

2 Sheets—Sheet 1.

No. 557,376.

Patented Mar. 31, 1896.

Fig. 1.

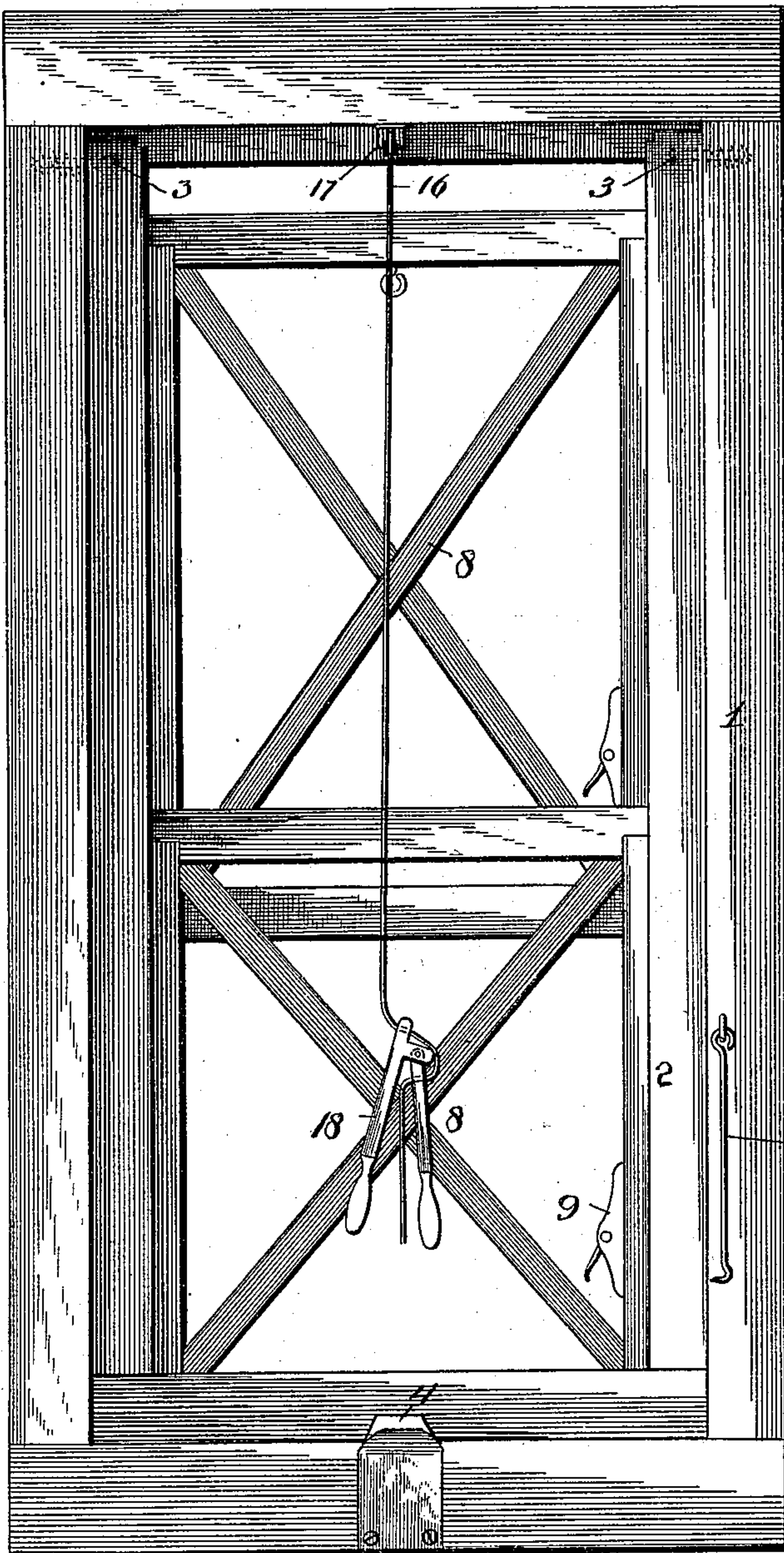
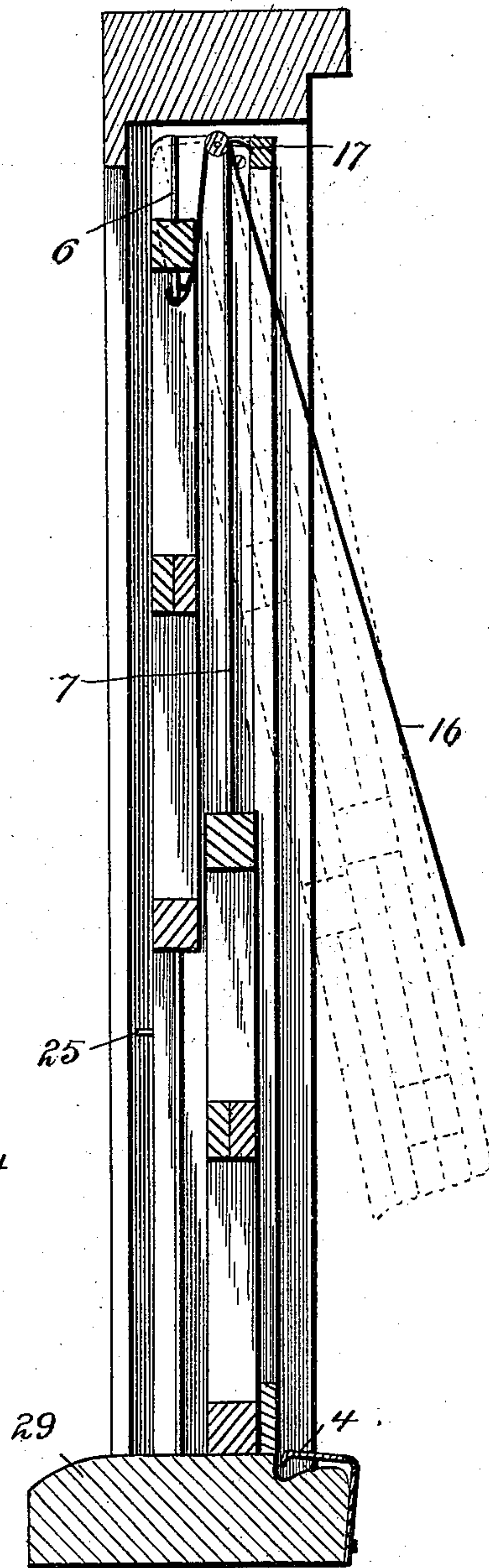


