

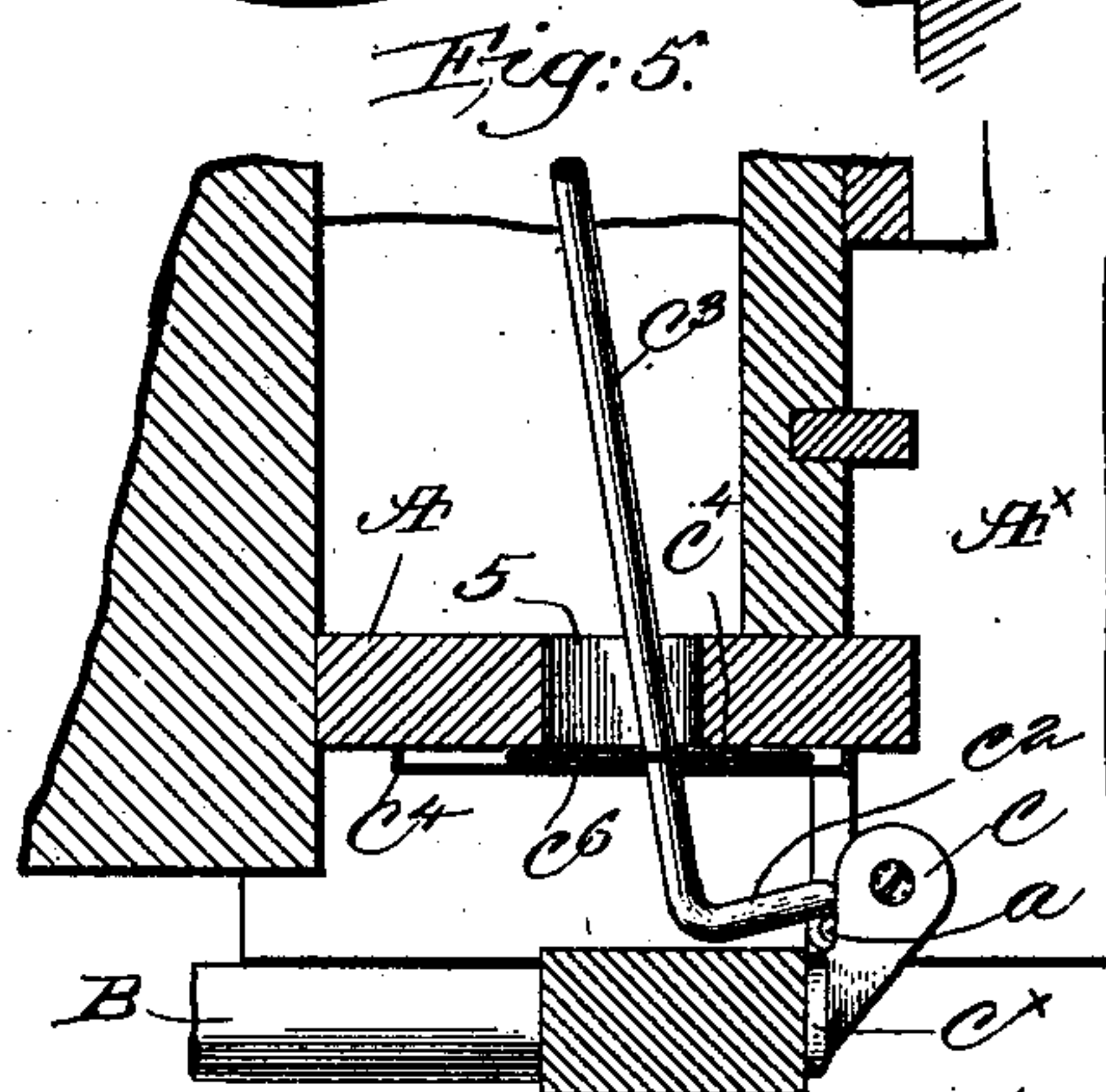
