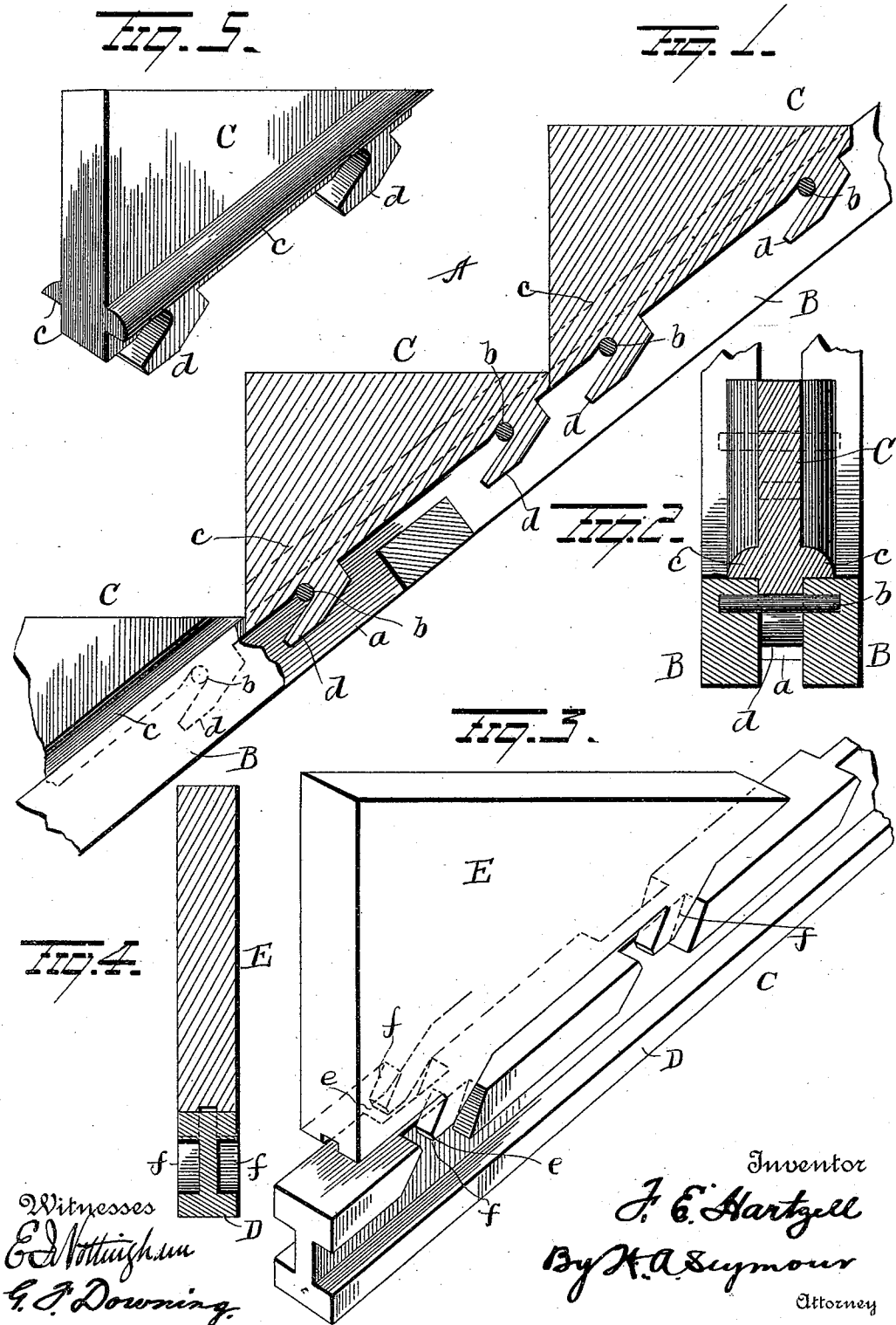


(No Model.)

F. E. HARTZELL.
CONSTRUCTION OF STAIRWAYS.

No. 550,370.

Patented Nov. 26, 1895.



UNITED STATES PATENT OFFICE.

FRANK E. HARTZELL, OF ALLIANCE, OHIO.

CONSTRUCTION OF STAIRWAYS.

SPECIFICATION forming part of Letters Patent No. 550,370, dated November 26, 1895.

Application filed March 28, 1895. Serial No. 543,546. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. HARTZELL, of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in the Construction of Stairways; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in the construction of stairways, the object being to provide a simple, strong, and durable carriage, which can be used in the construction of all classes of stairways where carriages are employed.

A further object is to so construct the parts that they can be quickly and easily assembled.

My invention consists in certain novel features of construction and combinations of parts, as will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a view of my improvement. Fig. 2 is a section of the same. Figs. 3 and 4 are views of a modified form, and Fig. 5 is a detached view of the bracket shown in Fig. 1.

Two or more of these carriages are to be used in the construction of a stairway, and as they are duplicates of one another a description of one will suffice for all.

A represents a carriage composed of a stringer B and brackets C, the former having a guideway *a* centrally formed therein, said guideway being provided with a series of stops *b*, located at predetermined intervals throughout said guideway, while the latter are each provided with side flanges *c c* and hooks *d d*, which latter depend from the bottom face of said brackets. These hooks are shaped to form practically V-shaped spaces between their upper faces and the bottom face of said brackets for the purpose herein-after described.

To form the completed carriage, as shown in Figs. 1 and 2, that portion of each bracket C projecting below flanges *c c* is inserted into guideway *a* and, owing to the inclination of stringer B, falls by gravity into substantially its normal or operative position. After all the brackets have been placed as above de-

scribed they may be securely located against accidental movement in any direction by merely tapping each bracket on its upper face. This would cause the brackets to descend, and as the hooks *d d* are integral therewith they also would move in a downward direction until the stops *b* were securely clamped within the V-shaped openings heretofore referred to. The wedging of stops *b* between hooks *d d* and the under face of bracket C causes side flanges *c c* to bind tightly on the upper faces of stringer B, and hence lateral or sidewise movement of the bracket is prevented.

In the construction disclosed in Figs. 3 and 4 D represents the stringer, and E the brackets. The front face of stringer D is provided with a series of oppositely-located slots *e e*, the end walls of which are inclined and substantially parallel. The bottom face of bracket E is provided with projecting hooks *f f*, which latter are adapted to slide into slots *e e*, as shown in the drawings, whereby the bracket is locked in its operative position.

It is evident that changes in the construction and relative arrangement of the several parts might be made without avoiding my invention, and hence I would have it understood that I do not restrict myself to the particular construction and arrangement of parts shown and described; but,

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

1. The combination with a stringer, of a removable bracket, one of said parts having stops and the other hooks with inclining inner faces adapted to receive the stops and draw the brackets toward the stringer as they are forced downward, substantially as set forth.

2. The combination with a stringer provided with stops, of a removable bracket adapted to receive and support the tread and riser of a step, said bracket having hooks therein the inside lower face of which inclines whereby to draw the bracket closer to the riser as the bracket is lowered into place upon the stringer, substantially as set forth.

3. A carriage for steps, consisting of a stringer having a central groove, a series of stops located in said groove and brackets pro-

vided with means for engaging said stops, substantially as set forth.

4. A carriage for steps, consisting of a stringer having a central groove, a series of stops located in said groove, and brackets provided with hooks adapted to engage said stops whereby the brackets are locked on said stringer, substantially as set forth.

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

FRANK E. HARTZELL.

Witnesses:

J. W. CRAINE,
J. F. REHM.