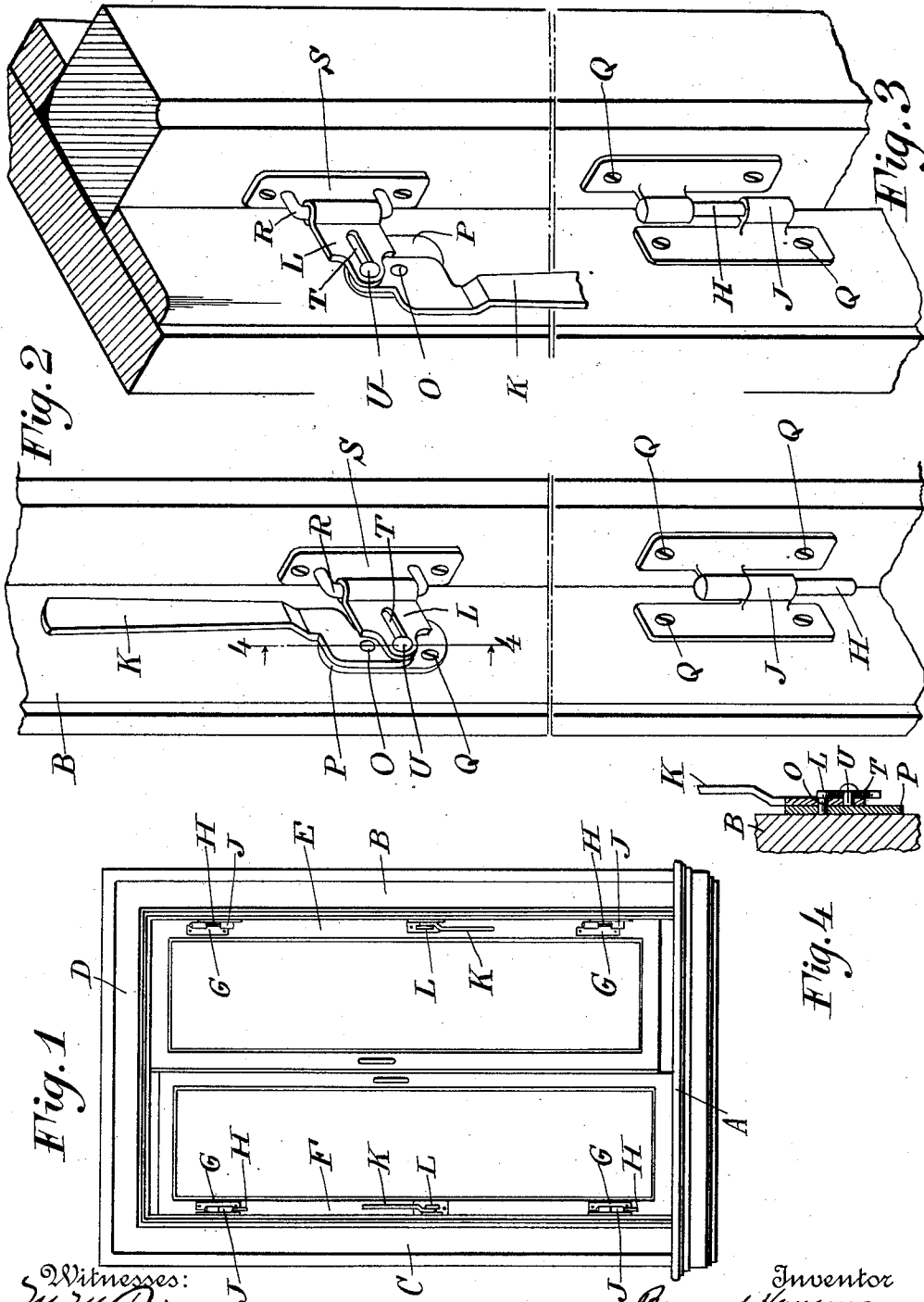


B. HAUSMANN.
LIFTING APPLIANCE.
APPLICATION FILED DEC. 11, 1911.

1,062,971.

Patented May 27, 1913.



Witnesses:
M. M. Rimmann
A. B. Carham

Inventor
Bernard Hausmann
By his Attorney
Herbert B. Ogden

UNITED STATES PATENT OFFICE.

BERNARD HAUSMANN, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO THE FACILE WINDOW COMPANY, INC., A CORPORATION OF NEW YORK.

LIFTING APPLIANCE.

1,062,971.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed December 11, 1911. Serial No. 664,935.

