

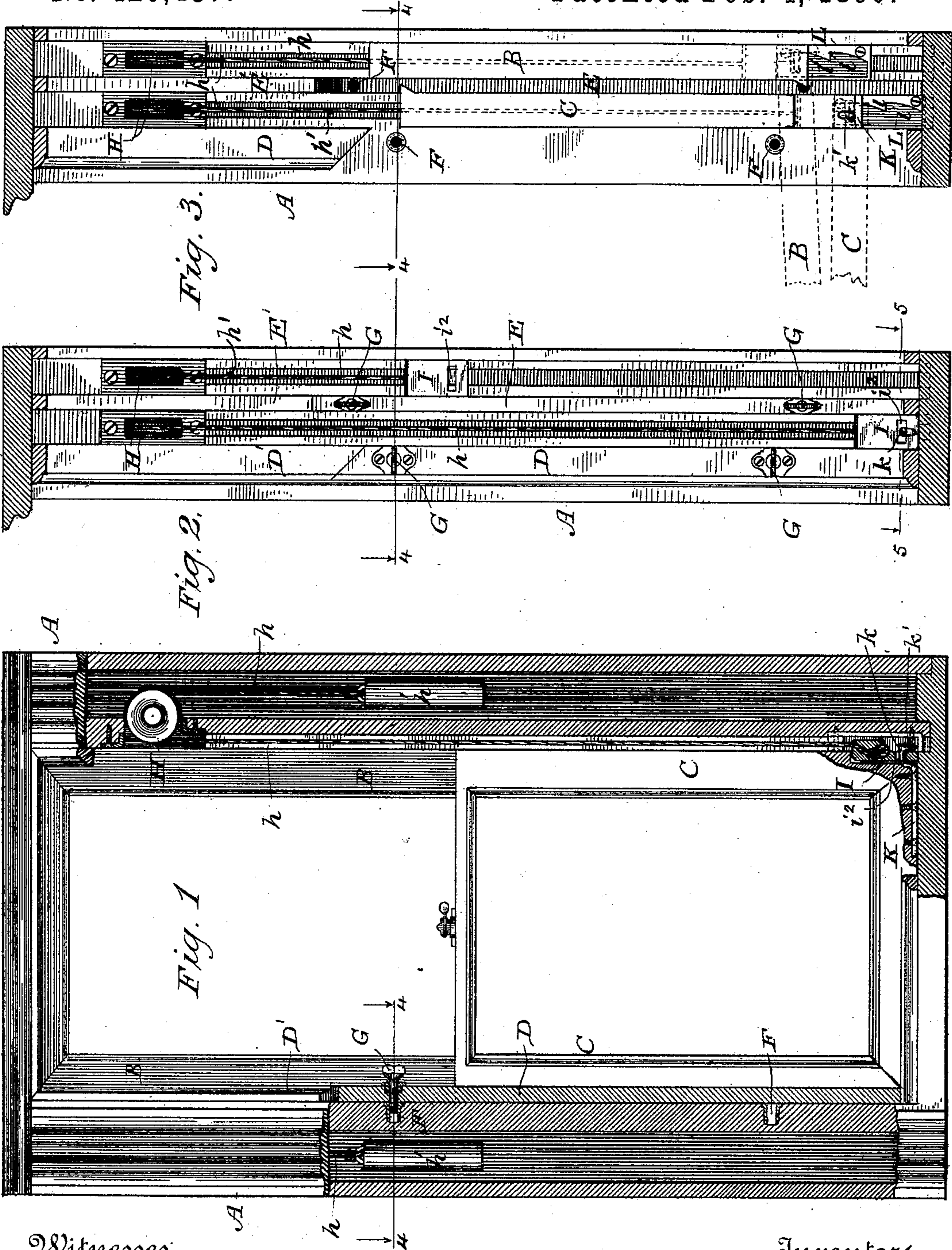
(No Model.)

2 Sheets—Sheet 1.

T. LEWANDOWSKI & J. ZALIKOWSKI.
WINDOW SASH AND CASING.

No. 420,457.

Patented Feb. 4, 1890.



Witnesses

Wm A Skunkle
Chas. E. Gorton.

Inventors
Theodore Lewandowski
John Zalikowski
By their Attorney

W. H. Chadsey

(No Model.)

2 Sheets—Sheet 2.

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Fig. 7.

