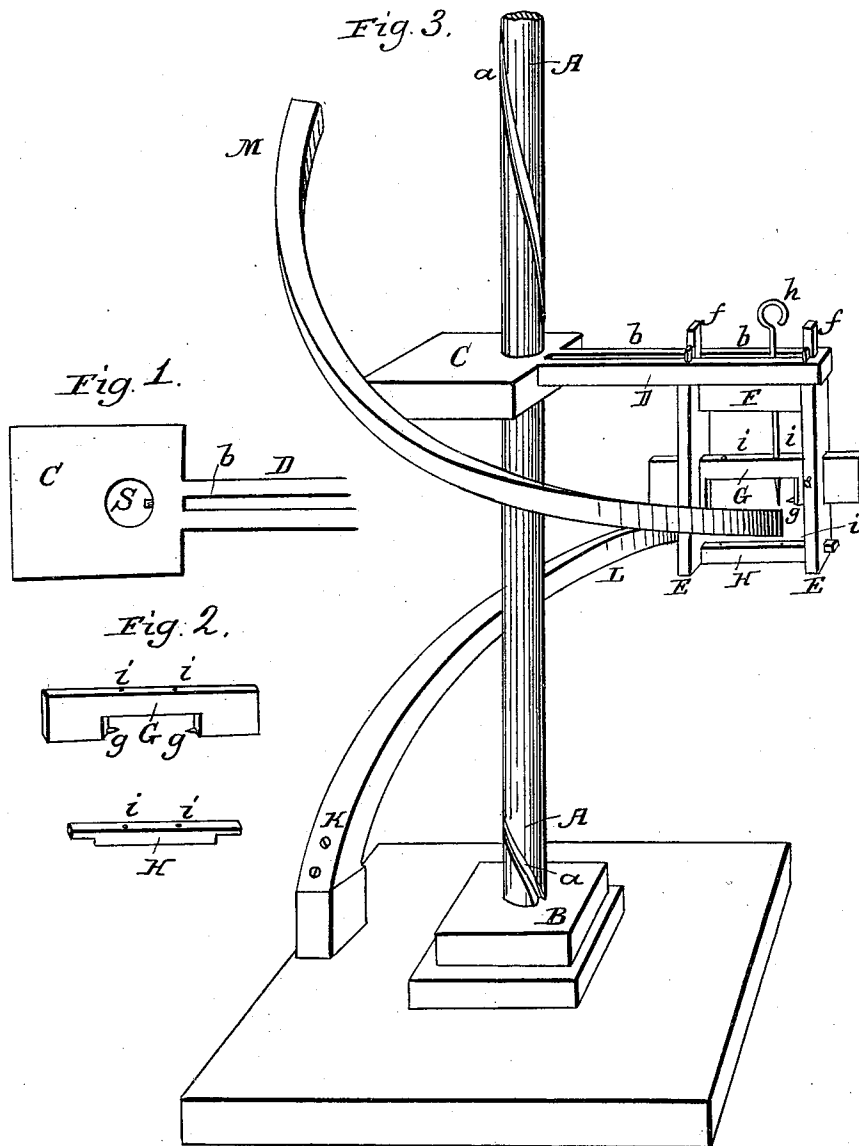


C. WOOSTER.

Stair Gage.

No. 5,380.

Patented Dec. 4, 1847.



Inventor:

*Custis Wooster*

# UNITED STATES PATENT OFFICE.

CURTIS WOOSTER, OF PHILADELPHIA, PENNSYLVANIA.

## GAGE USED IN FINISHING SPIRAL HAND-RAILS.

Specification of Letters Patent No. 5,380, dated December 4, 1847.

*To all whom it may concern:*

Be it known that I, CURTIS WOOSTER, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Gages for Marking Out Spiral Stair Hand-Rails and the Ways or Strings; and I hereby declare that the following is a full and exact description of the construction and operation of the same.

The annexed drawing is a perspective view of the gage and spiral hand rail which has been marked by the gage and worked out.

A round post A, A, made fast in a block B, is secured to the floor by nailing in the center of the circle of the stairs, either where they are to be built or in any other convenient place. The height of the post exceeds by a few feet that of the highest story and from 6 to 12 inches in diameter. A regular spiral groove (*a, a,*) is cut in it, beginning on the side opposite the starting point at the base of the stairs and extending to that opposite the termination at the landing, whether the stairs are to have a part or an entire revolution of the circle or more, making the lower edge of the groove the true line. The post passes through a round hole in the block C, to which the arm D of the gage is attached in such manner as to slide freely up and down the post, but so as to keep the arm perfectly horizontal, for which purpose the size of the hole in the block should not allow too much play. The block C also has a fixed pin or cog (*s*) (not seen in the drawing but shown in Figure 1) adapted to the groove *a, a*, the lower edge of which guides it as it ascends or descends in the groove, when the arm D, is revolved. Two pieces E E connected by a cross tie F, are framed into a long groove *b, b*, in the arm D, by long tenons *f, f*, and keyed so as to be moved in or out from the center of the stairs according to the radius.

G H are movable cross pieces mortised into the pieces E E (with movable pin) which bear the gage points, that at *g* is one of those for marking the grade or top and

bottom of the rail, the other similarly situated being concealed in the drawing, but shown in Fig. 2. Those for the side lines being made by a point *h*, which is passed through corresponding holes *i i*, &c., in the cross pieces G, H. Instead of a groove a spiral tongue or head may be formed on the post to work in a notch or gain in the block C. K L M, represents a finished rail in place. A number of grooves may be made in the same post or the tongue may be shifted to suit stairs of different grades, although, but one is represented in the model and drawing.

The rough of a section of the rail is screwed in place at K, the gage is then brought to it and the grade line described on the sides by the points *g* both for the upper and under side of the rail after it is worked off it is replaced and the side lines are described on the upper and lower surfaces by the point, *h*, put successively in the holes *i, i*, and the rail being worked off to these lines the next heading joint is made and the rough of the next section put on which is proceeded with in like manner until the first story is completed. A temporary post is now substituted for a foundation for the next story upon which the gage post is placed and the process is continued as for the first story. The horizontal sections of the rail may also be described with a sweep rod working from the post as a center.

Now what I claim as new and as my invention in the above described improvement for which I ask Letters Patent of the United States, is—

The spiral tongued or grooved post in combination with the arm and its gage points for the construction of the ways and hand rails of spiral stairs as herein set forth and described.

Given under my hand this 11 June 1847 at the city of Washington.

CURTIS WOOSTER.

Witnesses:

WM. T. STEIGER,  
J. S. SMITH.