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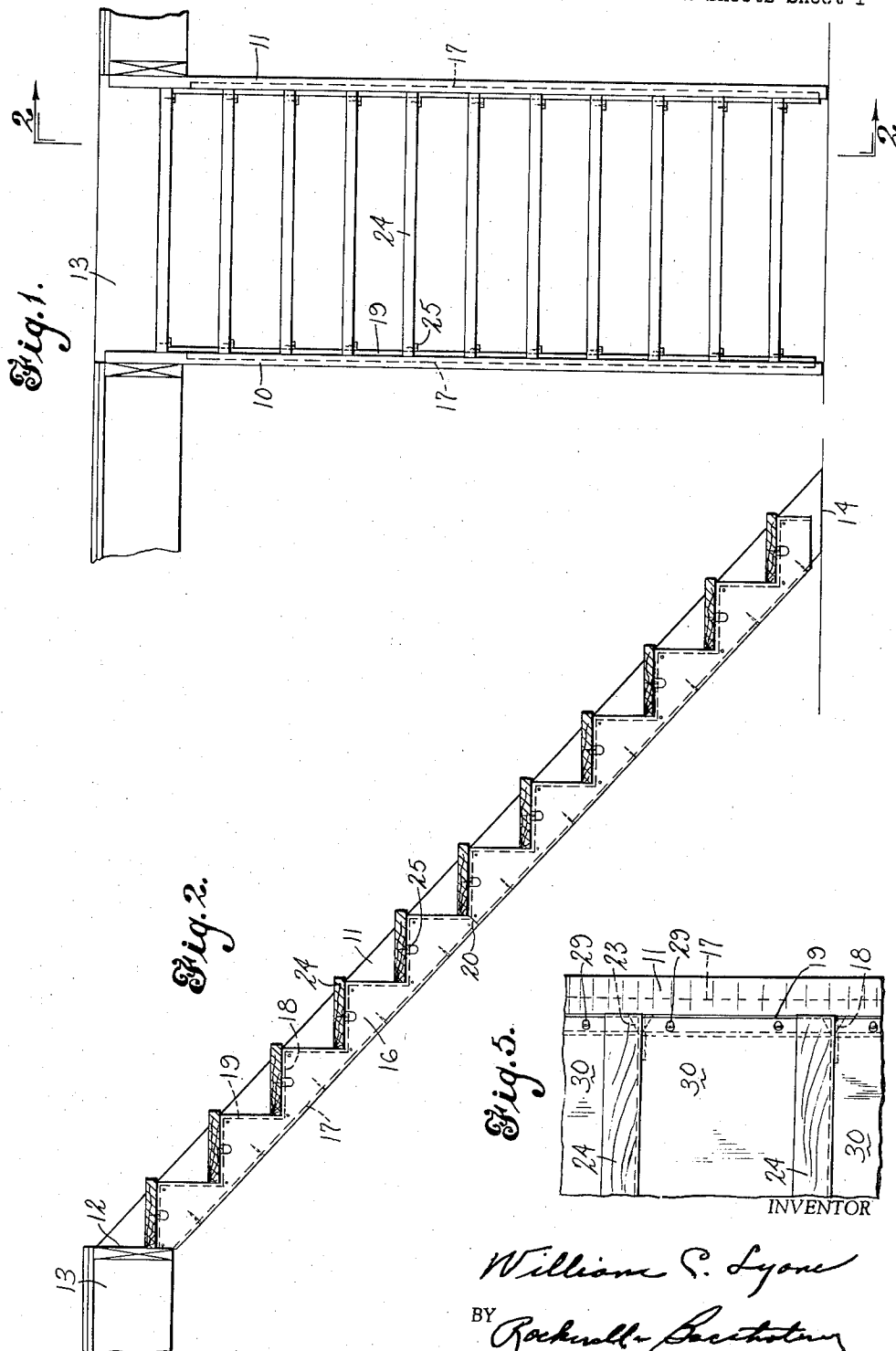
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STRINGER AND TEMPLATE FOR STAIR CONSTRUCTION