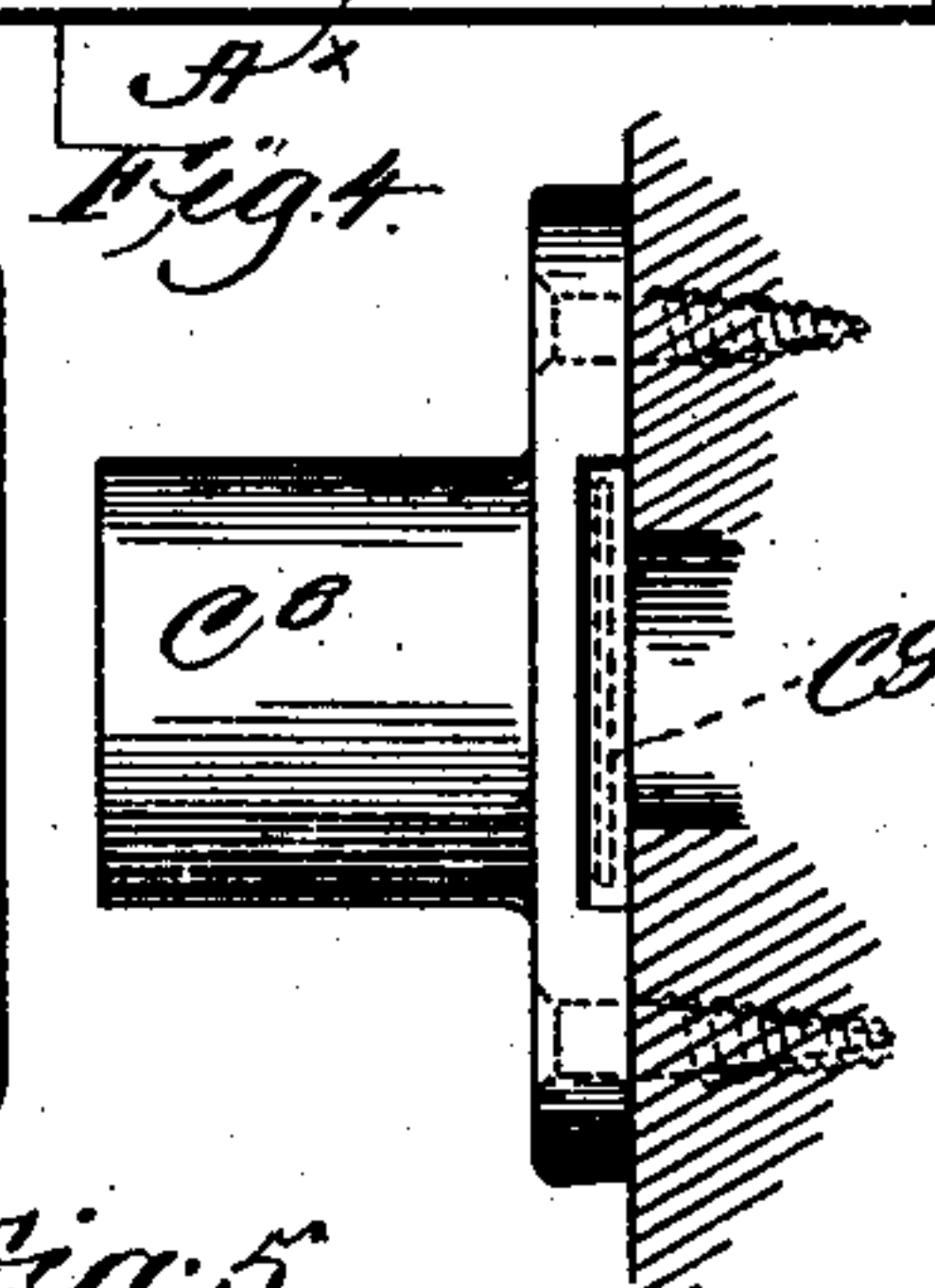
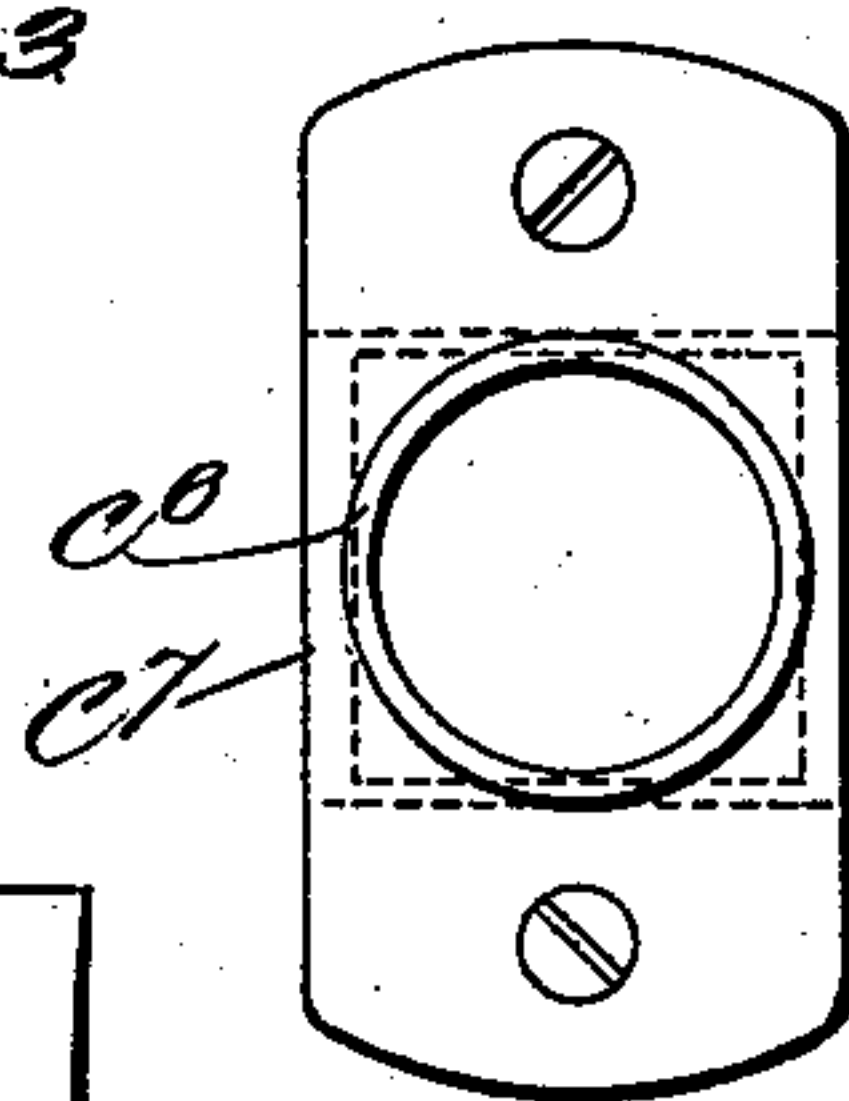
