

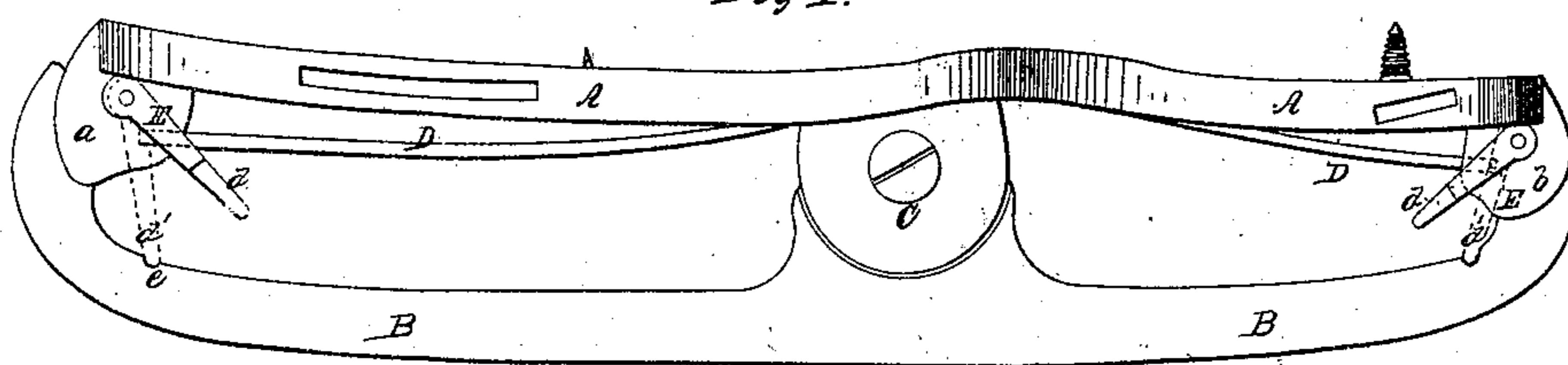
*A. Hathaway,*

*Skate,*

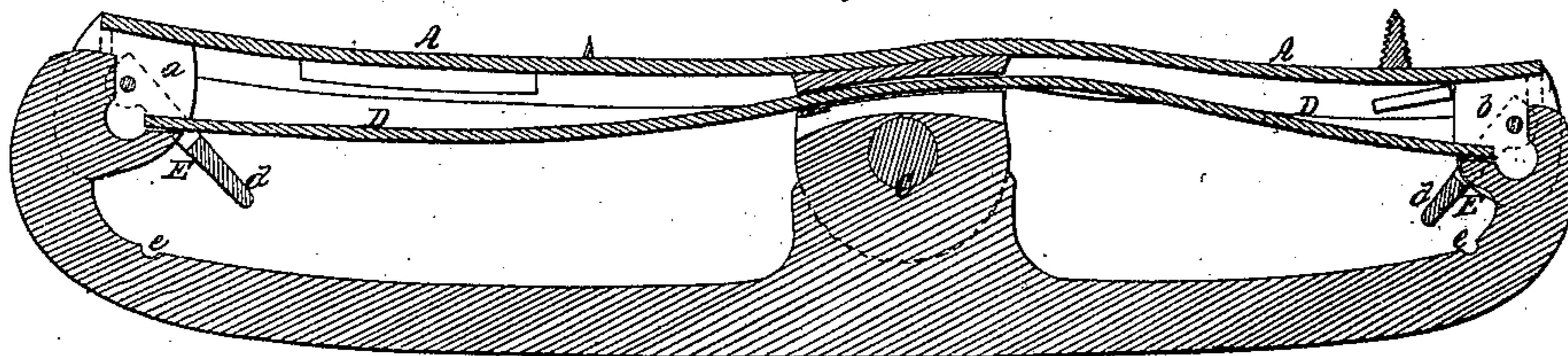
*N<sup>o</sup> 31,017.*

*Patented Jan. 1, 1861.*

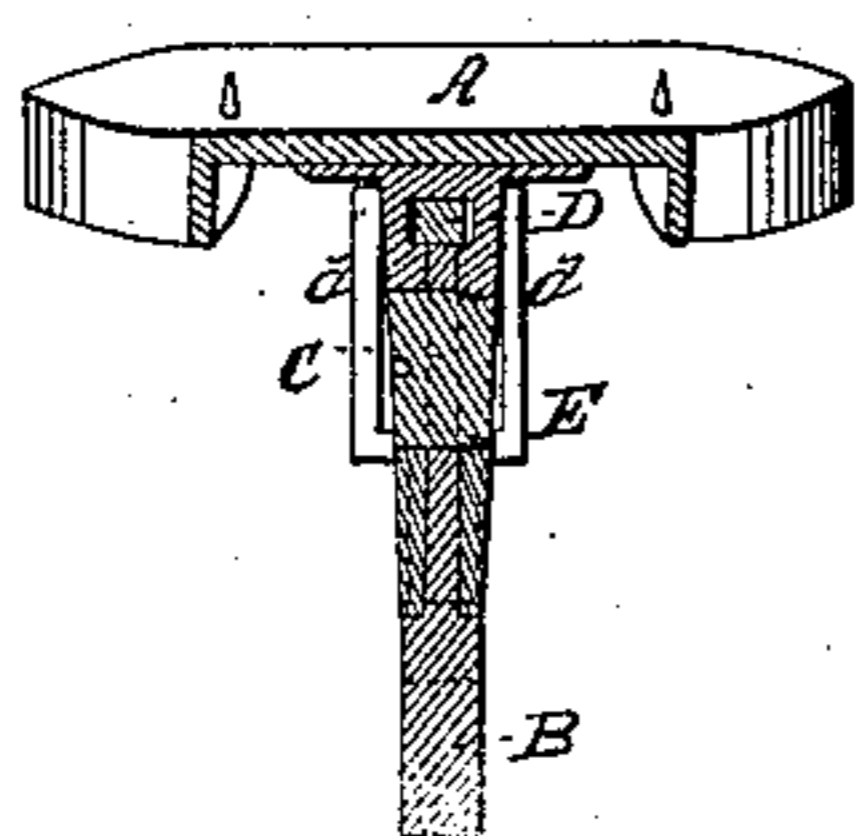
*Fig 1.*



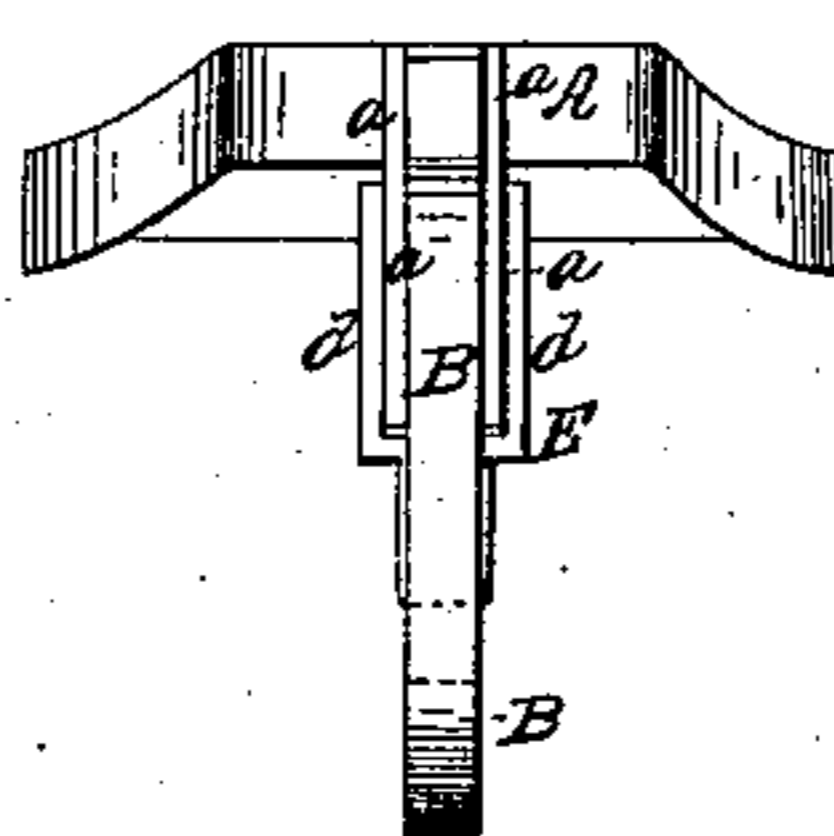
*Fig 2.*



*Fig 3.*



*Fig 4.*



*Witnesses.*

*W. P. Hale & Co.*  
*Arthur Hill*

*Inventor.*

*Alfred Hathaway*

# UNITED STATES PATENT OFFICE.

ALFRED HATHAWAY, OF CHARLESTOWN, MASSACHUSETTS.

## SKATE.

Specification of Letters Patent No. 31,017, dated January 1, 1861.

*To all whom it may concern:*

Be it known that I, ALFRED HATHAWAY, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented an Improved Skate, and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1, is a side elevation; Fig. 2, a longitudinal section Fig. 3, a transverse section, and Fig. 4, a front end view of it.

In such drawings, A, denotes the foot rest, B, the runner of the skate, they being connected at or near their middles by a hinge or rocker, C, applied and arranged as shown in the drawings. The runner, near each of its ends, not only extends between two parallel guides, (*a, a,* or *b, b,*) extending downward from the foot rest, but abuts against one arm of a curved bar spring, D, which at its middle is fastened to, or suitably held, by the foot rest or that part of the hinge which projects from such foot rest, the whole being as shown in