

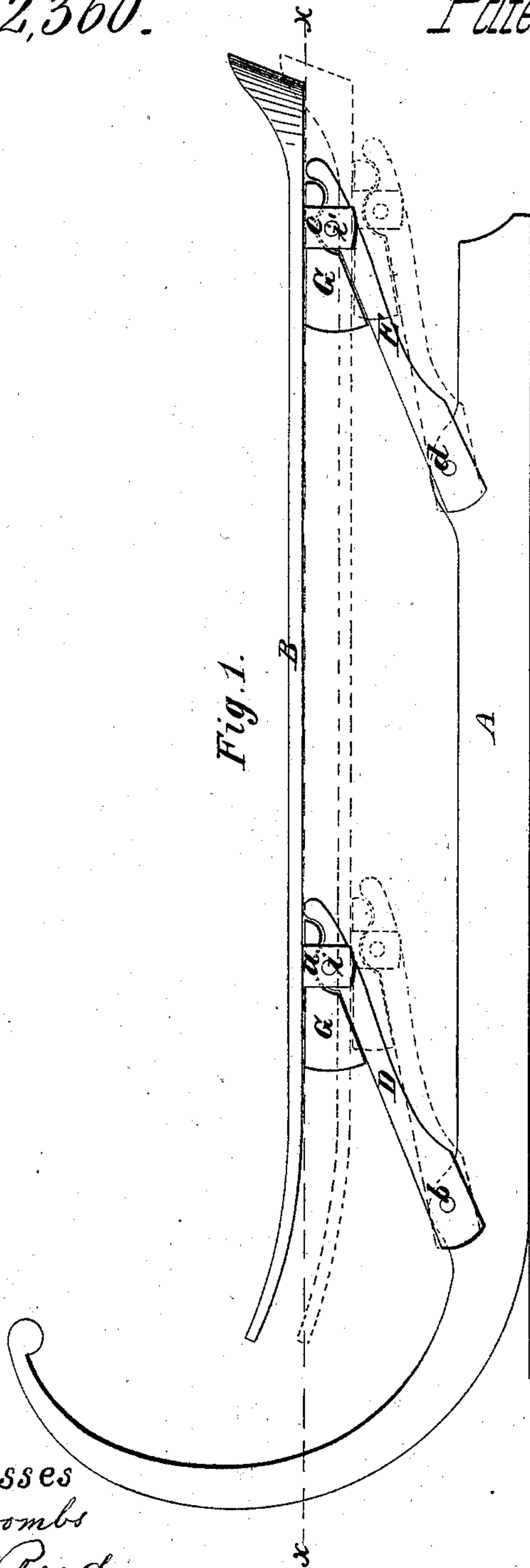
Goodyear & Sprague,

Skate,

N^o 32,360.

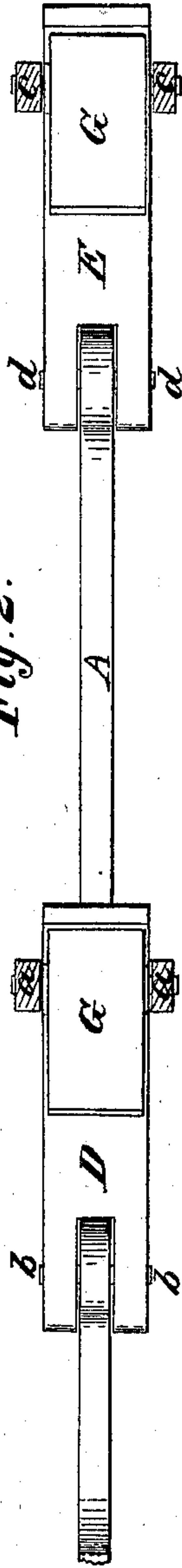
Patented May 21, 1861.

Fig. 1.



Witnesses
J. W. Coombs
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Fig. 2.



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UNITED STATES PATENT OFFICE.

R. A. GOODYEAR AND L. A. SPRAGUE, OF BINGHAMTON, NEW YORK.

SKATE.

Specification of Letters Patent No. 32,360, dated May 21, 1861.