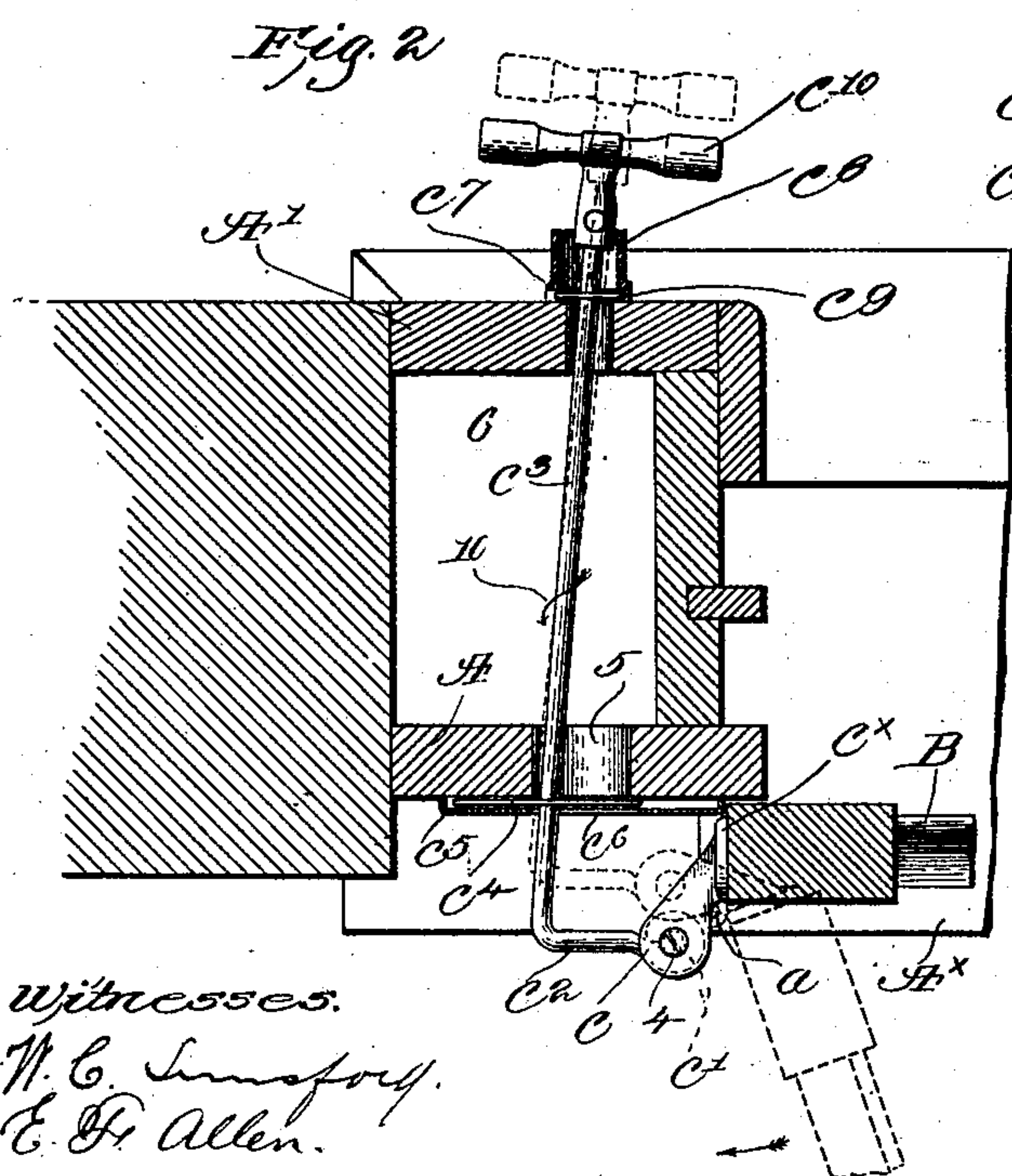