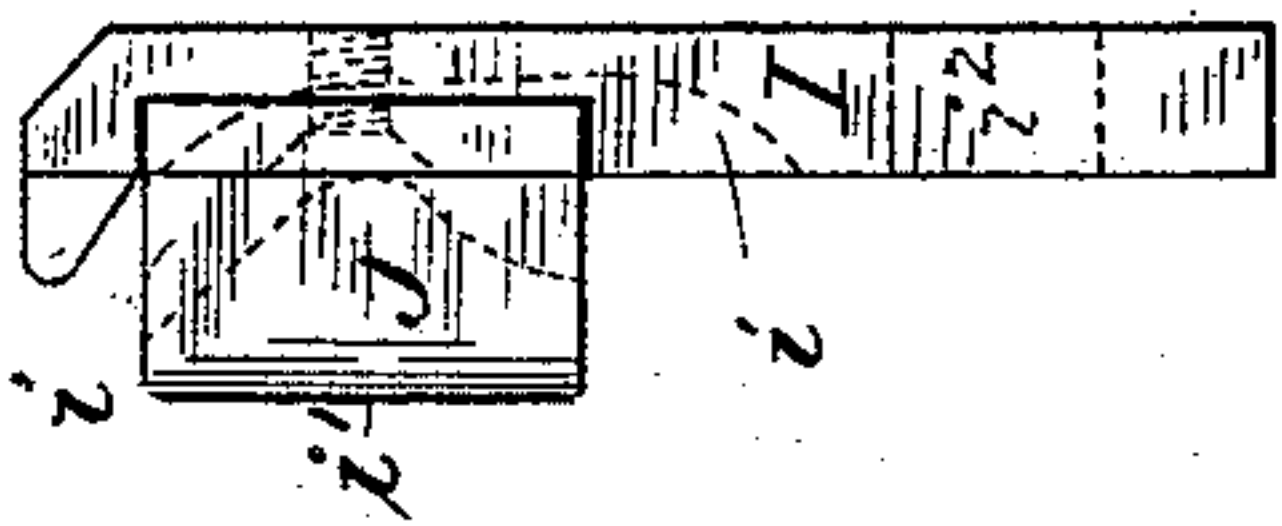


Fig. 6.

