

H. VON LANGEN & ADAM ROBB.

Improvement in Rolling Shutters.

No. 123,802.

Patented Feb. 20, 1872.

Fig. 1.

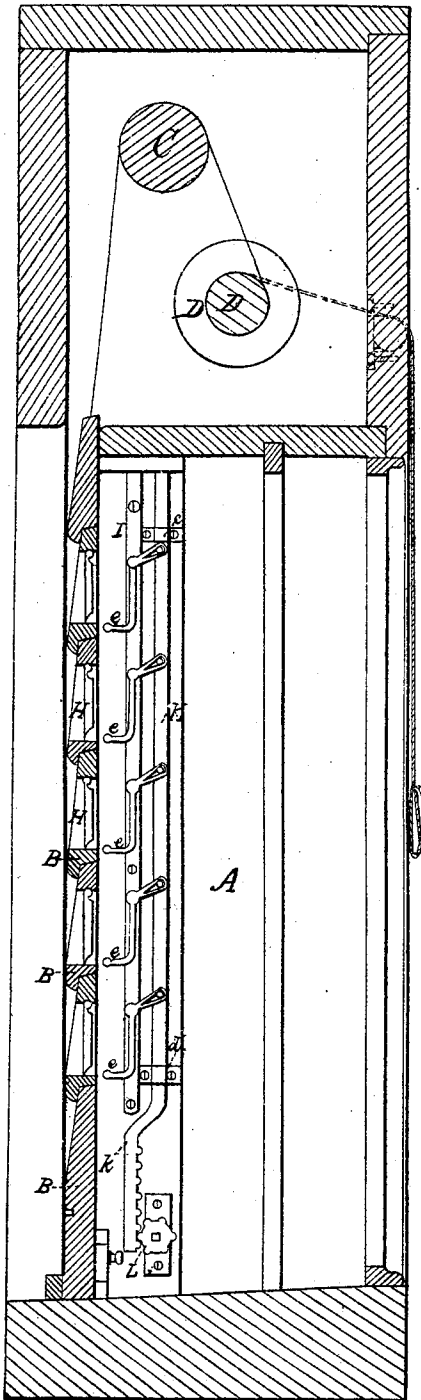
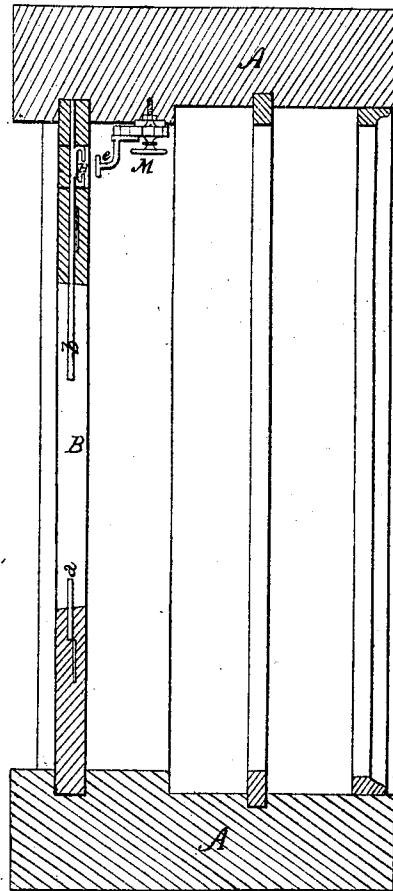


Fig. 2.