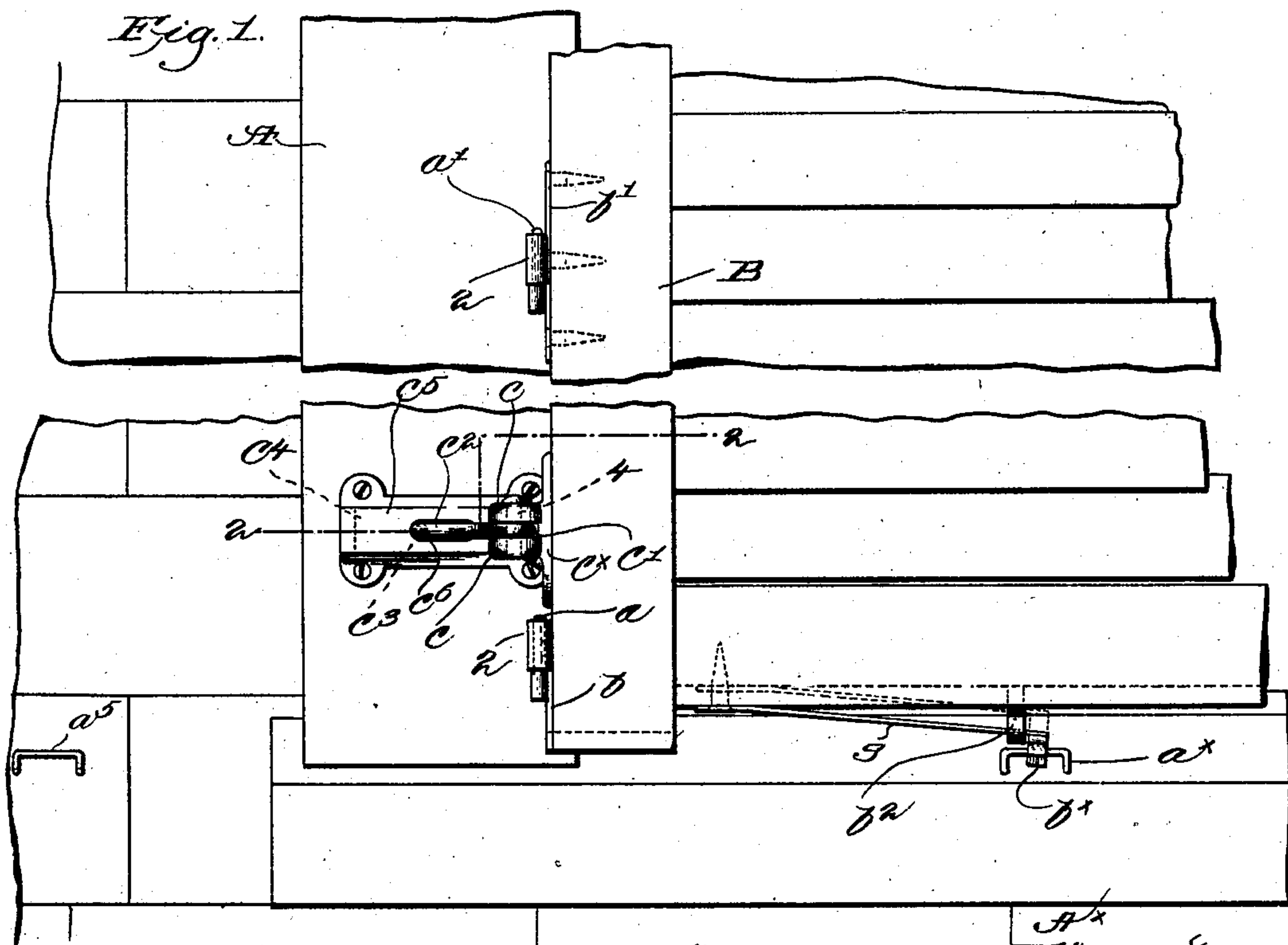
No. 754,662.