Fig. 2



Witnesses:

J. B. McGirr.

Albert Perkins.

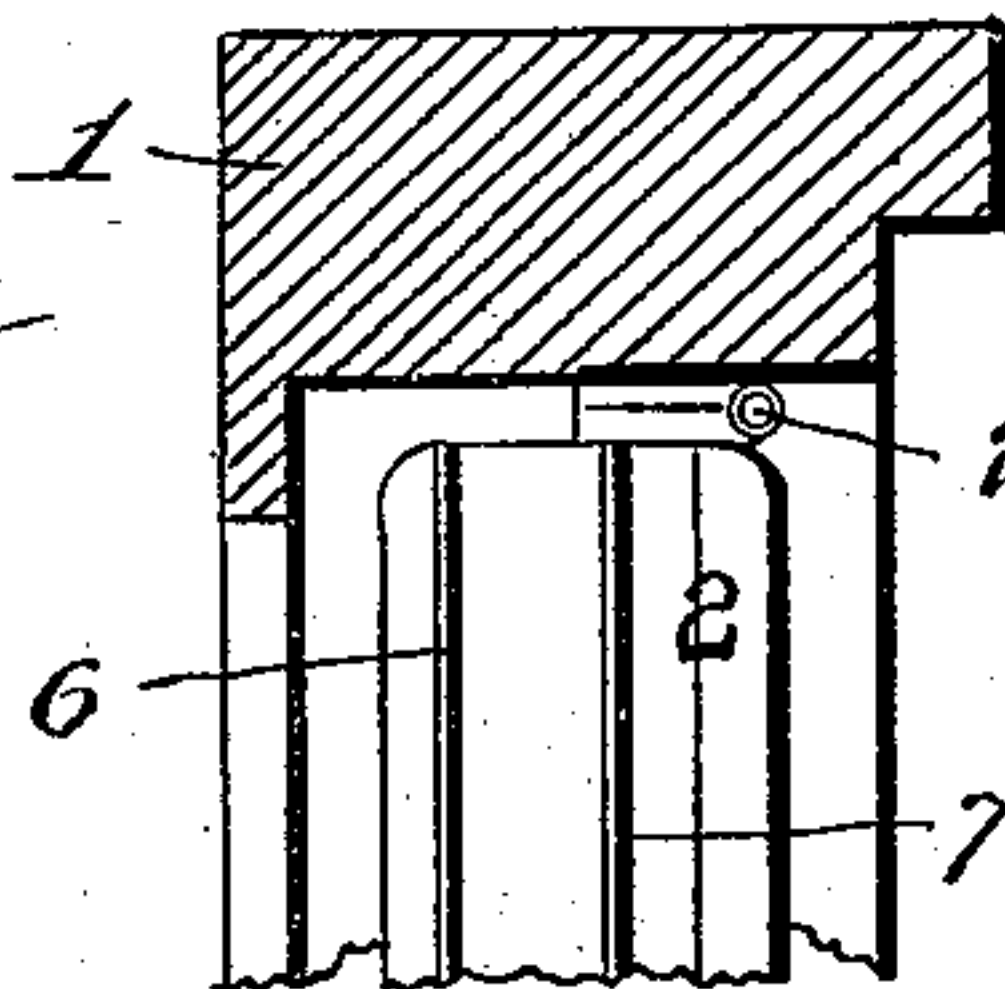