Witnesses
Edward Hill
Samuel C. Dale

Inventors
Adam Robb
H. von Langen

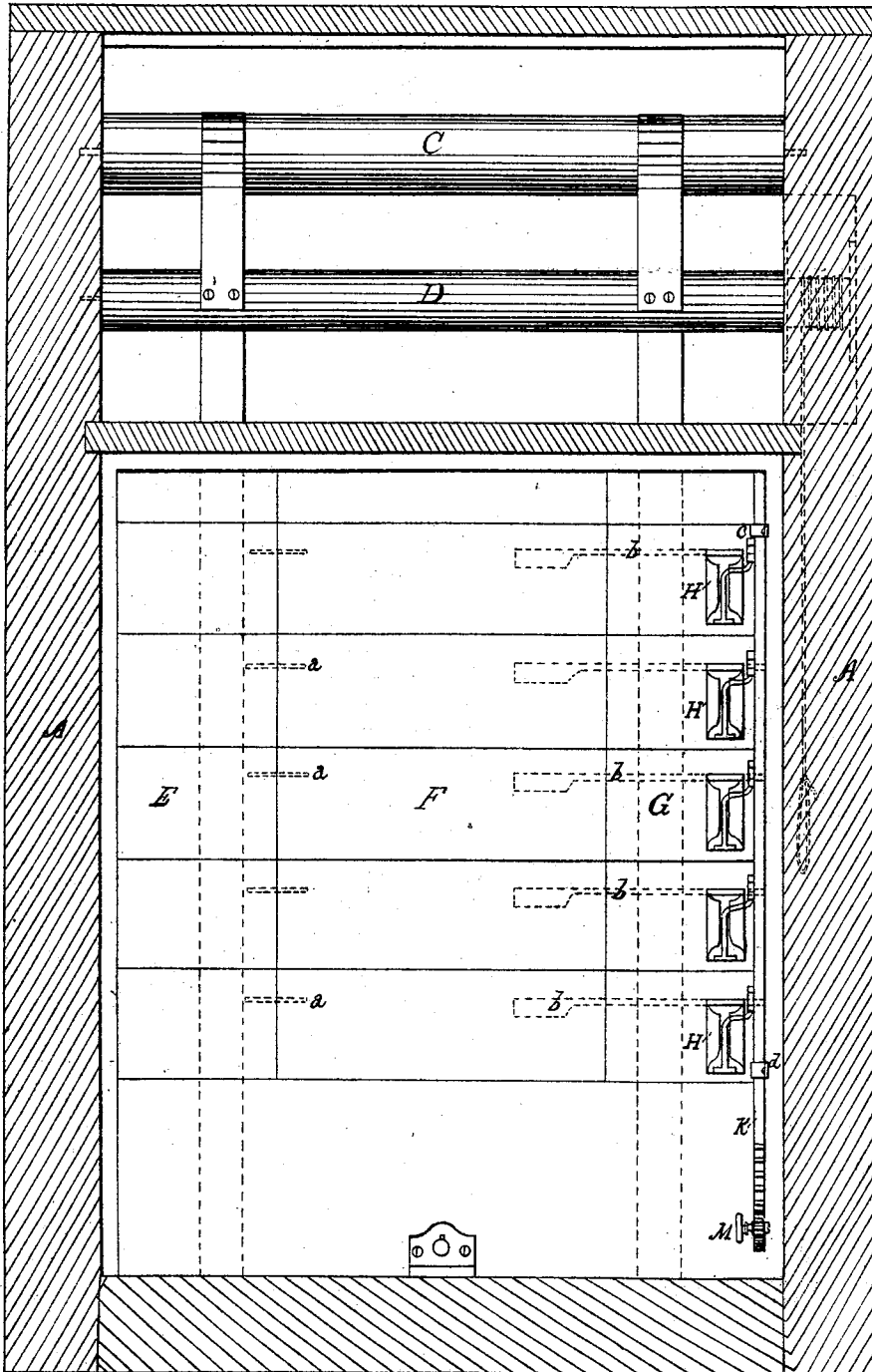
H VON LANGEN & ADAM ROBB.

Improvement in Rolling Shutters.

No: 123,802.

Patented Feb. 20, 1872.

Fig. 3.



Witnesses

Edward Hill
Samuel C. Dale

Inventors

Adam Robb
H. von Langen

UNITED STATES PATENT OFFICE.

HERMAN VON LANGEN AND ADAM ROBB, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN ROLLING SHUTTERS.

Specification forming part of Letters Patent No. 123,802, dated February 20, 1872.

