

(No Model.)

2 Sheets—Sheet 1.

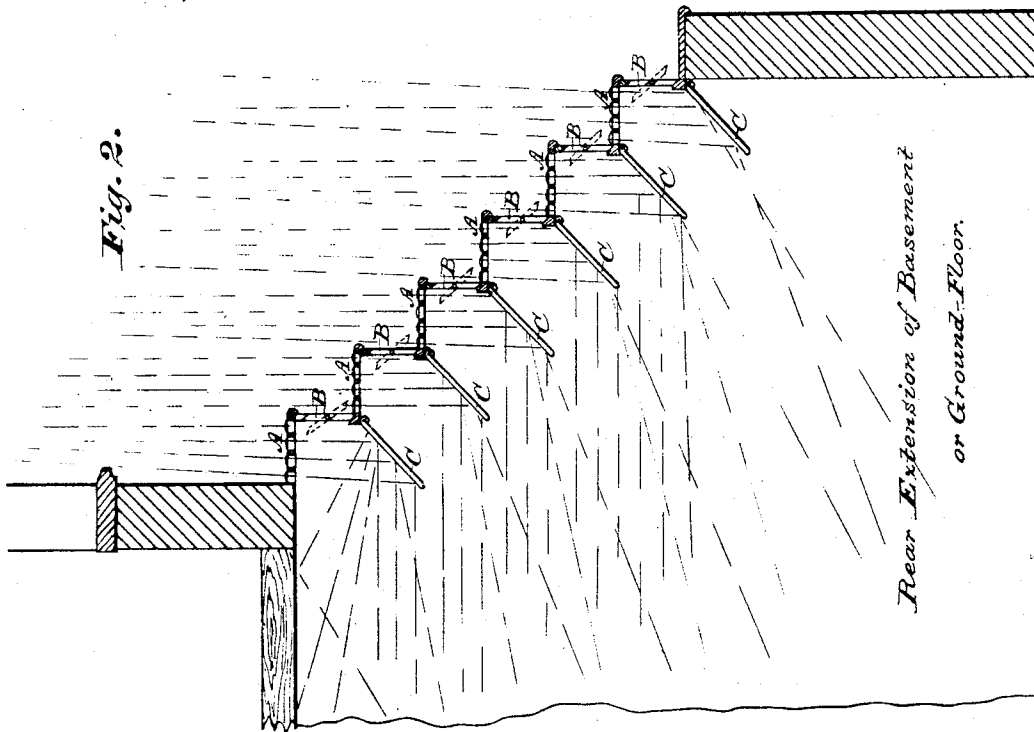
T. HYATT.

VAULT-LIGHT ROOF AND SIDEWALK FOR CONSTRUCTING BASEMENTS, &c.,
TO BUILDINGS.

No. 286,137.

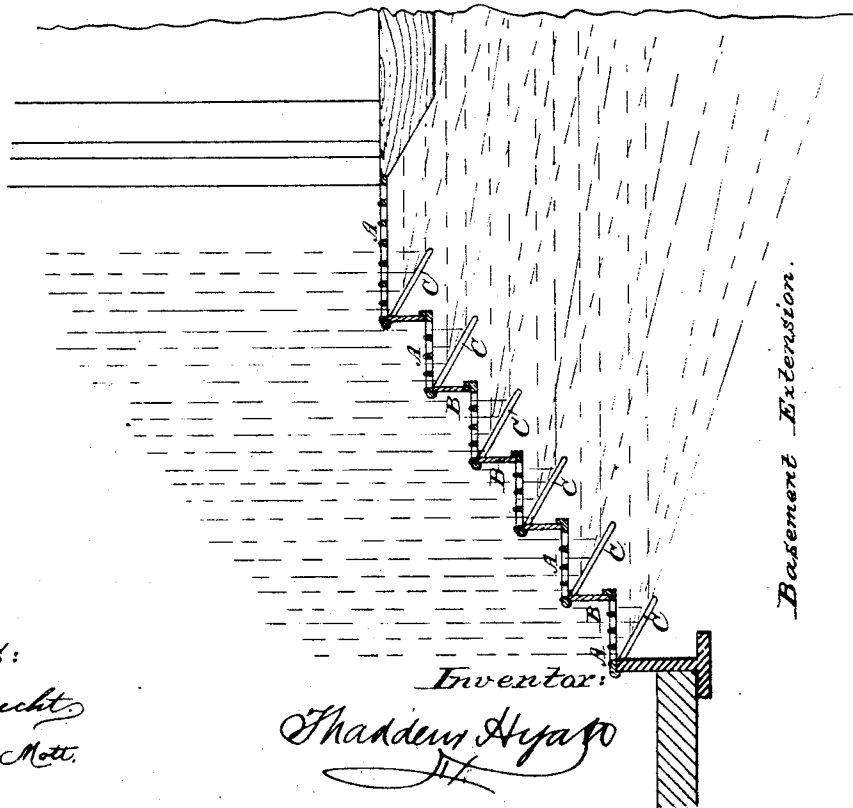
Patented Oct. 2, 1883.