Fig. 8. *Inventor.*

Elijah Gay

by Benz. R. Badlin

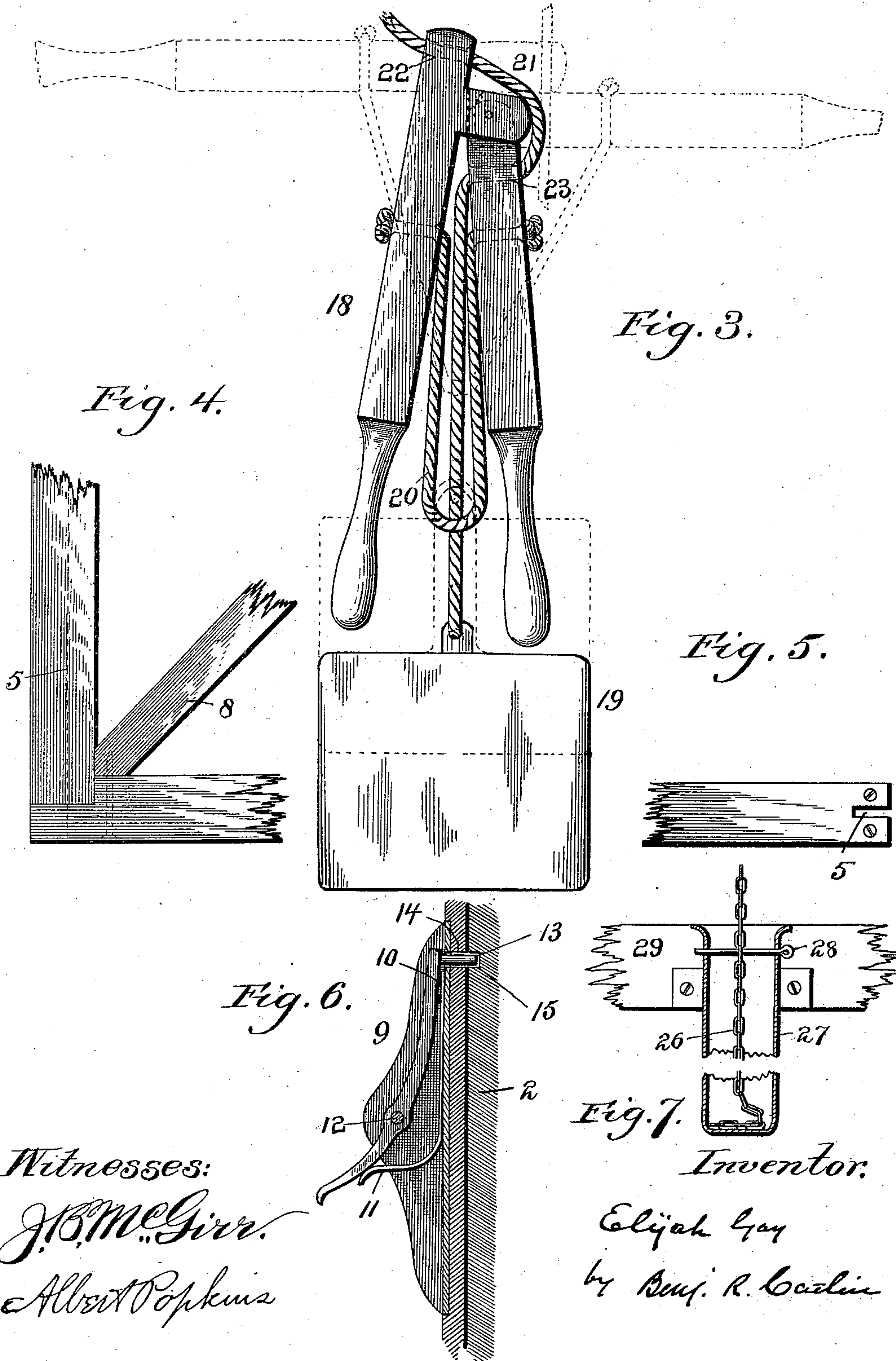
(No Model.)

