(No Model.)

T. ROGERS.

STAIRWAY.

No. 385,012. Patented June 26, 1888.

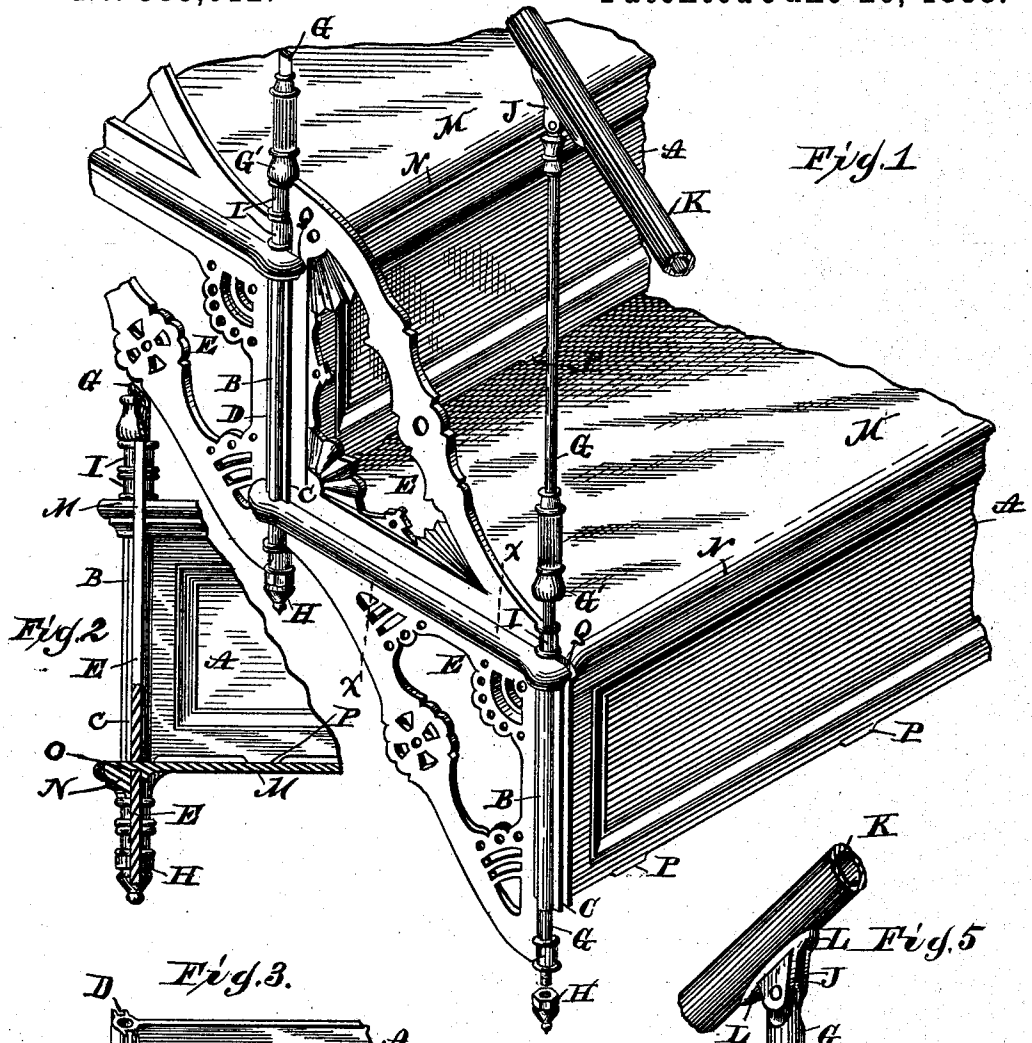


Fig. 1

Fig. 2

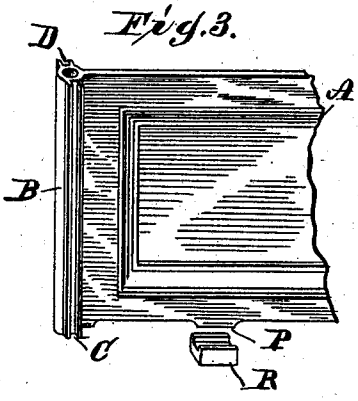


Fig. 3.

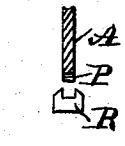


Fig. 4

Fig. 5

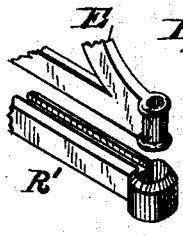


Fig. 6.

WITNESSES,

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UNITED STATES PATENT OFFICE.

TIMOTHY ROGERS, OF KENTON, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE ROGERS FENCE COMPANY, OF SPRINGFIELD, OHIO.

STAIRWAY.

SPECIFICATION forming part of Letters Patent No. 385,012, dated June 26, 1888.

Application filed January 13, 1888. Serial No. 260,642. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY ROGERS, a citizen of the United States, residing at Kenton, in the county of Hardin and State of Ohio, have invented certain new and useful Improvements in Stairways, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in metallic stairways.

The object of the invention is to construct a stairway of metal, preferably of iron, and in such manner that there shall be no necessity for finishing the parts by machine-work, their construction being such that they can be cast and will fit each other without finish, whereby great economy is effected in the manufacture of the stairway.

The invention consists, essentially, of risers having vertical channels and a vertical passage at each end thereof, of treads fitted upon one riser and beneath the next higher riser, of braces which fit the said vertical channels and stand one above and the other below the treads, and which have a similar passage to those in the risers, whereby the parts are fitted together and are locked by means of the bolts passing through said passages, and which may also constitute rounds for the stairway.

The invention also consists of certain other peculiarities of construction and arrangement, hereinafter more fully pointed out.