Filed Jan. 7, 1958

2 Sheets-Sheet 1



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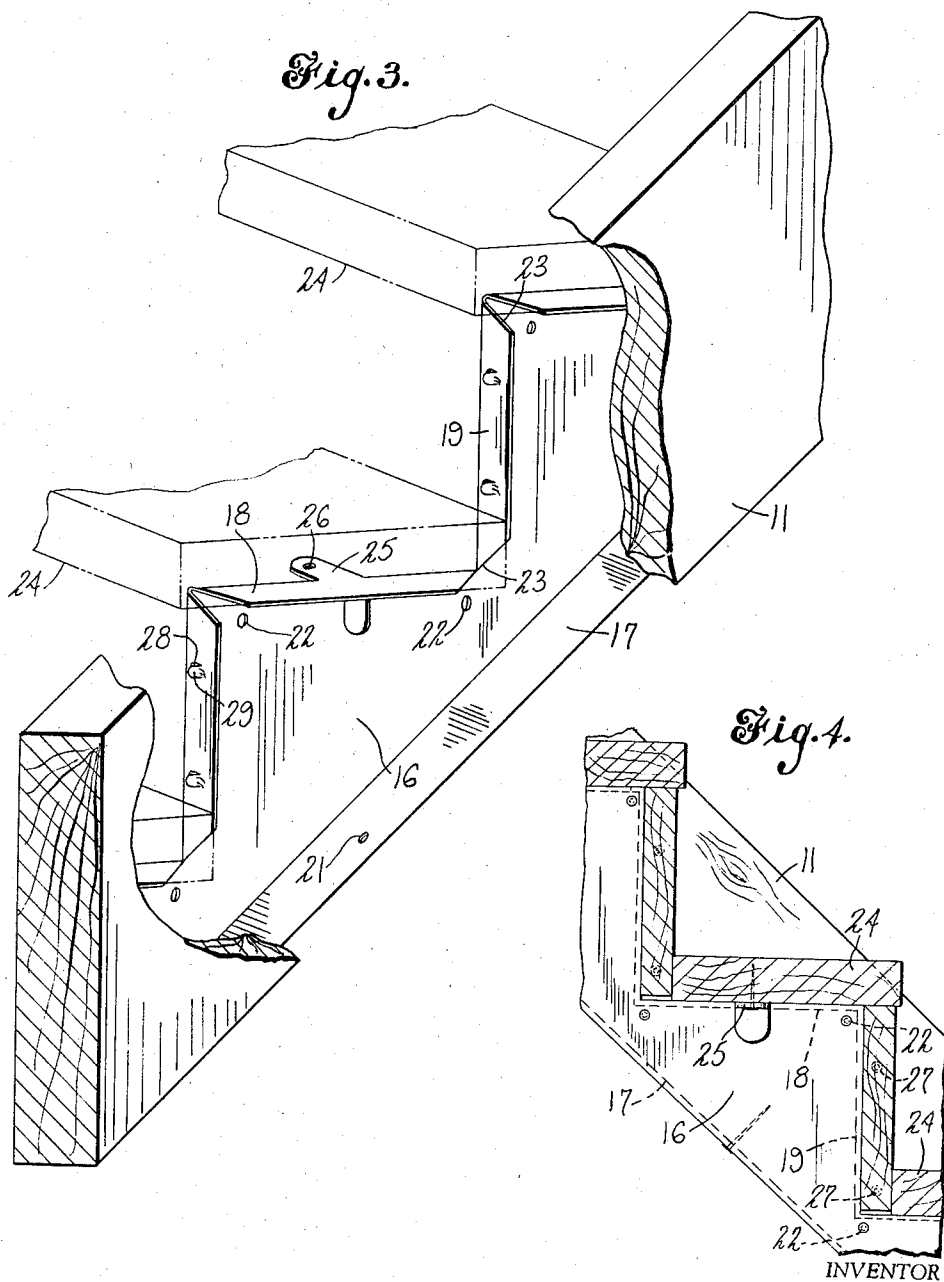
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STRINGER AND TEMPLATE FOR STAIR CONSTRUCTION

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2 Sheets-Sheet 2



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STRINGER AND TEMPLATE FOR STAIR CONSTRUCTION

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6 Claims. (Cl. 20—10)

This invention relates to a stair construction and more particularly to a template to be employed in building a stairway in order to reduce the labor which is customarily required for this purpose and thereby reduce the expense of the construction.

