O. Paddock,

Blind Stop.

No. 82,980. Patented Oct. 13, 1868.

Fig. 1

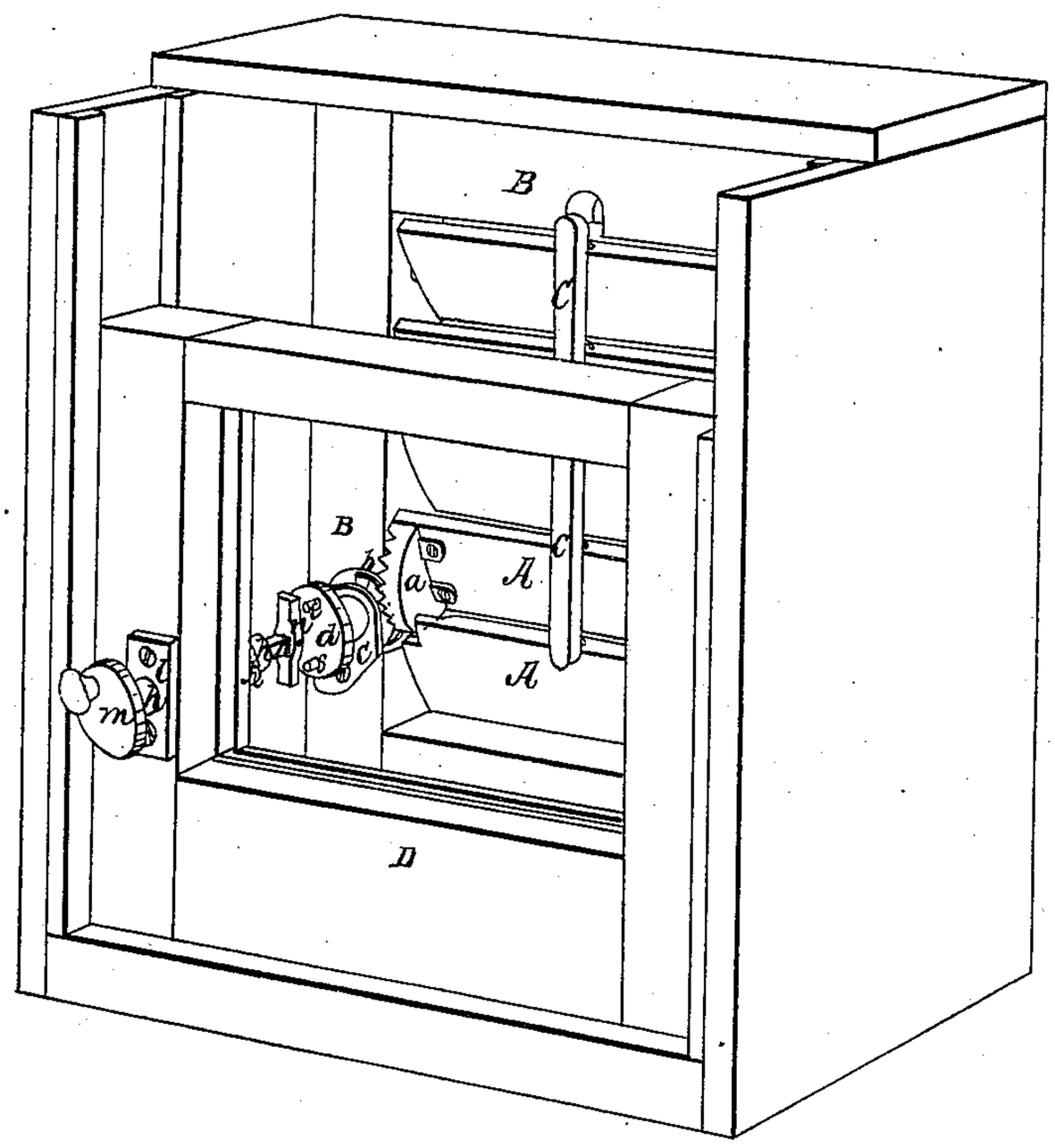
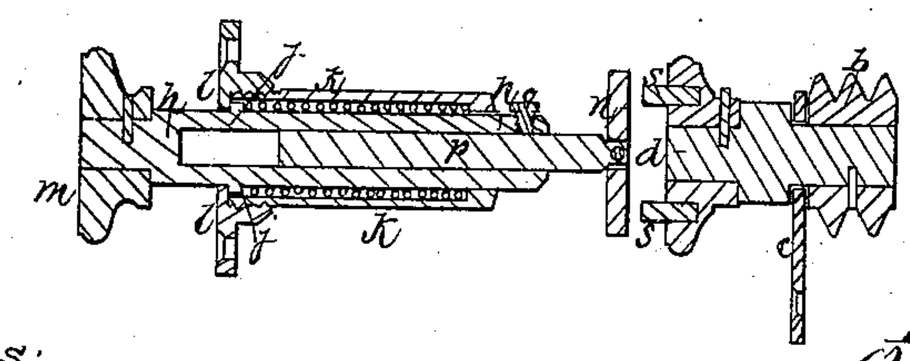


