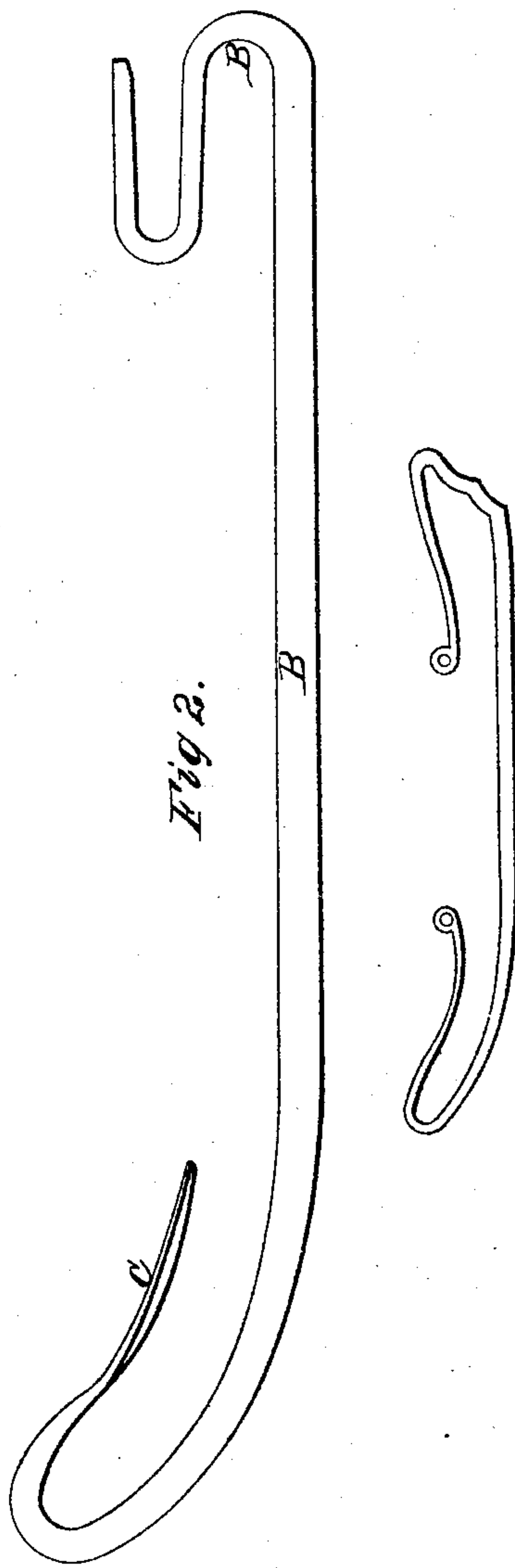
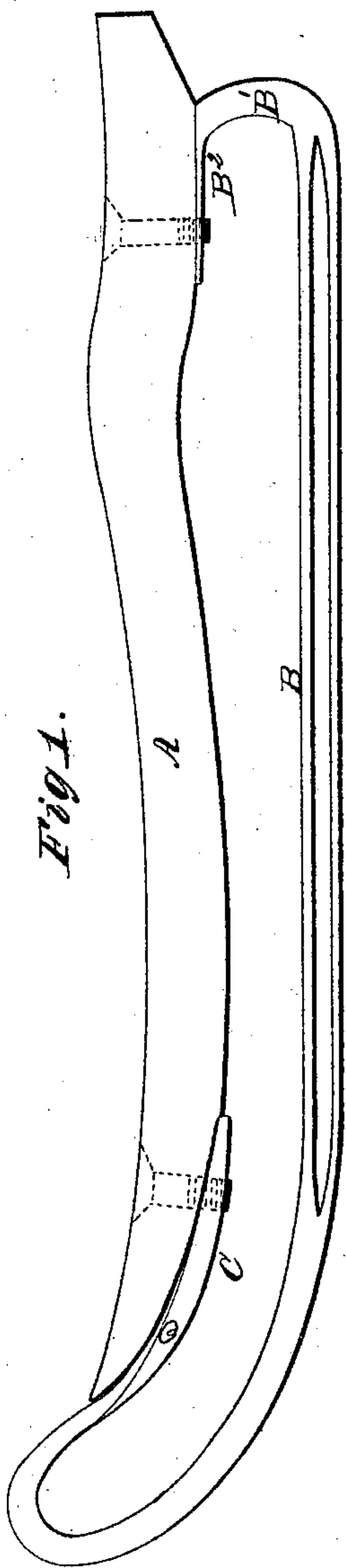


C. E. Hale,

Skate,

N^o 32,833.