Fig. 2.



*Rear Extension of Basement
or Ground-Floor.*

Fig. 1.



Basement Extension.

Witnesses:

T. C. Brecht

Guy, De Mott

Inventor:

Thaddeus Hyatt

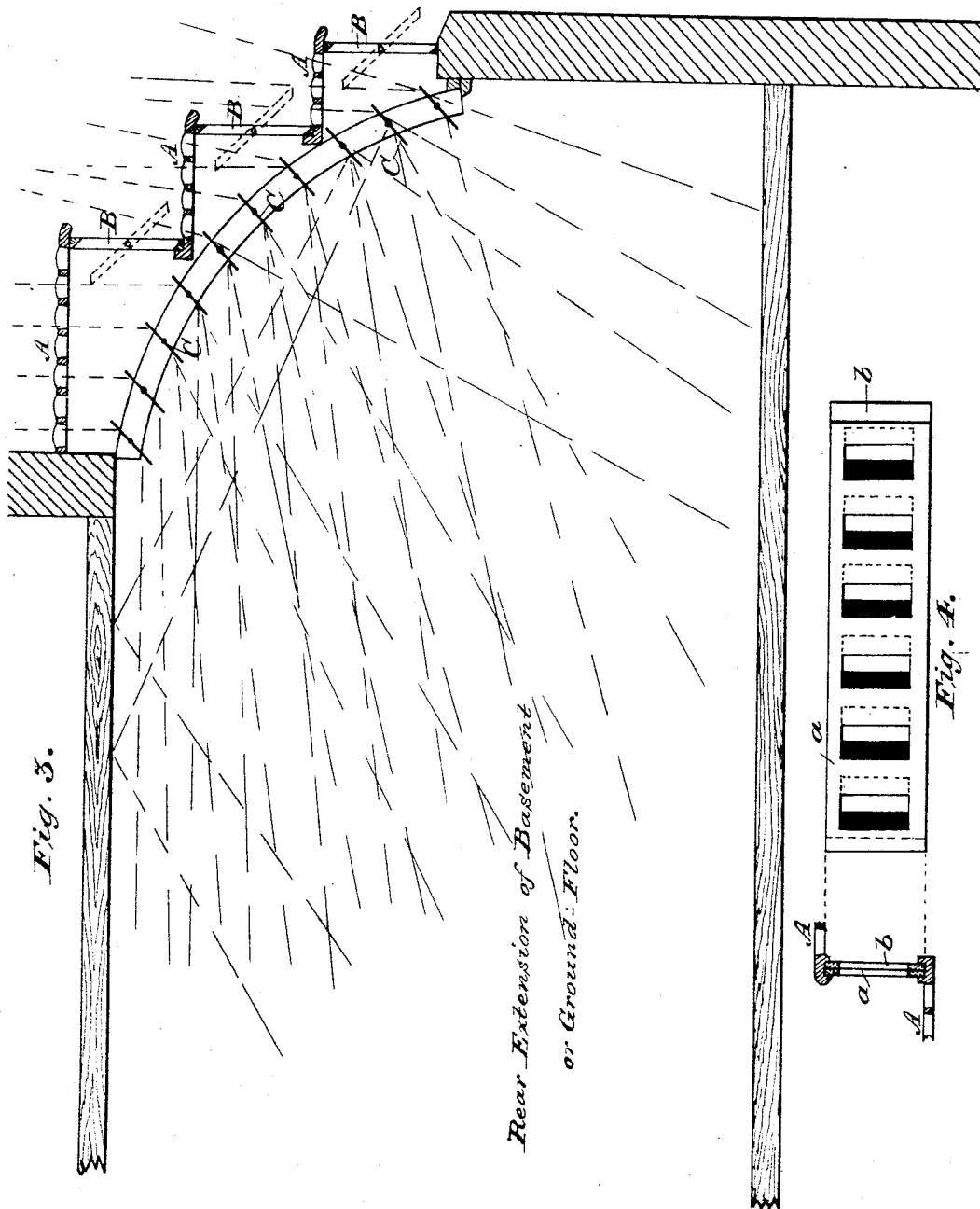
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UNITED STATES PATENT OFFICE.

