(No Model.)

C. WAGNER.

SHUTTER WORKER.

No. 570,577. Patented Nov. 3, 1896.

Fig. 1.

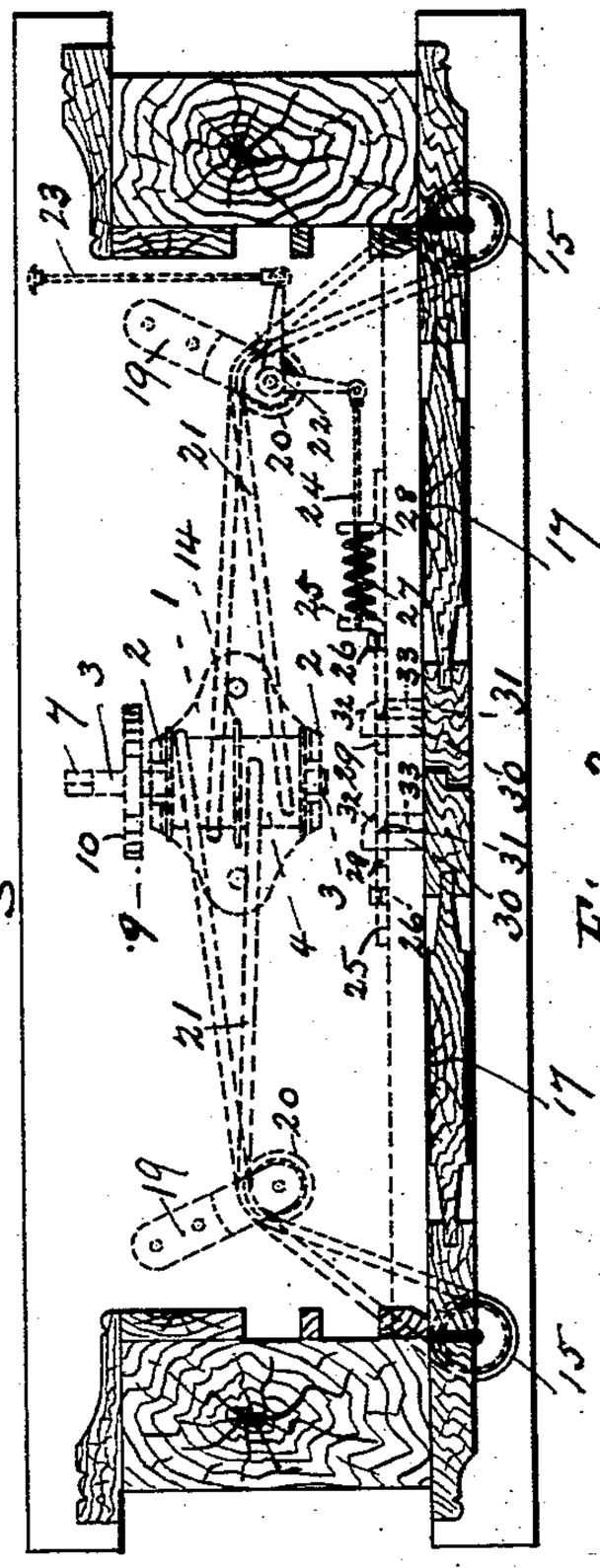


Fig. 2.

