

**J. E. BEANLAND.**  
**Quadrant for Opening, Shutting and Fastening**  
**Windows.**

No. 159,744

Patented Feb. 16, 1875.

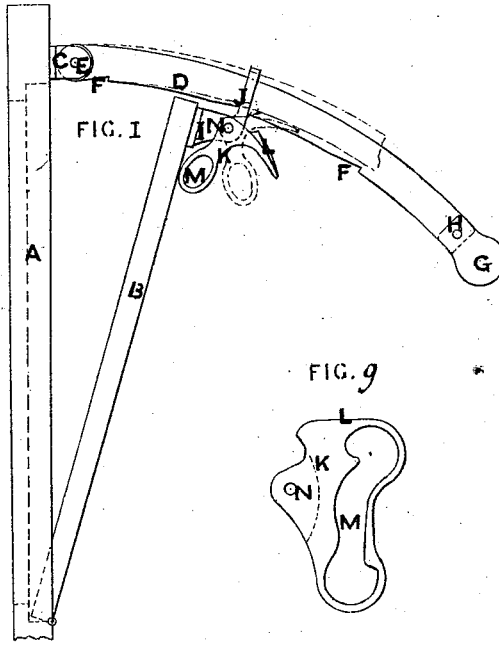
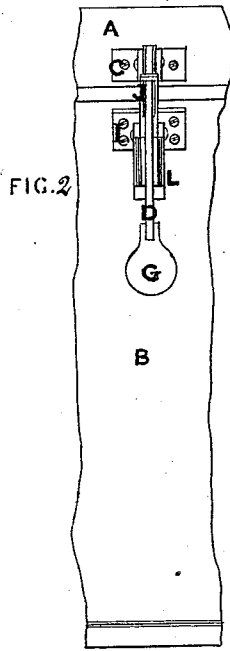


FIG. 3

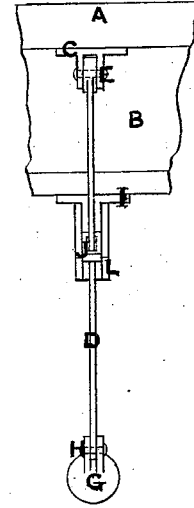


FIG. 5

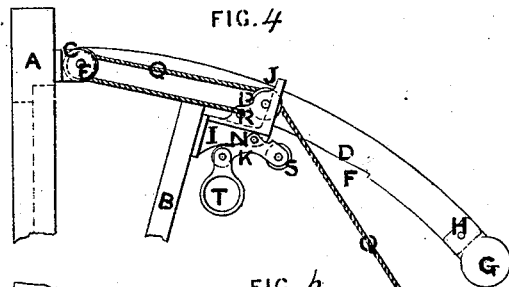


FIG. 4

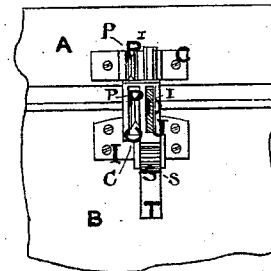


FIG. 8

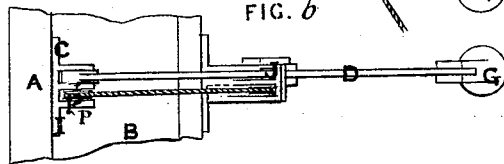


FIG. 6

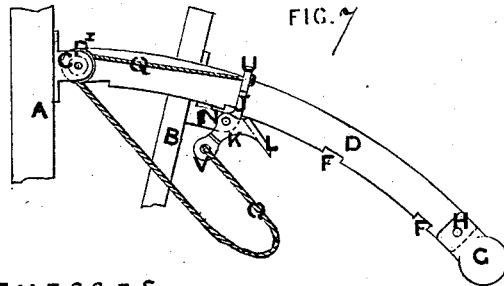


FIG. 7

WITNESSES  
*Walter J. Furness*  
*James Kendall*

INVENTOR  
*John Edward Beanland*

# UNITED STATES PATENT OFFICE.

JOHN EDWARD BEANLAND, OF BRADFORD, ENGLAND.

## IMPROVEMENT IN QUADRANTS FOR OPENING, SHUTTING, AND FASTENING WINDOWS.

Specification forming part of Letters Patent No. 159,744, dated February 16, 1875; application filed December 12, 1874.

*To all whom it may concern:*

Be it known that I, JOHN EDWARD BEANLAND, of Bradford, England, have invented certain Improvements in Quadrants for Opening, Shutting, and Fastening Windows, and in the apparatus employed therein, of which the following is a specification:

The said invention relates to the employment of a quadrant working on a stud or pin, which is moved in or out of gear by means of a movable lifting lever or arm worked by a rod or rope.