In the accompanying drawings, forming a part of this specification, and on which like reference-letters indicate corresponding parts, Figure 1 is a perspective view of a portion of a metallic stairway embodying my invention; Fig. 2, a partial section and partial front view of a corner of the stairway; Fig. 3, a detail perspective view of a portion of a riser, showing also a supporting-block thereof; Fig. 4, a sectional view of a portion of the riser and an end view of the supporting-block thereof; Fig. 5, a detail perspective view of a portion of the railing and a round, illustrating the connecting-clip; Fig. 6, a perspective view of a portion of a brace and supporting-strip.

The letter A designates the risers of my improved stairway, the same consisting of metallic—preferably cast-iron—plates fashioned with any suitable ornamentation on the front side thereof and having at each end an enlarged portion, B, in which is formed or cast a vertical hole or passage, and on the front and rear sides of which are also cast vertical beads C and D, between which are vertical ways. In these ways are fitted, respectively, the vertical ends of the upper and lower braces, E. These braces are also constructed of metal, preferably cast-iron, and consist of a vertical end piece, a horizontal top piece, and an oblique brace portion, with any desired open-work ornamentation; or they may be otherwise fashioned, provided they have the vertical and horizontal portions. Each brace at its ends is provided with a passage or hole, which occupies the same vertical plane as the corresponding passage in the risers when the braces are fitted to the risers. In these passages are fitted wrought-iron bolts or rods G, which are shouldered at G′, preferably by some ornamental cast-metal design fitted thereon, and which at their lower ends are provided with ornamental binding-ends H. The adjacent upper ends of the contiguous braces fit one upon the other and between these shoulders and the top of the tread, as seen at I. By preference the rods G, besides acting as bolts, extend upward and constitute rounds for the stair-casing, and have pivoted to them at their upper ends metallic clips J, which are riveted, bolted, or otherwise secured to the rails K, as seen at L in Fig 5. The pivotal connection between the rounds and the clips admits of adjusting the clips to agree with the angle of the rail. The clip is designed to be of an ornamental character, so as to add to the attractiveness of the structure.

Referring now to the treads, these consist of metallic—preferably cast-iron—plates M, of the proper shape and dimensions and have cast with them a molding or bead, N, which extends round their front and sides, adding to the strength and appearance, while on the under side of the treads at the said ends are cast grooves O. The horizontal portions of the lower or under braces, E, fit into these grooves.

Referring back to the rounds G, their shoulders G′, and their nuts H, it will be observed

that upon tightening the latter the parts of the structure are drawn tightly and firmly together, affording rigidity and stiffness, and rendering the stairway strong. It will also be observed that the lower edges of the risers have short projections P at intervals, which rest upon the treads. The object of this construction is to avoid the necessity of having to plane or otherwise accurately finish the lower edges of the risers and the adjacent portions of the tread to secure an accurate and neat fit. The beads N are slotted at Q to receive the vertical portions of the braces and the rods G.

The letter R refers to metallic blocks, which are grooved to receive the lower edges of the risers and are adapted to fit upon the treads. It will be understood that by interposing these blocks between the risers and the treads the vertical measurements from the upper edges of the risers to the tread below will be increased, and therefore that the depth of the risers will be increased and the number of steps for a given height lessened, or adjustment be made to accommodate a given number of steps to a given space, which the completed set of steps may not exactly fit. The metallic grooved strips R′ are placed between the tread and the upper braces to lift the latter a corresponding distance above the former to the distance the blocks R lift the risers above the tread. The strips and the blocks are therefore used at the same time. I have shown the blocks and the strips as separate; but it is obvious that they could be connected together.

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

1. In a stairway, the combination, with risers having vertical passages and vertical ways, and braces having horizontal and vertical portions and vertical passages, the vertical portions fitting said ways, of treads fitted beneath one riser and above the other and between the horizontal portions of the braces, and bolts fitted to the passages in the risers and the braces and arranged to bind the parts together.

2. In a stairway, the combination, with cast-metal risers having vertical passages and front and rear ways at each end, and cast-metal braces having vertical passages at their ends and horizontal portions, of cast-metal treads having grooves on the under side to receive the horizontal portions of the braces and fitted upon one riser and beneath the next riser, and bolts fitted to said passages and arranged to bind the parts together.

3. In a stairway, the combination, with risers having a vertical passage at each end and vertical front and rear ways, and braces having coincident passages and vertical and horizontal portions, the former portions fitted to said ways, of treads fitted upon one riser and beneath the other and between said braces, and shouldered rods fitted to said passages and having binding-nuts extended upward to form rounds, and railings secured thereto.

4. In a stairway, the combination, with the risers and treads, of separate blocks grooved in their upper surfaces to receive the lower edges of the risers and fitted between the latter and the treads, upper braces, and separate strips grooved to receive the lower portions of said braces and fitted between the braces and the treads, and fastening devices which secure the parts together.

5. In a stairway, the combination, with the risers and the treads, of separate blocks fitted between the risers and treads and constructed to engage one of them to prevent accidental dislodgment of the blocks, upper braces, and separate strips fitted between the braces and the treads and constructed to engage one of them to prevent the accidental dislodgment of the strips, whereby the vertical measurement of the risers is increased and a stairway whose risers and treads are of predetermined sizes is made adjustable in length to fit a location somewhat longer than said stairway, and fastening devices which secure the risers, treads, and braces together, with the blocks and strips intervening, as aforesaid.

6. In a stairway, a cast-metal riser having a vertical passage at each end thereof and vertical ways at the front and rear sides of each end, substantially as described.

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

TIMOTHY ROGERS.

Witnesses:
E. O. DANIELS,
J. H. MAHAN.