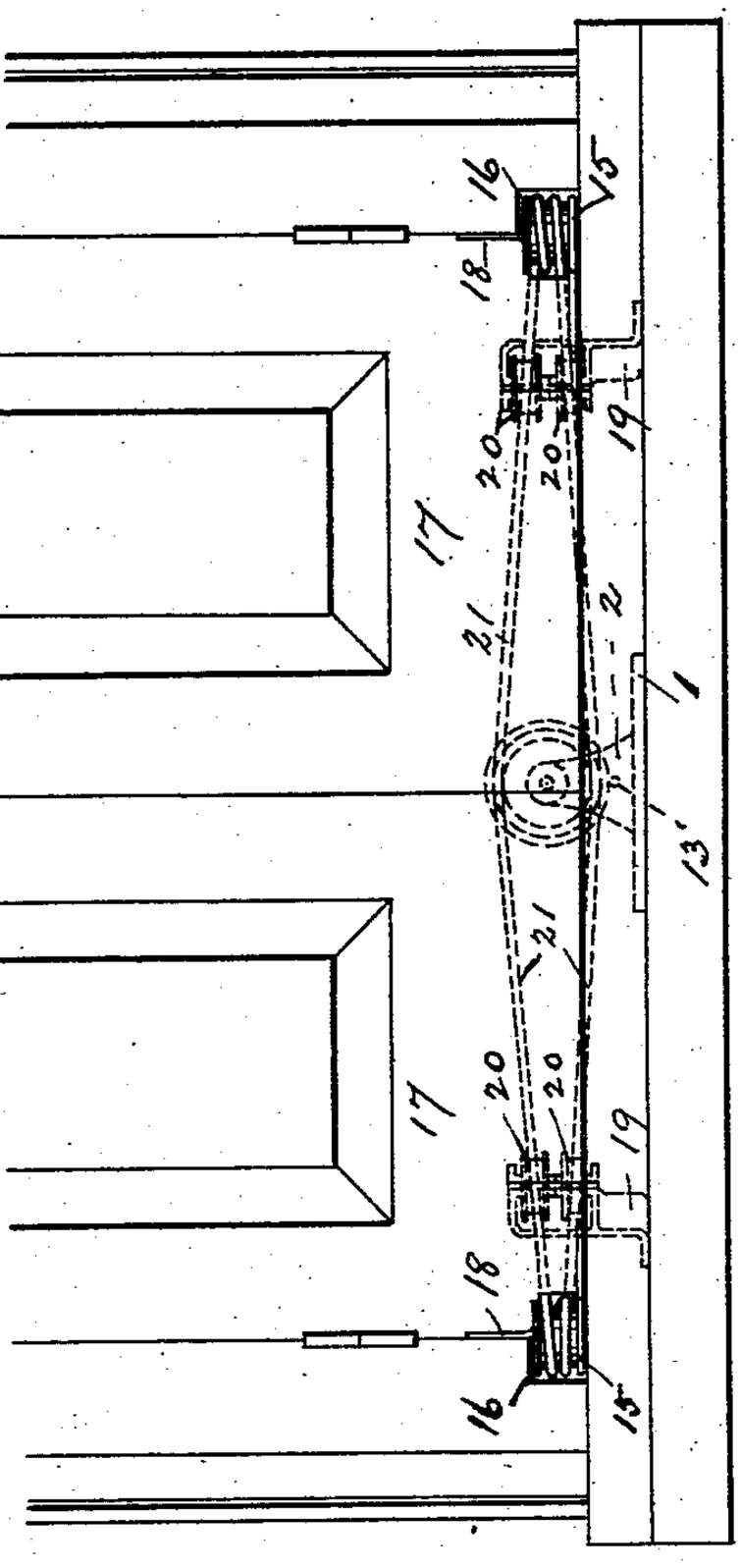
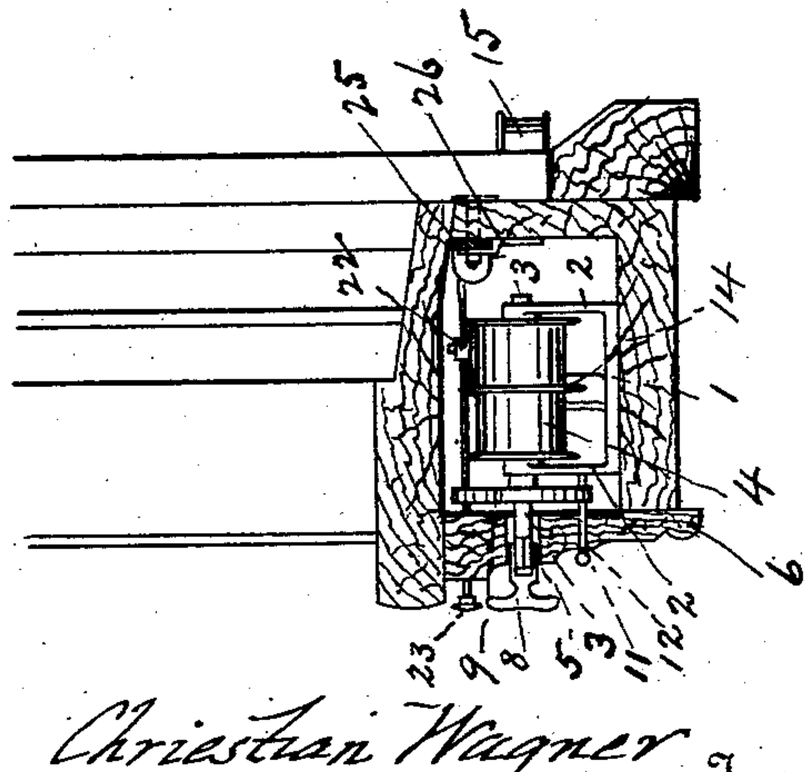


Fig. 3.



Witnesses
Chas. A. Lemmett
Allen Bucks.

Christian Wagner Inventor

By Attorney J. H. Stewart

UNITED STATES PATENT OFFICE.

CHRIESTIAN WAGNER, OF READING, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN E. EVERLINE, OF SAME PLACE.

SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 570,577, dated November 3, 1896.

Application filed April 20, 1896. Serial No. 588,269. (No model.)

To all whom it may concern:

Be it known that I, CHRIESTIAN WAGNER, a subject of the Emperor of Germany, residing at Reading, county of Berks, State of Pennsylvania, have invented certain Improvements in Shutter-Workers, of which the following is a specification.

My invention relates to shutter-workers, and has for its object to improve the construction of this class of devices whereby both shutters may be opened or closed simultaneously from the inside of the building without opening the window and be locked in any desired position.

