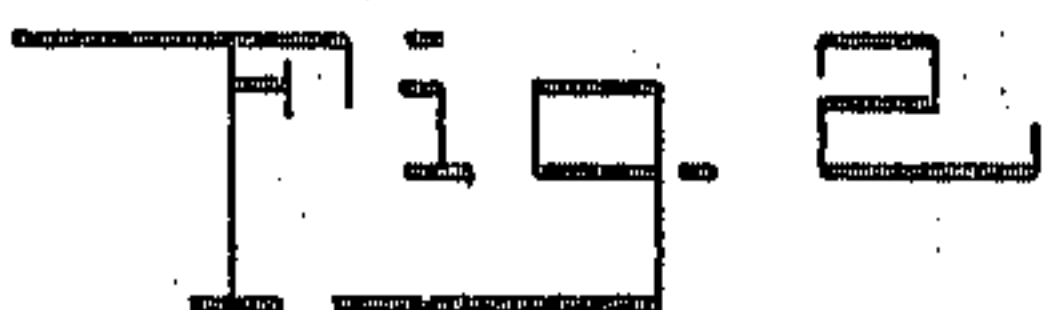
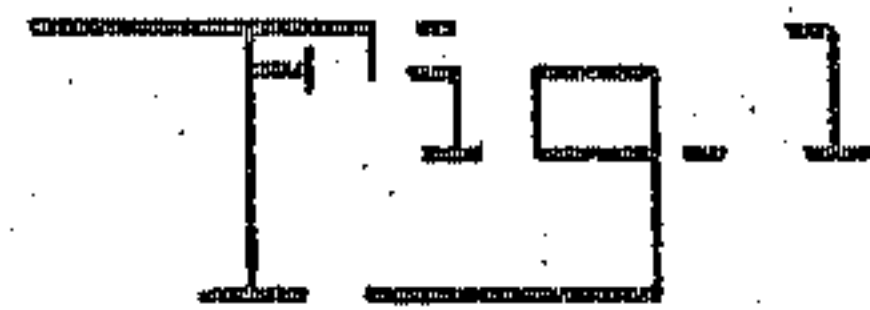


METAL STAIRCASE.

947,743.

Patented Jan. 25, 1910.



WITNESSES
J. A. Brophy
J. R. [unclear]

Charles F. Steiber

BY

Wm. Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES FRIEDRICH STEIBER, OF NEW YORK, N. Y.

METAL STAIRCASE.

947,743.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Original application filed October 17, 1908, Serial No. 458,214. Divided and this application filed May 18, 1909. Serial No. 496,713.

To all whom it may concern:

Be it known that I, CHARLES F. STEIBER, a citizen of the United States, and a resident of the city of New York, borough of the Bronx, in the county and State of New York, have invented a new and Improved Metal Staircase, of which the following is a full, clear, and exact description.

This application is a division of the application for Letters Patent on my improvement in metal stairs, filed October 17, 1908, Serial No. 458,214.

This invention relates to stairs or staircases, and especially to such as are formed of metal.

The invention relates especially to the means for attaching the treads of the stairs to the staircase or stringers, the object of the invention being to provide a simple arrangement for this purpose, and in which no fastening devices passing through the treads are required. The treads are expected to be made of stone, cement or similar material.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the 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 both the figures.

Figure 1 is a vertical section taken in a front and rear direction and passing at right angles to the tread, this view illustrating the construction and indicating in dotted lines the manner in which the treads are secured in position; and Fig. 2 is a horizontal section through a staircase constructed as shown in Fig. 1, this view showing the side stringers in section, the middle portion of the view being broken away.

In practicing my invention, I provide side stringers 1, to the adjacent faces of which gain cleats 2 are attached, the same being connected by riser cleats 3. To the flanges 4 of the riser cleats, the webs of risers 5 are riveted, and these risers are formed at the lower edges with flanges 6, which rest upon the gains 2, as shown. On the outer side of the web of the riser just above the flange 6, a shoe 7 is riveted, and this shoe presents a plate-like body which terminates above in a head 8 which projects forwardly from the web, as shown. The

upper edge of the web of the riser is pressed out to form a nose 9, and beyond this nose, the material of the web is extended inwardly to form a horizontal flange 10, which rests upon the outer ends of the gains 2. This flange 10 is provided with enlarged studs 11 having fillistered or rounded upper ends 12. These studs 11 have reduced necks which extend down through the flanges 10 to receive fastening nuts 13. The tread 14 of the staircase is formed of a slab of stone or similar material, and this slab is provided at its under side with pockets 15. These pockets 15 are adapted to register with the studs 11, as indicated. The metal part of the staircase is intended to be finished before the slabs are applied. The manner of applying the slabs is indicated by the dotted lines in Fig. 1. The inner edge of the slab is introduced to the shoe by forcing the upper edge of the slab under the head 8, the lower face of the slab resting on the studs 11. Then, by pushing the slab inwardly to seat it, the pockets 15 are brought substantially into register with the studs 11 so that the slab will move downwardly at its outer edge so as to seat its lower face on the flange 10. In this way the slab is seated in a proper position and is secured against lateral movement by the studs. The outer edge of the slab is rounded off to form a nose 16, as indicated.

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

1. A staircase having stringers with risers connecting the same, said risers having members attached adjacent to the lower edges thereof presenting outwardly projecting heads, said staircase further having upwardly projecting studs, and treads supported on said staircase having their rear edges engaged under said heads and having pockets on the under sides thereof receiving said studs, the weight of said treads affording means for retaining the same in position.

2. A staircase having stringers with risers connecting the same, said risers having shoes disposed at the lower edges thereof, said risers having studs projecting upwardly therefrom at the upper parts thereof, and treads formed of slabs the inner edges whereof are received in said shoes and having pockets on the under side thereof receiving said studs, said studs affording

means for retaining said treads against outward displacement.

3. A staircase having stringers, risers connecting said stringers and having shoes at
5 the lower edges thereof presenting outwardly projecting heads, said risers further having horizontal flanges at the upper edges thereof, studs secured in said flanges and projecting upwardly, and a tread consisting
10 of a slab having its inner edge engaged under said head and having pockets on the under side thereof receiving said studs.

4. A staircase having stringers, risers connecting said stringers, having horizontal
15 upper flanges and horizontal lower flanges,

shoes attached to said risers at the lower edges thereof and having outwardly projecting heads, the flanges at the upper ends of said risers having studs secured therein, and treads consisting of slabs having their inner
20 edges received between said heads and said lower flanges and having pockets on the under side thereof receiving said studs.

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

CHARLES FRIEDRICH STEIBER.

Witnesses:

EDWARD SCHOPPE,
PETER IMHOF.