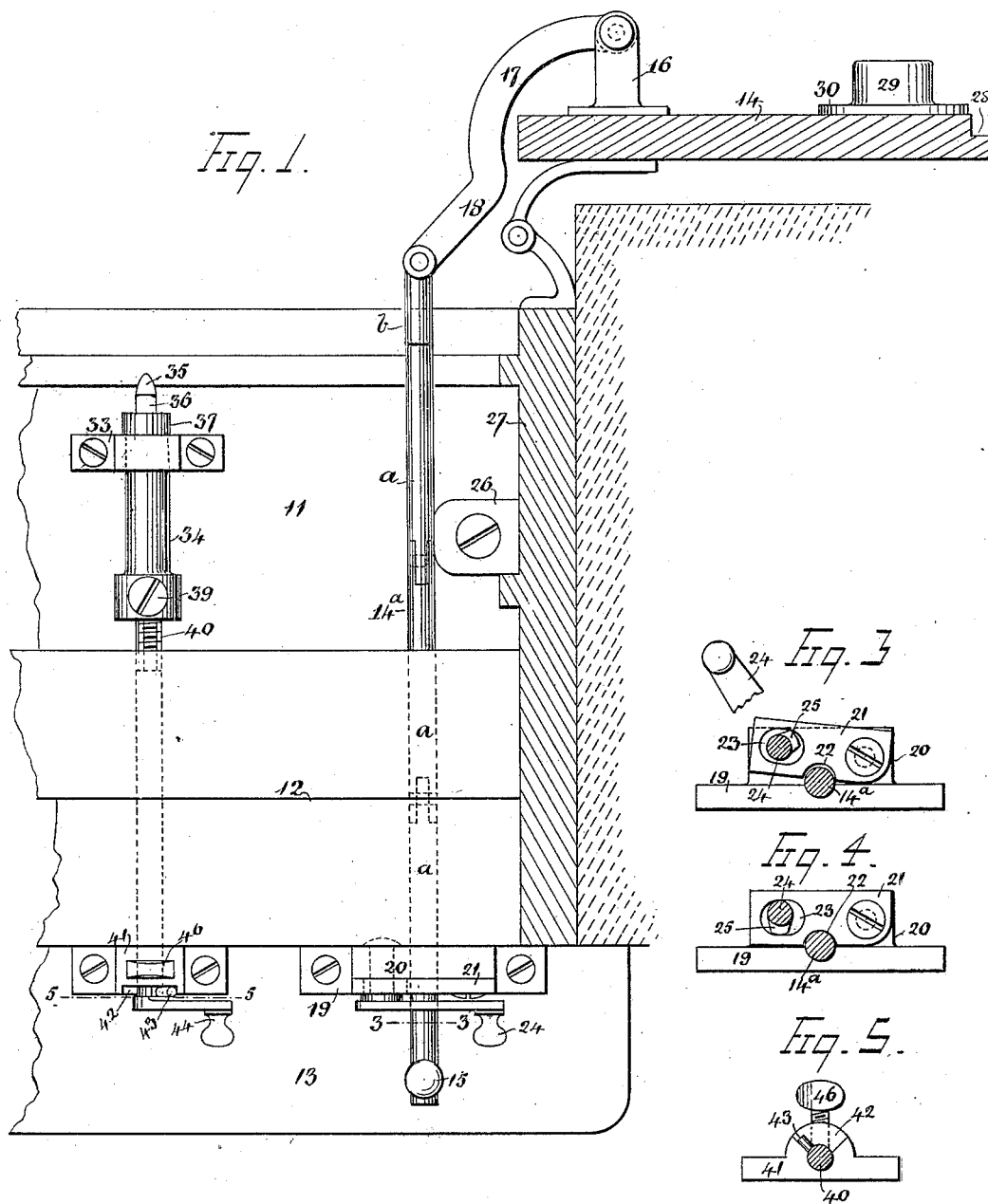


2 Sheets—Sheet 1.

No. 419,789.

Patented Jan. 21, 1890.



