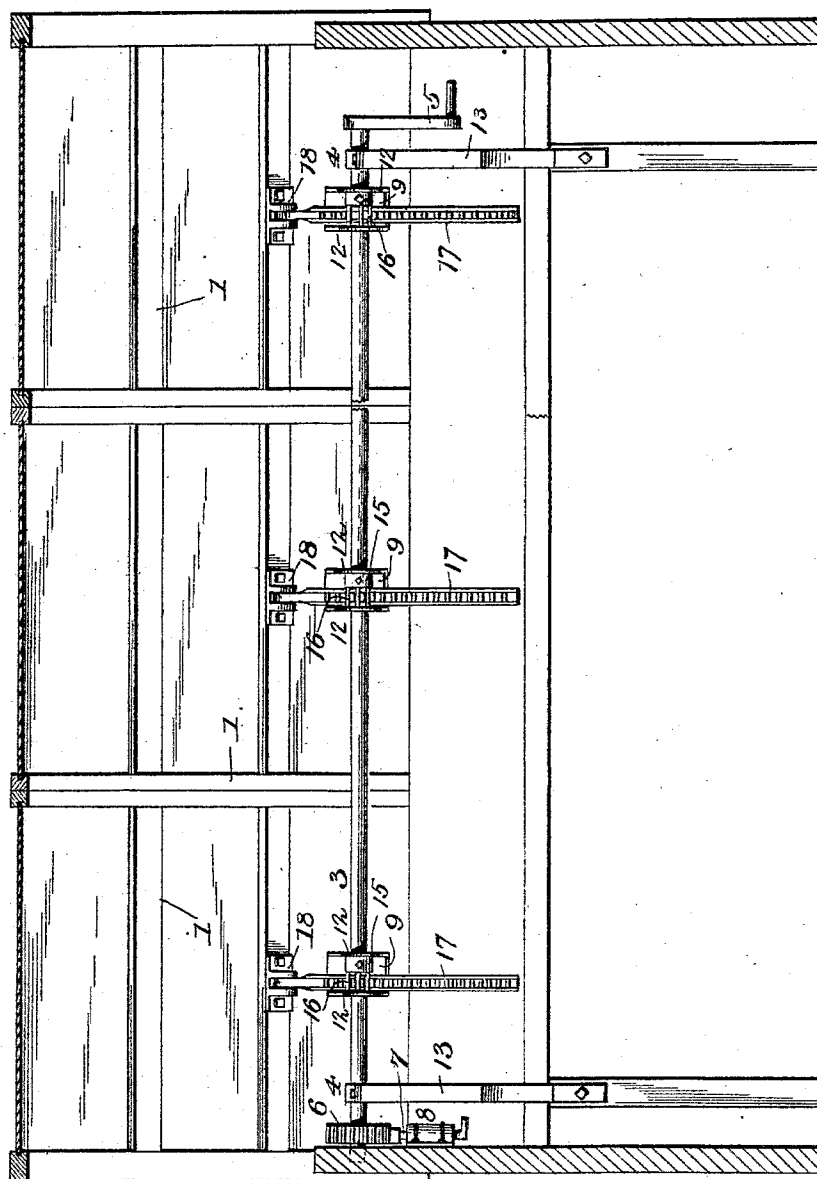
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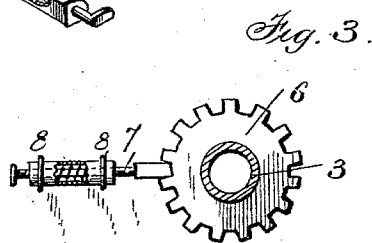
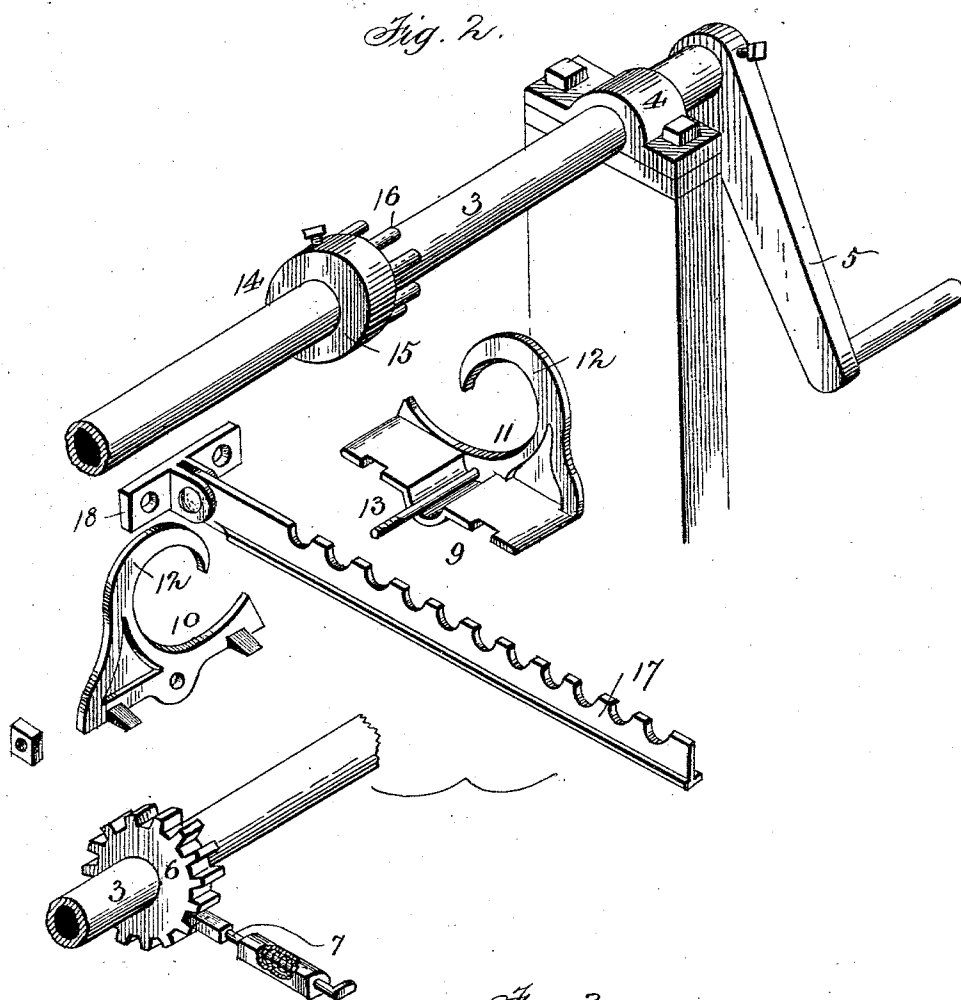
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3 Sheets—Sheet 3.

