No. 636,555. Patented Nov. 7, 1899.

E. PROBST.

SHUTTER WORKER.

(Application filed Aug. 9, 1899.)

(No Model.)

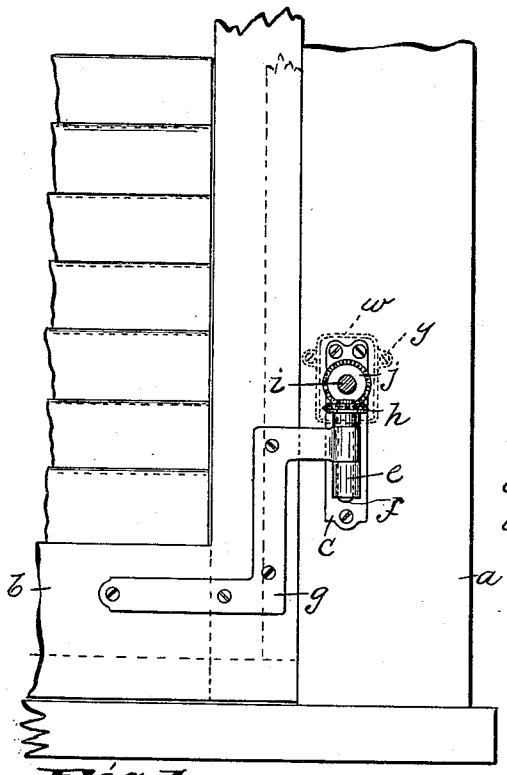


Fig. 1.

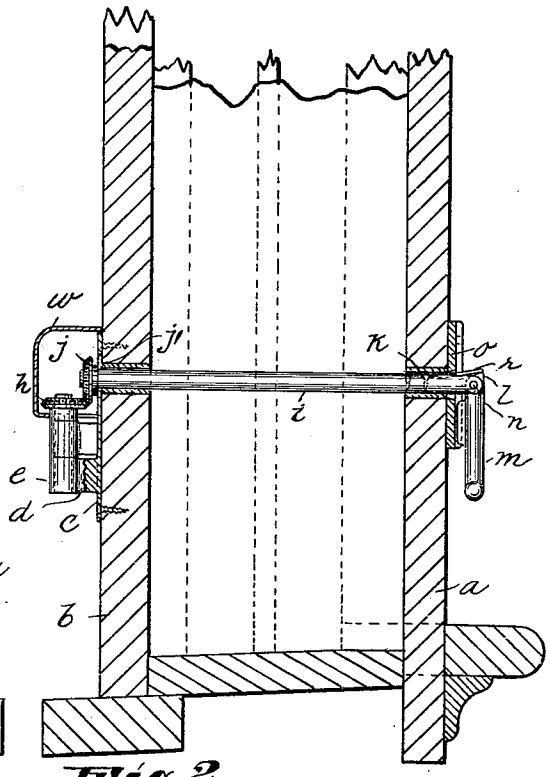


Fig. 2.

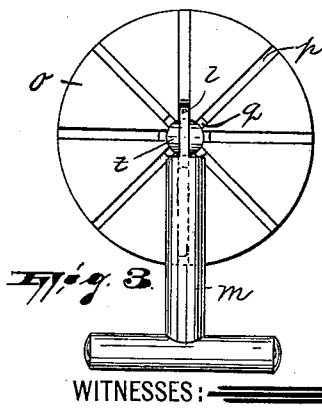


Fig. 3.

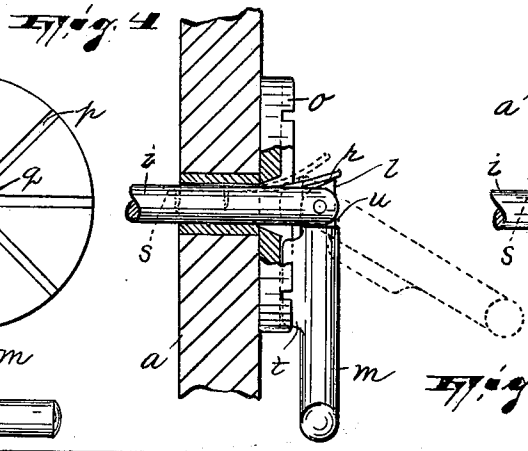


Fig. 4.

