

(No Model.)

T. KOCHKA.
SHUTTER WORKER.

No. 542,059.

Patented July 2, 1895.

FIG. 2.

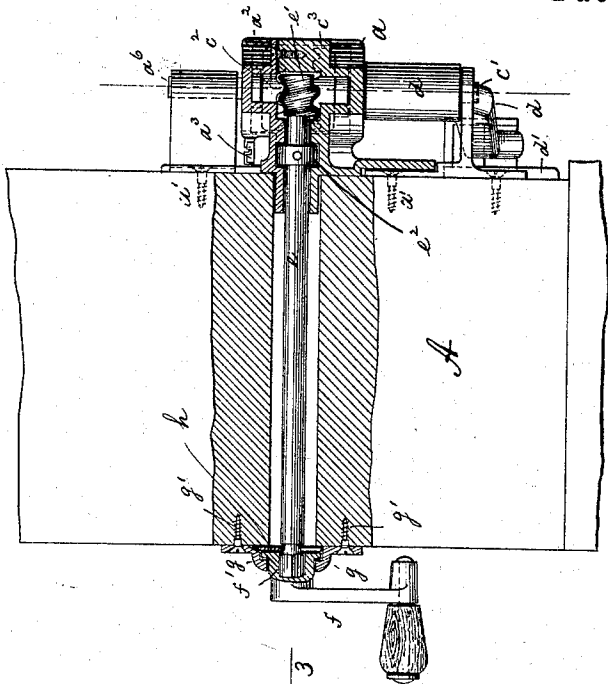
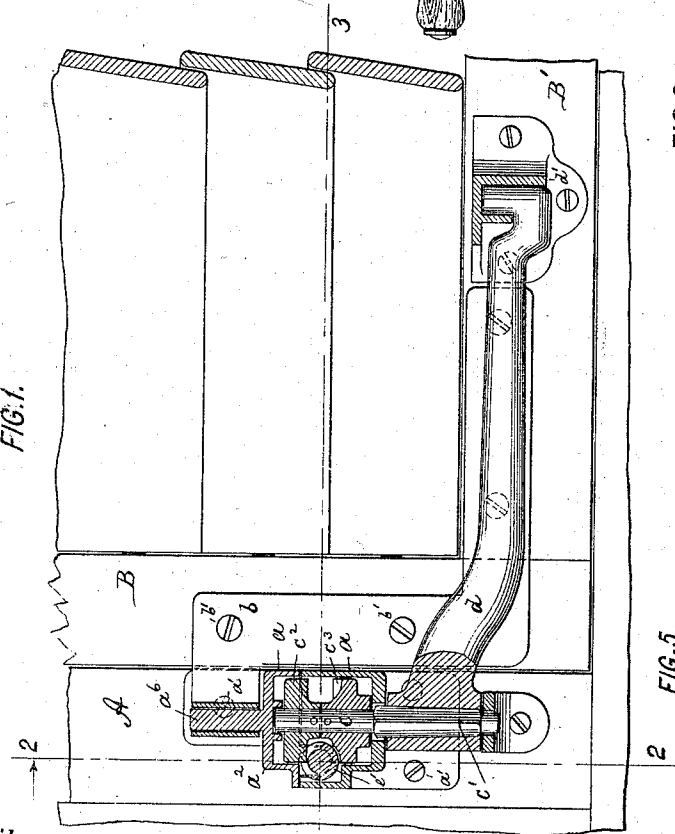


FIG. 1.



Witnesses:
John Becker
Theodore Becker.

FIG. 4.



FIG. 3.

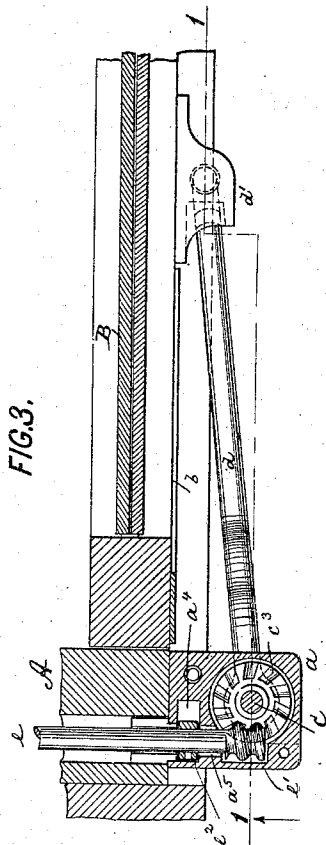
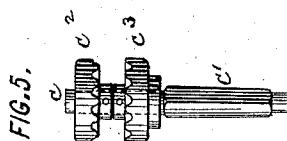


FIG. 5.