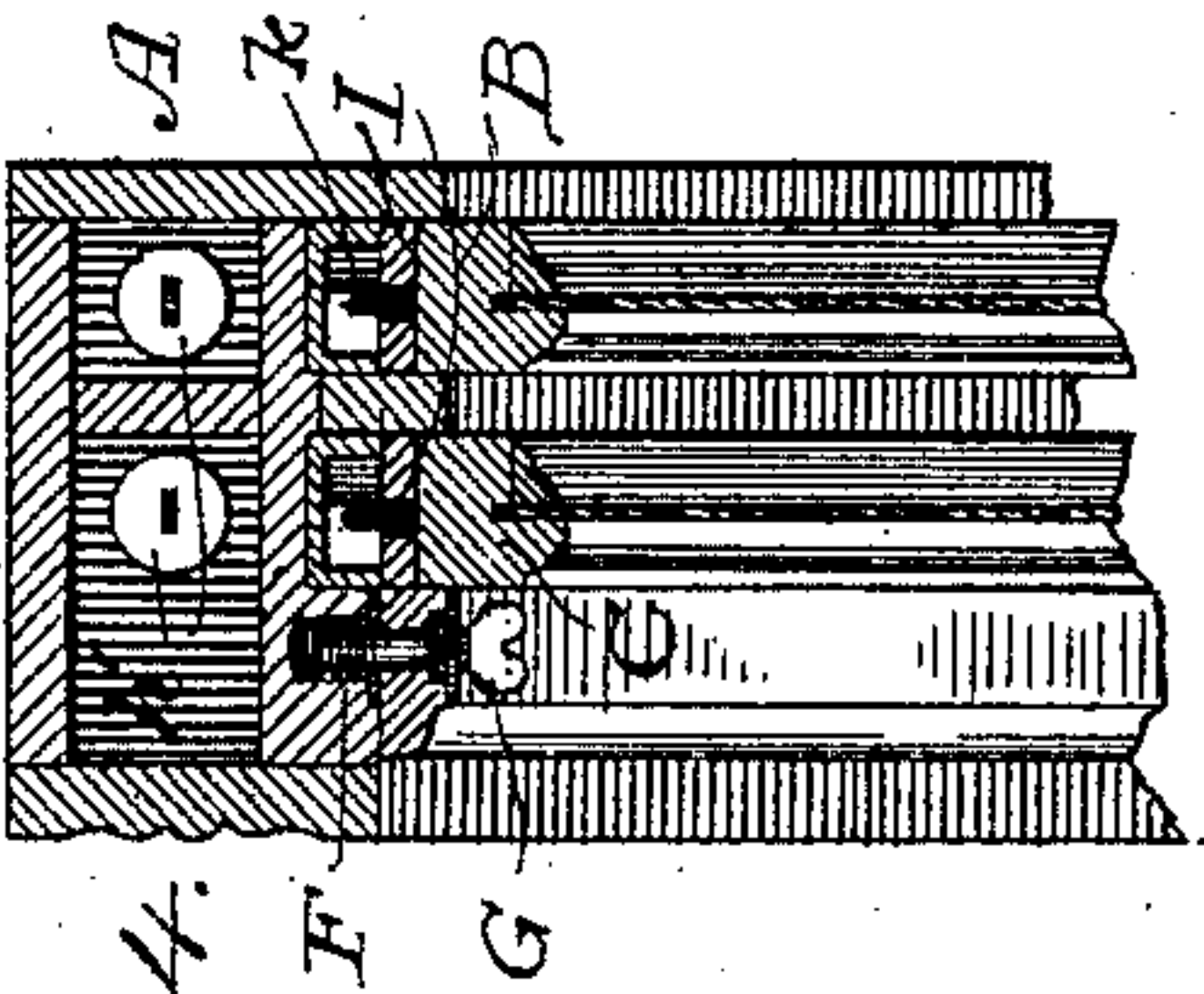
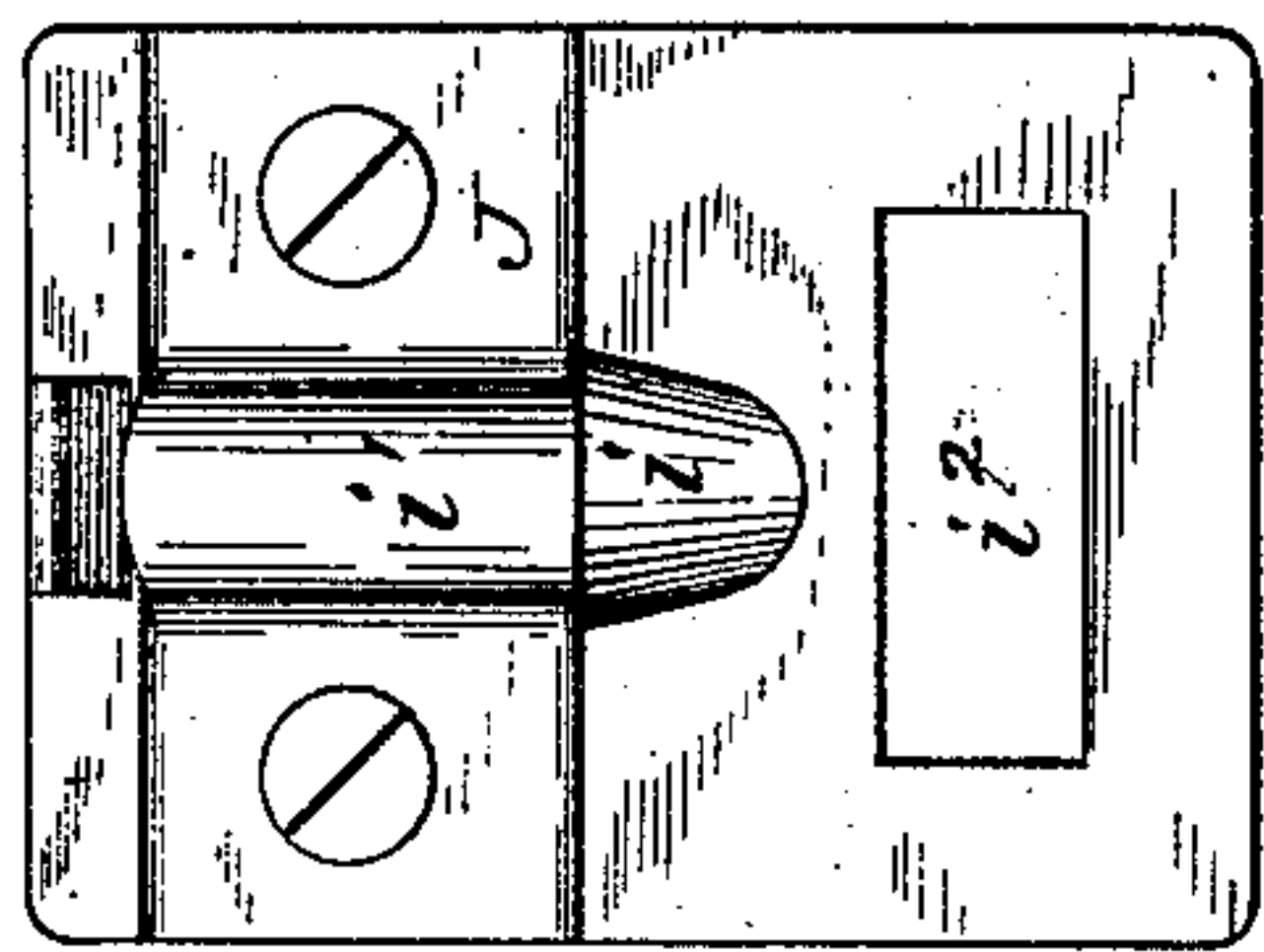


