A. S. Pelton,

Shutter Worker.

No. 6,059. Patented Jan. 23, 1849.

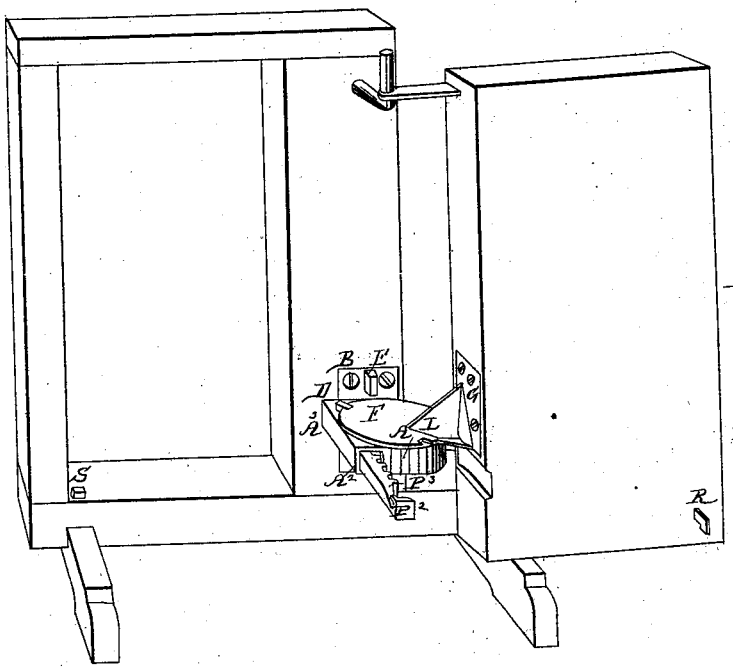

Fig: 1.

Fig: 2.

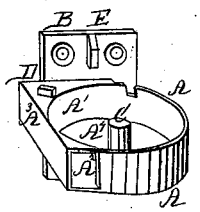

Fig: 4.

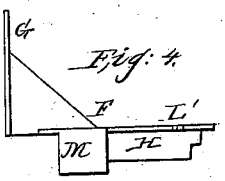

Fig: 3.

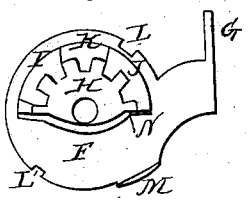

Fig: 5.

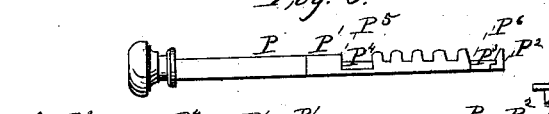

Fig: 8

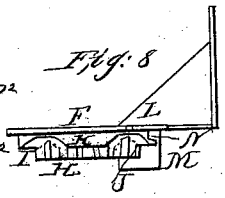

Fig: 6. P P Fig: 7.

UNITED STATES PATENT OFFICE.

A. S. PELTON, OF CLINTON, CONNECTICUT.

COMBINED HINGE, FASTENER, AND SHUTTER-OPENER.

Specification of Letters Patent No. 6,059, dated January 23, 1849.

To all whom it may concern:

Be it known that I, A. S. PELTON, of Clinton, in the county of Middlesex and State of Connecticut, have invented a new and useful apparatus for opening, closing, and fastening window-blinds from the inside of buildings without opening the sash, called "Pelton's improved window-blind hinge," which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1, is a perspective view of the shutter opened back against the wall. Fig. 2, is a perspective view of the lower half of the hinge—the upper half being detached from it. Fig. 3, is a plan of the upper half of the hinge inverted. Fig. 4, is an edge view of the upper half of the hinge. Fig. 5, is a plan of the jointed and cogged propelling rod. Fig. 6, is an edge view of said rod—the handle being turned down. Fig. 7 ditto showing the plain side of the rod. Fig. 8 an edge view of the upper half of the hinge showing the cogs and inclined planes.

Similar letters in the several figures refer to corresponding parts.