Fig. 2



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OSCAR PADDOCK, OF WATERTOWN, NEW YORK.

Letters Patent No. 82,980, *dated October* 13, 1868.

IMPROVEMENT IN BLIND-SHUTTER FASTENING.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, OSCAR PADDOCK, of Watertown, in the county of Jefferson, and State of New York, have invented certain new and useful Improvements in Blind-Slat Fasteners; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a window and blind to which my improvements are applied.

Figure 2 is a longitudinal section of the mechanism for operating the blind-slats.

My invention relates to devices for opening and closing the slats of Venetian and other blinds, and its object is to produce a device or mechanism of this nature, which will hold the slats at any desired angle, so as to either wholly or partially close them, and which, at the same time, may be operated either with or without raising the window-sash. To this end, my invention, in the main, consists in the combination, with a toothed segment, attached to one of the blind-slats, (which are connected together in the usual manner,) of an endless screw, mounted in bearings formed in the blind-frame, and engaging with the toothed segment in such manner that, when revolved, it shall cause the partial rotation of the segment, and, consequently, of the slats, with which the latter is connected. By turning, therefore, the screw, the slats may be more or less opened or closed, as circumstances require, while the combination of the parts is such that the screw will securely hold the segment and slats in any desired position without the employment of any additional fastening-device.

My invention further consists in the combination, with the toothed segment and the endless screw, applied to the window-blind, as described, of a device, such as hereinafter specified, applied to the window-sash, for the purpose of operating the endless screw without rendering it necessary to open the window. This device must, of course, be so constructed and arranged as to engage with the slat-operating mechanism only when occasion demands, being, at other times, held away from the said mechanism, in order to allow the window-sash to be raised or lowered. To this end, I employ a plunger or rod, which passes through and slides in bearings formed in the window-sash, and has formed on one of its ends a bar or finger, which, while adapted to engage with suitable stops or projections on the head or handle of the endless screw, is held away from it by a spring, which causes the retraction of the plunger.

When it is desired to operate the endless screw, the operator presses upon the head of the sliding rod, so as to overcome the resistance of the spring, and push the rod forward until the finger on its ends engages with the stops on the head of the endless screw. As soon as this has been accomplished, the operator, still maintaining the forward pressure, at the same time revolves the plunger in its bearing, causing a corresponding revolution of the endless screw, and the consequent movement of the blind-slats.

It will be seen that a device of this kind is of considerable utility, for the blind-slats may be opened or closed without opening the window, thus avoiding any exposure of the person in cold or rainy weather.

To enable those skilled in the art to understand and use my invention, I will now proceed to more particularly describe the manner in which the same is or may be carried into effect by reference to the accompanying drawings.

In fig. 1, so much only of a window is shown as is needed to illustrate my invention.

The journals of the slats A are mounted in the shutter or blind-frame B in any ordinary or suitable manner, and the slats themselves are connected together, as usual, by the connecting-wire or stick C.

Upon one side, and near one end of the slats A, is mounted a toothed segment, *a*, resembling the segment of a crown-wheel, the teeth being turned towards the neighboring jamb of the frame B. The segment is attached to the slat by means of screws, which pass through ears formed on the segment, and into the slat, as shown in fig. 1.