2 Sheets—Sheet 2.

E. GAY.
WINDOW.

No. 557,376.

Patented Mar. 31, 1896.



Witnesses:
J. B. McGirr.
Albert Popkins

Inventor.
Elijah Gay
by *Reuf. R. Carlin*

UNITED STATES PATENT OFFICE.

ELIJAH GAY, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR OF
ONE-HALF TO MARTIN RILEY, OF SAME PLACE.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 557,376, dated March 31, 1896.

Application filed November 4, 1895. Serial No. 567,944. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH GAY, a resident of Washington, in the District of Columbia, have invented certain new and useful Improvements in Windows; and I do hereby 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 pertains to make and use the same.

The invention relates to windows and window-frames, and has for its object to provide an economical construction whereby the window-sashes and also their supporting-frame are made easily removable, and whereby each is made adjustable without removal, whereby the frame when removed from the casing may support the sash, and, further, whereby the use of concealed counterbalancing-weights are avoided and other advantages secured; and the invention consists in the construction hereinafter described and particularly pointed out.

In the accompanying drawings, Figure 1 is a front elevation of a window-casing, sash, and sash-holding frame. Fig. 2 is a longitudinal section of the same, an open position of the frame and a partly-removed sash being indicated in dotted lines. Fig. 3 is an elevation of a combined clamp and counterbalance for a window-raising cord and sash. Fig. 4 is an enlarged section of a portion of sash. Fig. 5 is a sectional detail. Figs. 6 and 7 are views of modifications. Fig. 8 is a partial vertical section showing a hinge-support for a sash-supporting frame.

1 denotes a window-casing.

2 indicates a sash-frame connected to the casing by thumb-screws or removable pivots 3. Said frame is fitted to the casing and may be moved out of or into the same by turning it on said pivots. This frame may be connected to the casing by hinges 29', as indicated in Fig. 8. 4 indicates a spring-catch to hold the frame in closed position. Said frame supports the upper and lower sashes and can be entirely removed from the casing together with the sashes by detaching the thumb-screws 3 from the casing. When thus entirely removed, it may carry with it and continue to hold and support the sash, the side bars being rigidly connected by a cross bar or bars

which is a characteristic feature of the improvement. The lower bar is situated at one side of the path of the sash, and the upper one may be so situated that the sash when desired can be moved partially or wholly by the cross bar or bars.

It is desirable to pivot the frame at or near its top, so that it and the sashes can be swung wholly within the apartment and yet be supported within and near the window opening or casing and within the room. Further, less movement is required for the sash to clear the sill to permit withdrawing the same, and a smaller opening is occasioned, as will be desirable when windows are washed in cold weather, both for the comfort of the operator and to obviate to some extent the freezing of water as might occur on a sash and window swung outside the exterior wall.

The sashes are provided in their exterior edges with a saw-kerf 5 adapted to receive or engage, respectively, the steel plates 6 and 7 fixed in the swinging frame. Said plates serve as guides and holders for the sash and also act as weather-strips, and, further, they obviate the rattling of the windows. They are also less liable to bind the sash if freshly painted or if swollen with moisture than the ordinary construction.

The sash itself is preferably made with four lights framed by the four outside bars and two diagonally-arranged cross-bars 8. The outside bars are rabbeted and tacked, as shown in Fig. 4, and this rectangular frame is braced by the diagonal bars tacked in each angle. Any convenient means for securing the frame-bars together may be used. A strong sash is thus cheaply made without the mortises, which weaken ordinary sash, besides unnecessarily increasing the cost of manufacture. The use of this improved sash is not essential, however, to the advantages of the main improvements.

The window-sash may be provided with spring-catches, or with counterbalancing-weights, or with both.

9 indicates a plate or holder conveniently made of brass or other metal and having secured in its bottom by rivets 10 a spring 11. A button 12 is pivoted in said holder and is normally held by the spring in the position

indicated in full lines in Fig. 2, a pin or stud 13, conveniently formed integral with the button, being at such time held in a hole 14 in the sash and extending into a hole 15 in the frame, whereby the sash is locked in said frame. To release the sash, the free end of the button is pressed so as to overcome the spring and lift the pin out of the hole in the frame, whereupon the sash is free to be moved.