Patented July 16, 1861.



Witnesses.

Wm. Thompson
Chas. C. Cury

Inventor.

Charles E. Hale

UNITED STATES PATENT OFFICE.

CHAS. E. HALE, OF MILLBURY, MASSACHUSETTS.

SKATE.

Specification of Letters Patent No. 32,833, dated July 16, 1861.

To all whom it may concern:

Be it known that I, CHARLES E. HALE, of Millbury, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Skates; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a side view of my improved skate showing clearly my mode of securing the runner or skate iron to the foot stand, whereby I obtain elasticity, and a yielding action of the same, under the ball or front part of the foot stand. Fig. 2 represents a modification of Fig. 1, in which the entire runner is made to yield both at the heel and toe parts thereof.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to construct a light and cheap skate, one that will be comfortable to the foot, and which will assist the skater in his movements, and accelerate his speed over the ice with less exertion than with skates constructed previous to my invention.

My invention consists in forming the skate runner much narrower than they are at present made, and instead of securing the same to the bottom of the foot stand along its entire length, or securing it at intervals to the stand, so that it will be stiff and inelastic, I arrange and apply the runner to the stiff stock or stand in such a manner, that a downward, yielding, and elastic action is obtained, either along the entire length of the skate, or only the front part or ball of the same. The invention does not consist in the employment of separate springs for this purpose for such a use of springs for skate irons are very objectionable, but it consists in forming the springs, and obtaining the necessary elasticity or yielding action, by a continuation of the runner as will be hereinafter described and represented.

To enable those skilled in the art to fully understand my invention, I will proceed to describe its construction and operation.

In the drawings, the stock or foot stand

of the skate is represented by A, it being made of any suitable stiff material and fashioned to suit the fancy of the wearer. This stock may be fitted up with straps, clamps, or it may be secured permanently to the sole of a boot or shoe.

B is a runner or skate iron which should be made of steel so as to combine lightness, elasticity, and stiffness, it is made of a narrow strip, or bar, of any desirable thickness and formed into the desired curve or rocking shape, with a heel standard B¹, and a reverse bend B², which is swaged or flattened out so as to give both lateral and longitudinal strength to the attachment of this with the heel portion of the foot stand. The height of the standard portion B¹ will vary according to circumstances.

The front attachment of the runner to the stock A is made by bending the metal up and over, and swaging or flattening out the end as represented, and securing it under or at the front or toe portion of the foot stand as represented, or in any other way, by which the same object is attained, viz, a yielding and elastic action of the skate at the toe or front part. This latter attachment gives a springing effect to the front part of the stock at a point most desirable for giving a forward thrust to the person when in the act of "striking out". At the same time the spring at this point will serve to some extent to prevent the jarring and disagreeable straining to the feet and legs in moving over rough ice, but by giving the same bend to the heel part of the runner, or bending the runner as represented by Fig. 2, elasticity will be obtained both at the heel and toe of the runner, and a sufficiently rigid attachment of the runner with the skate stock to prevent a lateral motion of the same in consequence of the lateral thrust of the feet while in the act of moving forward.

For all practical purposes, the skate iron represented by Fig. 1 will be found stronger and more efficient than where spring is given to both heel and toe as in Fig. 2.

I am aware that the runners of skates have been attached to the foot stand by springs as in the case of the United States Patent No. 22,895.

Therefore what I claim and desire to secure by Letters Patent is,

An improved mode of arranging and applying the spring or springs, the same being
5 ing a continuation of the runner, fastened at the toe and heel of the foot stand, rigidly or by a suitable joint, or secured to the foot-

stand at any point or points whereby the result herein described may be obtained.

CHAS. E. HALE.

Witnesses:

WM. THOMPSON,
CHAS. CRUX.