To all whom it may concern:

Be it known that I, BERNARD HAUSMANN, a citizen of the United States, and a resident of San Francisco, California, have invented certain new and useful Improvements in Lifting Appliances, of which the following is a specification, accompanied by drawings.

This invention relates to lifting appliances for vertically movable and swinging sashes, and the objects of the invention are to improve upon and cheapen the cost of manufacture of such appliances, secure a simple device which acts positively to both raise and lower the sash, and afford means for locking the sash in either raised or lowered position.

To these ends the invention consists of the appliance described and claimed in this specification and shown in one of its preferred embodiments in the accompanying drawings, in which—

Figure 1 is an elevation of a casement window illustrating the use of the invention; Fig. 2 is a perspective view of a portion of a window, showing the invention applied thereto, with the sash locked in lowered position; Fig. 3 is a similar view with the sash locked in raised position; and Fig. 4 is a vertical sectional view on the line 4—4 of Fig. 2.

Referring to the drawings, Fig. 1 represents a casement window with the lifting appliance applied to the vertically movable and swinging sashes. A represents the window sill, B and C the sides of the window frame, and D the lintel or head of the frame. E and F represent the sashes, hinged to the window frame by means of the hinges G which may be of any suitable construction, to permit the sash to be raised vertically a sufficient distance to clear the sill, and to swing inwardly. In the drawings, the hinge pintle H slides vertically in the hinge barrel J.

The lifting appliances are preferably applied in connection with two or more supporting hinges G and each appliance comprises a lifting lever K preferably pivoted as shown to the window frame, in such manner as to swing in a plane substantially at right angles to the plane of the window opening, and cooperating with a lifting plate L preferably held to the window sash by means of a vertical pintle coaxial with

the hinge pintles. The plane of the said lifting plate is parallel throughout to the axis of the hinge pintles. A lost motion connection is provided between the lifting lever K and the lifting plate L, so that the lifting lever may be moved through an arc of approximately 180° from the position indicated in Fig. 2 to the position indicated in Fig. 3, acting positively to raise the window sash. In the reverse movement of the lever, the sash is positively lowered again, so that in case the sash should stick in either its upward or downward movement, due to any cause, as a coating of fresh paint on the parts, or by reason of swelling, a positive leverage is available to overcome such sticking of the parts.

I prefer to pivot the lever K at O on a suitable plate P secured to the inside stop or window frame, as by means of the screws Q. I also prefer to pivot the sash upon the pintle R forming a part of the plate or support S secured to the window sash. A pin and slot connection is preferably provided between the lifting lever and the lifting plate L, in this instance, said plate L being slotted longitudinally at T and the lifting lever K being provided with a pin U engaging said slot T. The distance between the centers of the pin U and the pivot O of the lever obviously measures one-half the throw of the lever or one-half the travel of the sash in raising and lowering. There is sufficient lost motion in the pin and slot connection to permit the lever K to be moved inwardly through a slight angle in order to obtain leverage before the lifting movement is commenced.

After the sash has been raised to the position indicated in Fig. 3, with the lever in lowered position, the parts are automatically locked, and the sash cannot be lowered without moving the lever. With the parts as indicated in Fig. 2, the parts are locked in lowered position. After the sash has been raised, it may be swung inwardly relatively to the lifting lever K and the plate L and is not interfered with by said members, since they are locked close up against the face of the inside stop or window frame and there are no projecting parts which might break the glass or the sash. My improved lifting appliance is applicable to various styles of windows in which the sash is adapted to move vertically and swing in—

wardly. The lifting appliance may be attached to the frame and sash as an individual fixture coöperative with any pair of movably mounted hinges or hinge members and also it may be embodied in a movably mounted hinge or hinge member without departing from the spirit of the invention.

I claim and desire to obtain by Letters Patent the following:

10 A lifting appliance for a vertically movable and swinging sash having supporting hinges, comprising a lifting plate held to the sash by a vertical pintle coaxial with the hinge pintles, the plane of said lifting
15 plate being parallel throughout to the axis of the hinge pintles, said lifting plate having a horizontal slot in its body portion,

and a lifting lever pivoted to the window frame and having a pin offset from the pivot of the lever and engaging said slot in the lifting plate, sufficient lost motion being provided in the pin and slot connection to permit the lifting lever to be moved inwardly through a slight angle in order to obtain leverage before the lifting movement is commenced.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

BERNARD HAUSMANN.

Witnesses:

HENRY SHELDON,
HERBERT G. OGDEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."