

(No Model.)

W. MOLLER.
STORM STEPS FOR OUTDOOR STAIRS.

No. 501,211.

Patented July 11, 1893.

FIG. 1.

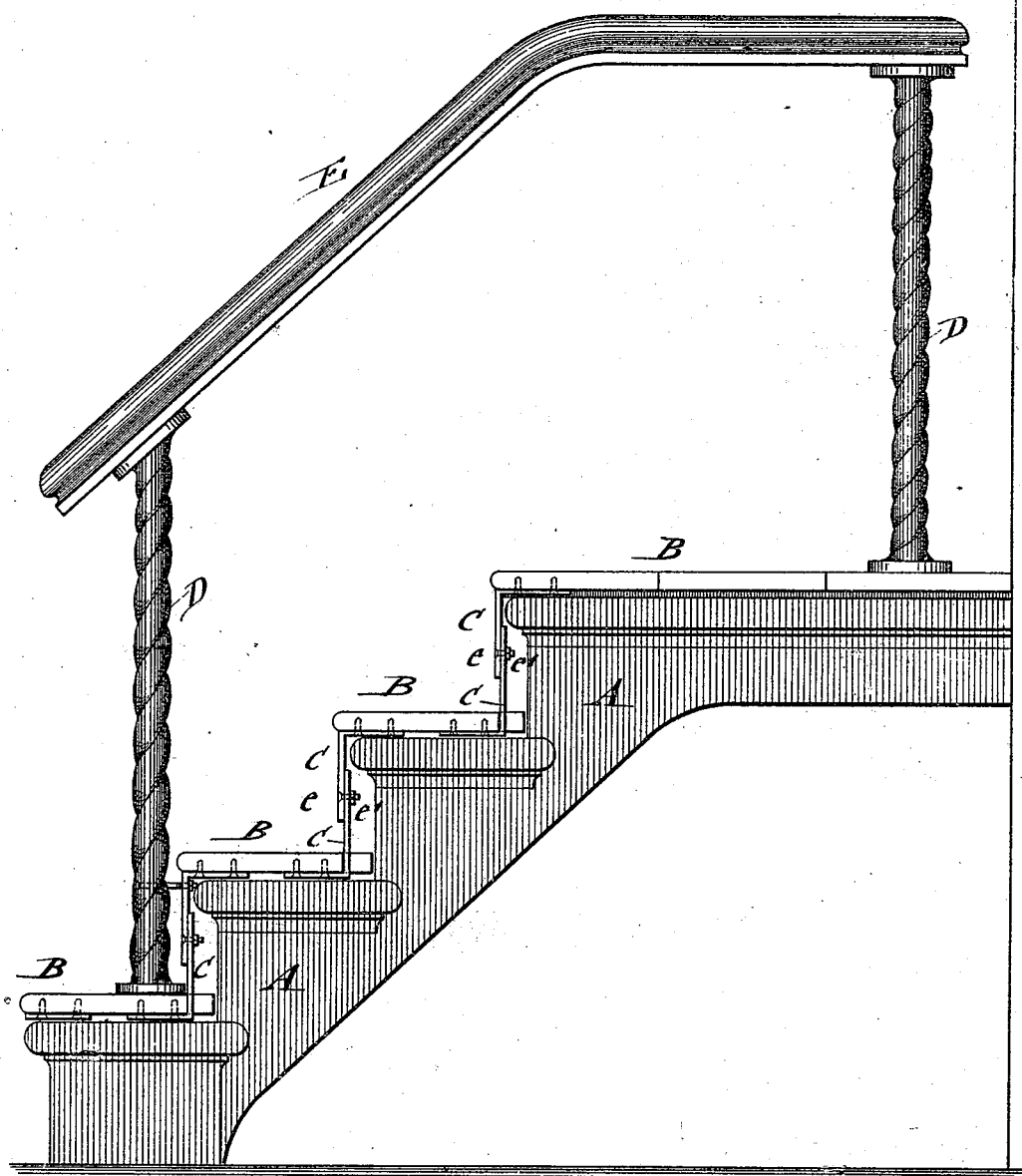
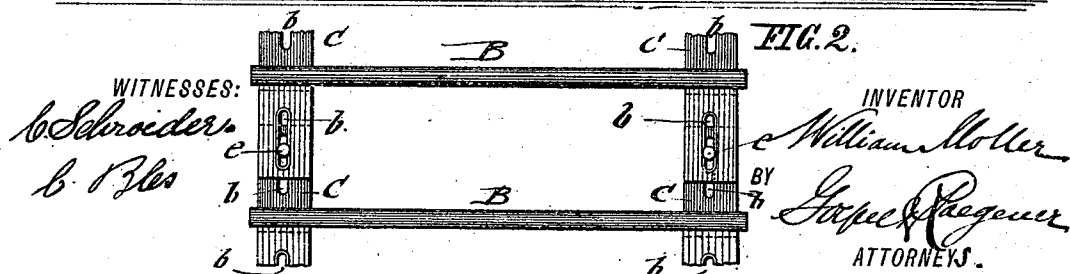