My invention also includes a supplemental locking device for the shutters when closed, also operated from the inside of the building. The invention consists of the construction and arrangement of the several operative parts, as will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional plan view of a window frame and shutters embodying my invention. Fig. 2 is a front elevation, looking from the outside, of the lower portion of a window-frame and closed shutters; and Fig. 3 is a vertical transverse sectional view of the lower portion of the window-frame.

Similar reference-numerals indicate similar parts in the respective figures.

In the boxing of the window-frame below the window-sill a casting 1 is secured about midway of its length. This casting, which is located below and in rear of the shutters, has two vertical arms 2 2, which serve as bearings for the journals 3 of a drum 4. One of the journals projects beyond its bearing-arm into an opening 5, formed in the beading 6 below the window-sill, and the end of this projecting journal is of a square or other angular form, as indicated at 7, to receive a key 8, by means of which the drum may be turned. On the projecting journal, between the inner face of the beading 6 and the adjacent bearing-arm 2, a disk 9 is mounted to turn with the journal and drum, and is provided with a series of recesses in its periphery, as indicated by 10, and a removable pin 11 passes through an opening 12 in the beading and one of the recesses of the disk into an opening 13 in the adjacent bearing-arm. The drum can therefore be locked in any position by the pin 11. The drum is provided with a dividing-flange 14 midway of its length.

15 15 represent pulleys journaled to revolve in recesses 16, formed in the lower corners of the shutters 17 17 and the window-frame. Each pulley 15 is provided with a vertical arm 18, extending upwardly from its upper face and secured to the edge of the shutter. These arms may be integral with or secured rigidly to the pulleys, as desired. When the pulleys are turned on their axes, the shutters will move with them, the axes of the pulleys and the shutter-hinges being coincident.

19 19 are brackets secured in the boxing on either side of the drum 4, and in each of these brackets two superimposed and independently-movable guide-pulleys 20 20 are journaled.

21 21 represent cables which may be of any desired material. Each of these cables is attached at one end to the drum 4 at one side of the dividing-flange 14, and they lead therefrom, one over and the other under the drum 4 and one to the right and the other to the left. Each cable then passes round one of the guide-pulleys 20, thence to one of the pulleys 15, around which two or three coils are made to prevent slipping, thence back to the other guide-pulley 20, and thence to the drum 4 on the other side of the flange 14, from which it started, where it is secured. In returning to the drum one cable will lead under and the other over it.

From the foregoing it will be seen that by a slight rotation of the drum 4 the shutters may be opened or closed simultaneously and locked in any desired position by means of the pin 11, which prevents rotation of the drum.

Pivoted on the top of one of the brackets 19 is a bell-crank 22, from one arm of which a pull-rod 23 extends through the beading 6 below the window-sill. The other arm of the bell-crank is connected by a rod or wire 24 to a sliding bolt 25, supported in suitable bearings 26 26 inside the boxing. A coiled spring 27 surrounds the rod 24 between the end of the bolt 25 and a stop 28. The bolt is provided

with two notches or recesses 29 29 to permit the heads of the hooks 30 30, attached to the shutters, to pass in order that they may engage the inner face of the bolt and lock the shutters in a closed position. The window-frame is provided with openings 33 33 for the passage of the hooks. One side wall of each recess is beveled, as indicated at 31, and the head of each hook is also beveled, as indicated at 32, and when the shutters are closed these beveled surfaces will ride over each other and move the bolt laterally against the force of the spring 27 until the heads have passed entirely through the recesses, when the spring will return the bolt and thereby automatically lock the parts together. In order to release the hooks, the bell-crank 22 is operated by the pull-rod 23 sufficiently to disengage the bolt from the heads of the hooks, when they will be free to move out of the recesses 29 when the shutters are opened.

While I have illustrated and described herein a shutter-fastener, I desire to say that it forms no part of the present invention.

Having described my invention, I claim—

1. In a mechanism to simultaneously operate double shutters, the combination of a drum journaled in bearings in the boxing of the window-frame, below and in rear of the shutters, said boxing having an opening into which one of the journals of the drum projects, pulleys connected to the hinged edges of the shutters, cables to transmit movement from the drum to the pulleys, intermediate guide-pulleys between the drum and the shutter-pulleys, a device to engage the projecting journal of the drum to operate the latter, a disk mounted on one of the drum-journals to revolve therewith, said disk having recesses in its periphery, and a locking-pin to enter one of the recesses in the disk to lock the drum and shutters in position, substantially as described.

2. In a mechanism to simultaneously operate double shutters, an intermediate drum journaled in bearings in the boxing of the window-frame, below and in rear of the shutters, a pulley connected to the hinged edge of each shutter, guide-pulleys intermediate of the drum and the shutter-pulleys, cables leading in opposite directions from one end of the drum, one over and the other under the drum, round the guide-pulleys to the shutter-pulleys and thence back around the guide-pulleys to the other end of the drum to which they are attached, and a device to operate the drum, substantially as described.

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

CHRIESTIAN WAGNER.

Witnesses:
W. G. STEWART,
ADAM L. OTTERBEIN.