In building a stairway the usual practice has been to employ two stringers, one at each side of the stairway. These stringers are cut out so as to provide supporting portions for the steps and risers, these cuts being made at right angles to each other. Such work requires a skilled workman and also requires a considerable expenditure of time, thus making the building of a stairway an expensive procedure. It is contemplated by the present invention to provide a template preferably formed of relatively heavy sheet metal which may be applied to a stringer of standard dimensions, the template being shaped to support risers and treads so that no work is required to be done upon the stringer itself, which is usually of wood, except the mitering of the upper and lower edges to suit the installation.

As illustrated, the template comprises a strip of relatively heavy sheet metal having along one edge a relatively wide flange bent at right angles to the plane of the strip, which flange is adapted to lie below the edge of the stringer and be secured thereto. At its other edge the template is cut or stamped out in stepped fashion so as to provide edges at right angles to each other and the metal adjacent these edges is turned laterally to provide vertical and horizontal flanges extending from the main body of the template in the same direction as the edge flange previously described.

Thus, when the template is secured to the stringer, the edges of these last-named flanges abut the side face of the stringer and provide supports for the risers and steps. As the template can be stamped from sheet metal, much less labor is required than the hand labor necessary to cut the wooden stringer according to the usual construction previously employed. Thus a great saving in labor is effected, making the building of the stairway much more economical than has been the case in the past.

For convenience the templates are usually made in two pieces, each approximating in length one half of the length of the stringer or length of the stairway. For example, in the case of cellar stairways, it is customary to employ eleven steps or treads and eleven risers. In the present instance one of the templates will provide five of the steps and risers and the other, six, two of the templates being used upon each stringer or upon each side of the stairway.

One object of the present invention is to provide a new and improved stairway template which may be employed in the construction of a stairway to lessen the cost of such construction.

A further object of the invention is to provide a new and improved stairway construction in which a template is secured to a stringer extending longitudinally of the stairway, the template being so formed as to provide supports for the steps and risers.

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Still another object of the invention is to provide a template for application to the wooden stringer at the side of a stairway, the template being formed of relatively heavy sheet metal and provided with a flange to underlie the stringer and be secured thereto and also with supporting or backing flanges against which the treads and risers of the stairway may be secured.

To these and other ends the invention consists in the novel features and combinations of parts to be herein-
after described and claimed.

In the accompanying drawings:

Fig. 1 is a front elevational view of a stairway embodying my invention;

Fig. 2 is a sectional view on line 2—2 of Fig. 1;

Fig. 3 is an enlarged perspective view of a portion of one side of the stairway with the stringer being broken away to show the construction of the template;

Fig. 4 is a fragmentary enlarged sectional view showing the use of a wooden riser in the stairway construction; and

Fig. 5 is a front view showing the use of a sheet metal riser.

To illustrate a preferred embodiment of the invention, there is shown in the drawings a stairway construction which comprises a pair of wooden stringers 10 and 11, one being positioned at each side of the stairway. At their upper ends these stringers may be mitered, as shown at 12 (Fig. 2) to abut against a header or other structure 13, and at their lower ends may be mitered, as at 14, to rest upon a floor or other supporting surface. These stringers may be of standard lumber dimensions and, according to the present construction, need no cutting except to be mitered at their upper and lower edges, if desired, and, of course, cut to the proper length.

The template which is employed to support the treads is shown more especially in Fig. 3 and, as previously stated, is preferably made of relatively heavy gauge sheet metal which may be stamped out and bent into the proper form. This template comprises a body portion 16 of the proper dimensions which when installed will lie in a vertical plane. One edge of this member is bent at right angles to the body thereof to form the flange 17, while the other end is cut or formed in stepped fashion so as to provide horizontal and vertical edges when the template is in an inclined position as it will be upon installation. The upper portions of the horizontal edges are turned laterally to provide horizontal flanges 18, while the vertical edges are likewise turned or bent to provide vertical flanges 19. As previously stated, although the stringers may, if desired, be made of the same length as that of the stringer 10, it has been found convenient to make them approximately half that length, the joint between two such templates being shown at 20 (Fig. 2).