H. Walker
C. Sedgwick

INVENTOR:
J. T. M. Sukin
BY *Munn & Co.*
ATTORNEYS.

J. K. McGUKIN.
SHUTTER WORKER.

No. 419,789.

Patented Jan. 21, 1890.

Fig. 2.

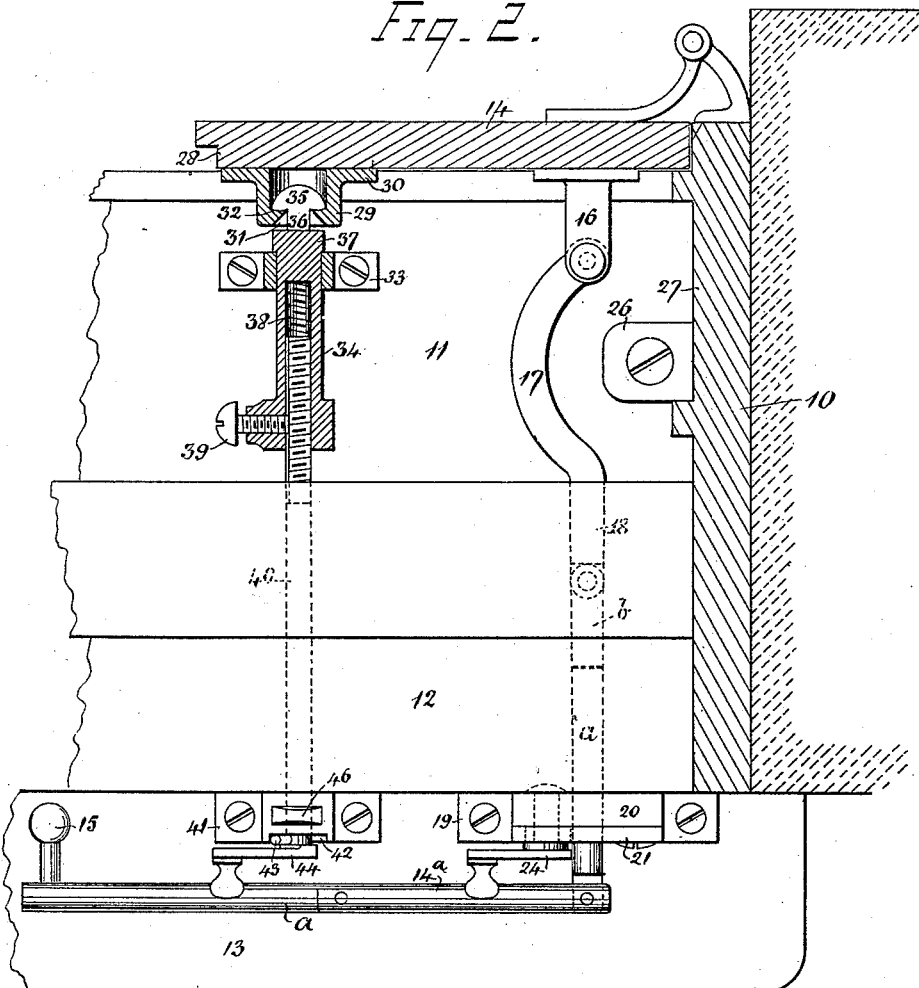
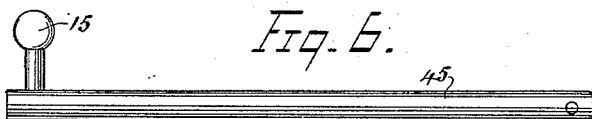


Fig. 6.



WITNESSES:
H. Walker.
C. Sedgwick

INVENTOR:
J. K. McGukin
BY Minn H.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES K. MCGUKIN, OF NEWARK, NEW JERSEY.

SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 419,789, dated January 21, 1890.

Application filed March 18, 1889. Serial No. 303,673. (No model.)

To all whom it may concern:

Be it known that I, JAMES K. MCGUKIN, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Shutter-Workers, of which the following is a full, clear, and exact description.