P. M. KRICKL.
SASH LIFTER.

No. 561,896.

Patented June 9, 1896.



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UNITED STATES PATENT OFFICE.

PHILIP M. KRICKL, OF CHICAGO, ILLINOIS.

SASH-LIFTER.

SPECIFICATION forming part of Letters Patent No. 561,896, dated June 9, 1896.

Application filed October 18, 1895. Serial No. 566,118. (No model.)

To all whom it may concern:

Be it known that I, PHILIP M. KRICKL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sash-Lifters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to sash-lifters, and more particularly to that class of inventions for lifting the sash of hot-houses.

The object of the invention is to provide a device by means of which a row of sashes may be simultaneously lifted or lowered and locked in either position.

With this object in view the invention consists of certain features of construction and combination of parts which will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a sectional view of a portion of a hot-house, showing the application of my invention. Fig. 1^a is a view taken at right angles to Fig. 1. Fig. 2 is a detail perspective view of my improved lifter, showing the parts separated; and Fig. 3 is an end view of the operating-shaft, showing the ratchet-wheel and the ratchet for locking the shaft against rotation.

In the drawings, 1 denotes a sash, and 2 the sash-lifter. This lifter consists of a shaft 3, journaled in bearings 4, secured to the interior of the house, and is provided at one end with an operating handle or crank 5 and at the other end with a ratchet-wheel 6, adapted to be engaged by a spring-actuated bolt 7, supported in staples 8, secured to the building.

9 denotes a shoe, which is preferably constructed of two parts 10 and 11, each of which is provided with a hook 12 and which are secured together by a bolt 13. The hooks 12 are intended to hook over and hang on the shaft, with the pin-wheel disposed between them, and in this position to loosely and slidingly support the rack-bar.

14 denotes a gear-wheel, which is fixed to the shaft between the hooks which embrace the shaft. This wheel preferably consists of

a hub 15, provided with laterally-projecting stud-teeth 16.

17 denotes the rack-bar, which is seated to slide upon the shoe and the teeth of which are adapted to engage the stud-teeth of the gear-wheel. The upper end of this rack-bar is pivoted to a bracket 18, secured to the sash.

In operation, when it is desired to raise the sash, (it being understood that the sashes are provided with rack-bars and the shaft with gear-wheels and shoes, as above described,) the spring-actuated bolt is withdrawn from the ratchet-wheel and the crank of the shaft is rotated. This will lift the sash upward, and because of the hooks hanging loosely on the shaft the shoes will accommodate themselves to the required movement of the rack-bar and the sash be lifted the desired distance, substantially as indicated in dotted lines in Fig. 1 of the drawings. Now by releasing the spring-bolt it will engage the ratchet-wheel and lock the sashes in their elevated position. When the sashes are lowered, the bolt will also lock them in that position. By this device all the sashes on one side of the building may be quickly and simultaneously lowered and raised.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

A sash-lifter, comprising a suitable, rotatable shaft, a crank-handle to turn the shaft, gear-wheels on the shaft, comprising a hub formed with laterally-projecting stud-teeth, shoes consisting of two parts united by a fastening-bolt and formed with hooks to hang on the shaft at each side of the gear-wheels, rack-bars supported loosely in the shoes and in engagement with the stud-teeth of the gear-wheels and having their outer ends pivotally secured to the sash, a ratchet-wheel fixed on the shaft, and a pawl to engage the ratchet-wheel.

In testimony whereof I affix my signature in presence of two witnesses.

PHILIP M. KRICKL.

Witnesses:

CHRISTIAN WILDNER,
JOHN H. FICHTER.