In installing the templates, they are positioned with the outer edges of the flanges 18 and 19 lying against the inner face of the stringer, as shown in Fig. 3, and the flange 17 lying against the bottom of the stringer. It may be observed that the latter flange is wider than the flanges 18 and 19 so that, while the latter merely abut the side face of the stringer, a portion of the flange 17 will underlie the stringer and may be nailed thereto by nails inserted through openings 21 formed in this flange. Likewise, the body of the template below the horizontal flanges 18 may be provided with nail holes 22 so that the body of the template may likewise be nailed through these openings to the stringer 10. Thus, the template will be firmly secured in place between the flanges 18 and 19. The metal of the template is cut away, as shown at 23, in V-shaped form so as to permit the bending over of the flanges 18 and 19. It may also be noted that the openings 22 are positioned close to the bend of the metal in forming the flanges 18 so that

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they will lie close to these flanges which support the treads.

As shown in the drawings, treads 24 (which may be of wood) are supported upon the flanges 18 and nails (not shown) may be inserted through the stringers 10 into the edges of the treads to assist in holding them in place. As an additional securing feature, U-shaped tabs 25 are stamped out of the body 16 of each template adjacent the flange 18, these tabs being bent into a horizontal plane so as to abut the undersurface of the tread and be secured thereto by nails passed through openings 26. Thus the two sides of the stairway will be tied together.

With the above arrangement it will be seen that a firm and rigid construction is provided which will require little work on the part of the carpenter or stair builder, and the templates may be stamped out in quantity at a relatively small labor cost.

If wooden risers are employed, they are abutted against the vertical flanges 19, as shown in Fig. 4. Nails 27 may be inserted through the stringers into the edges of the risers to hold them in place and at their edges the risers will abut the inner surfaces of the stringers. Thus, these risers may be firmly secured in place without any cutting of the stringers.

In some instances it may be that sheet metal risers will be employed, as shown in Fig. 5. For this purpose small U-shaped cuts 28 may be made in the flanges 19, two of these cuts being shown in the drawings. The metal within these cuts may be bent outwardly to form outwardly projecting tabs 29. The metal risers 30 may be provided with properly spaced openings to receive these tabs which may then be bent over toward the flange to secure the riser in place flatly against the forward face of the flange.

The above arrangement provides a combined wood and metal stairway construction which enables a stairway to be built economically in that the carpenter does not have to cut out the stringer for the reception of risers and treads but can use a stringer such as a standard 2 by 8 piece of lumber of the proper length without any cutting except perhaps the mitering at the top and bottom. The template provides for the firm supporting of the treads and risers, if desired, by the stringer, thus providing a rigid construction at a relatively low cost.

While I have shown and described some preferred embodiments of my invention, it will be understood that it is not to be limited to all of the details shown, but is capable of modification and variation within the spirit of the invention and within the scope of the claims.

What I claim is:

1. A stairway construction comprising a metal template and a wooden stringer, said template consisting of a length of sheet metal having a continuous flange along one edge thereof turned at right angles to the plane of the sheet, the other edge of the sheet being cut to provide stepped portions disposed in horizontal and vertical planes when the flange is in an inclined position, the metal of the sheet being turned laterally to provide horizontal and vertical flanges at said stepped portions, said continuous flange being wider than said second-named flanges, and said template being secured to said stringer with the continuous flange underlying the bottom edge of the stringer and secured thereto and the free edges of the horizontal and vertical flanges abutting the inner face of the stringer.

2. A stairway construction comprising a metal template and a wooden stringer, said template consisting of a length of sheet metal having a continuous flange along one edge thereof turned at right angles to the plane of the sheet, the other edge of the sheet being cut to provide stepped portions disposed in horizontal and vertical planes when the flange is in an inclined position, the metal of the sheet being turned laterally to provide horizontal and vertical flanges at said stepped portions, said continuous flange being wider than said second-named flanges, said template being secured to said stringer with

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the continuous flange underlying the bottom edge of the stringer and secured thereto and the free edges of the horizontal and vertical flanges abutting the inner face of the stringer, said construction being disposed at each side of the stairway, treads supported on the horizontal flanges of the templates, and tabs struck from the body of the templates adjacent the horizontal flanges and bent upwardly to underlie the treads and be secured to the lower face thereof.

