

(No Model.)

S. G. HUTCHINSON.  
SHUTTER WORKER.

No. 584,509.

Patented June 15, 1897.

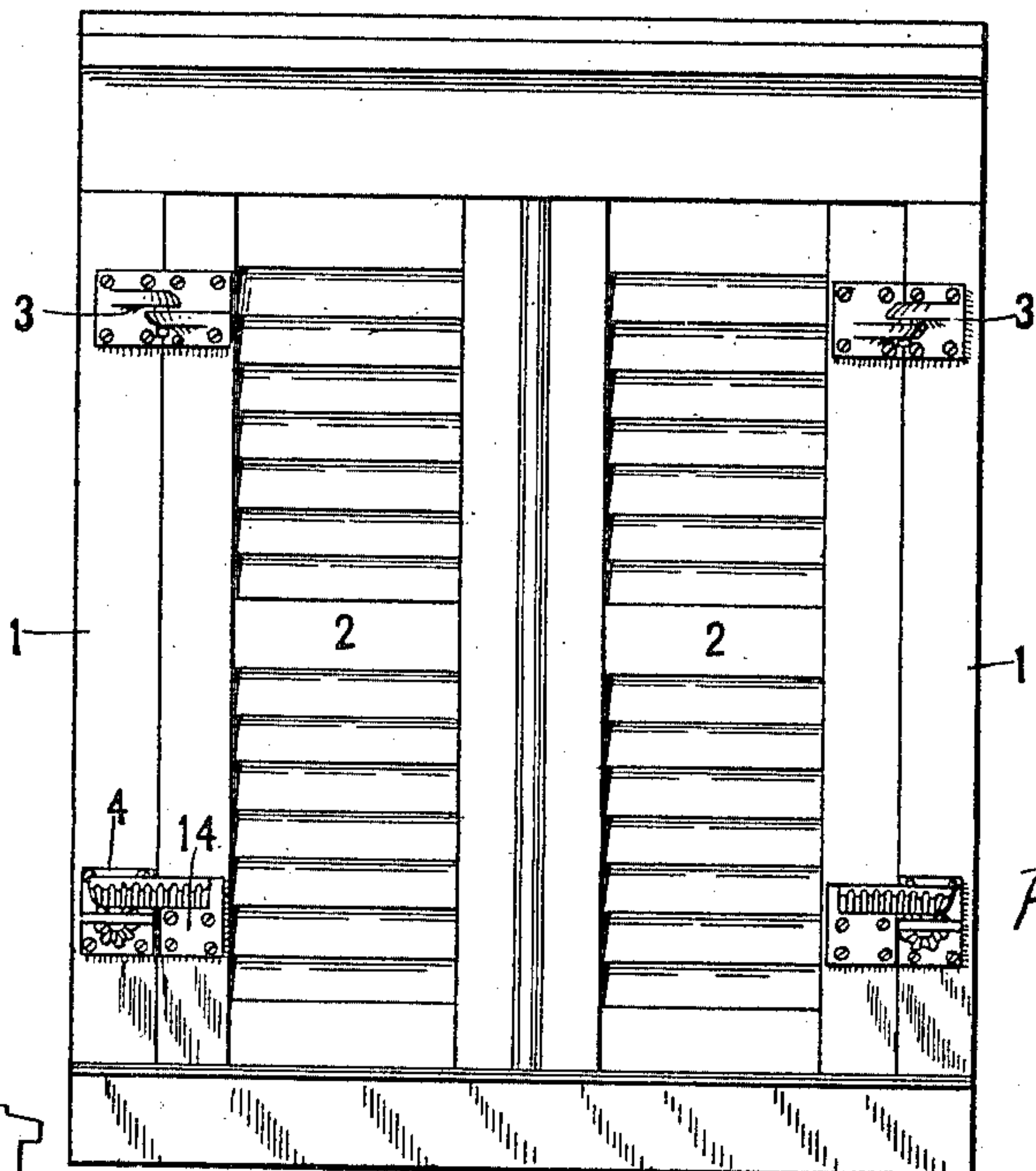
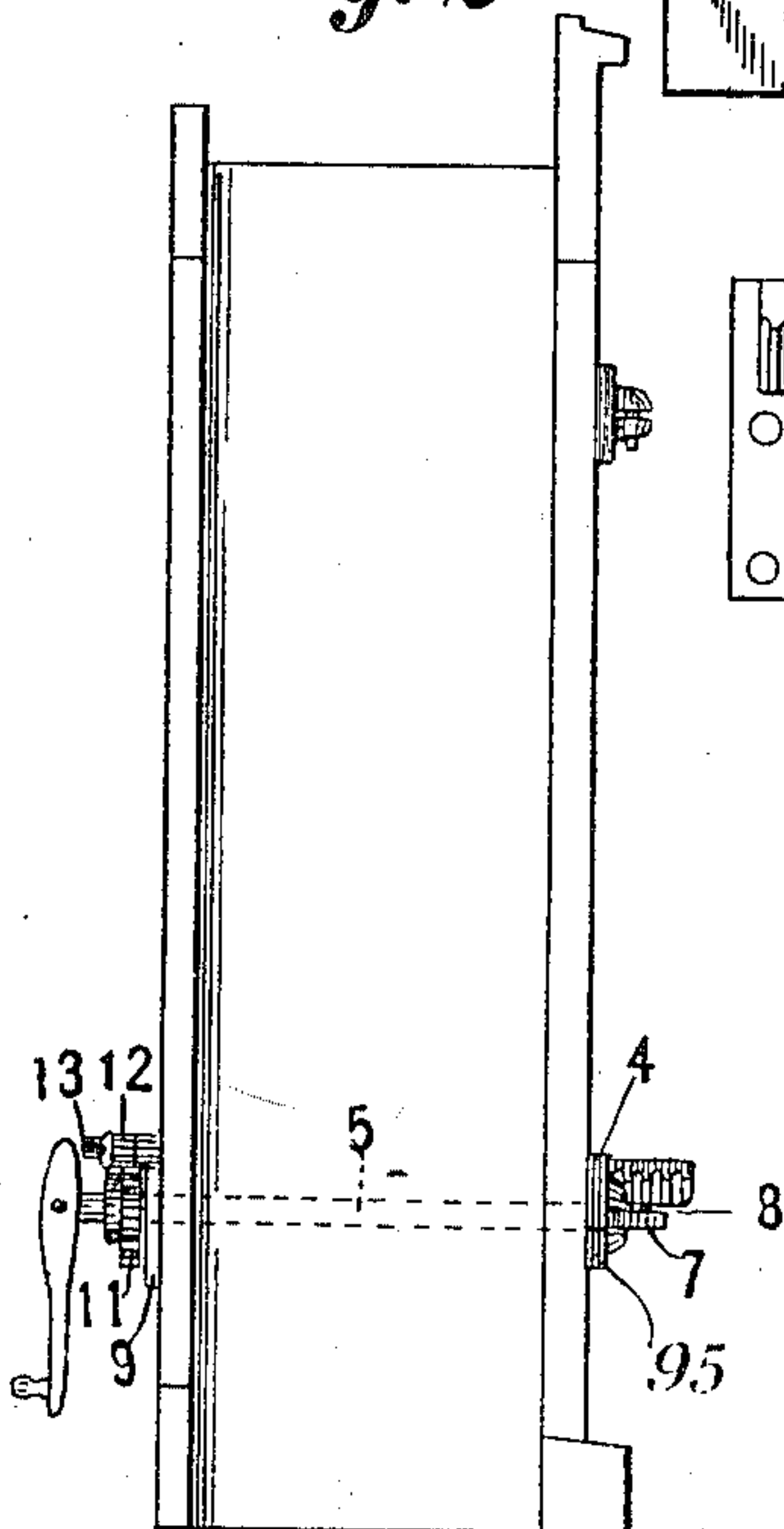


Fig. 1

Fig. 2



WITNESSES.