My invention relates to an improvement in shutter-workers, and has for its object to improve the construction illustrated in Letters Patent granted to myself January 17, 1888, No. 376,539, and November 6, 1888, No. 392,214; and a further object of the invention is to provide a means whereby the window-shutters may be opened or closed from the inside of a room without raising the sash, and locked in any desired position.

Another object of the invention is to provide a means whereby the shutter may be locked from the inside of the window independent of the shutter-worker, and to so construct the several parts that they will be simple, readily manipulated, and capable of being manufactured at a minimum cost.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter more fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters and figures of reference indicate corresponding parts in all the views.

Figure 1 is a partial horizontal section through a window-casing and one shutter hinged thereto, the device being shown in plan view and the shutter as open. Fig. 2 is a similar section, the auxiliary locking device being also in section, illustrating the shutter as closed, and the shutter-worker and auxiliary locking device in the locked position. Fig. 3 is a transverse section taken partially on line 3 3 of Fig. 1, illustrating the locking cam-plate as out of contact with the draw-rod of the device. Fig. 4 is a substantially similar section illustrating the locking cam-plate as contacting with the draw-rod to hold the same in a fixed position. Fig. 5 is a section on line 5 5 of Fig. 1, illustrating a means whereby the movement of the auxiliary locking device is limited; and Fig. 6 is a side ele-

vation of a modification of one section of the draw-rod.

In carrying out the invention the window casing or frame 10 is provided with the usual outer sill 11, frame-sill 12, and inside sill 13. To the outer face of the window-frame, blinds 14 are hinged in the usual manner, the rearward or outward movement of the blinds being limited, if desired, by means of a suitable stop, which stop is not illustrated in the drawings.

In the frame-sill 12, near each vertical stile of the window casing or frame, a transverse aperture is bored, extending from a point above the outer sill 11 to a point immediately above the inner sill 13. In each of the said bores of the frame-sill a draw-rod 14^a is inserted, adapted to move freely backward or forward or to be turned therein, which draw-rod preferably consists of a series of sections *a*, hinged together in such manner that one section, if desired, may be folded upon the other, and an outer small section *b*, which small or outer section is swiveled to the abutting hinged section *a*, as best illustrated in Fig. 1.

The draw-rods may be constructed of steel, brass, iron, or any other desired or suitable material, and are preferably made cylindrical. The inner section, which projects through the inner end of the bore over the inner sill 13, is provided with a knob or handle 15.

At or near the base or lower end of each blind, and adjacent to the hinge-edge of the same, a bracket 16 is attached, having a slotted outer end, in the slot of which bracket a segmental rod 17 is pivoted. The segmental rod 17 is provided at its inner end with an essentially-straight integral arm or member 18, which straight arm or member is pivoted in the outer end of the swivel-section *b* of the draw-rod. The radius of the segmental rod 17 may be varied to accommodate shutters with different styles of hinge, and, if in practice it is found desirable, the segmental rods may be made in two sections hinged with a rule or equivalent joint to break in one direction only. By this means slight differences in the hanging of the shutters may be overcome. For use in connection with new build-

ings, however, the radius of the segmental rods is substantially as shown. In pivoting the said segmental rods in the shutter-brackets 16 a slight play only is given the pivoted end.

Upon the inner sill 13, in front of each of the transverse bores through the frame-sill, a plate 19 is attached to the said inner sill, having a vertical member 20, apertured to permit the passage of the inner end of the draw-rod. Upon one end of the vertical member 20 of the plate 19 a locking-plate 21 is pivoted near one extremity, in such manner that its free end may be conveniently raised and lowered; and in the bottom edge of the locking-plate 21 a circular recess 22 is produced, adapted for contact with the surface of the draw-rod, as best shown in Fig. 3.

