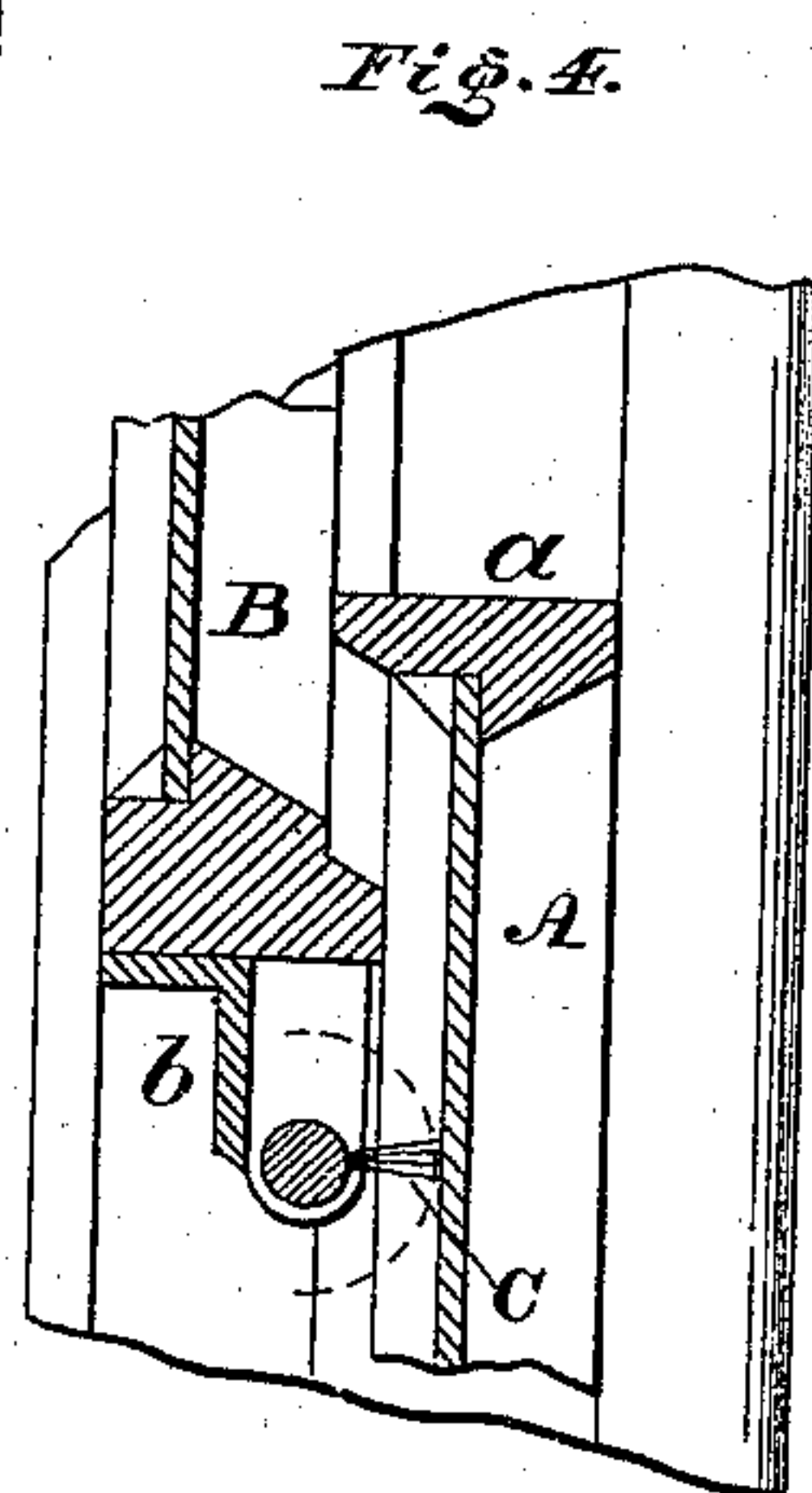