Adjoining the segment, a recess or mortise is formed in the frame B, for the reception of an endless screw, *b*, which revolves in a bearing-plate, *c*, attached to the blind-frame. The screw is in such position that its thread engages with the teeth of the segment, as seen in the figure referred to, so that, when revolved, it causes the segment *a* to turn in the direction desired, and thus partially or wholly open or close the slats A. Upon the head of the screw is a knob or handle, *d*, by means of which the operator is enabled to move the screw.

When the slats have been set at the required angle by means of the screw, they will be retained firmly and securely in such position by the same means as the teeth of the segment *a* are held by the thread of the screw, which remains stationary, unless moved by hand. It will be seen, therefore, that, by the combination and arrangement of these simple devices, the slats can be adjusted and held in any desired position.

When, however, the devices above named are alone employed, it is necessary to open the window in order to get access to the knob *d*, and this, in cold or rainy weather, may be both inconvenient and unpleasant to do. I have, therefore, devised a means for operating the screw *b* without involving the necessity of raising the window-sash D. The device by which this result is accomplished is represented in detail in fig. 2.

It consists of a rod or plunger, *h*, supported in a tubular case, *k*, in which it is capable of both a longitudinal and rotary movement. It is surrounded by a spiral spring, *i*, or its equivalent, also contained within

the tubular case, which bears at one end against the bottom of the case, and at the other against a shoulder or flange, *j*, on the front end of the rod *h*, and thus holds the flange against the head, *l*, of the case.

Upon the end or head of the rod *h*, which projects from the face *l*, is a knob or handle, *m*, and to its opposite end, which also projects from the case, is attached a finger or follower, *n*. This follower may be secured directly to the rod *h*, but I prefer to attach it to a second rod, *p*, inserted in the rod *h*, (which, for this purpose, is made hollow,) and held in position by means of a set-screw, *o*, the object being to make the rod *p* adjustable, so that it may be drawn out from or pushed back into the hollow plunger *h*, according to the distance which intervenes between the sash D and blind B. I prefer also to hinge or pivot the follower *n* to the rod *p*, so that it may bear equally at all points against the knob *d* of the endless screw.

This device is set in a mortise formed in the window-sash, as shown in fig. 1, so that the follower *n* will be opposite to the knob of the screw *b* on the window-blind, when the said blind is closed, in which position the device is held by means of screws passing through the face-plate *l* into the sash. The rod *p* is then drawn out or pushed back in the plunger *h*, so that its follower *n* will be slightly removed from the knob *d*, when the plunger is held back in the case, as shown in fig. 2, thus allowing the window-sash to be raised or lowered without causing the interference of the knob and follower.

When, however, it is desired to alter the position of the slats A without raising the sash D, the operator places his hand on the knob *m*, and presses forward the plunger *h*, thereby compressing the spring *i* until the follower *n* comes in contact with the face of the knob *d*, from which project one or more stops or shoulders, *s*, as shown in fig. 1. The operator, still maintaining the forward pressure, then revolves the plunger, thus causing the rotation of the follower *n*, which bears against the stops *s*, and thus causes a like movement of the endless screw *b*. The latter, through the segment *a*, effects the movement of the slats, which can thus be readily set at any angle.

When the slats have been opened or closed to the desired extent, the operator removes his hand from the knob *m*, the spring *i* throws back the plunger *h*, and the follower *n* is disengaged from the endless screw.

The device above described, consisting of the plunger *h*, with its appurtenances, may be employed in connection with any other suitable means for operating the slats, instead of with the endless screw, and, as hereinbefore indicated, its construction may be varied.

Having now described my invention, and the manner in which the same is or may be carried into effect,

What I claim, and desire to secure by Letters Patent, is—

1. A device for opening or closing and fastening blind-slats, composed of the herein-described toothed segment, and endless screw for operating the same, the said parts being applied to the blind-slats and shutter or blind-frame, respectively, and combined for operation in the manner shown and specified.

2. The combination, with the hollow plunger, or sliding rod and set-screw, or equivalent device, upon the same, of an auxiliary adjustable rod, supported in said plunger, and provided with a follower, for engaging with the blind-slat fastener, substantially as described, for the purposes shown and specified.

In testimony whereof, I have signed my name to this specification before two subscribing witnesses.

OSCAR PADDOCK.

Witnesses:

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