Inventor:
Thomas Kochka
by his attorneys
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UNITED STATES PATENT OFFICE.

THOMAS KOCHKA, OF JERSEY CITY, NEW JERSEY.

SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 542,059, dated July 2, 1895.

Application filed March 27, 1895. Serial No. 543,314. (No model.)

To all whom it may concern:

Be it known that I, THOMAS KOCHKA, of Jersey City, New Jersey, have invented an Improved Shutter-Worker, of which the following is a specification.

This invention relates to a shutter-worker for opening and closing blinds and shutters and for holding them at any angle to which they may be opened.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of my improved shutter-worker on line 1 1, Fig. 3. Fig. 2 is a vertical transverse section on line 2 2, Fig. 1; Fig. 3, a horizontal section on line 3 3, Fig. 1; Fig. 4, a detail of washer *h*, and Fig. 5 a detail of spindle *c*.

The letter *A* represents a window-frame, and *B* is the shutter hinged thereto as usual.

To the outer side of frame *A* there is attached a socket *a* by means of the screws *a'*. This socket is closed by a cap *a²*, provided with a lubricating-opening, which is closed by a screw-plug *a³*. The lubricant flows from this opening into an oil-chamber *a⁴*, which connects with the interior of the socket *a* by a neck *a⁵*. From the upper side of the cap *a²* projects a spindle *a⁶*, that forms the pivot for the eye of the hinge-strap *b*, screwed to the shutter *B* at *b'*.

Within the socket *a* is hung a vertical spindle *c*, the upper end of which is journaled in cap *a²*, while its lower end *c'* is squared and projects out of the perforated bottom of socket *a*. The end *c'* of the spindle is engaged by the squared perforation of an arm *d*, the free end of which enters behind a hook-shaped plate *d'*, screwed to the bottom rail *B'* of shutter *B*.

The spindle *c*, carries within the socket *a* two worm-wheels *c² c³*, the teeth of which face each other, Fig. 5. These teeth are engaged by the worm *e'* of a horizontal shaft *e*, that

passes transversely through a bore of the frame *A* and is held against longitudinal displacement by a collar *e²*, that engages the oil-chamber *a⁴*. On the inner side of the frame *A* the squared end of shaft *e* is engaged by the squared socket *f'* of a crank-handle *f*. The socket is surrounded by a cap *g*, that is screwed to the frame *A* at *g'*, and holds the handle to the shaft. A slotted washer *h* straddles the shaft *e* within the cap *g*, and is prevented from rotating by a projection *h'*, which engages a corresponding notch of the cap.

In use, a revolution of the handle *f* to the right or left will revolve the worm-shaft *e*, and consequently the spindle *c*, intergeared therewith. The spindle *c* will in turn vibrate the arm *d* to either open or close the shutter. The shutter can at any time be raised off its hinges without first disconnecting the shutter-worker, because the hook-shaped plate *d'* is not attached to the free end of the arm *d*.

What I claim is—

1. The combination of socket *a*, and cap *a²*, having pintle *a⁶*, with a hinge strap hung upon said pintle and adapted to be secured to the shutter, and with a worm shaft, a spindle intergeared therewith, and an arm connected to the spindle and adapted to engage the shutter, substantially as specified.

2. The combination of socket *a*, having an oil chamber *a⁴*, and neck *a⁵*, that connects said chamber with the interior of the socket, with a worm shaft having a collar *e²*, engaging the oil chamber, a spindle intergeared with said shaft, and an arm connected to the spindle and adapted to engage the shutter, substantially as specified.

THOMAS KOCHKA.

Witnesses:

F. v. BRIESEN,
WILLIAM SCHULZ.