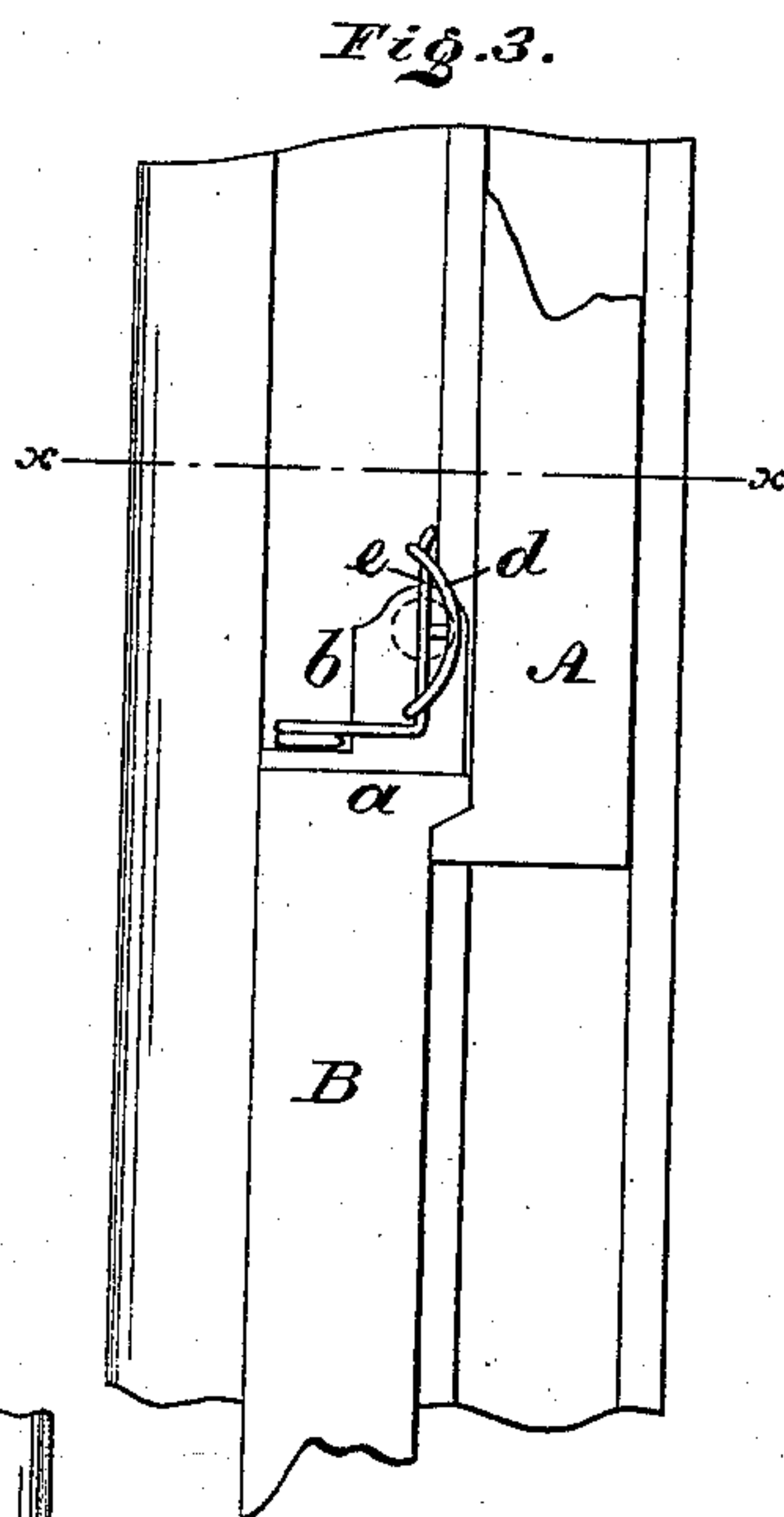
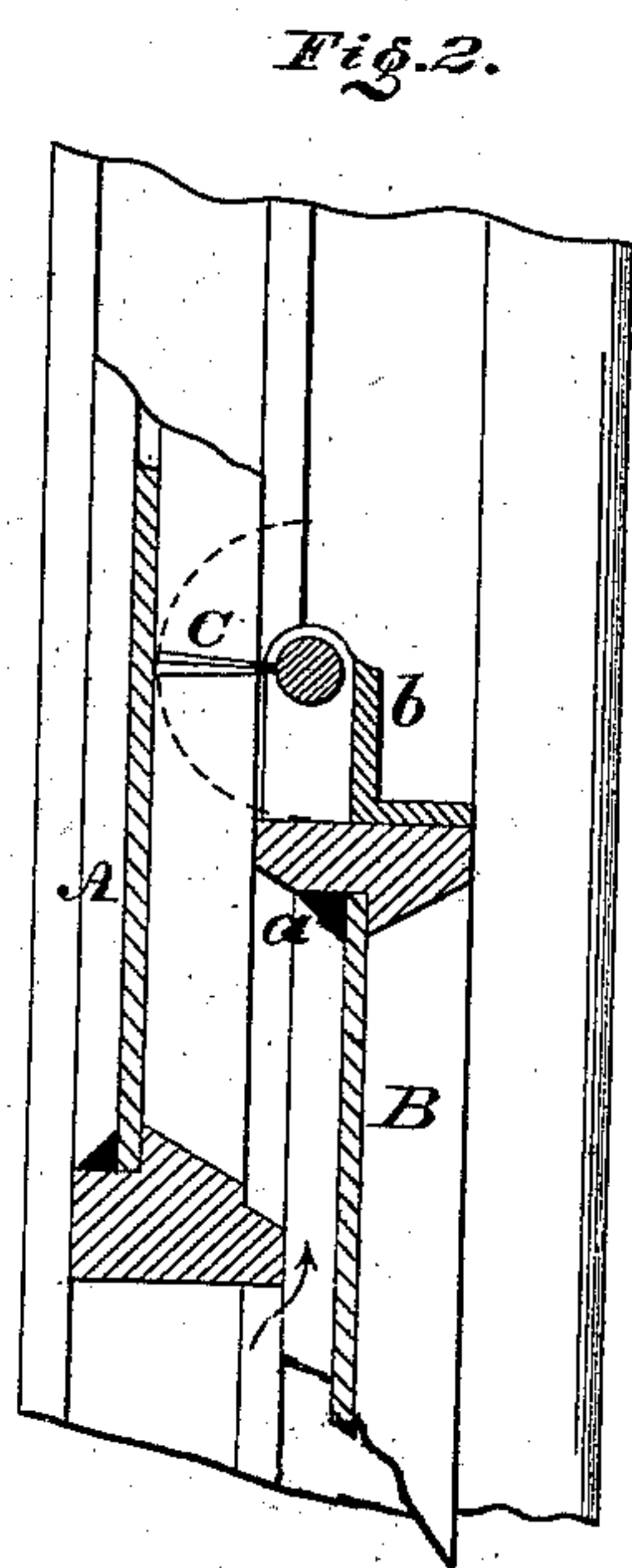