10 The upper sash may be combined with an elevating-cord 16 attached thereto and passed over a pulley 17 fixed to the casing.

18 denotes a cord-clamping device of suitable form to serve as an adjustable handle for the manipulation of the rope and sash, and it may have such weight as to counterbalance or slightly overbalance the weight of the sash, whereby the latter is maintained in any desired position and can be easily moved up or down, as desired. The spring-catch may be used in the lower sash and the counterbalancing-weight with the upper one, or the latter, particularly if made long and high, may have a catch operative only in the lower portions of the sash and at the lower end thereof, the weight being relied upon to hold the sash in its higher positions and always operative, when used, to aid in moving the sash if not locked.

30 In case the handle or handles 18 are made too light to materially aid in counterbalancing or raising the window-sash a weight 19 may be combined therewith by means of a cord 20 attached to said weight and passed through one of the members of the clamp and attached to the other. Said members are hinged or pivoted to each other at 21. The sash-raising cord 16 passes through a hole 22 in one clamp member and then through a hole 23 in the other member. If said members be spread or opened by turning them on their pivot, as indicated in dotted lines in Fig. 3, the said holes will approximate alinement, and the device will slip easily on the cord.

40 When partly or nearly closed, said members bend the cord and increase its friction, and if said members are closed so as to press the rope they act as a positive clamp or grip. Obviously, the weight 19 when used will act to close the members of the clamp upon the cord. In some cases the clamp itself will be made heavy enough for this purpose, and it is further obvious that the clamp is adapted for use generally where it is desired to grip a cord, rope, cable, or chain.

To remove a sash for painting, reglazing, or for cleaning, it is only necessary to swing the foot of the sash-frame out of the casing by turning the said frame on its pivotal supports, whereupon one or both sashes can be readily slipped out of the frame, provided the sash-locks are not engaged, and the sash can be as easily replaced and the frame returned to its seat in the casing and locked therein by its spring-catch 4 or by other means, or the whole frame can be removed

as before stated. To permit this operation the lower cross-bar of the frame is situated at one side of the line of the plane of bead that guides the sash, so as not to obstruct the removal of the same.

For ventilating purposes or to use the window-opening as a doorway the frame may be swung to a horizontal or an approximately horizontal position and sustained there by a detachable pivoted support 24 or by equivalent devices.

Instead of the cord 16 a chain 26 may be employed, as indicated in Fig. 7. This chain may extend down through or past the window-sill 29, and its free end be received in an ornamental cylinder 27.

28 denotes a pin adapted to engage any desired link of the chain to hold it and the sash at any suitable elevation.

Other means for guiding, holding, or fastening the chain can be employed.

The chain can be made of ornamental form and material and is especially adapted for large windows.

The chain being made of metal will in some cases obviate the use of a weight and will in all cases cooperate with the weight, if used.

I am aware that sash have been combined with pivoted side strips or pieces in manner to permit the withdrawal of the sash, and I do not broadly claim such matter.

Having thus described my invention, what I claim is—

1. In combination the window-casing, the frame having side bars rigidly joined and pivoted to the casing near its top and provided with ribs, a sliding sash having grooves to receive the ribs, a lower cross-bar of the frame being situated at one side of the line of the path of the sash said sash moving on the ribs, the pivots of the frame being removable, all substantially as described, whereby the frame can be swung outwardly and remain supported in the casing or wholly removed therefrom, the sash being wholly or partially removable at will in either case.

2. In combination with a window-casing and a pivoted removable sash-frame having side bars rigidly connected by one or more cross-bars, said frame being practically co-extensive with the window-opening, a sash slidably connected with and removably supported in the frame, a cross-bar being situated at one side of the line of such movement, substantially as described.

3. In combination with a sash-cord or the like, a cord-gripping device comprising two members pivoted to each other and provided with holes that are in approximate alinement when said members are spread open and which are at approximately right angles to the length of the cord when said members are closed, said members in their closed position pressing on such cord passed through the holes, substantially as set forth.

4. In combination with a sash-cord or the

like, a cord-gripping device comprising two
members pivoted to each other and provided
with holes that are in approximate alinement
when said members are spread open and
5 which are at approximately right angles to
the length of the cord when said members
are closed, said members in their closed po-
sition pressing on such cord passed through
the holes and means such as a weight sus-
10 pended by a flexible device attached to the

said members below their pivot for closing
the same, substantially as set forth.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

ELIJAH GAY.

Witnesses:

BENJ. R. CATLIN,

FRANK D. BLACKISTONE.