PATENTED MAR. 15, 1904.

F. D. MARCHAND.
SHUTTER WORKER.

APPLICATION FILED DEC. 5, 1903.

NO MODEL.



Witnesses.

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UNITED STATES PATENT OFFICE.

FRANK D. MARCHAND, OF CAMBRIDGE, MASSACHUSETTS.

SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 754,662, dated March 15, 1904.

Application filed December 5, 1903. Serial No. 183,880. (No model.)

To all whom it may concern:

Be it known that I, FRANK D. MARCHAND, a citizen of the United States, and a resident of Cambridge, county of Middlesex, State of Massachusetts, have invented an Improvement in Blind-Operating Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention has for its object the production of simple and effective apparatus for operating window blinds or shutters from the interior of the house, so that the same may be opened and closed without requiring the sash to be raised.

The various novel features of my invention will be fully described in the subjoined specification, and particularly pointed out in the following claims.

Figure 1 is an outside view of a portion of a window-casing and a blind or shutter, broken out to save space, with one embodiment of my invention illustrated in connection therewith, the blind being shown closed. Fig. 2 is a transverse section thereof on the line 2-2, Fig. 1, the shutter being shown in dotted lines as partly open. Fig. 3 is an inside view of the inner bearing for the blind-actuator. Fig. 4 is a side elevation of the bearing; and Fig. 5 is a sectional view similar to Fig. 2, but with the blind open.

I have illustrated herein only a single blind and the apparatus for operating the same as sufficient to explain my invention, and it will be understood that for a window equipped with the usual pair of blinds each blind will be provided with operating means, such as will now be described.

The outer wall A of the window-casing is provided with upturned pintles a and a' to receive the tubular portions 2 of the hinge attachments b b' , secured to the upright edge of the blind B, so that the latter can swing upon the pintles in well-known manner. The window-sill A^x has secured to it a loop-like holder a^x for the spring-catch b^x , secured to the free end of the leaf-spring s , attached to the bottom of the blind and guided by a staple b^2 , the construction so far described being sub-

stantially well known and in common use. I have provided means operative from the interior of the house to disengage the catch b^x from its holder a^x , (releasing the blind,) and then to swing the blind on the pintles into open position, so that the catch may engage a second holder a^5 on the house-wall. (See Fig. 1.) When the blind is to be closed, the reverse operation is performed.

A plate c^x , having parallel horizontal lugs c , is secured to the edge of the blind above the hinge member b , the lugs having holes to receive a headed pin 4, the latter passing through an eye c' in the bent or crank end c^2 of an operating member c^3 , shown as a shaft extended through holes 5 and 6 in the outer and inner walls A A', respectively, of the window-casing. (See Fig. 2.) The lugs c extend outward beyond the front of the blind, as shown in Fig. 2, so that the pin 4 is eccentric to the pintles a a' . The actuating member c^3 passes loosely through a flat plate or slide c^4 , which covers the outer end of the hole 5 and is mounted to slide horizontally in a bearing-box c^5 , secured to the casing-wall A, the face of the box having an elongated slot c^6 , through which the member c^3 passes. A second bearing-box c^7 (shown separately in Figs. 3 and 4) has a tubular extension c^8 and supports a slide-plate c^9 , through which the member c^3 passes easily, the inner end of said member being extended through the extension c^8 and having an attached handle c^{10} . (Shown in Fig. 2.) The slide-plate c^9 covers the inner end of the hole 6, and it, in connection with plate c^4 , prevents air and dust or dampness from entering the house through the holes 5 and 6.