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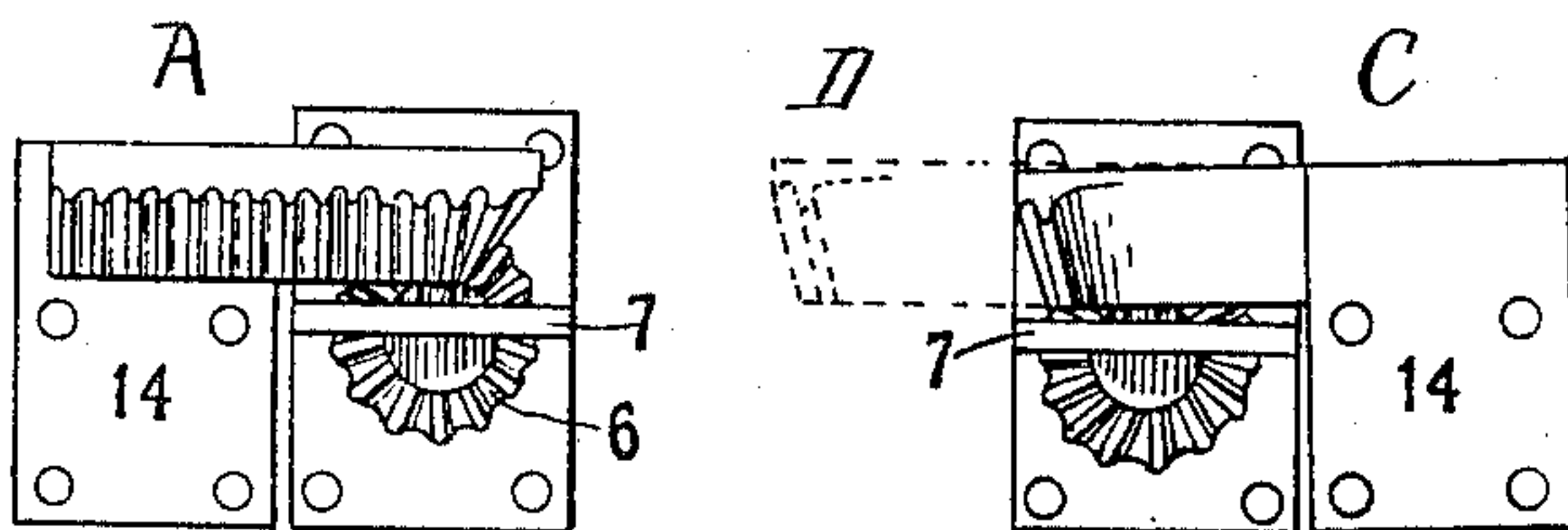


