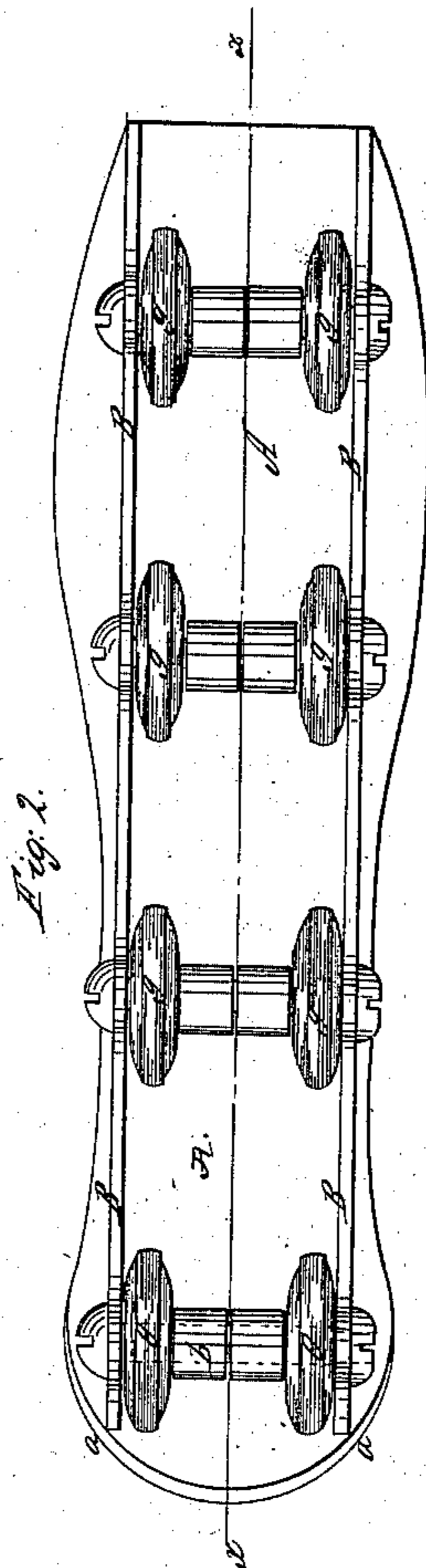
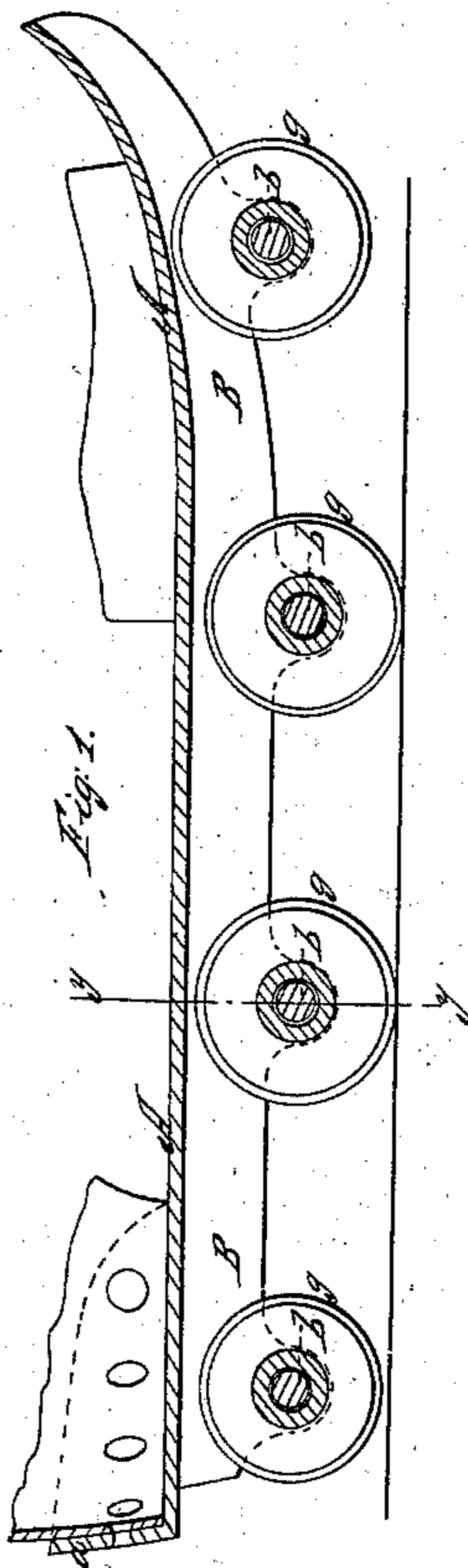