To carry out my invention I employ a bracket fixed to the window-frame, in which is fitted a quadrant working on a stud or pin. This quadrant can be fixed on the side, top, or bottom of the window. Catches are formed in the quadrant, allowing of the opening and fixing of the window in any position, and at the extreme end of the quadrant is fitted a stop, which can be easily removed, when the window is required to be turned down, to release the window from the quadrant. On the window is fixed a guide, in which the quadrant works. The bottom part of this guide acts as a stop for the catches formed in the quadrant. On this guide is fitted a lifting-lever, so constructed that the lifting part releases the quadrant from the stop of the guide, when pulled, by means of a rod placed in an arm formed on the lifting-lever, or by a rope fastened to the arm passing over friction-pulleys. The lifting part of this lifting-lever can be made with a flat surface or with a friction-roller, acting not only as a lifting-lever to release the quadrant, but also as a slide; but in order to enable my improvements to be better understood, I will proceed to describe the same by reference to the accompanying drawing, in which—

Figure 1 represents a side view of a quadrant for opening and shutting windows by means of a rod; Fig. 2, front view, and Fig. 3 plan, of the same. Fig. 4 represents a side view of a quadrant for opening and shutting windows by means of a rod, or by a rope; Fig. 5, front view, and Fig. 6 plan, of the same. Fig. 7 represents a side view of a quadrant fitted to the side of a window-frame, worked by a rope; Fig. 8, front view of the same.

Fig. 9 represents a lifting-lever fitted to windows hung on pivots.

Similar letters of reference are used in all the figures to represent similar parts.

A, window-frame; B, window; C, bracket fixed to the window-frame A, in which is fitted a quadrant, D, working on a stud or pin, E. On the quadrant D are formed notches or catches F, to allow of the opening and fixing of the window in different positions. On the extreme end of the quadrant D is fitted a stop, G, which can be easily removed, when the window is required to be released from the quadrant, by removing the pin H. On the window is fixed a bracket, I, the top part forming a guide, J, in which the quadrant D works. The bottom part of the guide J acts as a stop for the notches or catches F, formed on the quadrant D. On the bracket I is fitted a lifting-lever, K, having a lifting-piece, L, formed thereon to release the quadrant D from the stop on the bottom part of the guide J. (Shown in dotted lines.) The lifting part K is actuated by the lever M, when pulled by a hook fixed on a rod. The lever K is secured to the bracket I by the stud or pin N.

In Figs. 4, 5, and 6 the bracket I, fitted to the window, is shown made with a guide, J, in which the quadrant D works. This guide J is made with sides, forming an opening, O, to receive the friction-pulley P, over which a rope, Q, passes. On the bracket is formed a boss, R, having an opening, through which is fastened the end of the rope Q. The bracket C, fixed to the window-frame, is made with a recess to receive the friction-pulley P'. The rope Q, being fixed to the boss R, is passed over the friction-pulley P', then over the friction-pulley P; and by pulling the rope Q the window can be opened or shut. The lever K is formed at one end with lugs to receive a friction-roller, S, to lift the quadrant D from the notches or catches F, as shown in dotted lines. This friction-roller S acts as a lifting-lever and as a slide for the quadrant D. On the other end of the lever K is fitted a ring, T, through which is passed the hook of the rod for opening and shutting the window. When the rope Q is used, the lever K is not required. The quadrant in Figs. 7 and 8 is fitted to

the side of the frame-work of the window, and is worked by a rope only. The bracket C is also made to receive a friction-pulley, P', over which passes the rope Q. On the guide J, formed on the bracket I, through which passes the quadrant D, is formed a lug, U, through which passes the rope Q, passing from thence over the friction-pulley P', and to the bottom part, V, of the lever K.

By pulling the rope Q it will lift up the lifting-piece L of the lever K, releasing the square notches or catches F of the quadrant D, thus allowing of the opening, shutting, and fastening of the window.

Fig. 9 represents a different form of lifting-lever fitted to windows hung on pivots.

K, lifting-lever fitted to the bracket I, and

fixed by means of the pin N; L, lifting part of the lever, acting on the quadrant D; M, opening through which is passed the hook of the rod or a ring of a cord.

What I claim is—

1. The combination of the notched pivoted quadrant, the swing-latch, and the guide-stop J, substantially as, and operating as, set forth.
2. In combination with the notched pivoted quadrant, and with the swing-latch and guide-stop J, the cords and pulleys, applied as shown and described, and the whole operating as set forth.

JOHN EDWARD BEANLAND.

Witnesses:

WALTER JAS. TURNER,  
JAMES KENDALL.