Fig. 3

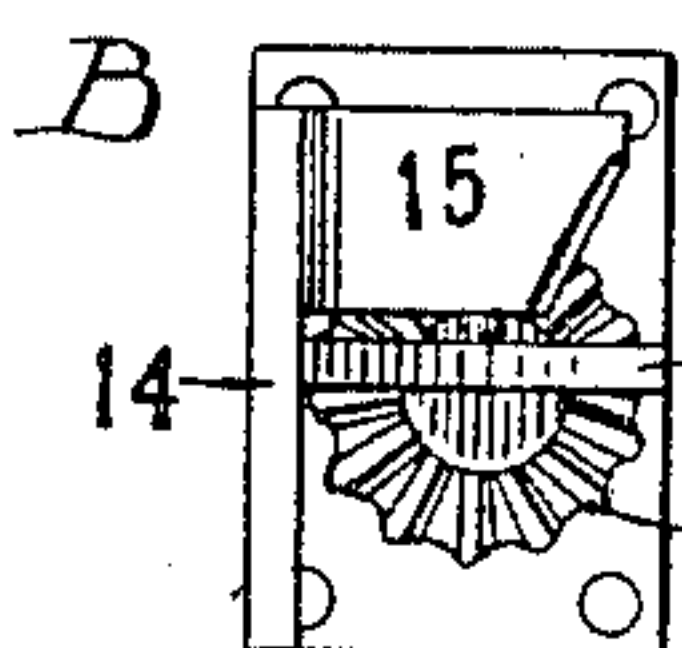


Fig. 4

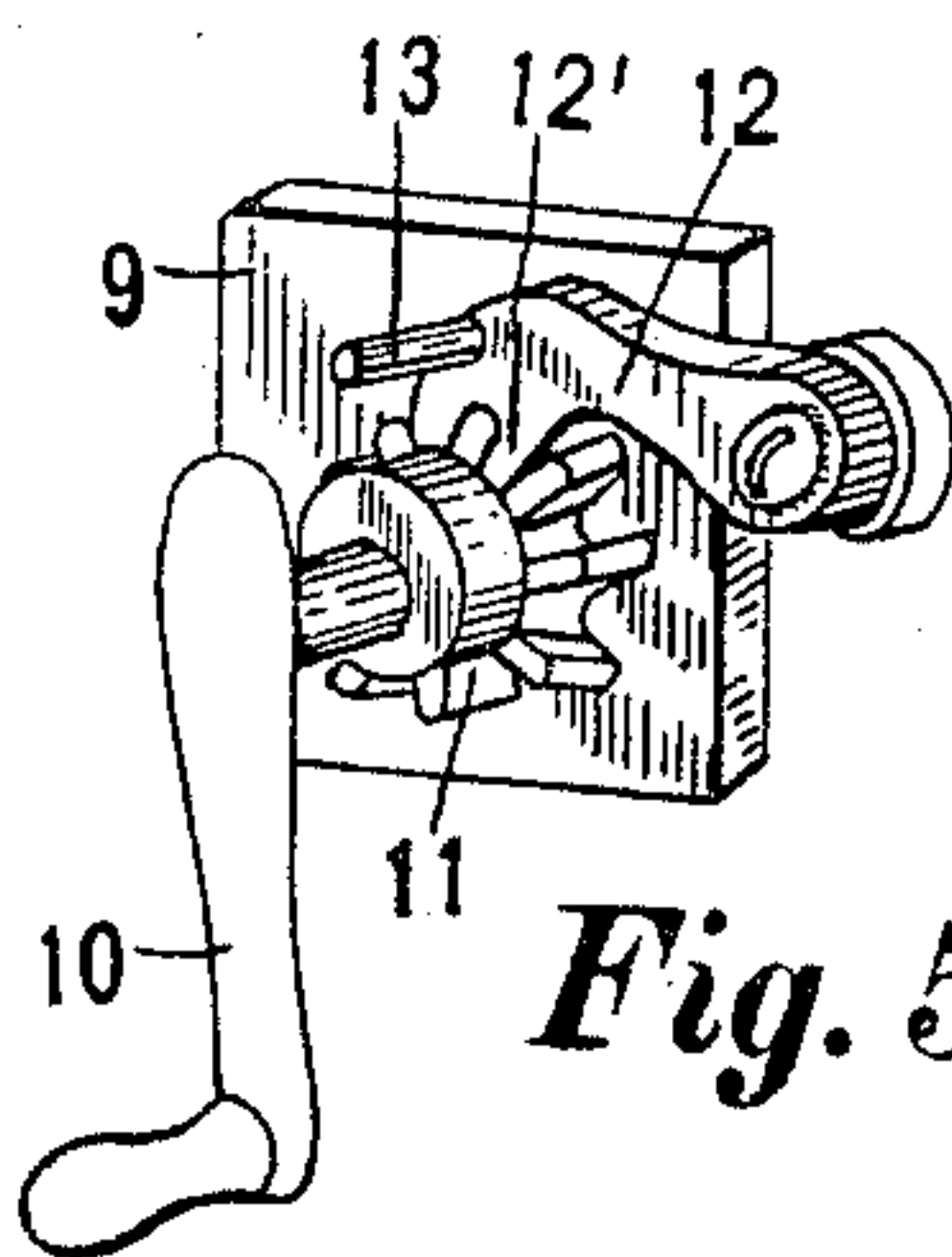


Fig. 5

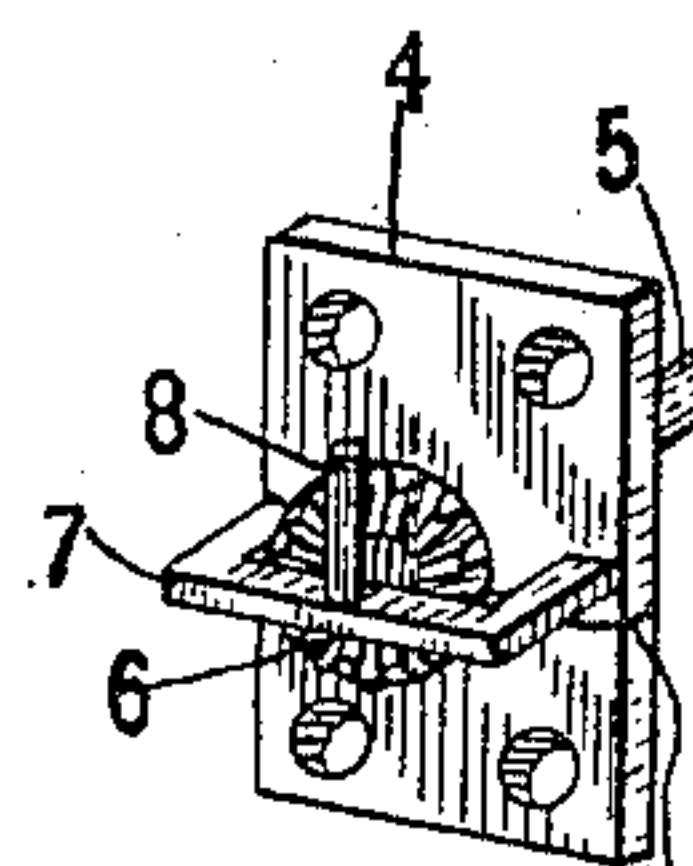


Fig. 6

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# UNITED STATES PATENT OFFICE.

SAMUEL G. HUTCHINSON, OF STROUDSBURG, PENNSYLVANIA.

## SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 584,509, dated June 15, 1897.

Application filed March 22, 1897. Serial No. 628,595. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL G. HUTCHINSON, a citizen of the United States, residing at Stroudsburg, in the county of Monroe and State of Pennsylvania, have invented certain new and useful Improvements in Blind-Operating Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to new and useful improvements in mechanism for operating and locking window-blinds, doors, &c.; and it consists in the construction and arrangement of parts, as hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide a mechanism or hinge that shall be capable of supporting a window-blind and which may be operated from within to open or close said blind and to securely lock it, as hereinafter more fully set forth, which object is attained by the construction and arrangement illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a window the blinds of which are provided with hinges or operating mechanism as made in accordance with my invention. Fig. 2 is a side elevation of Fig. 1. Fig. 3 represents enlarged details of the hinge in various positions. Fig. 4 is an inverted perspective view of the portion upon which the rack is mounted. Fig. 5 is a perspective view of the operating-crank and locking-arm, and Fig. 6 is a similar view of the beveled pinion for operating the rack.

Referring to the numerals of reference, 1 designates a window-frame as ordinarily constructed, which frame has blinds 2 fitted therein, said blinds being movably supported near their upper ends by suitable hinges 3, said hinges being of such pattern or formation as to permit of a slight swing to the lower portion of the blind, for a purpose hereinafter set forth.