To all whom it may concern:

Be it known that we, HERMAN VON LANGEN and ADAM ROBB, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in "Rolling Shutters;" and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings forming part of this specification, and in which—

Figure 1 is a vertical central section of our improvement taken between the sides of the frame; Fig. 2, a horizontal section of the same; and Fig. 3, an inside elevation.

Similar letters denote like parts in the different figures.

A A represent the sides of the frame, between which the sash and shutter move. The slats moving over the roller C and coiled around the roller D, which are arranged above the window within a box; or, the shutter may travel over a roller or rollers and rest in a bed formed between the ceiling and floor, the latter so constructed immediately over the said bed, that it may be easily removed when the shutter might need inspection or repair. The shutter is raised and lowered by any of the known means, and the slats are divided in three sections, E, F, and G, and so connected that while the end sections are capable of adjusting themselves to the rollers, the central sections F, only, are capable of being made to tilt; they are attached to one of their end sections, E, by a suitable round wire or rod, *a*, upon which they are free to turn, and to the other, G, by another wire or rod, *d*, (see dotted lines Fig. 3,) which is flattened the greater part of the distance it penetrates the ends of section F; and round the balance of its extent, it passes entirely (or nearly) through the end section G. The latter has a slot cut entirely through it, equal in size to the plate H, which fits within the same, and is attached permanently at the top to the rod *b*. It has its edges turned in toward the center, as clearly shown, and slightly beveled for the reception of the lever to be presently explained, so that it will be seen any outward movement of the bottom of plate H will open or tilt the central section F, to produce this result. Arranged within the window and against the side of the frame, (preferably the right hand,) is a

flat rod or bar, I, secured to the frame by screws or bolts, and immediately behind it another rod, K, movable vertically through bearings *c d*, which are secured to the frame. The lower end of this bar is slightly curved at a point even with the foot of rod I, and then carried down straight, so that the lower extremity of K will be in the same plane with the rod I. The lower extremity of the rod K is formed with teeth or cogs, which mesh into a pinion, L, secured to the axis of a hand-wheel, M, secured in proper bearings to the frame, so that the turning of the wheel M will cause the rear rod to move vertically in its bearings *c d*. Bell-crank levers or arms *e* are pivoted opposite to each slat to the rod I, and reaching back across the face of the movable rod K, to which they are secured by a pin or screw passing loosely through a slot formed in said reach, and taking into the rod, (or the rod may be provided with a series of bolts or pins with screw threads cut thereon to receive a nut.) The other ends of these levers are T-shaped, so that they will pass under the turned-down edges of the plate H.

The operation is as follows: The shutter being down, to tilt or open the central sections of the slats, the hand-wheel M is turned to the left, when its pinion L takes into the ratcheted end of the bar or rod K, causing it to descend and bring with it the rear ends of the levers *e*, and, consequently, elevating the forward or T-shaped ends which move into the plate H, forcing it to move out at the bottom; and, consequently, through the medium of the wire *b* tilt the central section of the slat. The bottom or continuous slat, if wider than the distance between the levers *e*, should have a slot cut through it to admit of the passage of the lowest lever when the shutter is partially raised, so that no matter at what altitude the shutter may be drawn the slats may be tilted, as those only below the top of the frame are affected by the opening mechanism; and, again, the ends of the levers *e* which reach back to the rod K, being secured thereto by screws, or bolts and nuts, as described, may be readily rendered inoperative, (by disconnecting them,) so that any number of slats at any locality may be tilted without affecting the balance. The lower or bottom slat may be provided with

any desired locking mechanism for fastening it to the sill of the window.

Having described the construction and operation of our improved rolling shutters, what we claim as new, and desire to secure by Letters Patent, is—

Operating the slats of rolling shutters at any particular point or points and without regard to the position of the same, by means of

the parallel rods I K, levers *e*, pinion L, operating-wheel M, rods or wire *a b*, and plates H, all constructed and operating substantially in the manner and for the purpose set forth.

HERMAN VON LANGEN.
ADAM ROBB.

Witnesses:

EDWD. J. HILL,
SAMUEL E. DALE.