

N. Adkins.

Stairs.

N<sup>o</sup> 71436

Patented Nov. 26, 1867.

Fig. 1.

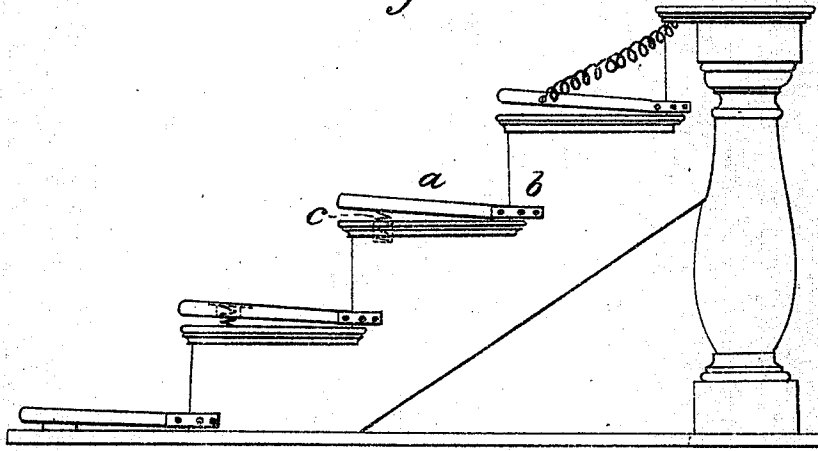
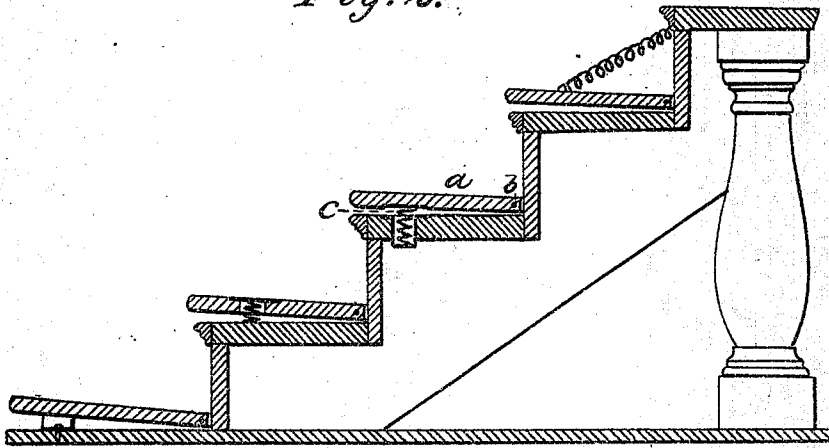


Fig. 2.



Witnesses.

J. G. Clayton.

W. Dayton

Inventor.

N. Adkins,  
by atty.

J. G. Clayton.

United States Patent Office.

NORIS ADKINS, OF DANBURY, CONNECTICUT.

Letters Patent No. 71,436, dated November 26, 1867.

IMPROVEMENT IN STAIRS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, NORIS ADKINS, of Danbury, in the county of Fairfield, and in the State of Connecticut, have invented a new and useful Improvement in "Stairs," constructed so as to be elastic, by the use of suitable springs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a side elevation, and

Figure 2 is a sectional view, showing the springs.

The nature of my invention consists in making a hinged spring step for stairs, thus giving elasticity to the step of a person in ascending the stairway, as hereinafter more fully described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the construction of my invention, in fig. 1, A represents a flight of steps made as any ordinary flight of stairs are made, to which is applied my invention; *aaaa*, the hinged spring step; *bbbb* the hinge, and *cccc* the springs. When I wish to apply my invention to any ordinary flight of stairs, I make a false or additional top of step, *a*, which may be lighter than the step, or top of the step when my invention is not used. I then attach to it, at each end, by means of screws, a strip of metal, *b*, passing but one screw through each hinge, on which screw, in each end of the step, the hinge *b* turns. The other end of the strip or hinge *b* is attached firmly to the stringers, with two or more screws, as seen at *b*, in fig. 1. The springs *cc* may be made of the most convenient spring to accomplish the object; they may be either of metal or rubber. I have used various forms of springs, the elliptic and the coiled spring. In making the steps when new, the top may be made to fit over a riser or frame of the stairway with placing only a thin board, at the top of the step, over which the swinging step is made to fit.

In the operation of my invention, it will be seen that when the step is hinged to the stringer with the hinge *b*, and the spring is attached to it, as in the second step from the bottom of the stairs, or attached to the top board or step, as in the first step from the floor, the steps *aaa* are made to rise up from half an inch or more, so that when the person, in ascending the stairs, treads on the step *a*, it immediately yields and is pressed down to the tension of the spring, and as the weight is being lifted from the step, the spring at once reacts and gives force to and aids in ascending, thus greatly helping the person to ascend. The tension of the spring will be sufficient to raise the foot, when the weight of the person ascending is divided between the next step and the one about to be relieved of the weight on it. Thus persons ascending will be aided by my invention to do so, as the tension of the spring will be sufficient. Aged and infirm persons will be much helped, also, in ascending a flight of stairs.

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

The combination of the step *a*, hinge *b*, and spring *c*, forming an elastic hinge-spring step, constructed substantially as described and for the purpose set forth.

In testimony that I claim the above-described invention for spring stairs, I have hereunto signed my name, this 17th day of September, 1867.

NORIS ADKINS.

Witnesses:

LEVI OSBORNE,  
THEODORE McDONALD.