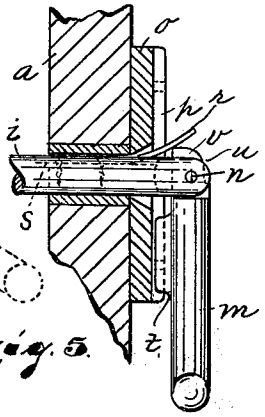


Fig. 5.

WITNESSES:

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SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 636,555, dated November 7, 1899.

Application filed August 9, 1899. Serial No. 726,627. (No model.)

To all whom it may concern:

Be it known that I, EMMET PROBST, a citizen of the United States, residing in Paterson, in the county of Passaic and State of New Jersey, have invented a certain new and useful Improvement in Shutter-Workers; 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, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to shutter-workers; and its object is to provide a device of this nature which shall be simple and inexpensive in construction and whereby the blind or shutter may be positively and quickly secured in any desired position from the inside of the apartment without raising the sash or moving any other similar part.

The invention consists in the improved shutter-worker adapted for operating the shutter or blind from the inside and in the combination and arrangement of its various parts, substantially as will be hereinafter pointed out, and finally embodied in the clauses of the claim.

My invention is fully illustrated in the accompanying drawings, wherein corresponding letters of reference indicate like parts, and wherein—

Figure 1 is an outside view of a portion of a window casing and blind and the outside end of my improved shutter-worker operatively disposed in the former and connected to the latter. Fig. 2 is a vertical sectional view of the casing, showing my improved shutter-worker in position, certain parts of the device being also shown in section. Fig. 3 is an enlarged detail view of that portion of the mechanism of my device constituting the locking means. Fig. 4 is a side view of that portion of my device which is shown in Fig. 3, certain parts being represented in section; and Fig. 5 is a view similar to Fig. 4, illustrating a certain modification of what is shown in said Fig. 4.

The window-casing is designated by the reference-letter *a* in the accompanying drawings, while *b* indicates the blind or shutter.

The upper hinge for the blind may be of any well-known and suitable pattern. One member of the lower hinge consists of a plate *c*, which may be secured to the outer face of the casing by screws or as otherwise desired and from which projects an integral arm *d*, having a cylindrical projection *e* at its end, which receives the spindle *f* of the other member of the hinge, this member consisting of a plate *g*, carrying said spindle at its free end and secured to the outside of the blind. The upper end of the spindle *f* carries a bevel-wheel *h*, which is rigidly secured thereto in any desired manner. This bevel-wheel may also, of course, be formed with the end of member *g* of the hinge, if desired, the spindle in this instance only projecting downwardly, of course.

i is a shaft that is journaled in the window-casing *a*, its outer end carrying a bevel-wheel *j*, which meshes with the bevel-wheel *h*, and its inner end protruding through the inner portion of the casing. In order to provide efficient bearings for this shaft, metallic sleeves *k* may be mounted in the casing and receive said shaft.

If the bevel-wheel *j* is integrally formed upon the outer end of the shaft *i*, the plate *c* may be provided with an elongated vertical orifice *j'* for the reception of the shaft. This slot affords a loose bearing for the shaft, so as to facilitate the assembling of the parts. The inner end of the shaft is bifurcated and receives the reduced flattened end *l* of a T-shaped handle *m*, said reduced flattened end being hinged between the bifurcations of the shaft upon a pivot *n*, that connects said bifurcations. It should be remarked that the surface of the body of the handle *m* is flush with the surface of the shaft when the handle is in its extended position relatively to said shaft. Upon the inner face of the casing and penetrated by said shaft *i* is a disk *o*, said disk being provided with a series of radial slots *p* upon its outer face and in its inner circular surface with a series of notches *q*, coinciding with said slots. This plate may be secured in position by screws.

r designates an elongated plate-spring which is set in the slot *s*, formed near the inner end of the shaft *i*, said spring being secured in the slot preferably by screws. The

outer surface of this spring lies flush with the surface of the shaft when at rest in the slot; but when its free end is appreciably lifted the spring is raised out of the slot and immediately engages one of the notches q in the plate.

The handle m is provided with a longitudinal rib t or other projection, which is adapted to engage one of the slots p when said handle is in its folded position—that is to say, in the position shown in the drawings.