THADDEUS HYATT, OF NEW YORK, N. Y.

VAULT-LIGHT ROOF AND SIDEWALK FOR CONSTRUCTING BASEMENTS, &c., TO BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 286,137, dated October 2, 1883.

Application filed September 1, 1883. (No model.)

To all whom it may concern:

Be it known that I, THADDEUS HYATT, a citizen of the United States, residing at the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Vault-Light Roofs and Sidewalks for Constructing Basements and Rear Extensions to Buildings, of which the following is a description, reference being had therein to the accompanying drawings, making part of this specification.

My invention relates to the kind of patent light constructions known to the trade as "step-roofs." These roofs form part of the invention patented to me originally on the 27th day of August, 1867. As originally patented they were designed for the fronts of buildings only; but by patent dated May 9, 1882, I applied them to the construction of the rear extension ground-floor roofs of buildings.

My further and present improvements are designed to correct two prominent evils universally complained of in patent light roofs of all shapes and kinds—to wit, want of ventilation and "sweating," the result of want of ventilation; also, to correct two other defects equally as bad, but not complained of, because no one supposes they can be cured. I refer to the obscuration and loss of light which take place when in winter-time, during a snowfall, the snows accumulate upon the rear extension illuminating-roofs; and I allude to the dark parts of the rooms lighted by these roofs that are at a considerable distance inward toward the center of the building, and are in shadow because the light from the roof reaches them only indirectly. Now, the object of illuminating-roofs, whether at the rear or at the fronts of buildings, and whether in stoop or ordinary shape, has relation, primarily, to the parts of the building that need light the most, and these parts are those nearest the center of the building; but when the illuminating-roof is composed of steps, as in the case of a ground-floor higher than the level of the sidewalk at the front entrance to a building, light and ventilation are necessarily subordinated to the necessities of the construction as steps. In such case the first thing to be considered is an easy rise to the steps. This requires risers of only six to eight inches high,

and as the "nosing" of the "tread" above must lap down over such risers in front, and the "water-back" of the tread below must lap up over them behind, but little middle or heart portion of the riser is left for either light or ventilation. To make the most of it, I make the riser of plate-glass in two plates, one to slide over the face of the other, like a sliding hot-air register, each plate being suitably formed with ventilating-slots; and, to make the light of the step-roof tell with proper effect upon the dark center of the apartment, I combine with the steps a set of daylight-reflectors, (using the words, in their technical sense, to mean highly-polished metal plates or glass mirrors of ordinary kind,) or I combine daylight-reflecting surfaces, (meaning by this any surfaces suitable to reflect light.)