FIG. 2.



UNITED STATES PATENT OFFICE.

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STORM-STEP FOR OUTDOOR STAIRS.

SPECIFICATION forming part of Letters Patent No. 501,211, dated July 11, 1893.

Application filed October 26, 1891. Serial No. 409,760. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MOLLER, a citizen of the United States, and a resident of the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Storm-Steps for Outdoor Stairs, of which the following is a specification.

The object of this invention is to so construct the storm-steps for out-door stairs that any desired size of stair-case can be quickly supplied with storm-steps and at a considerably smaller expense than heretofore; and the invention consists of improved storm-steps for out-door stair-cases, which are fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side-elevation of an out-door stair-case with my improved storm-steps applied to the same; and Fig. 2 is a front-elevation of two adjacent treads of the stair-case, showing the adjustable strap-connection of the same.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents an outdoor staircase, and B the storm-steps for the same, the treads of which are made of wood and of the same width as the treads of the staircase. The adjacent treads of the storm-steps B are connected by angle-straps C, the horizontal portions of which are attached by screws to the under side of the treads of the storm-steps B, while the vertical portions are provided with slots *b* and arranged to overlap each other. The overlapping ends are firmly connected by means of headed clamping screws *e* and nuts *e'*, as shown clearly in Figs. 1 and 2. The slotted angle-straps C and the clamping-screws *e* permit the adjustment of the straps to the heights of the risers of the steps, so that the storm-steps can be supplied within certain dimensions to every size of staircase, provided a sufficient quantity of the different sizes of angle-straps C are kept in stock. As the risers of the staircases vary compara-

tively but little in height the angle-straps of the storm-steps can be readily adjusted to the risers of the staircase when they are placed in position for the winter season.

The supporting standards D for the hand-rails E that are used in connection with my improved storm-steps are attached respectively to the covering boards of the uppermost step and to the lowermost tread B, the lower standards being preferably secured by a clamping-screw *f* to the slot of the angle-strap of the second tread of the storm-steps, as shown clearly in Fig. 1, whereby a more reliable connection of the lower standards with the two lowermost treads of the storm-steps is obtained. By keeping a number of angle-straps in stock, the storm-steps for any desired out-door staircase can be quickly furnished and put down without necessity of waiting for the blacksmith, who used to supply the wrought-iron connecting bars heretofore and who usually caused the delay when filling an order for such storm-steps. By keeping the angle-straps and treads for the storm-steps in stock, the expense is also greatly diminished, so that the application of storm-steps for the out-door staircases of buildings will become more extended.

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

1. The combination, with storm-steps for out-door staircases, said steps being composed of treads, angle straps connecting said treads and clamping-devices for said treads, of the lower supporting-standards of the hand-rails, said standards being attached to the lowermost tread of the storm-step, and screw-bolts for connecting said standards to the angle-strap of the next adjacent tread of the storm-step, substantially as set forth.

2. The combination, with storm-steps for out-door staircases, said steps being composed of auxiliary treads, angle-straps attached to the under-side of the treads and having vertical overlapping ends provided with slots and a clamping device for the slotted overlapping ends of the angle-straps, of

standards attached to the top-step of the storm-steps, standards attached to the lower-most tread of the storm-steps, screw-bolts connecting the lower standards with the angle-strap of the next adjacent tread of the storm-steps, and hand-rails connecting the upper ends of the standards, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

WILLIAM MOLLER.

Witnesses:

PAUL GOEPEL,
CHARLES SCHROEDER.