Fig. 4.

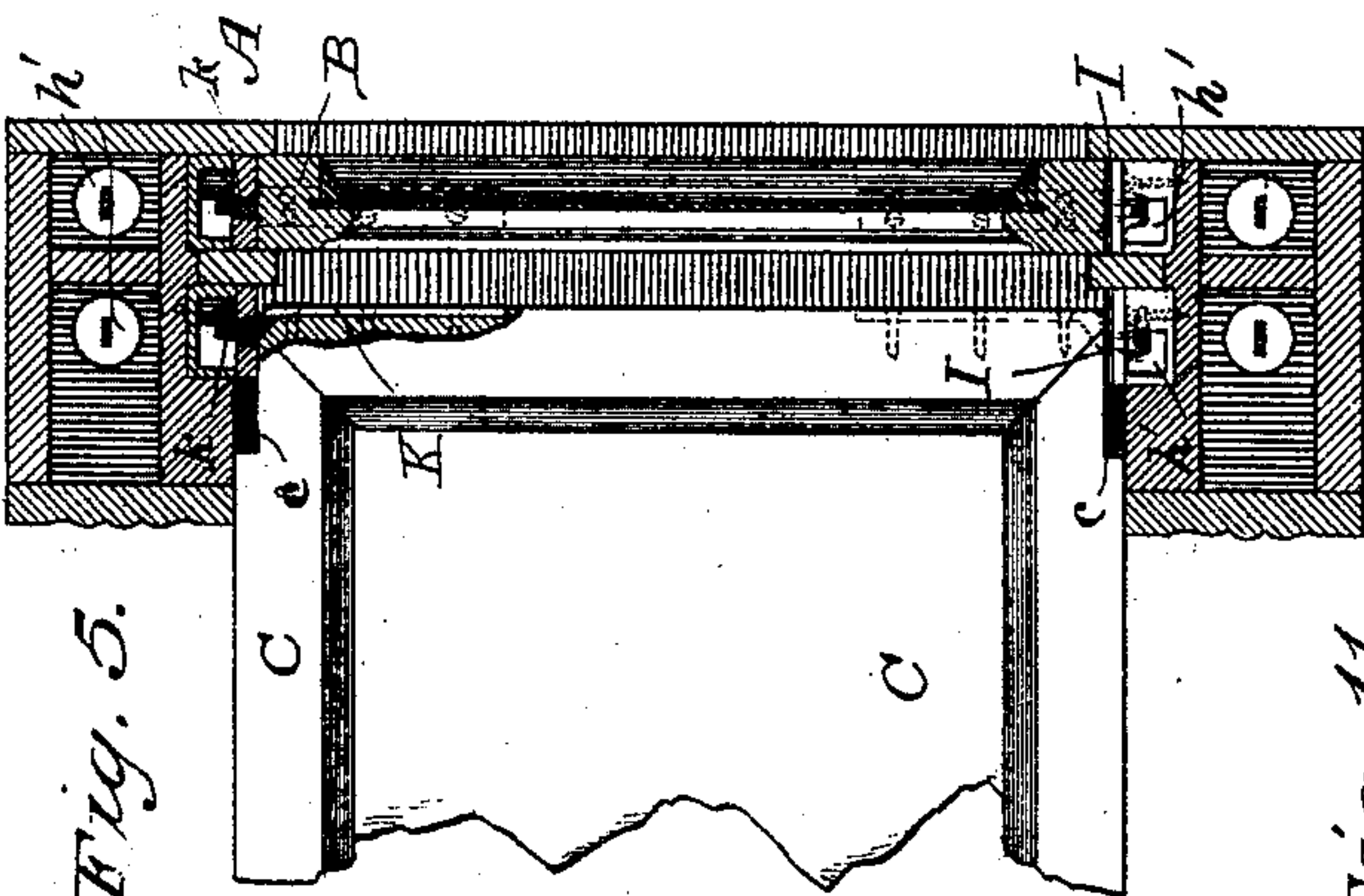


Fig. 5.

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Fig. 8.

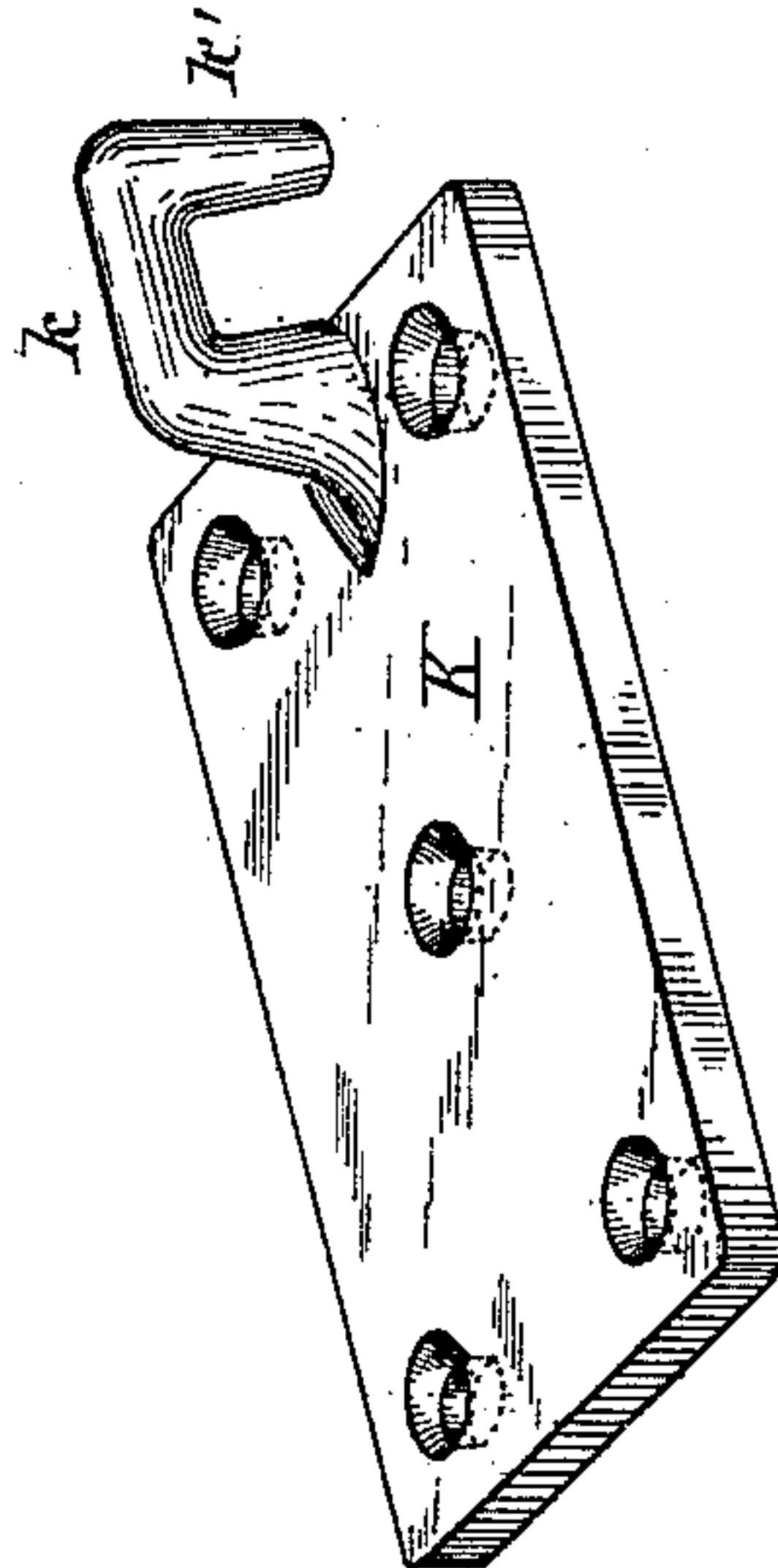


Fig. 10.

