

*H. Wolff,*  
*Shutter Worker.*  
*No. 102,191.                      Patented Apr. 19. 1870.*

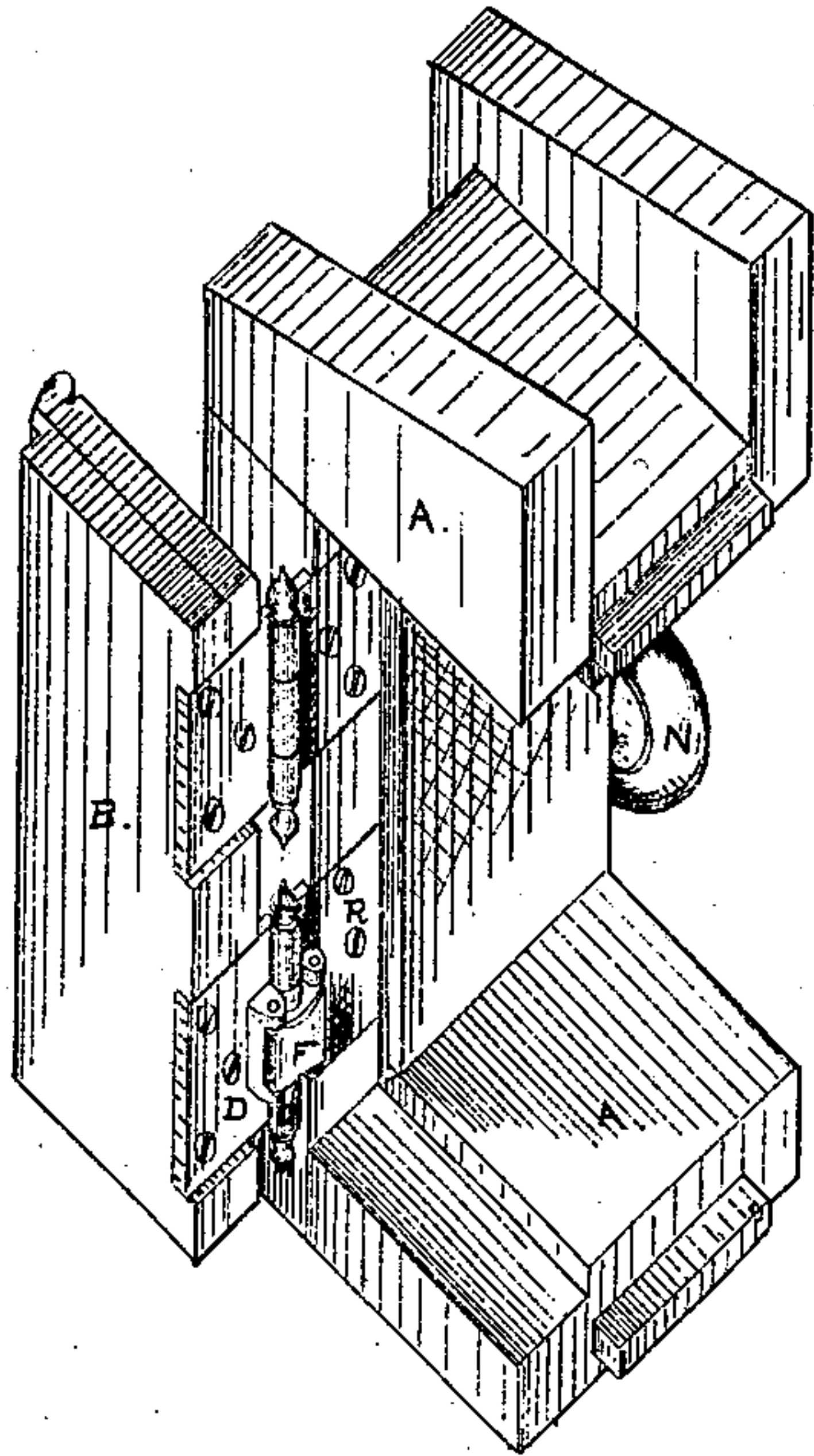


FIG. 1.

