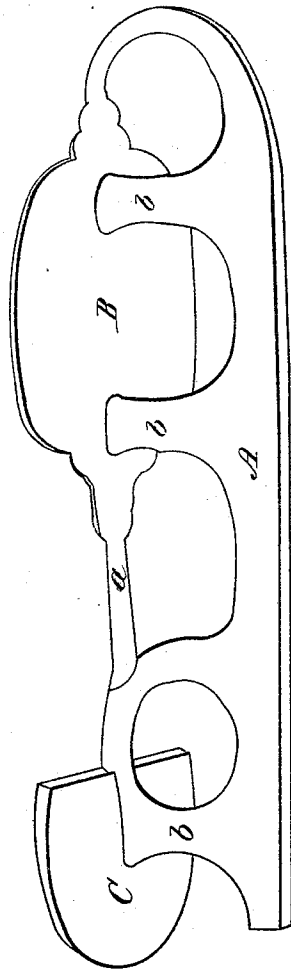


E.B. Phillips,

Skate,

No 27,193,

Patented Feb. 14, 1860.



Witnesses.

Thos. R. Roach

Wm. F. Schenck

Inventor.

Eos B. Phillips

UNITED STATES PATENT OFFICE.

ENOS B. PHILLIPS, OF CAMBRIDGEPORT, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND CHARLES W. PHILLIPS, OF SAME PLACE.

SKATE.

Specification of Letters Patent No. 27,193, dated February 14, 1860.

To all whom it may concern:

Be it known that I, ENOS B. PHILLIPS, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented
5 an Improved Cast Composition-Skate, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which is represented a skate
10 of my improved construction.

The object of my present invention is to produce a cheap, durable, and handsome skate.

I am aware that skates have been made
15 entirely of metal; that a steel runner has been attached by riveting to a plate or top of the same or other metal, but these are expensive. A skate could be formed entirely of cast iron, but this would not answer as
20 the iron would be too brittle when exposed to the frost, and if made of iron sufficiently soft to avoid this brittleness the runner would be too soft to wear, and would soon become dull and bruised. These difficulties
25 I have overcome by using a composition to be hereafter described, which combines the properties of hardness and toughness in an eminent degree; and my present invention consists in a skate cast from such a com-
30 position.

That others skilled in the art may understand and use my invention I will proceed to describe the manner in which I have carried out the same.

35 Referring to the said drawing the runner

A, and the plate or top B, of the skate on which the ball of the foot of the wearer rests, and also the heel plate C, are all cast in one piece, the plate B, and the heel C' being
40 connected by a piece *a*, and both being supported by standards *b*, rising from the runner A. The skate is cast on its side in the mold.

The composition which I employ and which combines the requisite properties of
45 hardness and toughness is the following—I melt together in a suitable vessel eight pounds of copper, one and one quarter pounds of tin, one and six sixteenths pounds of zinc, and one ounce of antimony, and
50 from it I cast the skate as above described.

The pattern here shown in the drawing may be varied, so that it is of such a form as can be cast.

The proportions of this composition may
55 be slightly varied without departing from the spirit of my invention, so long as the composition metal produced from these ingredients retains the properties which I consider essential for the production of a good
60 skate, viz, toughness and hardness combined.

What I claim as my invention and desire to secure by Letters Patent as a new article of manufacture is—

A skate cast from the above described
65 composition metal, substantially as set forth.

ENOS B. PHILLIPS.

Witnesses:

THOS. R. ROACH,
P. E. TESCHEMACHER.