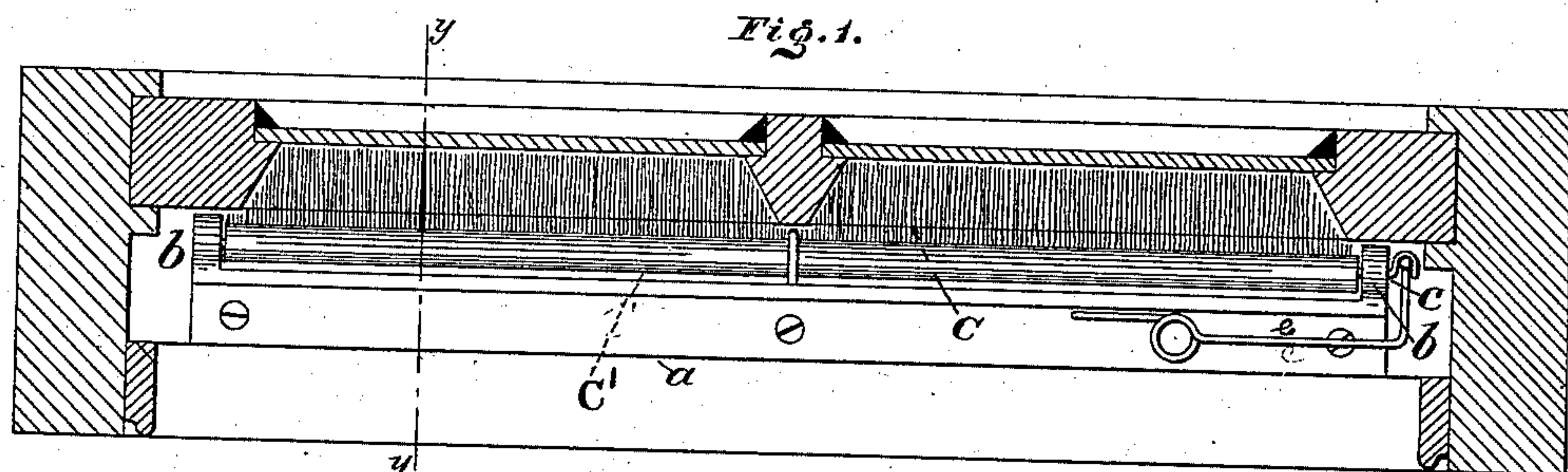