I am aware that hinges have been cast with cogged segments with which a cogged bar or screw rod have been geared said cogged bar extending from the hinge through the window frame into the interior of the apartment where it has been fitted with a handle, by which it is moved back and forth or turned on its axis when formed with a spiral thread as in the case of Vardin's hinge. I am also aware that hinges have been cast with an upper and a lower circular flange on the knuckle notched and cogged on the faces that come together for holding the blind securely in any required position. But I am not aware that hinges for opening, closing and fastening window blinds from the inside of buildings, while the sash is down, have been cast with a cogged segment of a circle and inclined planes combined with a circular notched plate forming the upper half of the hinge said inclined planes being made to correspond with inclined planes formed on the cogged propelling bar for lifting the upper part of the hinge so as to disengage the tooth of the lower part from the notches of the upper half of the hinge simultaneously with turning the said upper half by the same cogged bar.

Heretofore the parts of the hinge have been disengaged by the use of a lever fixed to the outside of the frame and had no agency in turning the blind—the window sash having to be opened in order to move the blind. Nor am I aware that any propelling rod has ever been constructed with a hook at its outer extremity to pass into a notch formed on the underside of the plate when the shuttle is closed and the rod drawn in to prevent the upper half of the hinge being raised from the lower half.

My improved hinge is made in the following described manner. The lower half which is fastened to the window frame is cast in the form of a circular box A, with a perforated flange B, by which it is fastened to the outside of the window frame, by screws, and a stud C in its center (over which is slipped the upper half of the hinge and upon which the said upper half turns) said cylindrical box being cast with two square openings A^1, A^2, in its periphery on a straight line corresponding with the opening through the window frame through which the propelling rod is to be passed and a vertical tangential straight plate A^3 touching the periphery of the box between said openings and joined to the bottom plate A^4, by an extension of the latter until it meets the said vertical tangential plate thus forming a straight tube in which the propelling rod plays back and forth in opening and closing the blind. The drawing represents this tube, or way for the propelling rod to move in, as extending through the window frame and circular box horizontally and at right angles to the side or front of the building.

The upper edge of the tangential plate is joined to the upper edge of the box by triangular segments cast with the box. On one of them is cast a tooth D to fit into notches in the periphery of the circular plate of the upper half of the hinges by which the said upper half is prevented from turning on its axis. A projection E is cast on the flange to strike against the top of the circular plate of the upper half of the hinge when attempting to separate it from the lower half.

The circular plate F of the upper half of the hinge is cast of greater diameter than the circular box and turns upon the edge of the latter, having a flange G by which it is screwed to the shutter or blind

and having a cogged segment H cast on its under side perforated in the center to slip over the central pin C of the box and two inclined planes I, J, commencing on the line of its diameter and extending around on a circle concentric with the circle of the plate and the circle of the cogs and between the same and the deepest ends of said inclined planes extending down from the under side of the circular plate (with which they are cast) about half the depths of the cogs for the purpose of being acted on by the inclined planes formed on the propelling rod hereafter described in lifting the upper half of the hinge. A projection K is cast on the same circle with the inclined planes and of the same depth and midway between them for the purpose of bearing on the upper surface of the propelling rod while opening or closing the shutter.

The periphery of the circular plate contains two notches L, L′, that are to admit the projections on the lower half of the hinge when the shutter is opened or closed. A guard plate M is cast on the periphery of the aforesaid plate extending downward vertically in a position to come directly over the outlet of the tube in which the propelling rod moves when the window blind is closed to prevent access to the rod from the outside. In the thick end of one of the inclined planes is made a notch N to admit a hook formed on the end of the propelling rod to prevent the parts of the hinge from being separated when the blind is closed and the propelling rod is drawn in and folded on the inside.

The propelling rod P for opening and closing the blind is a metallic bar hinged near the middle of its length at P′ and cogged on the side next the cogged segment and between two inclined planes P^3, P^4, formed in the upper side of said bar and having a hook P^2 on its outer extremity for hooking into the notch N aforesaid in the inclined plane of the cogged segment, when the blind is closed for holding the parts securely together.