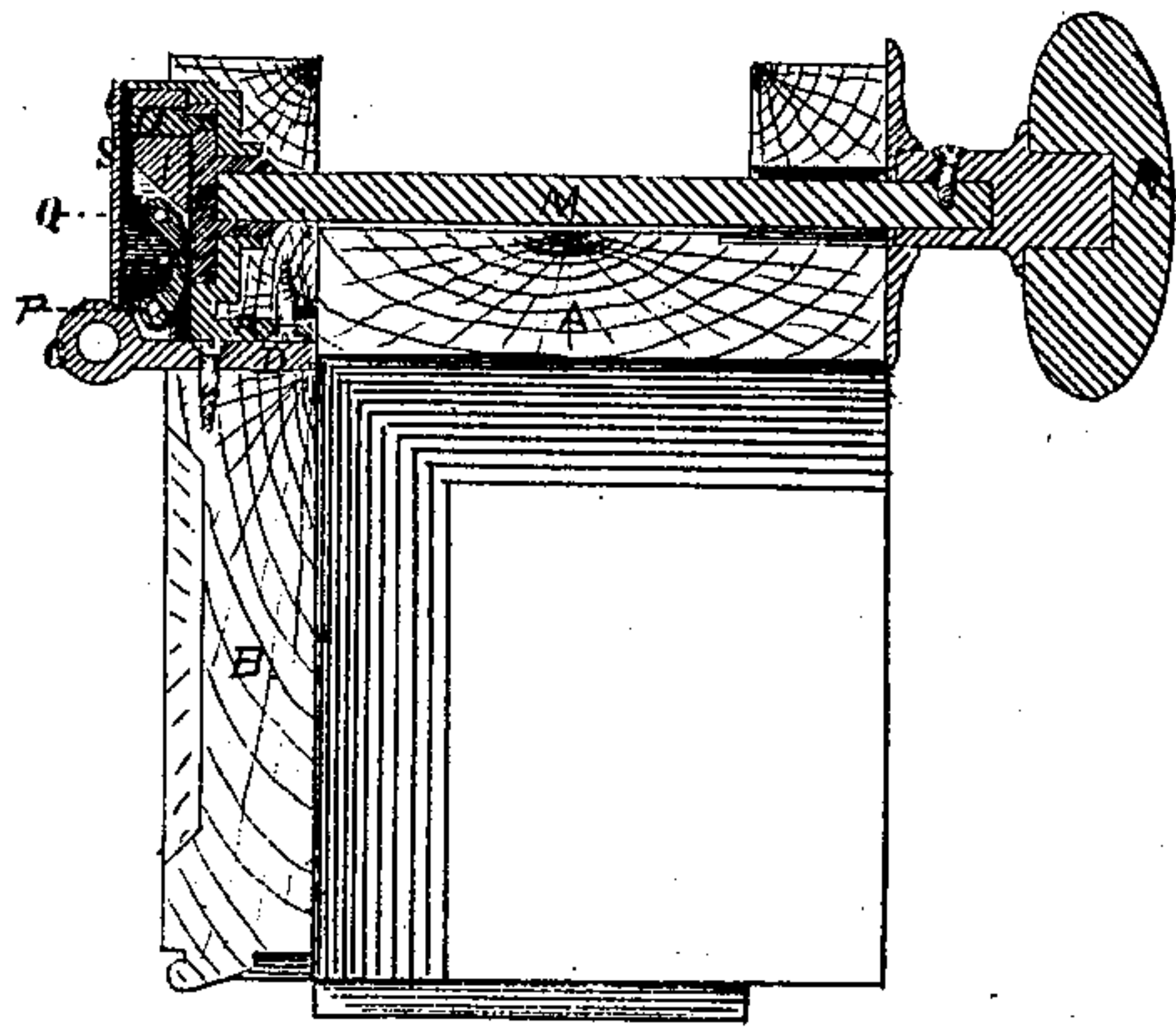


FIG. 3.