In the free end of the locking-plate 21 an oval-shaped or cam opening 23 is longitudinally produced, and in the vertical member of the plate a crank-handle 24 is pivoted, the horizontal member of which projects through the cam-opening 23, and is provided with a cam-faced lug 25, adapted for contact with the walls of the said opening. Thus, for instance, when the handle 24 is carried in one direction the cam-lug 25, acting upon the locking-plate 21, will force the same downward in rigid contact with the draw-rod and prevent the manipulation of the latter. This position of the handle is illustrated in Fig. 1. When, however, the handle is thrown in the reverse direction, as shown in Fig. 2, the locking-plate is elevated from the draw-rod, and the said rod may be manipulated to open or close the shutter, as desired.

The movement of the jointed sections of the draw-rod is controlled and the said section strengthened by means of a guide-block 26, contacting with the outer side of the said draw-rod, which guide-block is located, preferably, within the frame-groove 27 of the upper sash, and is readily attached to the outer sill by means of a screw or equivalent fastening device, as best illustrated in Figs. 1 and 2.

Upon the shutter containing the overlapping rabbet 28, at the inner side and near the said rabbeted edge, a socket 29 is rigidly secured, which socket is provided with a closed outer face and a base 30, for attachment to the shutter. In the outer face of the socket a perpendicular slot 31 is produced, the outer walls of which slot are made to taper inward, as illustrated in Fig. 2, and in the inner surface of the front face of the socket a transverse depression 32 is preferably formed.

Upon the outer sill 11 of the sash-frame, immediately in front of the socket 32 when the blind carrying the said socket is closed, a yoke 33 is firmly attached, as shown in Figs. 1 and 2, in which yoke a horizontal bar 34 is held to slide, provided with a latch-head 35 connected with the body of the bar by a neck 36, the said latch-head being of such shape that it will readily enter the slot or opening 31 in the face of the socket.

The bar 34, which is preferably cylindrical, is limited in its inward movement by means of a collar 37 formed upon its outer end, as best illustrated in Fig. 2. The inner end of the rod 34, which, for convenience, I designate a latch-rod, is provided with a threaded bore 38 and an aperture leading into the said bore threaded to receive a set or thumb screw 39.

A rod 40, which passes transversely through the frame-sill 12, out over the inner sill 13, is threaded at its outer end to enter the bore of the latch-bar, as best shown in Fig. 2, and when the rod 40 is screwed into the latch-bar 34 it is held from turning in any direction within the said bar by means of the set-screw 39 bearing thereon. If, however, it is found desirable in practice, the bore of the latch-bar may be smooth and the outer end of the rod 40 plain, in which event one surface of the rod is flattened and the corresponding or contacting wall of the latch-bar bore is also flattened, the set-screw being adapted to pass through the flattened wall of the bore to a bearing upon the flattened surface of the rod. By flattening, the rod 40 may be more effectively guided to the proper position within the latch-bar.

Instead of employing the yoke 33 as a journal for the latch-bar, the same may be journaled in a cavity formed in a block of wood attached to the outer sill 11, in the upper surface of which block a staple is driven over the latch-bar, whereby if the latch-bar is not exactly in proper alignment with the opening in the socket 29 the staple may be tapped to one side or another with a suitable instrument to guide the latch-bar in the proper direction.

The inner end of the rod 40, attached to the latch-bar, is journaled in a yoke 41, secured to the inner sill 13, adjacent to the inner edge of the frame-sill, as illustrated in Figs. 1 and 2. The inner face of the bow-section of the yoke, as best shown in Fig. 5, is provided with a segmental recess 42, in which recess a pin 43, attached to the rod 40, is held to slide.

When the pin 43 is brought in contact with the inner wall of the recess 42, the latch-head is brought to a horizontal position, and when the said pin contacts with the opposite wall of the recess the latch-head assumes a vertical position. When the latch-head assumes the vertical position, it is capable of entering the opening 31 in the socket, and when in the socket the latch-head is turned to the horizontal position illustrated in Fig. 2 it is prevented from being drawn from the said socket; but in order to provide a more secure lock the rod 40 is drawn inward, whereby the latch-head sinks into the cavity 32 in the inner-face wall of the socket. To facilitate the manipulation of the rod 40 of the latch-bar, the former is provided at its inner end with a crank arm or handle 44.

