W. Widmayer.

Constructing Spiral Stairs.

No. 52,922. Patented Feb. 27, 1866.

Fig. 1.

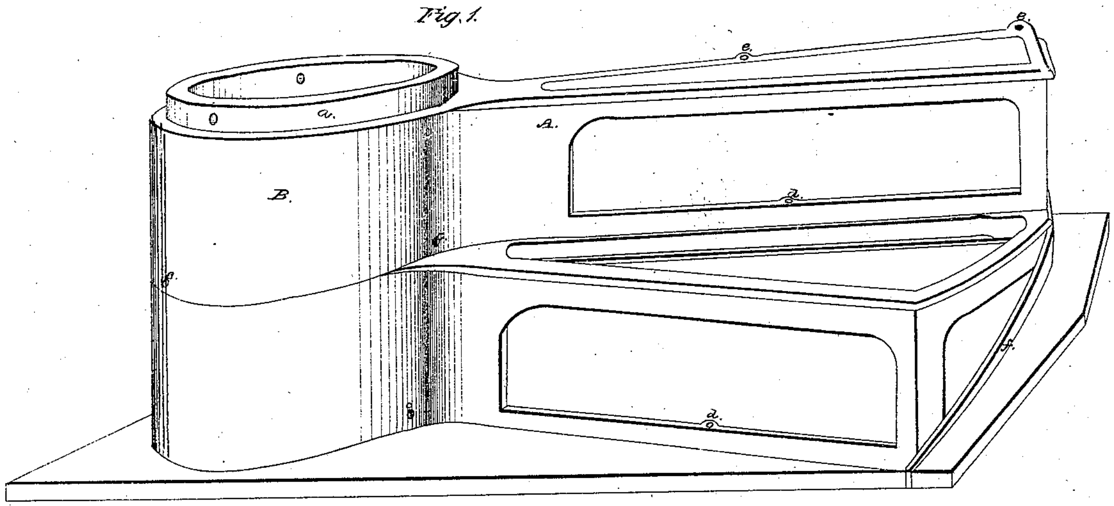


Fig. 2.

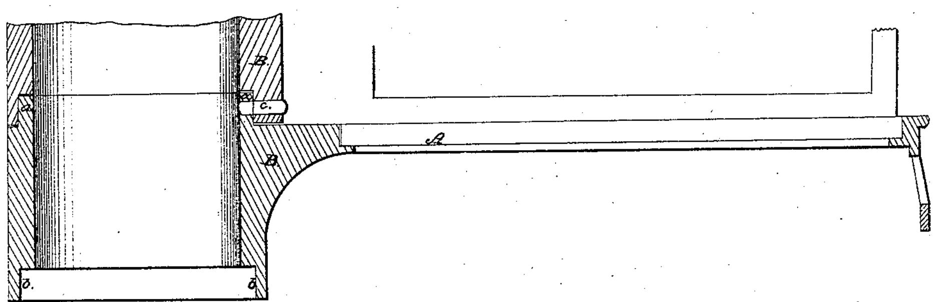
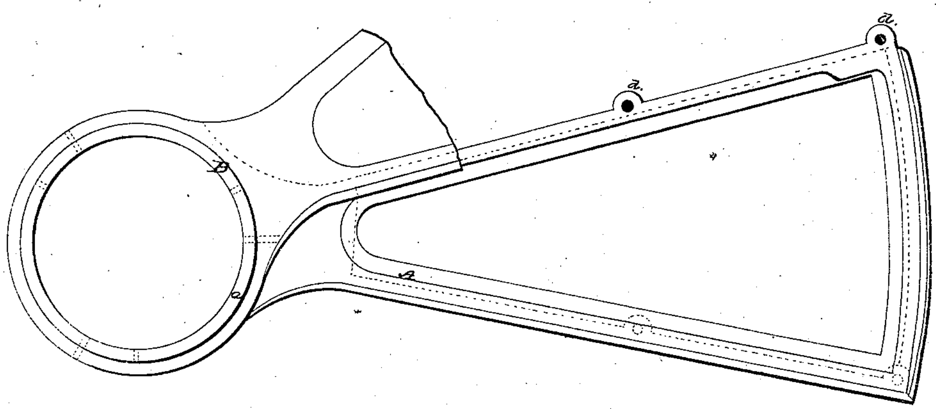


Fig. 3.



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UNITED STATES PATENT OFFICE.

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IMPROVED SPIRAL STAIR.

Specification forming part of Letters Patent No. **52,922**, dated February 27, 1866.

To all whom it may concern:

Be it known that I, WILLIAM WIDMAYER, of the city, county, and State of New York, have invented a new and useful Improvement in the Construction of Spiral Stairs; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a perspective view of this invention. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a plan or top view of the same.

Similar letters of reference indicate like parts.

This invention relates to spiral stairs each step of which is cast solid with a portion of the column or hub, and so that a circular flange or rim, projecting from the upper surface of the hub of one step, fits into a corresponding cavity in the lower edge of the hub of the next succeeding step, and said hubs can be firmly secured together by screws or pins. The steps are further secured together by providing the same with lugs or ears projecting from their inner edges, so that if one step is placed on the top of the other the lugs of one step correspond to those of the next, and the two steps can be securely fastened by screws or pins inserted in holes made in said lugs, and by these means spiral stairs can be constructed which are perfectly firm and self-sustaining, and at the same time light and cheap.

The steps are cast open and the openings filled with glass or other transparent material where it is desirable to admit light, or with wood or other opaque material where light is no object.

A represents one of the steps of my spiral stairs. Said step is cast with a hub, B, which, when the stairs are put up, forms a portion of the supporting-column. Said hub is provided with a rim, *a*, projecting from its upper edge, and with a cavity, *b*, in its lower edge, said cavity being made to receive the rim of the next step below, and the rim to drop into the cavity of the next step above. When two steps are adjusted one on top of the other pins or screws *c* serve to fasten the two hubs firmly together, as shown in Figs. 1 and 2.

The step itself is cast open, as shown, and it is provided with lugs *d e* on its inner edges. When two steps are adjusted one on top of the other, the lugs *d* at the lower edge of one step fit on the lugs on the upper edge of the next step below, and the two steps can be firmly secured together by passing pins or screws through holes in said lugs.

By this arrangement spiral stairs can be made which are very light, firm, and durable, they are easily put up or taken down, they are self-sustaining, and they can be made of any desirable size and carried up to any desirable height.

A spiral brace, *f*, is secured to the outer edges of the steps to increase the strength and stability of the stairs, and to give to the same a finished and graceful appearance.

While disclaiming novelty in the general idea of casting the frames of spiral stairs each with a hub to form part of a hollow central column,

I claim, and desire to secure by Letters Patent—

The combination, with the frame A, of the lugs *d e*, spiral brace *f*, and the hollow central hub B, cast with a projecting flange, *a*, at one end, and a countersink, *b*, at the other, all as herein described, and for the purposes set forth.

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