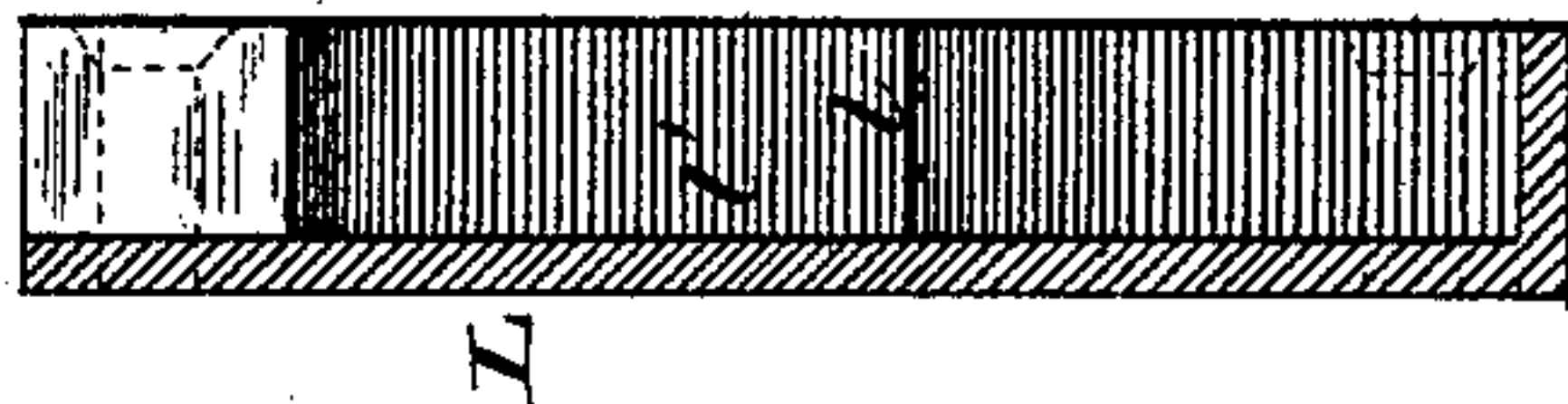


Fig. 9.