If in practice it is found desirable, instead of making the draw-rod in three jointed sec-

tions, as illustrated in Figs. 1 and 2, the said draw-rod may be made in two jointed sections only, the outer section being then formed as illustrated at 45 in Fig. 6, or the only break in the rod may be at the swivel. To secure the rod 40 and the latch-bar 34 in a fixed position, a set or thumb screw 46 is screwed into the top of the yoke 41, to a contact with the rod 40 to the rear of the pin 43.

In operation, when the parts are in the position illustrated in Fig. 1—that is, when the shutter is open fully and the draw-rod locked to sustain the shutter in such open position—to close the shutter, the handle 24 of the locking device used in connection with the rod is thrown over to the left, whereby the cam-plate 21 is elevated, as shown in Fig. 3, and detached from the rod. The rod may now be drawn inward, whereupon the shutter is carried to the closed position, and when both draw-rods have been thus manipulated to close both shutters of the window-frame the third jointed section will just project over the inner sill, whereupon the two now inner jointed sections *a* of the draw-rod may be disposed upon the inner sill 13 in any desired position—as, for instance, longitudinally of the same, as shown in Fig. 2; or the inner sections of the rod may be turned upward against any convenient vertical support. The swivel-connection of the outer section *a* of the draw-rod with the extreme outer section *b* permits the hinged sections to be turned in any direction. The handles 24 may now be carried again over to the right, locking the draw-rods in this closed position, and when the cam-plate is forced down to a contact with the base-plate 19 and the surface of one of the rod-sections it serves to prevent any air passing through the apertures in the frame-sill into the room.

Prior to closing the shutters as above described the handle 44 of the auxiliary locking device is carried to the right and the rod 40 pushed outward as far as possible, whereby the latch-head 35 is made to assume a perpendicular and vertical position, as illustrated in Fig. 1. Thus, as the shutters are closed, the said latch-head will enter the opening 31 in the socket 29. The handle 44 is then turned to the left, which causes the latch-head to assume a horizontal position within the socket, and the rod 40 is drawn slightly inward to cause the said latch-head to contact with the walls of the cavity 32.

The set-screw 46 is then forced down to its locked position, and the rod 40 and latch-bar 34 are effectually prevented from turning in either direction.

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

1. In a shutter-worker, the combination, with a window-frame and a shutter hinged to the said frame, provided with a horizontal bracket upon one face, of a jointed rod held to slide over the outer and inner sill of the frame, provided with an outer swiveled section, a guide attached to the frame contacting with the said rod, a segmental bar hinged to the swiveled section of the draw-rod and to the bracket of the shutter, and a cam-actuated locking-plate capable of rigid contact with the inner end of the draw-rod, all combined for operation substantially as shown and described.

2. In a shutter-worker, the combination, with a window-frame and a shutter hinged to the said frame, provided with a horizontal bracket upon one face, of a jointed rod held to slide over the outer and inner sill of the frame, provided with an outer swiveled section, a guide attached to the frame contacting with the said rod, a segmental bar hinged to the swiveled section of the draw-rod and to the bracket of the shutter, a plate secured to the inner sill, having a vertical member apertured to permit the passage of the draw-rod, a locking-plate hinged upon the said vertical member of the plate at one end, provided with a cam-opening in its free end, a crank-arm journaled in the said vertical member of the plate, passing through the cam-opening of the locking-plate, and provided with a cam-faced stud or pin adapted for contact with the walls of the said cam-opening, all combined for operation substantially as shown and described.

3. In a shutter-worker, the combination, with a draw-rod, of the pivoted locking-plate provided with the recess 22 in its lower edge and with the oval opening 23 in its free end, and the crank-handle 24, projecting through the opening of the locking-plate and provided with the cam-faced lug 25, substantially as herein shown and described.

JAMES K. MCGUKIN.

Witnesses:

HORACE W. HUNT,
ALEXANDER D. DOUGLAS.