T. Bergner

Skate Fastening.

No. 44,066. Patented Sep. 6, 1864.

Fig. 5.

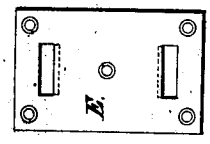


Fig. 6.

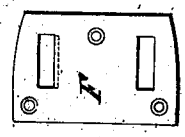


Fig. 4.

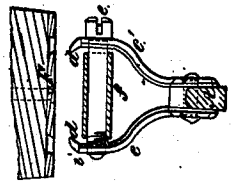


Fig. 3.

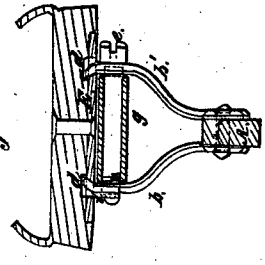


Fig. 1

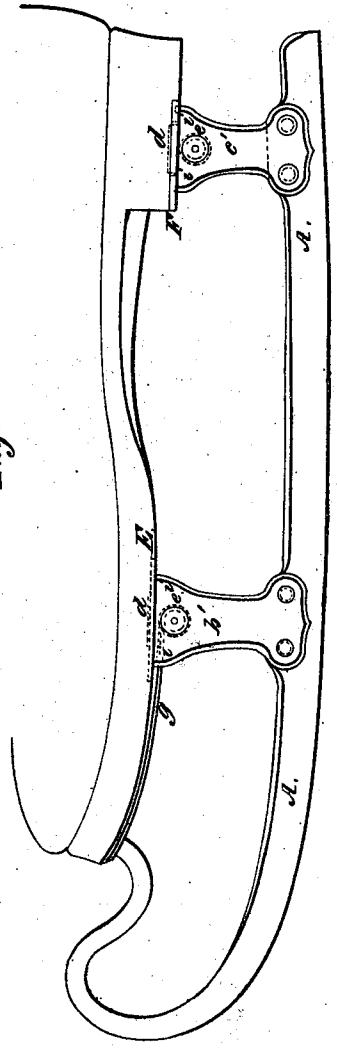
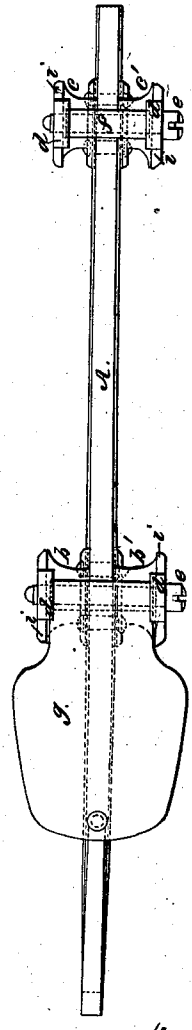


Fig. 2



Witnesses:

Colman Sellers

B. Frank Lewis.

Inventor:

Theodore Bergner

UNITED STATES PATENT OFFICE.

THEODORE BERGNER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED SKATE-FASTENING.

Specification forming part of Letters Patent No. 44,066, dated September 6, 1864.

To all whom it may concern:

Be it known that I, THEODORE BERGNER, of the city of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Skates; and I do hereby declare the following to be a full and exact description thereof, reference being had to the annexed drawings, and to the figures and letters of reference marked thereon.

My invention relates to that class of skates which are secured to the feet without the use of straps; and its nature consists in a novel construction of such skates, combining the important element of a very efficient fastening with lightness, strength, and simplicity of arrangement.

Another peculiarity of my improvement consists in its marked aptitude to the production of neatly-shaped parts, and to a graceful outline of the entire skate.

In order that my said invention may be fully understood, I will now proceed to describe the same.

On reference to the drawings making part of this specification, and in which similar letters of reference allude to like parts throughout the several views—

Figure 1 is a side elevation of my improved skate, representing it as attached to a shoe. Fig. 2 is a plan of the skate detached. Fig. 3 is a transverse section of the skate at the front fastening. Fig. 4 is a similar section at the rear fastening. Figs. 5 and 6 represent the plates, which are riveted or otherwise permanently attached to the sole and heel of the shoe.

To the runner A of my improved skate are riveted in pairs the upward-extending curved stays *b b'* and *c c'*, made of sheet-steel of the required thickness to give them a limited amount of elasticity. The upper extremity of these stays I provide with converging projections *d d*, and, availing myself of the elastic property of the stays as a means of obtaining a fastening, I furnish each pair of stays with a clamping-screw, *e*. The front plate, E, and heel-plate F have each a pair of oblong holes coinciding in size and relative distance with the projections *d d* of the stays in such a manner that the said projections will, in their unclosed position, freely enter the holes in the plates. While the skate is thus held upon the sole of the shoe both pairs of stays are contracted by means of the clamping-screws *e e* until the inclined surfaces of the projections *d d* are firmly pressed against the corresponding inclined side of their respective openings in the plate. It will be readily seen that the inclined surfaces of the projections *d d* must by this clamping action draw the stays upward until their top surfaces, *i i*, are forcibly pressed against the outer surface of the plates in the shoe, and that an extremely rigid fastening with well-distributed surfaces of contact (of steel upon steel) is thus obtained in a very simple manner.

To guard against injury to the elastic stays from careless use of the clamping-screws I provide the rear clamping-screw with a ferrule, *f*, of such length that while it shall be no impediment to the amount of contraction required for a fastening in the shoe-plate, it yet fills the space between the stays to such extent as to prevent injury to the latter from careless handling of the clamping-screw. The forward stays, *b b'*, are guarded in a like manner by a ferrule formed on the rear end of a toe-plate, *g*, through which the screw *e* passes. The front end of this toe-plate is riveted to and rests upon the forward end of the runner A, and while the screw *e* serves as a rear support for the toe-plate the latter is in turn used as a guard for the screw.

The construction and operation of my improvement having thus been explained, I desire to name as one of its main advantages the facilities which it offers for cheap and extensive manufacture of these skates by machinery. Although made entirely of steel, the different parts of the skate are of a favorable character for cheap production, the runner being a very plain light forging, easily drawn out and bent into shape, while the stays and toe-plate can be readily punched from sheet-steel of proper thickness and bent into shape. I do, however, not desire to limit myself to the described method of riveting or otherwise attaching separate stays to a runner of the shape represented in the drawings, as the same end can be attained by forging upward extensions upon the runner, slitting them longitudinally, and bending them into suitable shape for obtaining the described elastic property, and fastening by means of the clamping-screw.

It will be obvious that a modification of my invention avoiding the use of a toe-plate may consist in providing forked extremities at both ends of a runner, curving these forked ends

upward into suitable shape for elasticity, and furnishing them with projections and a means of clamping, as heretofore described.

Upon practical test and comparison I am convinced that the fastening obtained by clamping the elastic stays against steel surfaces, as described, is far more reliable than grasping the sole and heel on opposite sides, as has been done heretofore by the use of sliding clamps and in various other ways. It must, however, be evident to any intelligent mechanic that my improved elastic stays may, without impairing the invention, be so modified in shape as to adapt them to obtaining a fastening in the last-described manner.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The described elastic stays, when forged upon the runner of the skate or otherwise attached to the same, and when their projections *d d* are actuated by clamping-screws or their equivalents, substantially as and for the purpose specified.

2. The use of a ferrule or its equivalent as a guard upon the clamping-screws, substantially as set forth.

3. Supporting the rear end of the toe-plate upon the front clamping-screw in the manner and for the purpose described.

THEODORE BERGNER.

Witnesses:
COLEMAN SELLERS,
B. FRANK LEWIS.