the drawings. Furthermore, two locking arms, E, E, are hinged to the foot rest in such manner as to enable such to be swung or turned on its hinge pin and in the plane of the runner, or from the position shown at *d*, down to that indicated at *d'*, by dotted lines, in which latter case, the lower extremity of each arm is caused to enter one of two notches *e, e*, arranged in the runner as shown in Figs. 1 and 2. When in these latter positions the locking arms become rigid supporters of the toe and heel parts of the foot rest, that is, they prevent the foot rest from turning on its hinge and taking elastic bearings on the ends of the runner.

The object of my mode of applying the foot rest and runner together is not only to enable the former to be firmly supported by the latter immediately or about in the line of direction of the center of gravity of the body of the skater while he may be standing in an upright or nearly upright position, but to allow the runner, either at its toe or heel to

spring upward easily when met by any ridge or irregularity of the surface of the ice; also, to allow the foot rest to have a spring bearing at or near its toe, while the skater may be in the act of propelling himself either forward or backward. The peculiar advantage of my mode of supporting the foot rest with respect to the runner, will be readily comprehended by most, if not all good skaters.

Should the user of the skate be desirous at any time, of having at the toe or heel of the foot-rest or at both toe and heel, a rigid instead of an elastic bearing so as to cause the foot rest to have no rocking motion with respect to the runner he has only to turn the locking arms *d, d*, downward into their respective notches of the runner.

I am aware that a skate has been constructed with springs interposed between its foot rest and runner and for the purpose of supporting the foot rest by elastic bearings arranged under its heel and toe. Therefore I do not claim such a skate.

What I claim as my invention is—

1. An improved skate as made not only with its foot rest combined with its runner by means of a hinge rocker or fulcrum but with a spring or springs so applied to such runner and foot rest as to present an elastic support to either or both ends of the runner.

2. The combination and arrangement of the locking arms or their equivalents with the foot rest and the runner having a spring or springs so applied to them as to enable them to operate together substantially as specified.

3. The combination of the runner and foot rest by means of a hinged connection (or the equivalent) so applied as to enable the foot rest to vibrate longitudinally and independently of the runner while the skate may be in use.

ALFRED HATHAWAY.

Witnesses:

R. H. EDDY,  
F. P. HALE, Jr.