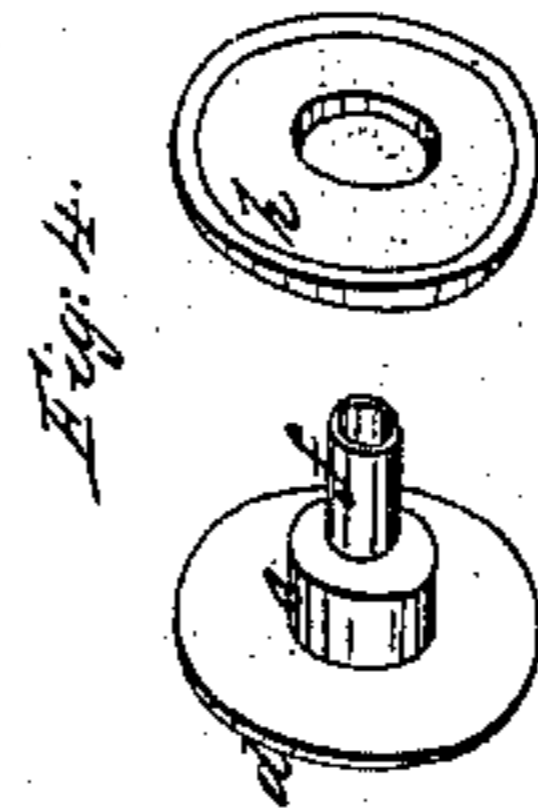
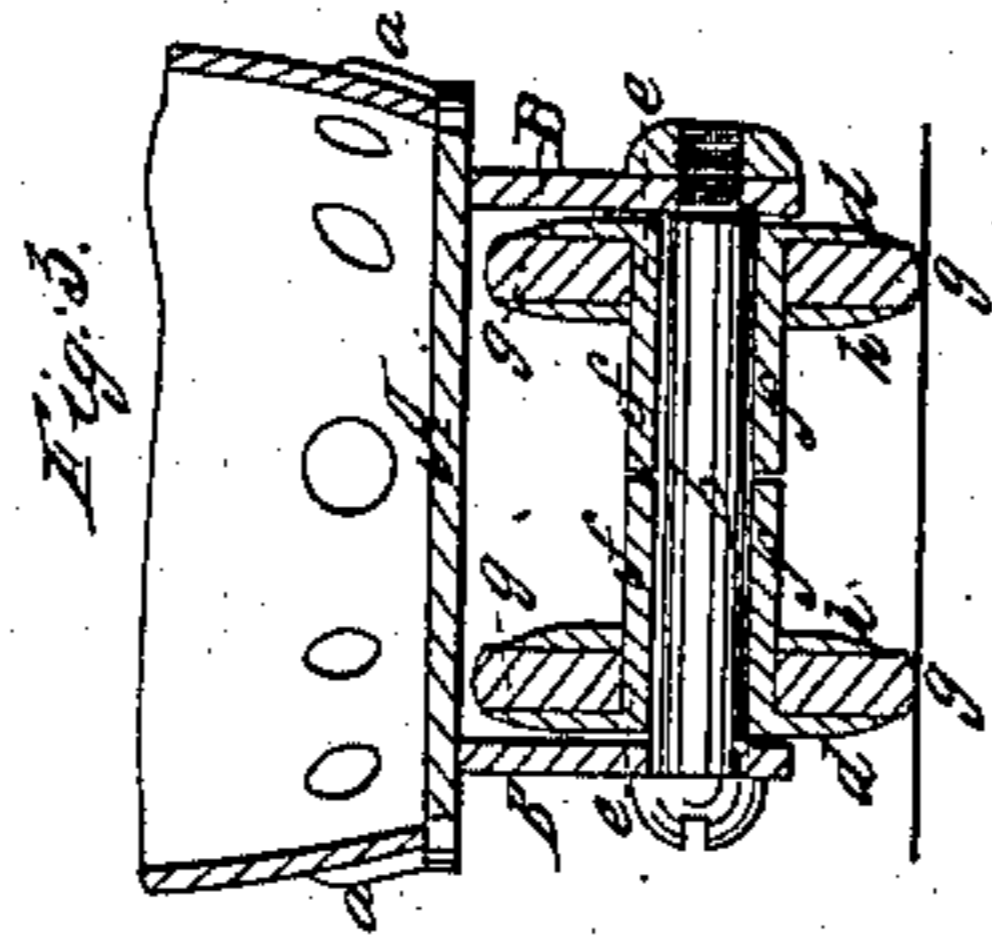