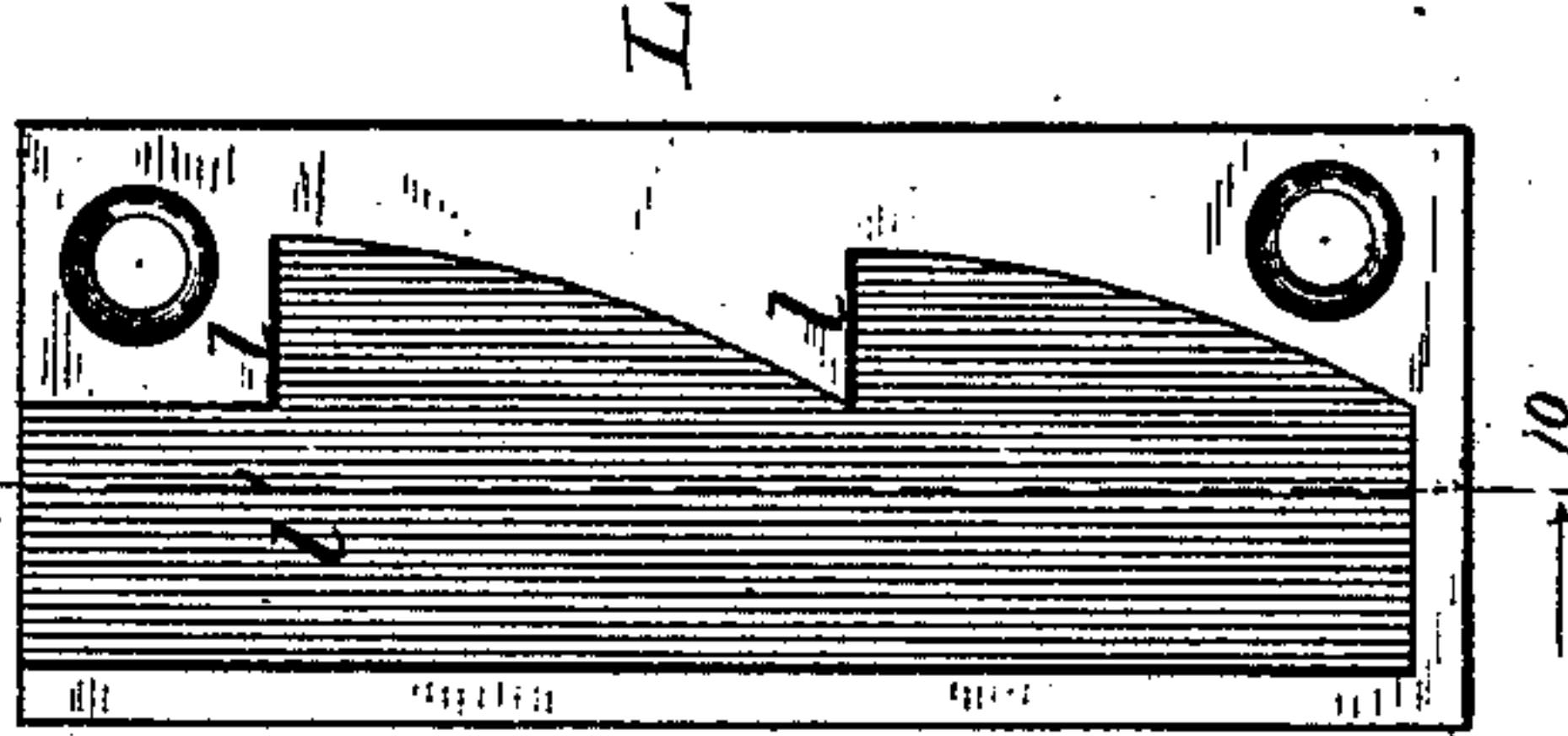
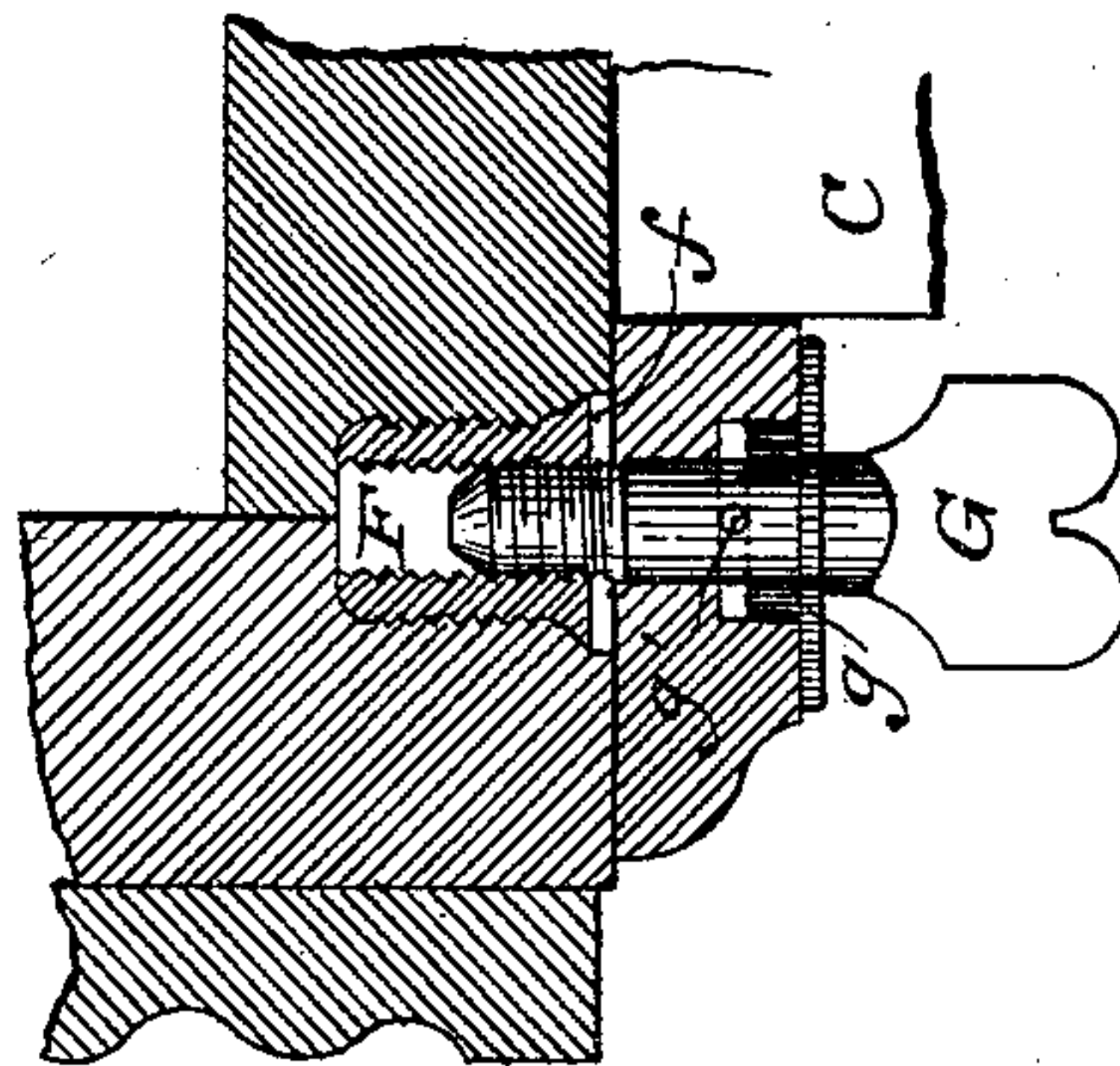


Fig. 11.



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UNITED STATES PATENT OFFICE.

THEODORE LEWANDOWSKI AND JOHN ZALIKOWSKI, OF CHICAGO, ILLINOIS, ASSIGNORS OF ONE-HALF TO AUGUST J. KOWALSKI AND ANDREW SCHULTZ.

WINDOW SASH AND CASING.

SPECIFICATION forming part of Letters Patent No. 420,457, dated February 4, 1890.

Application filed April 12, 1889. Serial No. 306,953. (No model.)

To all whom it may concern:

Be it known that we, THEODORE LEWANDOWSKI and JOHN ZALIKOWSKI, both citizens of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Window Casings and Sashes of the order admitting the window-sashes to be readily swung or turned into a horizontal position within a room for cleaning, &c.; and we do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The object of our invention is to provide a construction of the window casings and sashes wherein the sashes having panes of glass therein may be readily adjusted in a substantially horizontal position within a room, and thereby be more favorably located for cleaning, washing, repainting, or repairing generally than when the sashes are secured in the ordinary manner in casings.