The plate-spring r is made long enough to project over the hinge formed between the handle and the shaft, and it is adapted to bear against either the free end edge of the former or upon the upper surface of its flattened reduced end. In order, therefore, that the free end of the spring may lie flush with the surface of the shaft when the handle is in its extended position, the reduced flattened end of the latter is cut out, as at u, to receive the spring. In order to augment the action of the spring in maintaining the handle in its folded position, the free edge of the flattened extension of the latter is inclined, its highest point being adjacent the outer edge of said flattened end.

It will be seen that in order to operate my improved shutter-worker it is only necessary, assuming that the handle is in its folded position and engaging one of the slots in the disk, to turn said handle to its extended position, where it can be most efficiently employed to rotate the shaft i and consequently work the shutter or blind. When the blind has been moved to the position desired, the handle is folded back into engagement with another slot in the disk. It will be observed that the spring r coacts as a temporary detent with the notches q to provide an immediate securing means for the blind directly the latter has been moved to the position desired and the handle turned in the slightest degree toward its extreme folded position. This arrangement renders the shutter-worker a device that can be used with the greatest facility where wind or some other force tends to move the blind before the handle can be folded back to its permanent locking position. Furthermore, it acts more or less to guide the projection t toward that slot in the plate which marks the position originally selected for the blind to maintain.

In the modified form of the invention shown in Fig. 5 the free edge of the flattened reduced end of the handle, instead of being inclined, as shown in Fig. 4, is rounded, a cam edge, as at v, being produced. In this instance the plate-spring r, constituting the detent, does not assume its position in the slot of the shaft when the handle takes its folded position, but it constantly engages a notch so long as the handle is not extended.

In order to protect the gearing which connects the shaft with the hinge member g, I have provided a box-like case w, having two of its adjacent sides removed. This case is shown in dotted lines in Fig. 1 and in full lines in Fig. 2, and it is provided with ears y for receiving the screws whereby the case is secured in position to the outside of the window-casing, one open side thereof being adjacent the hinge for the accommodation of the bevel-wheel h and its adjacent parts and the other being adjacent the face of the window-casing for the accommodation of the shaft, its bevel-wheel, and the plate c.

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

1. The combination, with a window-casing, a blind, and a hinge sustaining said blind on the casing, of a shaft journaled in said casing and projecting through the same, operative connection between said shaft and the movable member of the hinge, a handle pivotally connected to the inner end of the shaft and provided with a projection, said handle being adapted to assume a position in longitudinal extension of the shaft or a folded position relatively thereto, a spring carried by the shaft and bearing against the handle to hold the latter in either of said positions and a radially-slotted disk secured to the inner face of the casing, and adapted to be engaged by the projection of the handle when the latter is in its folded position, substantially as described.

2. The combination, with a window-casing, a blind, and a hinge sustaining said blind on the casing, of a shaft journaled in said casing and projecting through the same, intermeshing bevel-wheels secured upon the outer end of said shaft and the hinge, a handle pivotally connected to the inner end of the shaft and provided with a projection, a spring carried by the shaft and bearing against the hinged end of the handle, and a radially-slotted disk secured to the inner face of the casing, said handle being adapted to assume a folded position with its projection engaging one of the slots in said disk, substantially as described.

3. The combination, with a window-casing, a blind, and a hinge sustaining said blind on the casing, of a shaft journaled in said casing and projecting through the same, intermeshing bevel-wheels secured upon the outer end of said shaft and the hinge, a handle pivotally connected to the inner end of the shaft and provided with a projection, a spring carried by the shaft and bearing against the hinged end of the handle, a radially-slotted disk secured to the inner face of the casing, said handle being adapted to assume a folded position with its projection engaging one of the slots in said disk, and a case inclosing the intermeshing gears and secured to the outside of the window-casing, substantially as described.

4. The combination, with a window-casing, a blind, and a hinge sustaining said blind on the casing, of a shaft journaled in said casing and projecting through the same, opera-

tive connection between said shaft and the movable member of the hinge, a handle pivotally connected to the inner end of the shaft and provided with a projection, said handle being adapted to assume a position in longitudinal extension of the shaft or a folded position relatively thereto, a spring carried by the shaft and bearing against the handle to hold the latter in either of said positions, and a radially-slotted disk secured to the inner face of the casing, penetrated by the shaft and adapted to be engaged by the projection of the handle when the latter is in its folded position, said disk being provided with a series of notches adapted to be engaged by said spring, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of August, 1899.

EMMET PROBST.

Witnesses:
LOUIS PROBST,
JOHN W. STEWARD.