With respect to step-roofs for rear-extension work, my improvement consists in constructing the roofs with as large a proportion of riser or vertical surface as the case admits of.

First, with reference to snow. Snow does not remain on windows in house-walls because the openings are vertical.

Second, with reference to ventilation. Vertical openings are the only ones that admit of being uncovered in bad weather, when ventilation may be required.

The rule which I adopt for constructing step-roofs for the rear extensions of the ground-floor of buildings is to make risers double the height of the average depth of snowfalls. This gives a margin for light through the risers equal to double the depth of the snow. Constructed in accordance with this rule, and with reference to the exigencies of a rear-extension roof, as herein explained, the construction is not a "step-roof" technically, but only in form. The roof is rather a combination of roof-levels in longitudinal horizontal sections connected by longitudinal vertical sections made in the form and with the functions of windows.

Figure 1 represents an illuminating step-roof over an area and basement-extension made with combined daylight-reflectors. Fig. 2 represents an illuminating step-roof over an extension at the rear of the ground-floor or principal story made with daylight-reflectors. Fig. 3 represents an illuminating step-roof

over an extension at the rear of the ground-floor or principal story, illustrating the window nature of the vertical portions of the roof, and also illustrating a mode of arranging the daylight-reflectors in curved and arch form to produce a finish and an ornamental appearance at the rear of the apartment. Fig. 4 represents a glass sliding register-riser.

A indicates the levels, treads, or flat horizontal portions of the roof. B indicates the vertical, riser, or window portions of the roof. C indicates the daylight-reflectors. *a* indicates the front slide of the glass register. *b* indicates the back or rear slide of the glass register.

Having thus fully explained the nature and purposes of my invention, what I claim, and desire to secure by Letters Patent, is—

1. An illuminating step-roof wherein the daylight-reflectors or reflecting-surfaces are made or arranged in line, resembling leaves, louvers, or slats, and placed at a reflecting-angle underneath or below the treads, so as to catch and reflect their light, substantially as and for the purposes herein set forth and illustrated.

2. An illuminating step-roof, in combination with a sidewalk and principal story of a building, when the steps are formed by combining glass sliding register-risers with illuminating-treads, substantially as and for the purposes herein set forth and illustrated.

3. An illuminating step-roof, in combination with a sidewalk and principal story of a building when the steps are formed by combining glass sliding register-risers with illuminating-treads and daylight-reflectors, or with reflecting-surfaces, substantially as and for the purposes herein set forth and illustrated.

4. An illuminating rear-extension "lean-to-roof," the incline of which is broken or divided into alternate vertical and horizontal

sections, the proportions of one to the other being such as to prevent obscuration of light from snowfalls, substantially as and for the purposes herein set forth and illustrated.

5. An illuminating rear-extension lean-to-roof, the incline of which is broken or divided into alternate vertical and horizontal sections, the proportions of one to the other being such as to prevent obscuration of light from snowfalls, in combination with daylight-reflectors, or reflecting-surfaces made or arranged in line, resembling louvers, leaves, or slats, and placed at a reflecting-angle underneath or below the levels or horizontal sections, so as to catch and reflect their light, substantially as and for the purposes herein set forth and illustrated.

6. An illuminating step-roof, in combination with the rear extension of the ground-floor or principal story of a building, when the roof is composed of illuminating-levels or horizontal sections, combined with and connected by risers or vertical roof-sections having the function of windows, and likewise combined with daylight-reflectors or reflecting-surfaces made in the form of slats or louvers, and arranged in semi-dome or arch form, substantially as and for the purposes herein set forth and illustrated.

7. An illuminating roof or skylight combined with daylight-reflectors or reflecting-surfaces made in the form of slats or louvers arranged in semi-dome or arch form, substantially as and for the purposes herein set forth and illustrated.

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

THADDEUS HYATT.

Witnesses:

T. C. BRECHT,
GUY DE MOTT.