The invention consists in the combinations of mechanism embraced in the claims.

In the accompanying drawings, Figure 1 is an inside view, as in looking out of a room or toward the front, of a window-casing and its sashes embodying our invention, the casing being partly sectional, as also the right-hand corner of the lower sash. The vertical section-line of the left-hand side of the casing passes through the fastenings of the inside stop or the inner window-strip in order to show the connection of the said fastenings. The vertical section-line on the right-hand side of the casing is within the plane of the sash-cord groove and the adjacent chamber containing the sash-balance weight, to show said weights, the pulley and cord, and the hinge-connection at the lower corner of the sash. Fig. 2 is a vertical sectional view taken on a plane at right angles to Fig. 1, passing near the inside stop and the parting-bead or separator-strip, and showing the ropes passing over pulleys and extending down in grooves in the casing, and having rope-socket pieces attached to the lower ends of said ropes, the sashes not being represented. Fig. 3 is a

somewhat similar view, the inside stop and the parting-bead being removed, and the sashes being shown in full lines in position for being turned down and out into a room, and being indicated in dotted lines as turned down into horizontal position in the room. Fig. 4 is a horizontal sectional view taken on the line 4 4 of Fig. 2, passing through the upper bolt-fastening for the inside stop or inner removable strip, and through the hanging-stile, the inside sash, the outside sash, the inside stop, the parting-bead, the blind-stop, and the weight-chambers. Fig. 5 is a horizontal sectional view taken on the line 5 5 of Fig. 2, the window-sash being represented as broken away in part and as being turned down in horizontal position, the outside sash being shown as in vertical position, but in section on said line 5 5. Fig. 6 is an outside elevation of a rope-socket piece having a slot in its lower end for a journal-bearing of the hinge-connection. Fig. 7 is an edge view of said socket-piece. Fig. 8 is a bottom view of a plate provided with a journal for forming part of the hinge-connection, the extreme outer end being bent to serve as a catch-piece. Fig. 9 is a face view of a plate provided with a channel or slot for the catch-piece of the journal to slide up and down within, and also provided with notches within which the catch-piece of the journal is designed to engage and be held upon turning down a sash. Fig. 10 is a vertical sectional view of said plate, taken on line 10 10 of Fig. 9. Fig. 11 is an enlarged detail view of the fastening device of the inside stop or bead.

Like letters of reference refer to like parts throughout the specification and drawings.

A is the window-casing.

B is the upper or outer window-sash.

C is the lower or inner window-sash.

D are the removable parts of the inside stops or inner strips D' for the inside or lower sash.

E are the removable parts of the parting-beads or separating-strips E'.

F are socket-pieces secured in recesses in the window-casings.

G are thumb-bolts for screwing into the

socket-pieces F for holding in position on the casing the removable parts D of the inside stops D'.

H are pulleys over which run the balance-cords *h*, having weight *h'* of the usual order.

I are plates for connection to the sides of the sashes at their lower corners, and in which are rope-socket apertures *i*, in which to secure the balance-cords *h*.

K are plates for attachment by screws to the bottoms of the sashes at their lower corners, the said plates having journals terminating with catch-pieces *k'*.

L are plates set into and secured in the sides of the casings in the bottom of the sashways at or near their lower ends, the said plates having lugs *l* at the upper ends of notches for the catch-pieces *k'* to engage and hold against at certain times.

The various parts of the mechanism are formed with the view of readily turning the tops of the window-sashes out into a room at right angles, the removable parts of the inside stops and of the parting-beads being taken from the window-casing and the sashes being at that time down in their lowest positions in the casing, and without detaching the balance cords or ropes and their weights, this turning out into the room of the tops of the sashes being for the purpose of facilitating the cleaning of the window-glass or repairing, repainting, or doing whatever may be found necessary to put them in proper condition for use.

The inner parts of the grooves formed in the casings for the balance-cords are of a depth corresponding to the requirements of the cords, or ropes, or chains, as the case may be. If flat chains or straps be used, said grooves may be comparatively shallow. The said grooves are of a less width than the edges of the sashes, so that the sashes cannot enter them, and hence leave the cords or chains free to run therein without being pressed upon by the sashes and squeezed against the casing.

The pulleys are well set back in the window-casings, so as to allow the chains or cords running over them to pass directly down in the grooves from the pulleys.

The hinge-connections at the lower corners of the sashes for allowing them to be turned out into a room are formed by the plates L, provided with vertical recesses on their outer faces, together with the plates K, having journals *k* and catch-pieces *k'*, and the plates I, having the elongated journal-bearings *i'*, and each of the lower corners of each sash is provided with this hinge-connection.

The plates L are secured within the casings, the two forming the set for co-operation with the upper and lower sashes, the plate for the upper sash being placed a little higher than the set for the lower sash, as shown in Fig. 3, in order to allow the upper sash to be turned down into a horizontal position directly over the lower sash turned down. The

vertical slot or recess *l'* in each plate L is of a depth and a width that allow room for the catch-piece *k'* on the plate K to reciprocate vertically therein and also to make a quarter-turn within either of the widened parts of the recess *l'* beneath the lugs *l*, affording room for the catch-piece *k'* to turn into and in that position to catch beneath one of said lugs *l* to hold the sash in place against the pull of the balance-rope when the top of the sash is turned out into the room.