(No Model.)

G. B. PULLINGER.
Insect Guard for Windows.

No. 235,810.

Patented Dec. 21, 1880.



Witnesses:

A. P. Grant,
H. F. Kircher

Inventor:

Geo. B. Pullinger,
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ATTORNEY.

UNITED STATES PATENT OFFICE.

GEORGE B. PULLINGER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO M. MILLER OWENS, OF SAME PLACE.

INSECT-GUARD FOR WINDOWS.

SPECIFICATION forming part of Letters Patent No. 235,810, dated December 21, 1880.

Application filed June 12, 1880. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. PULLINGER, a citizen of the United States, residing in the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Mosquito and other Insect Guards for Windows, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a horizontal section of the mosquito-guard embodying my invention in line *x x*, Fig. 3. Fig. 2 is a vertical section thereof in line *y y*, Fig. 1. Fig. 3 is an end view of the guard applied to a window. Fig. 4 is a vertical section of a modification.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a guard applied to a window-sash in such manner that mosquitoes and other insects are prevented from entering the apartment through the space between the two sashes, whether opened or closed, said guard consisting of a rotatable brush, the soft end of which is in contact with the window-glass, and operated substantially as hereinafter set forth.

Referring to the drawings, A represents the upper and B the lower sash of a window of well-known form and construction.

To the meeting-rail *a* of the lower sash, B, are connected ears or brackets *b*, on which is mounted a brush, C, which extends horizontally parallel with said rail *a*, and has its bristles or brushing portions projecting toward and in contact with the upper sash, so as to sweep the inner face of said upper sash. In order to hold the bristles of the brush in normal position—that is, against the inner face of the upper sash—one of the journals *c* of the rotatable head C' of the brush is extended to form a bearing, *d*, for a spring-pressed arm, *e*, which is secured to the meeting-rail *a* or bracket thereon; but other forms of spring may be employed.

It will be seen that when both sashes are

closed, if from looseness thereof any space exists between the meeting-rails, the brush C closing said space or joint from above prevents mosquitoes and other insects passing between the two sashes and entering the apartment. Should either sash be opened the brush still forms a barrier for the passage of the insects, (see Fig. 2,) and when the sashes are being moved any insects settled on the glass will be swept by the brush and thus driven away. During the movement of the sashes, when the brush reaches the sash-bars and is struck thereby, it is caused and permitted to rotate or yield and thus clear the bars, after which, owing to the springs or spring-arm *e*, it quickly assumes its normal and operative position.

If desired, the brush may be connected to the meeting-rail of the upper sash, as in Fig. 4, or a brush connected to each sash; but the operation is similar to that above described.

The brush C may be formed of bristles, wire, strips of fabric, or other suitable substance or material.

The employment of the mosquito screens or nets for the top of the upper sash and bottom of the lower sash forms no part of the present improvement.

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

1. In combination with a window, an insect-guard consisting of a rotatable brush arranged and operating substantially as set forth.
2. The rotatable brush C, in combination with a bearing, *d*, a spring-pressed arm, *e*, and a window, substantially as set forth.
3. An insect-guard consisting of a rotatable brush, in combination with a spring pressed against a bearing-piece of its head, substantially as set forth.

GEORGE B. PULLINGER.

Witnesses:

JOHN A. WIEDERSHEIM,
W. F. KIRCHER.