When the parts are in full-line position, Figs. 1 and 2, if it is desired to open the blind the operator grasps the handle c^{10} , and thereby gives the member c^3 a partial turn in the direction of arrow 10, Fig. 2, so that the arm c^2 is swung upward. This causes the eye c' to act upon the upper lug c and lift the blind into dotted-line position, Fig. 1, withdrawing the catch b^x from the holder a^x , and the blind is thereby released. The operator, still holding the blind slightly raised, then pulls the member c^3 inward, and thus swings the blind outward on its pintles, as shown in dot-

ted lines, Fig. 2, and by a continued pull the blind is swung past center, and the member or shaft c^3 is then pushed outward to continue and complete the opening of the blind until the catch b^x snaps onto the holder a^5 , the blind and operating means then assuming the position shown in Fig. 5. When the longitudinal movement of the member c^3 is changed from an inward to an outward direction, said member swings bodily in a substantially horizontal plane, the plate c^4 sliding to the right, Fig. 2, while plate c^9 slides to the left. Inasmuch as the latter slide-plate is very close to the center on which the member c^3 swings, the plate c^9 is smaller than plate c^4 , the latter being nearest the free outer end of the operating member c^3 . If the blind is open, the first step in the closing operation is to turn the member c^3 , as before, to release the catch b^x , and then the said member is pulled inward till the blind swings past center, whereupon the said member c^3 is pushed outward to complete the closing movement.

From the foregoing description, taken in connection with the drawings, it will be seen that there is no necessity for opening the window-sash when it is desired to open or close the blinds, a very great convenience and safeguard in stormy and windy weather.

The apparatus is very simple and can be applied to blinds in use merely by boring the holes 5 and 6 in the casing, applying the bearings and their slide-plates and attaching the lug-plate c^x to the blind and connecting it with the outer bent end of the operating member or shaft c^3 .

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

1. A window-casing having upturned pintles, a blind mounted to swing thereon and capable of upward movement on the pintles, a device to lock the blind in position, and means actuated from the inner side of the casing to lift and thereby unlock the blind and thereafter to move it from open to closed position, and vice versa.

2. A window-casing having upturned pintles, a blind mounted to swing thereon and capable of upward movement on the pintles, a device to lock the blind in position, means extended through the casing to raise the blind

to unlock it, and thereafter to swing the blind on the pintles, said means being connected at its outer end with the blind eccentrically to the pintles, and movable slides to cooperate with said means and prevent the admission of dust or dampness into the casing while permitting the free operation of said means.

3. A window-casing having upturned pintles, a blind mounted to swing thereon and capable of upward movement on the pintles, a device to lock the blind in position, lugs extended from the blind, and operating means for the blind, said means comprising a shaft extended through the casing and having its outer end bent to cooperate with the lugs, to slightly raise the blind to unlock it, subsequent movement of said shaft longitudinally and laterally acting through the lugs to swing the blind in one direction or the other.

4. A window-casing having upturned pintles, a blind mounted to swing thereon and capable of upward movement on the pintles, a device to lock the blind in position, the inner and outer walls of the casing having openings therein, movable slide-plates covering the outer ends of the openings, bearings for said slide-plates, an operating-shaft extended loosely through said plates and having a bent outer end, and a pivotal connection between said bent end and the blind, actuation of said shaft unlocking the blind and causing it to swing on its pintles into open or closed position.

5. A window-casing, a blind hinged thereon, and vertically movable on its supports, a catch for the blind, a longitudinally-movable, laterally-swinging operating member extended through the casing and having its outer end bent and pivotally connected with the blind eccentric to its hinges, and means whereby rotative movement of said member will raise the blind to release its catch, subsequent longitudinal and swinging movement of the operating member turning the blind on its hinges from open to closed position, and vice versa.

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

F. D. MARCHAND.

Witnesses:

JOHN C. EDWARDS,
EMILY C. HODGES.