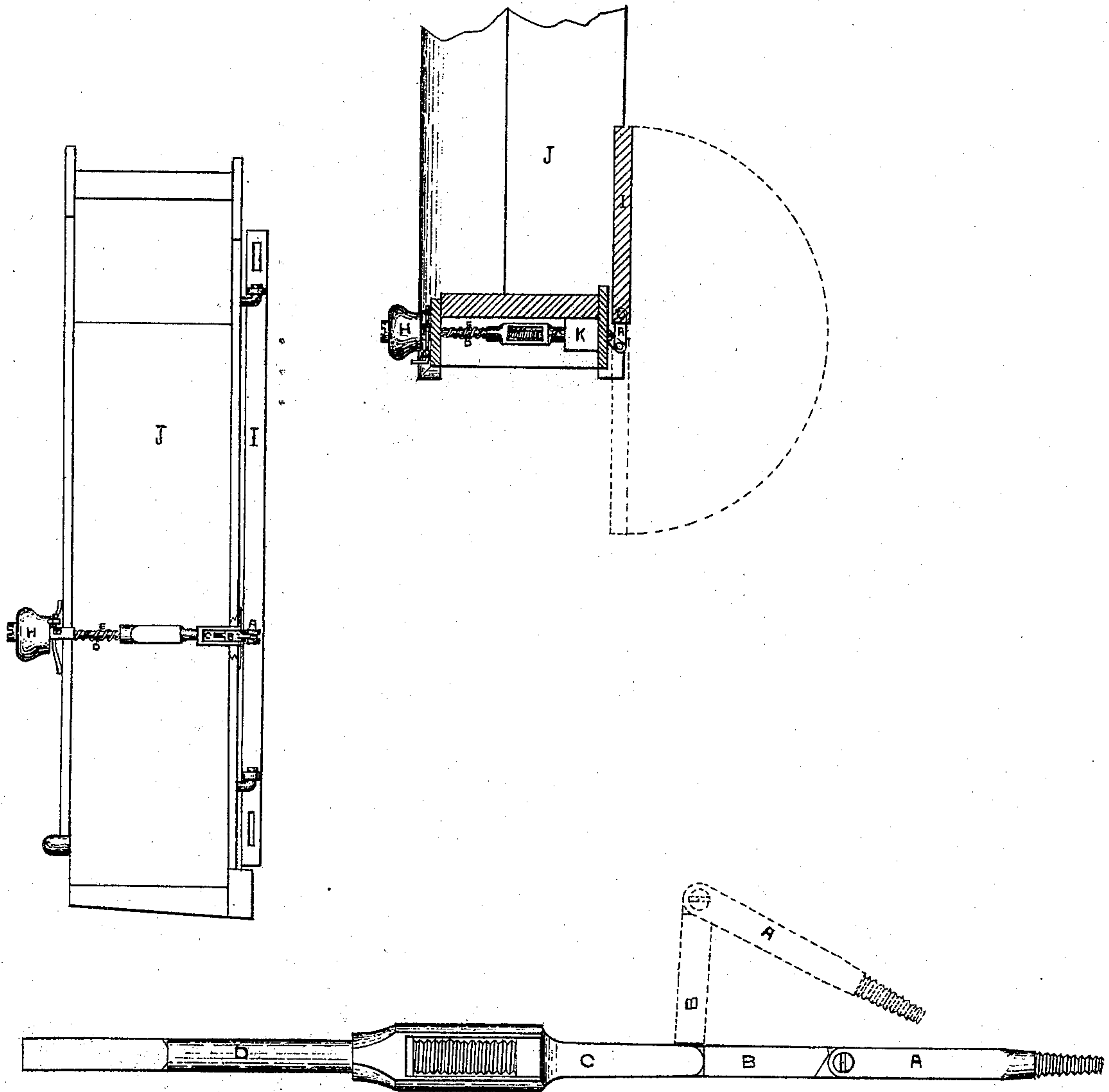


Jennison & Otis,

Shutter Worker.

No. 113,301.

Patented Apr. 4. 1871



____ INVENTORS ____

____ WITNESSES ____

George Jennison

Merrick. F. Otis

Geo. O. Bingham

John Luther

United States Patent Office.

GEORGE JENNISEN AND MERRICK F. OTIS, OF WESTBOROUGH,
MASSACHUSETTS.

Letters Patent No. 113,301, dated April 4, 1871.

IMPROVEMENT IN WINDOW-BLIND OPERATORS.

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

To whom it may concern:

Be it known that we, GEORGE JENNISEN and MERRICK F. OTIS, of Westborough, county of Worcester, Commonwealth of Massachusetts, have invented a new and improved Window-Blind Operator; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

This invention consists in providing the operating-rod of a shutter-worker with an adjusting-screw and nut for varying its length, and with a coil-spring to aid in its operation.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

In the drawing—

Figure 1 represents a sectional view of the window-casing, the operator passing through it and attached to the hinged edge of the blind.

Figure 2 represents a section of the casing taken off at the under side of the operator. The dotted line marks the swing of the blind as it is opened and closed by a pull at the knob.

Figure 3 represents the jointed rod. The dotted line is the swing-joint, and the screw-connection is for shortening or lengthening the rod, as the casing and frame may require.

In fig. 1—

A is the first joint of the rod, having a screw cut on the end, as seen in fig. 3, and is the part which is attached to the inner edge of the blind.

B is the swing-joint, and should have its position in the socket K, with room to swing both to the left and right of the center line.

C is the next joint, and is connected with part D by screw, for the purpose of lengthening or shortening the rod, as the casing and frame may require.

E is a spiral spring placed on the part D, so as to force the rod back in the blind, closing or opening it as it passes the center line, and

H is the knob secured to the inner end of the rod.

F is a notch in the rod for latch G, which fastens the blind securely either when open or closed.

The blind is opened or closed by a pull at the knob. The momentum it receives by the pull will carry the blind past the center line, and the pressure of the spring E will keep it closed or opened.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination, in a shutter-worker, of the operating-rod D, with a nut and screw-connection, and coil-spring E, all arranged as and for the purpose shown.

GEORGE JENNISEN.
MERRICK F. OTIS.

Witnesses:

J. HENRY HILL,
JONA. LUTHER.