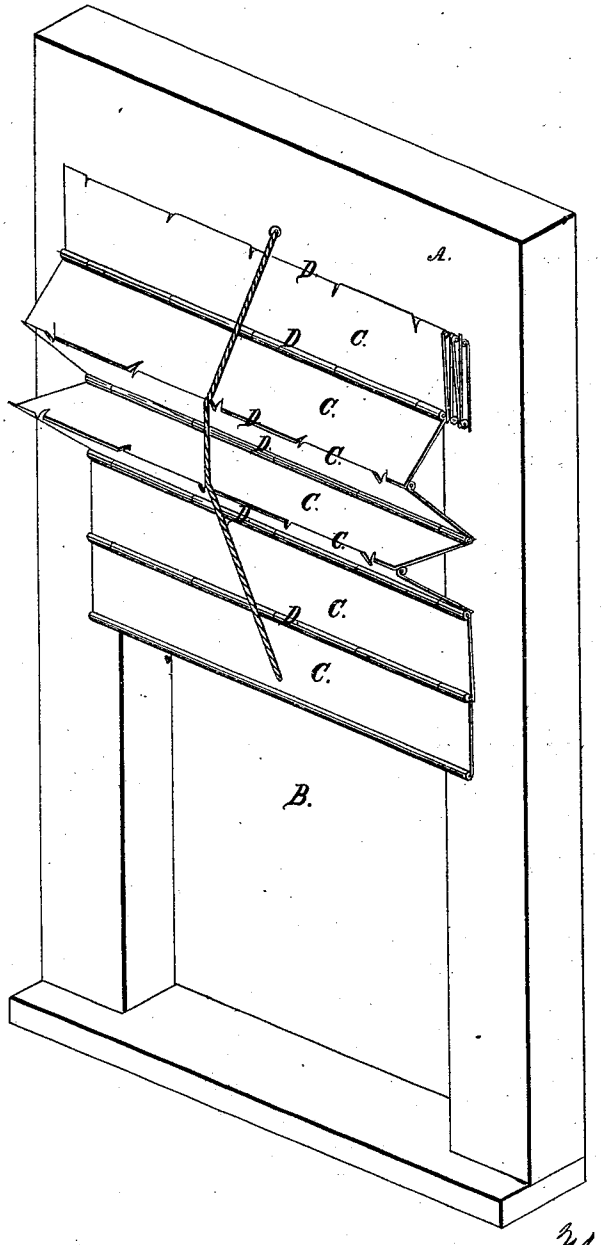
F. Engel,

Shutter,

No. 83,053. Patented Oct. 13, 1868.



Witnesses:

A. Armanan

John Mercier.

Inventor:

F. Frederick Engel

by his Att'y

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United States Patent Office.

FREDERICK ENGEL, OF ROMEO, MICHIGAN.

Letters Patent No. 83,053, *dated October* 13, 1868.

IMPROVED WINDOW-SHUTTER.

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

To whom it may concern:

Be it known that I, FREDERICK ENGEL, of Romeo, in the county of Macomb, and State of Michigan, have invented a new and useful Improvement in Metal Shutters or Window-Blinds; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and making a part of this specification.

The object of my invention is to construct a metal window-shutter or blind of a much cheaper character than those made by any of the known processes.

This shutter is constructed of any suitable metal, and composed of a series of oblong metal plates, C. These plates are formed with small rolls along their edges, and between said rolls are left overlapping edges, so that when the horizontal rod is passed into the rolls of the opposite plate, a hinge is formed and the joints covered by the overlapping tin, thereby allowing a smooth and even surface on the exterior of the shutter. A cord is attached to the lower hinge, and passes through an opening in the top of the case A, so that it can be raised or lowered at any time.

A represents a section of a wall of a house, with aperture B for a window.

C C C, &c., represent the slats of the shutter put together with lap-hinges, D D D, &c. These hinges are so constructed that they work in opposite directions, and allow the shutter to be folded up compactly at the top of the window, when the lower slat forms a roof for the whole shutter, and prevents snow and ice from preventing the free operation of the hinges.

By the construction of a window-shutter or blind in the manner described, I save a large percentage in expense over those constructed in the ordinary methods, and at the same time obtain one that is fire-proof.

It may be attached to buildings in any convenient way, and any proper arrangement used for rolling or folding it up.

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

A window-shutter, composed of metal plates, C, which are separately formed with rolls and overlapping edges, and connected by metal rods, D, forming hinges that work in opposite directions, and when folded up, constituting a roof to shield the window from snow or rain, all as herein shown and described.

FREDERICK ENGEL.

Witnesses:

H. G. HANNAMAN,

JOHN MERCIER.