H. Pennie Parlor Skate.

N^o 3,994.

Patented Apr. 9, 1861.



Witnesses:
Lewis A. Tucker
C. M. Thompson

Inventor:
Henry Pennie

UNITED STATES PATENT OFFICE.

HENRY PENNIE, OF BROOKLYN, NEW YORK.

ROLLER-SKATE.

Specification of Letters Patent No. 31,994, dated April 9, 1861.

To all whom it may concern:

Be it known that I, HENRY PENNIE, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Roller-Skate; and I 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 longitudinal section through the improved roller skate, taken in the vertical plane indicated by the red line x, x , Fig. 2. Fig. 2, is a bottom view of the improved skate. Fig. 3, is a transverse section taken in the vertical plane indicated by the red line y, y , Fig. 1. Fig. 4, shows in perspective views, the two metal parts which confine a ring of leather in place, to form a roller.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements in skates which have rollers or wheels under them instead of the common metal runner, and which are known as roller, or "parlor, skates," in contradistinction to ice skates.

The object of my invention is to increase the rolling surface laterally without materially increasing the friction thereof, thereby giving the skate a firmer bearing than has been obtained by the employment of a single line of rollers, and enabling the beginner in the art of skating, to balance himself and stand on the skates with perfect ease.

It also has for its object a novel mode of applying two sets of rollers to the foot stand, whereby said rollers may be adjusted transversely, and brought nearer together or set farther apart for increasing or diminishing the lateral bearing surface according to the degree of proficiency the person has attained in using the skates.

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

A, is a thin metallic sole plate which is curved up in front so as to conform to the curved surface of the sole of the boot, as shown in Fig. 1 of the drawings, and around the heel part a flange a , is formed, which prevents any lateral or backward movement of the heel of the boot when the skate is strapped thereto.

B, B, are two parallel plates, the upper edges of which are secured in a suitable manner to the bottom of sole plate A. These two plates B, B, extend from the toe to the heel part of sole plate A, and they should be at equal distances from and parallel to a longitudinal line drawn through the center of the skate, as shown by Fig. 2 of the drawings. These two parallel plates B, B, together with the plate A, to which they are rigidly secured, or of which they may form a part, constitute the foot stand, or stock, of the skate to which the rollers are applied as will be hereinafter fully explained.

The rollers or small wheels are made of metal, principally, but between the metal flanges of each wheel a ring of some suitable substance softer than metal, such for instance as leather, hard rubber, or even wood, is interposed, which ring is somewhat larger in diameter than the metal flanges between which it is secured, so that a soft and noiseless rolling surface is obtained.