4 represents a plate which is mounted upon the outside of the window-casing, said plate being provided with a central aperture,

through which the shaft 5 projects. Keyed to the outer end of said shaft and adapted to rotate against the outer face of said plate 4 is a beveled pinion 6. Formed integral with said plate 4 and extending around said pinion 6 is a frame 7, and rising centrally from said frame is a pin 8.

Secured upon the inner side of the casing is a plate 9, in which the inner end of shaft 5 is journaled, and secured upon said inner end of the shaft is an operating-crank 10.

Rigidly mounted upon the shaft is a pinion 11, said pinion being located between crank 10 and plate 9.

12 indicates an arm which is pivoted at one end to the window-frame adjacent to said pinion 11, said arm being provided with fingers 12', which are adapted to engage or mesh with the teeth of said pinion 11. 13 indicates a pin which projects from the side of said arm and by means of which the teeth or fingers of said arm may be engaged with or disengaged from the teeth of pinion 11.

14 represents a plate which is mounted upon the rear or hinge rail of the blind, said plate having formed integral therewith a transverse portion 15, which is provided with rack-teeth, said teeth standing at an angle to the plane of the face of said portion, and which teeth extend along the outer side and around one end thereof, as clearly shown in Fig. 4. It is desirable to construct plate 4 in two parts, (see Fig. 6,) so as to permit of securing the pinion 6 upon shaft 5 or casting it integral therewith, thus cheapening the manufacture of the mechanism and facilitating in its proper adjustment. Formed through the longitudinal center of the portion 15 of plate 14 is an opening or recess 16.

The operation of the mechanism is as follows: The blinds being hung, as shown in Fig. 1, with pin 8 projecting upward into the elongated opening 16, so that the rack-teeth upon said portion 15 may be moved in mesh with the teeth of the bevel-gear 6, it will be seen that by turning the crank 10 and shaft 5 said gear 6 will be rotated, which causes said gear to operate upon the rounded end of portion 15, changing the parts from the position shown in Fig. 3 at A to the position shown at B in said figure, which holds the blind directly outward from the building, and



by continuing the rotation of said shaft and pinion said blind will be swung around with its front side against the building, or so that the parts will stand in the position shown at C in Fig. 3. It will now be seen that the continued rotation of gear 6 carries the parts from the position shown at C to the dotted position shown at D in said Fig. 3, in consequence of which the blind is locked against accidental or unintentional swinging to and fro, as will be readily understood.

It will also be understood that this mechanism may be employed to operate fire or other blinds and doors.

15 The parts being few and simple in construction the device as a whole may be cheaply manufactured, and it is apparent that it serves a purpose far in superiority to the ordinary blind-hinge.

20 Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a blind-operating mechanism, the combination of the plate 4 having a gear 25 journaled therein, a pin-supporting frame extending around said gear, the pin on said frame, the plate 14 having an elongated portion with teeth around its outer side and end, said portion having an opening formed there- 30 through, said opening adapted to receive the

aforesaid pin, the teeth on said elongated portion adapted to mesh with the teeth of said gear, and means for rotating the gear, as set forth.

2. In a blind-operating mechanism, the 35 combination of the window-casing, the plate 4 composed of two parts and mounted thereon, the shaft extending through said casing and journaled in said plate, the gear mounted upon the outer end of said shaft adjacent to 40 said plate, the plate 14 secured upon the blind, said plate having an elongated rack portion 15 with teeth adapted to mesh with the teeth of said gear, the plate 19 mounted upon the inner side of said casing in which plate 45 the inner portion of the shaft is journaled, the pinion secured to the shaft adjacent to said plate 9, the crank 10 keyed upon said shaft, the arm 12 pivoted to the casing adjacent to said shaft, said arm having fingers 12 50 and a lifting device as 13, the hinge for supporting the upper portion of the blind, and the parts adapted to operate substantially as set forth.

In testimony whereof I affix my signature 55 in presence of two witnesses.

SAMUEL G. HUTCHINSON.

Witnesses:

MOSES M. JONES,

BURTT T. HUTCHINSON.