The plates K are secured in position at the lower corners of the sashes by means of screws, and the plates L are fastened in the casing by screws; but nails or other equivalent means may be used.

The plate I is formed of two parts, the front part J being secured to the rear part by screws, one on each side of the rope-socket projection *i'*, the rope socket or recess *i* being of the form indicated by dotted lines in Fig. 7 and shown in section in Fig. 1.

The plate I is designed to stand at all times in a vertical position, affording by the horizontal slot in its lower end a journal-bearing for the journal part *k* of the plate K. The rope-socket projection *i'* on the plate I assists in maintaining said plate in a vertical position by reason of its traveling up and down in the grooves formed in the casing for the balance-cords; but, as is obvious, supplementary grooves may be formed in the bottom of said balance-cord grooves for the said projections *i'* to travel in.

Provision is made in the form of slots *c* in each sash for permitting the plates I to remain in vertical position notwithstanding the movement in turning the sash out and down into horizontal position. (See Fig. 5.)

The thumb-bolts G, by which the removable parts D of the inner stops D' and the removable parts E of the parting-beads E' are fastened in position in the casing, pass through apertures in said parts and are held so as to have a limited endwise movement therein. As shown in the enlarged detail view, Fig. 11, the bolt is held in the aperture so as not to be detached therefrom by means of a cap-plate *g* surrounding it just below the winged portion and just above a projection on the side of the bolt-stem, the cap being fastened to the removable part of the inside stop or of the parting-bead by screws, as shown in Fig. 2. The screw-threaded ends of the bolts engage the internally-screw-threaded portions of the socket-pieces F, the said socket-pieces themselves being held in suitable apertures in the casing by means of their exterior screw-threads. Slots *f* are formed in the outer ends of the socket-pieces F for receiving a screw-driver for turning them into position in the casing.

The window-casing, as shown in vertical sectional view, Fig. 2, illustrates the balance-ropes *h* as being within grooves *h'* in the bottoms of the sashways. These grooves *h'* serve to allow the projections *i* of the plate I to

pass up and down therein and they are in alignment with the recesses l' in the plates L, as shown in Figs. 1, 4, and 5.

The plates L are shown as each provided with two lugs l ; but more or less of said lugs may be provided, one on each plate being sufficient if the plates L be located with great accuracy in the sashways of the casing.

The operation of our window-casing and its sashes is as follows: To turn down or out into the room the inner or lower sash, said sash being in its lowest position, unfasten the thumb-bolts in the removable parts D of the inside stops D' on each side of the window and remove said parts D, whereupon take hold of the top of the sash and pull it over into the room, the same turning by means of its journals k in the journal-bearings formed by the horizontal slots i^2 in the plates I, that are secured to the balance-ropes, the catch-pieces k' engaging either under the upper lugs or the lower lugs of the plate L. Then, to turn down the upper or outer sash, lower it to its lowest position in the casing and remove the detachable parts E of the parting strips or beads E' and turn it down upon the lower sash, as indicated in dotted lines in Fig. 3.

The sashes are replaced in the casing by simply reversing the operation.

Having thus fully described our invention, what we claim as new and useful, and desire to secure in Letters Patent, is—

1. The combination of a window-casing and removable strips with fastenings for temporarily securing the latter and releasing the same, as desired, pivotal connections on which the sash is adapted to turn, and interlocking mechanism consisting of catch-pieces and lugs operated by the movement of the window in turning, substantially as and for the purpose described.

2. The combination of a window-casing having sashways with grooves continuing from the bottoms of the sashways, a sash, balance-weights, cords and pulleys, journals provided with catch-pieces, and lugs on or forming parts of the casing for the catch-pieces to automatically engage or disengage in the operation of turning the window, substantially as and for the purpose hereinbefore set forth.

3. A window-casing having sashways and grooves for balance-cords to travel within, a

sash, balance-weights, cords and pulleys, journals projecting into the grooves and provided with catch-pieces forming parts thereof, and lugs forming parts of the casing or secured within the casing and beneath which the catch-pieces are adapted to engage, substantially as and for the purpose hereinbefore set forth.

4. The combination of a window-casing having sashways with grooves continuing into the casing from the bottoms of the sashways, rope-socket plates or pieces having projections passing within the grooves, a sash, balance-weights, cords and pulleys, journals or pivotal connections on which the sash is adapted to turn, and interlocking mechanism operated by the window in turning, substantially as and for the purpose described.

5. The combination of a window-casing having sashways, rope-socket pieces adapted to travel in the sashways, a sash having recessed portions at its lower corners to receive the said socket-pieces and having balance-weights, cords, and pulleys, and having also plates K, with their journals k entering bearings in the socket-pieces, said plates K having catch-pieces k' , and plates L, set in the casing and having lugs to engage said catch-pieces k' , as set forth.

6. The combination of a window-casing having sashways with grooves h' , continuing from their bottoms into the casing, rope-socket plates having journal-bearings i^2 and projections i' , plates L, having each a recess l' , and one or more lugs l , a sash having plates K, provided with journals k and catch-pieces k' , balance-cords, weights, and pulleys, substantially as and for the purpose described.

7. The combination of a window-casing having sashways and grooves in their bottoms, rope-socket plates I, having plates J, rope-sockets i , projections i' , and journal-bearings, a sash, balance-weights, cords, and pulleys, and pivotal connections on the sash, substantially as and for the purpose hereinbefore set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

THEODORE LEWANDOWSKI.
JOHN ZALIKOWSKI.

Witnesses:

WILLIAM H. CHADSEY,
FRANK O'NEIL.