

No. 724,790.

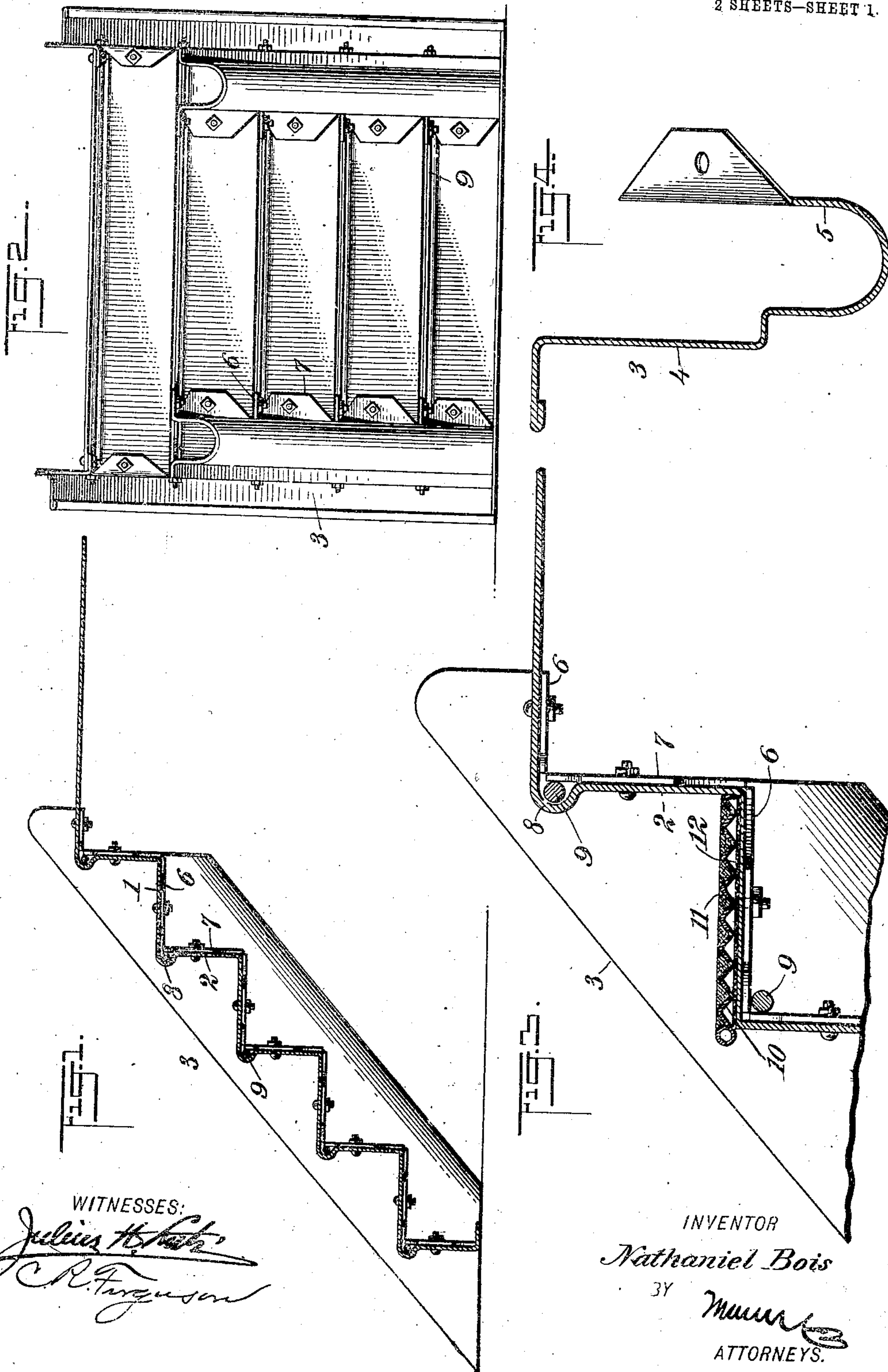
PATENTED APR. 7, 1903.

N. BOIS.
STAIR STRUCTURE.

APPLICATION FILED NOV. 1, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

Julius H. Smith
C. R. Ferguson

INVENTOR

Nathaniel Bois

BY

Munn & Co.
ATTORNEYS.