3. A stairway construction comprising a metal template and a wooden stringer, said template consisting of a length of sheet metal having a continuous flange along one edge thereof turned at right angles to the plane of the sheet, the other edge of the sheet being cut to provide stepped portions disposed in horizontal and vertical planes when the flange is in an inclined position, the metal of the sheet being turned laterally to provide horizontal and vertical flanges at said stepped portions, said continuous flange being wider than said second-named flanges, said template being secured to said stringer with the continuous flange underlying the bottom edge of the stringer and secured thereto and the free edges of the horizontal and vertical flanges abutting the inner face of the stringer, said construction being disposed at each side of the stairway, treads supported on the horizontal flanges of the templates, tabs struck from the body of the templates adjacent the horizontal flanges and bent upwardly to underlie the treads and be secured to the lower face thereof, and risers positioned against said vertical flanges and secured in place.

4. A stairway construction comprising a metal template and a wooden stringer, said template consisting of a length of sheet metal having a continuous flange along one edge thereof turned at right angles to the plane of the sheet, the other edge of the sheet being cut to provide stepped portions disposed in horizontal and vertical planes when the flange is in an inclined position, the metal of the sheet being turned laterally to provide horizontal and vertical flanges at said stepped portions, said continuous flange being wider than said second-named flanges, said template being secured to said stringer with the continuous flange underlying the bottom edge of the stringer and secured thereto and the free edges of the horizontal and vertical flanges abutting the inner face of the stringer, said construction being disposed at each side of the stairway, treads supported on the horizontal flanges of the templates, and tabs struck from the body of the templates adjacent the horizontal flanges and bent upwardly to underlie the treads and be secured to the lower face thereof, said vertical flanges having tabs struck therefrom and risers positioned against said vertical flanges and having openings through which said second-named tabs are received, and said tabs being bent over the risers to secure the latter to the template.

5. A stairway construction comprising a metal template and a wooden stringer, said template consisting of a length of sheet metal having a continuous flange along one edge thereof turned at right angles to the plane of the sheet, the other edge of the sheet being cut to provide stepped portions disposed in horizontal and vertical planes when the flange is in an inclined position, the metal of the sheet being turned laterally to provide horizontal and vertical flanges at said stepped portions, said continuous flange being wider than said second-named flanges, said template being secured to said stringer with the continuous flange underlying the bottom edge of the stringer and secured thereto and the free edges of the horizontal and vertical flanges abutting the inner face of the stringer, said construction being disposed at each side of the stairway, treads supported on the horizontal flanges of the templates, tabs struck from the body of the templates adjacent the horizontal flanges and bent upwardly to underlie the treads and be secured to the lower face thereof, and wooden risers positioned against said vertical flanges, and fastening members inserted

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through said stringers and into the edges of the risers to secure the latter in place.

6. A stairway construction comprising a metal template and a wooden stringer, said template consisting of a length of sheet metal having a continuous flange along one edge thereof turned at right angles to the plane of the sheet, the other edge of the sheet being cut to provide stepped portions disposed in horizontal and vertical planes when the flange is in an inclined position, the metal of the sheet being turned laterally to provide horizontal and vertical flanges at said stepped portions, said continuous flange being wider than said second-named flanges, said template being secured to said stringer with the continuous flange underlying the bottom edge of the stringer and secured thereto and the free edges of the horizontal and vertical flanges abutting the inner face of the stringer, two of said constructions being disposed in

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spaced relation, one at each side of the stairway, with the templates facing each other, wooden treads supported on the horizontal flanges of the templates, and fastening members driven through the stringers into the edges of said treads, and tabs struck from the body of the templates adjacent the horizontal flanges thereof and bent upwardly to underlie the treads and being secured to the lower faces thereof.

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