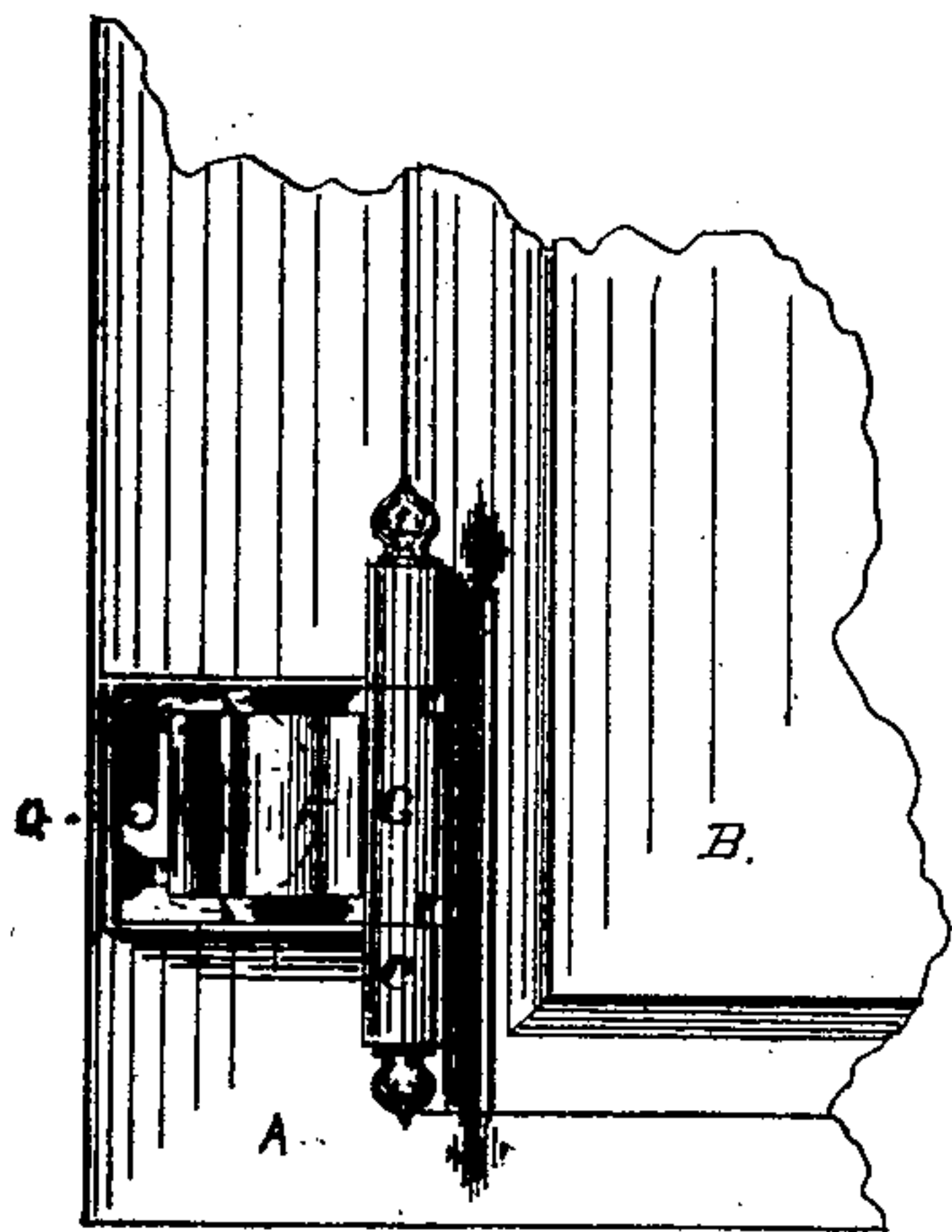


FIG. 2.

WITNESS.  
*as may*  
*W. H. Hornor.*

INVENTOR.  
*Herman Wolff*  
*by his atty*  
*J. B. Smith*

# United States Patent Office.

HERMANN WOLFF, OF MILWAUKEE, WISCONSIN.

Letters Patent No. 102,191, dated April 19, 1870.

## IMPROVEMENT IN SHUTTER-WORKERS.

The Schedule referred to in these Letters Patent and making part of the same.

### To all whom it may concern:

Be it known that I, HERMANN WOLFF, of the city and county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Blind-Workers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective of my invention.

Figure 2, a view with the cover removed.

Figure 3, a sectional view.

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

The object of my invention is to provide a blind-worker by which a blind can be opened or closed by turning a knob, and fastened open or closed.

A is a window-frame.

B, the blind.

C, the cylinder of the part of the worker attached to the window-frame.

D, the leaf of the worker attached to the blind.

E, the tumbler by which the worker is operated, fitted onto shaft M.

F, a piece attached by a rivet to the leaf D.

G, cylinder part of leaf D.

H, pintle.

I, piece to which F is pivoted. These, I and F, form a flexible hinge.

K, slot in piece I.

L, upper pintle-head, screwed onto pintle H.

M, knob-shaft.

N, knob.

O, pin in tumbler E, working in slot K.

P, rivet fastening piece F to leaf D.

Q, rivet fastening pieces I and F together.

R, piece or leaf of the worker fastened to the window-frame.

S, cover to the works, screwed on by a screw in hole T.

This worker forms a hinge, and the hinge above is a common butt, not described.

### Operation.

Take hold of knob N and turn it. That will turn shaft M and tumbler E. Pin O in slot K will, if the blind is closed, force the pieces I and F forward, and, being fastened to leaf D, turns the leaf D out and opens the blind, the tumbler E turning so that the pin O stands square across, and the blind cannot be closed till the knob is reversed, which will be done to close the blind.

### Claims.

I claim as my invention—

1. Tumbler E, fitted onto shaft M, with its pin O working in slot K in piece I, so as to hold piece I firmly in position when turned back or forward, which holds the blind open or closed, piece I being attached to the opening and closing apparatus, substantially as described.

2. Piece F, cylinder G, piece I, (cylinder G swinging on pintle H,) operated by shaft M and tumbler E, and pin O, operating in slot K for the purpose of opening and closing a shutter or window-blind, substantially as described.

HERMANN WOLFF.

Witnesses:

J. B. SMITH,

W. M. HORNOR.