There should be one cog less in the rack than the segment and these cogs should extend from one inclined plane to the other. The slope of the inclined planes P^3 P^4 (which are formed on the upper side of the bar) extends in contrary directions from the ends of the rack. The side of the bar opposite the inclined planes should be hollow as at P^5 P^6 to allow the bar to move longitudinally the distance of the inclined planes without coming in contact with the cogs of the segment in lifting the upper half of the hinge. The inclined planes are formed by notching the upper side of the propelling bar.

A hook R is inserted into the shutter which drops over a stop S inserted into the sill of the window frame when the shutter is closed and when the notch in the periphery of the circular plate comes perpendicularly above the cog on the lower part of the hinge above described at the moment of the descent of the upper half of the hinge. A similar hook is inserted into the opposite side of the shutter (not shown in the drawing) which drops over a hook fixed to the wall of the building when the shutter is opened back against the wall as represented in Fig. 1, the descent of the hook taking place simultaneously with the descent of the shutter, upon the opposite notch in the circular plate coming directly over the aforesaid cog when the shutter is turned a half revolution. The first named hook prevents the shutter being opened until it be lifted by the propelling rod and the last named hook holds the shutter securely against the wall until raised by said rod in closing it. The upper hinges of the shutters are made similar to the common slip hinges, or otherwise.

Operation: The window blind being closed—straighten the propelling rod P and move it outward: this movement will cause the inclined plane P^3 next the hook P^2 to press against the inclined plane J of the upper half of the hinge nearest the flange, causing it to rise with the blind, at the same time disengaging the hook P^2 on the end of the rod from the mortise in the segment and the hook R in the blind from the stop S in the sill and the circular plate F from the cog D on the edge of the box and bringing the cogs of the rod into gear with the cogs of the segment by which the upper half of the hinge will be made to turn on the center pin C while the inclined planes I and J and projection K between them will slide upon the top of the rod until the blind has been turned half a revolution when the opposite inclined plane I will descend into the notch P^4 forming the second inclined plane of the rod—the blind also descending bringing the cog D into the notch L′ of the circular plate and the hook in the back of the blind over the hook in the wall. The closing of the blind is effected by reversing the movement of the rod, causing the blind to rise and move around to its former position and to descend bringing the plate F into lock with the cog D and the hook R over the stop S and to lock the upper and lower parts of the hinge together by the hook P^2 on the end of the rod P entering the mortise in the end of the inclined plane. The inner half of the rod is then turned down to a position parallel with the window casing and out of the way. This also prevents the rod from being moved from the outside, even were there no guard plate; but when the rod is drawn in, the guard M is moved around by the circular plate and brought over the outer end of the

mortise in which the rod moves which also prevents access being had to the rod from the outside, as before stated.

Having thus fully described the construction and operation of my improved hinge for opening and closing and securing window blinds from the inside of apartments without raising the sash, I will here state that I do not pretend to be the first inventor of a hinge to accomplish the above named objects by rack and pinion or by screw, but

What I do claim as my invention and desire to secure by Letters Patent, is—

The peculiar manner in which I construct the hinge and propelling rod combined therewith, by which I unfasten, turn back, and secure window blinds, by simply moving the rod outward; and again unhook, turn, and refasten the said window blinds by reversing the movement of the rod without raising the sash in either operation—that is to say I claim constructing the rod P with spaces P^5 P^6 in the side and inclined planes P^3 P^4 in the top thereof at the end of the rack in combination with the inclined planes I, J, on the upper half of the hinge—arranged and operating in the manner and for the purpose above described.

2. I also claim the before described mode of locking the upper and lower parts of the hinge by means of the hoop P^2 on the end of the rod P entering a corresponding groove in the upper part of the hinge—the rod being prevented from rising by being passed through the mortise in the box A of the lower half of the hinge, by which mode of fastening, the blind is effectually secured against being raised or opened from outside the building as described.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

A. S. PELTON.

Witnesses:

HUBBARD J. AMSON,

JOHN D. LEFFINGWELL.