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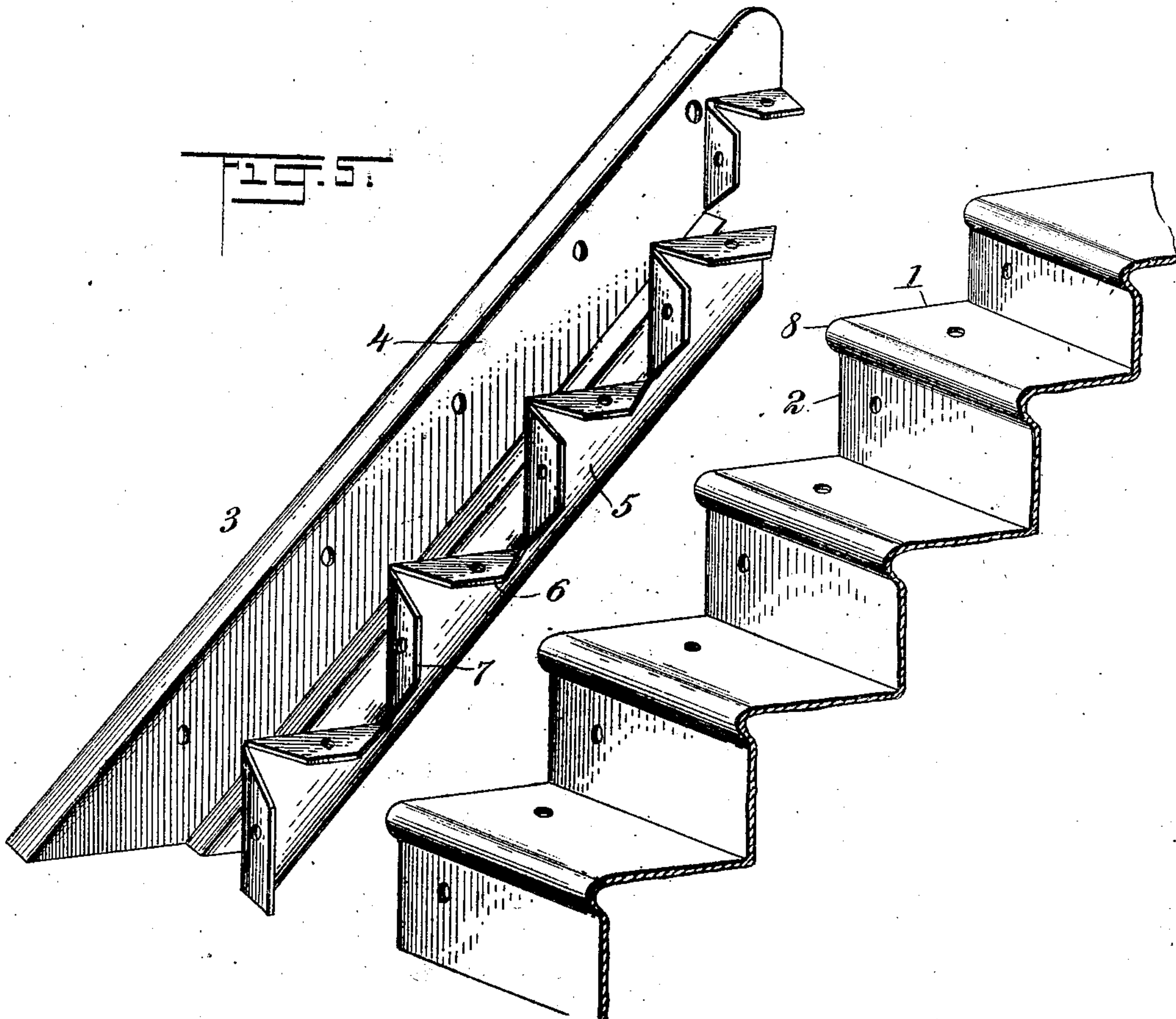
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UNITED STATES PATENT OFFICE.

NATHANIEL BOIS, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF, MEYER GOLDBERG, AND ABRAHAM GOLDBERG, OF NEW YORK, N. Y.

STAIR STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 724,790, dated April 7, 1903.

Application filed November 1, 1902. Serial No. 129,639. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL BOIS, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented new and useful Improvements in Stair Structures, of which the following is a full, clear, and exact description.

This invention relates to improvements in the construction of stairways, the object being to provide a stairway having a plurality of steps and risers formed of a continuous strip of sheet metal attached to sheet-metal string-pieces, thus not only making a fire-proof stair, but materially reducing the labor and cost of stair building and placing.

I will describe a stair structure embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal section of a stair structure embodying my invention. Fig. 2 is an inside view thereof. Fig. 3 is a sectional view showing a modification. Fig. 4 is a section through one of the string-pieces, and Fig. 5 is a perspective view showing the stairs and one of the string-pieces detached.

Referring to the drawings, 1 designates a tread of the stairs, and 2 a riser. The several treads and risers are made in one continuous or single strip of sheet metal. The string-pieces 3 also consist of sheet metal and have an outer portion 4 and an inner portion 5, spaced from the outer portion 4. These string-pieces, it is obvious, may be formed by rolling or stamping. Extending inwardly from the inner portion 5 are lugs 6, to which the steps are secured by means of bolts, and also extended inwardly from the portions 5 are lugs 7, which are secured to the risers by means of bolts. At the junction of each step and riser the metal is bent or curved to form the nose 8. It is to be understood, however, that the nose-piece may consist of a semicircular strip of iron or tubing secured to the sheet metal. It is also to be understood that instead of the lugs 6 and 7 metal brackets

may be secured to the string-pieces and to the sheet metal forming the stairway.

The structure is strongly braced by means of tie-rods 9, which extend along underneath the stairway and connect with the opposite string-pieces.

To obviate noise and to prevent slipping, I may in some instances employ supplemental treads. As indicated in Fig. 3, the supplemental tread consists of corrugated sheet metal 10, bolted to the main tread, and on this tread 10 is a plastic material 11, such as cement, and to hold the cement in place it is provided at intervals with holes in which the cement will keep. As a further means to deaden sound I may place a cushion 12 of asbestos or the like under the supplemental treads.

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

1. In a stair structure, a series of steps and risers consisting of a continuous length of sheet metal, and sheet-metal string-pieces secured thereto, and tie-bolts extended between the opposite string-pieces, substantially as specified.

2. In a stair structure, a series of steps and risers, consisting of a continuous length of sheet metal, string-pieces of sheet metal and consisting of an outer portion, and an inner portion spaced from the outer portion, and lugs extended from the inner portions and connecting with the stairs, substantially as specified.

3. In a stair structure, a series of steps and risers consisting of a continuous length of sheet metal, sheet-metal string-pieces having inwardly-extended lugs for securing the stairs to the string-pieces, nose-pieces formed at the junction of each step and riser, and tie-rods connecting with opposite risers, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

NATHANIEL BOIS.

Witnesses:

JNO. M. RITTER,
C. R. FERGUSON.