

H. J. DEFRENNE.
Rolling-Shutter.

No. 159,307.

Patented Feb. 2, 1875.

fig. 1

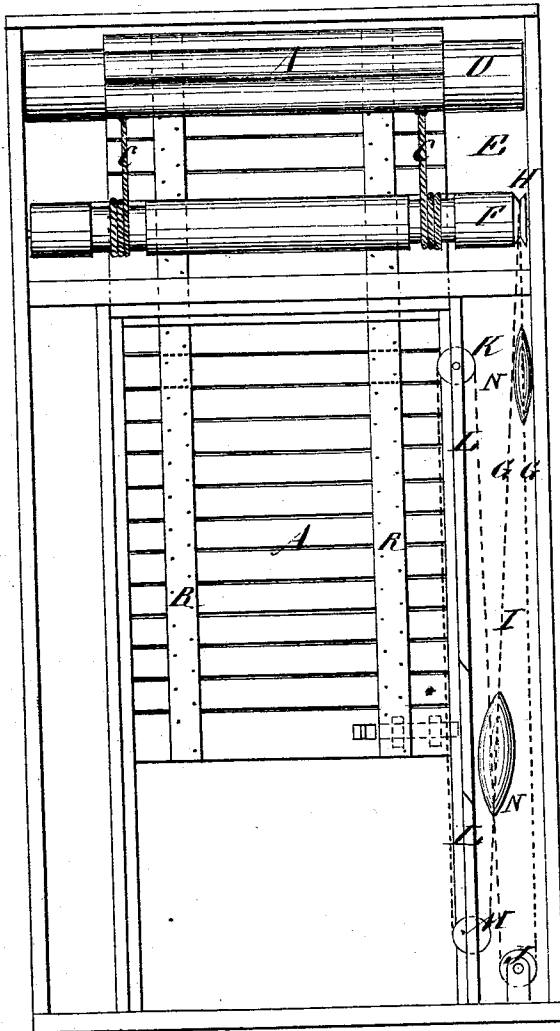


fig. 2

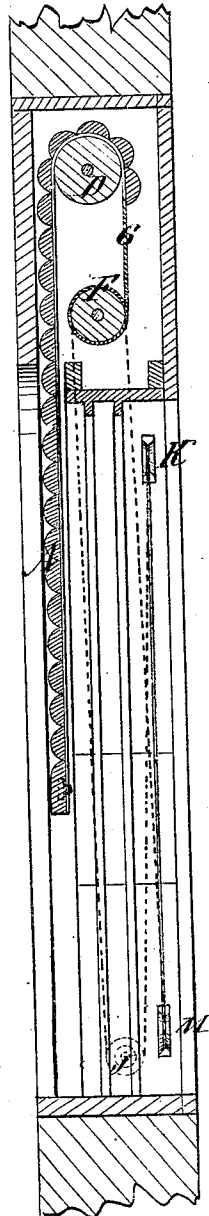
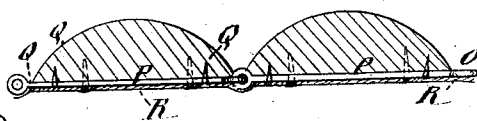


fig. 3

WITNESSES:
C. Nevada.
A. F. Terry



INVENTOR:

H. J. Defrenne
BY *[Signature]*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HECTOR J. DEFRENNE, OF GREEN BAY, WISCONSIN.

IMPROVEMENT IN ROLLING SHUTTERS.

Specification forming part of Letters Patent No. **159,307**, dated February 2, 1875; application filed September 5, 1874.

To all whom it may concern:

Be it known that I, HECTOR JOSEPH DEFRENNE, of Green Bay, in the county of Brown and State of Wisconsin, have invented a new and Improved Window-Blind, of which the following is a specification:

My invention consists of a blind made of slats hooked or jointed together, to be raised and lowered by rollers suspended by cords, which pass over an upper roller in a chamber above the window, and down to another roller at the bottom of the chamber, on which they wind, said rollers being worked by an endless cord, which is so arranged on pulleys that one part of its course is alongside of one of the sides of the window-frame, where it can be worked inside of the house for raising or lowering the blind whether the window is open or not, thus affording a more convenient means than others now in use for working such blinds. My invention also consists of a novel mode of connecting the slats together.

Figure 1 is an inside elevation of a window with the inside casings removed, showing my improved apparatus. Fig. 2 is a sectional elevation transversely to the wall of the building. Fig. 3 is a detail section of the blind, showing the mode of connecting the slats.

Similar letters of reference indicate corresponding parts.

A represents the blind of slats connected together by articulated joints, so as to pass over or wind on rollers freely to be opened and closed by rolling up and down. This blind is suspended at the top by cords C, which pass over the roller D in the upper part of the chamber E, over the window, and down to the roller F in the lower part of said chamber, to which they are attached, so as to wind on and off for raising and lowering the blind. This roller I prefer to operate by an endless

cord, G, which extends from a groove, H, in it down to the lower part of a chamber, I, in the side of the window-frame, one branch passing under the guide-pulley J, and up to pulley K in the casing L of the window-frame, and the other branch passing under pulley M in said casing, so that from K to M the cord will pass inside of the frame and inside of the window, where it can be employed for raising and lowering the blind whether the window be open or not. This cord is loaded with weights N for counterbalancing the blind.

I propose to joint the slats together by links O of wire laid in a little groove, P, across the slats, flush with the surface, and confined by staples Q, and covered by strips of leather, R, or other suitable material, extending the whole length of the blind and tacked on the slats, the strips being to conceal the links and grooves and make a smooth surface for the inside paint. These slats will be arranged a little distance apart to admit light, also air for ventilation, if required. The edges will run in grooves in the sides of the window-frames.

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

1. The combination of endless cord G, pulley J, and pulleys K M with the blind-operating roller F, pulley J being in chamber I at the side of the window-frame, and the pulleys K M being in the casing L, all substantially as specified.

2. The slats connected together by wire links O, arranged in transverse grooves in the slats, and covered by straps R, substantially as specified.

HECTOR J. DEFRENNE.

Witnesses:

L. B. DUCTATEAU,
GABRIEL GUESNIER.