To all whom it may concern:

Be it known that we, R. A. GOODYEAR and L. A. SPRAGUE, of Binghamton, in the county of Broome and State of New York, have invented a new and Improved Skate; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of our improved skate, showing the foot stand and parallel supports in two positions. Fig. 2 is a horizontal section of Fig. 1, taken in the plane indicated by red line *x, x*, in Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

The object of our invention and improvement in skates is to obtain a vertical, yielding, and elastic motion of the foot stand and at the same time to preserve a parallelism between the runner and foot stand, as will be hereinafter fully explained, thereby obviating the objectionable features of spring skates hitherto used, such for example as the tipping of the foot stand of the skate, and the ununiform action of the springs at the heel and toe of the skate, the straining of the feet, and the liability of the springs breaking.

To enable those skilled in the art to make and use our invention we will proceed to describe its construction and operation.

In the accompanying drawings, A, represents the runner or skate iron, which may be curved in the usual or most improved shape; and B, is the foot stand, which may be made of a stiff piece of metal, or of wood in the usual manner. The foot stand B, and the skate iron A, are connected together by jointed supporting rods D, and E.

The two rods D, and E, will be from two to three inches in length according to the size of the skates and the vertical motion which it is desired to obtain, and these rods should be made strong and inflexible. The forward rod D, is pivoted between two ears *a, a*, which are secured to the bottom of foot stand B, at a point directly under the ball of the foot, or where this part of the foot would rest when the skate is strapped thereto. The rod D, inclines forward from the ears *a, a*, and its lower end is pivoted

in a suitable manner to the skate iron A, by a transverse pin *b*, as shown in Fig. 1 of the drawings.

The rod E, is of the same length as rod D, and this rod E, is pivoted near its upper end between two ears *c, c*, projecting from the center of the heel part of the foot stand B, and inclines forward in a parallel plane with rod D, and is pivoted at its lower end to the skate iron by a transverse pin *d*. These two rods D, and E, being of the same length and pivoted to the skate iron and the foot stand as above described, it will be seen that the foot stand will be allowed to rise and fall only in a plane parallel with the skate iron.

The upper ends of the connecting rods D, and E, project out in rear of the pivots *i, i'*, and bear against the under side of the foot stand B, when there is no pressure on the foot stand. These projecting ends of rods D, and E, allow the foot stand B, to rise only a certain distance above the skate iron but they do not prevent these two parts from approaching each other. The farther the upper ends of rods D, E, project from the pivots *i, i'*, the nearer will the foot stand be brought to the skate iron.

A wedge shaped block G, of india rubber, or other suitable elastic material is introduced between each rod D, and E, forward of the pivots and these wedges G, G, are secured in their places by cutting them in the shape represented in Fig. 1, and introducing their tapering ends between the enlarged portions of the rods D, E, over the pivot pins, and the foot stand, as clearly shown in Fig. 1, of the drawings. Or any other convenient means may be employed for keeping the blocks G, G, in their proper places.

The wedge shaped blocks of rubber G, G, arranged as above specified, receive the weight of the skater and are compressed to a more or less degree according to the weight put upon the skate, and these blocks give all the elasticity required without interfering with the parallel movement of the foot stand. The blocks of rubber are preferable to steel springs, on account of their not being liable to break in cold frosty weather as steel springs are, and also because the elasticity of the blocks can be diminished if too strong, by trimming the blocks with a knife.

From the foregoing description it will be

seen that a pressure on the heel part of the foot stand will depress the entire foot stand equally, and so also if a pressure be put upon the front part of the foot stand, and by obtaining this parallel motion of the foot stand we prevent the tipping thereof, and consequently the liability of the skater's falling from this cause.

We are aware that india rubber and steel springs have been interposed in a variety of ways between the runner or skate iron, and the foot stand to obtain elasticity thereof, but in every instance a greater pressure on one part of the foot stand than on another would incline or tip the foot stand and consequently throw the skater off his balance, therefore we do not claim a skate wherein

the foot stand can be depressed more at one end, or part, than at another, but,

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

As an improved art of manufacture a skate that has the runner and foot stand connected by jointed arms D, E, with elastic material G, between the arms and the foot stand and otherwise made substantially as herein shown and described.

R. A. GOODYEAR.
L. A. SPRAGUE.

Witnesses:

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