The rollers are all of an equal diameter as shown in Figs. 1, 2, and 3, of the drawings, and they have their bearings on axles b, b, b, b , which pass transversely through the lower edges of parallel bearing plates B, B, and receive nuts c, c, c , on one of their ends which secure them in their places. The axles b, b, b , are not allowed to rotate in their bearings, but the rollers turn loosely on the axles. On each axle b , two rollers are placed and every roller should be at an equal distance from the middle of the length of its respective axle, and as all the axles are of the same length there will be two lines or rows of rollers instead of one row or line, as hitherto. It will now be seen that a firm bearing is obtained on each side of the skate from the heel to the toe thereof, which will enable any person to stand on the skates with confidence, as the two sets of rollers will prevent the skates from tipping to one side or the other, and also the involuntary bending of the ankle of the skater, as must frequently occur where one set of rollers is used, particularly with persons who are not well skilled in the use of skates.

I construct the rollers in the following manner: A circular flange portion d , is cast with a hub e , and tubular projection f , as shown clearly in Fig. 4 of the drawings. A circular ring g , of leather or other suitable substance is slipped on the hub e , and a circular flange h , of the same diameter as flange

5 d , is now slipped on the hub e , and the two
 metal flanges d , and h , having the ring g ,
 between them are firmly bolted together.
 The interposed substance g , being slightly
 10 larger in diameter than the flanges d , and
 h , it will form the periphery of the roller.
 The rollers are all made in this way, with
 holes through their axes, and as the flanges
 h , can be taken off at pleasure the rings g ,
 15 may be removed when too much worn, and
 new rings substituted. The tubular projec-
 tion f , on each roller is used to increase the
 bearing surface of the roller on the axle
 b, b, b , to prevent these rollers from wearing
 20 loose in consequence of the lateral strain
 which is put upon the rollers in the evolu-
 tions of the skater. These tubes f , also serve
 to keep each pair of rollers at their proper
 distance apart on their axles, to prevent
 25 their working laterally, and the ends of the
 tubes of each pair of rollers will abut in the
 middle of the axles, or washers may be in-
 troduced on the axles between the tubes, if
 the tubes are not long enough.
 30 The axles b, b, b , are each made with a
 button head on one end, and a shoulder
 and a short screw formed on the other end,
 the shoulder abuts against the inside of one
 of the plates B, while the screw end passes
 through this plate and receives a nut which
 keeps the axle rigidly in place, as shown in
 Fig. 3, of the drawings.

35 Now from the foregoing description it
 will be seen that each roller or wheel has
 an independent rolling motion on its re-
 spective axle, and that when the two sets or
 rows of rollers are arranged as shown in
 Figs. 1, and 2, of the drawings good bear-
 ing surfaces are obtained not only when the

skater is standing upright, but also when 40
 he is in motion, and as new beginners are
 very apt to strain skates more than those
 who can go through the movements of skat-
 ing with ease and freedom the wide bearing
 given to the rolling surface of the improved 45
 skate will add greatly to the strength of the
 rollers and the parts to which the rollers are
 attached.

The principal objections to the roller
 skates having only a single row of rollers, 50
 is the danger to the learner of the foot be-
 ing suddenly turned on one side, thereby
 causing loss of confidence and frequently
 serious injury to the ankle. In my inven-
 tion not only is the beginner at once assured 55
 of his safety but it also enables the expert
 skater to avail himself of a direct bearing
 on the center of one set of rollers either
 in skating directly forward or in turning in
 a curve, by a slight inclination of the foot. 60

When some proficiency has been obtained
 in using the skates the rollers may be set
 nearer together and finally one set of rollers
 may be used arranged along the center of 65
 the skate, by using suitable washers placed
 on the axles on each side of each roller.

Having thus described my invention, I
 claim as new and desire to secure by Letters
 Patent;

As an improved art of manufacture a 70
 roller skate provided with two rows of tubu-
 lar adjustable rollers and the whole con-
 structed and operating as herein shown and
 described.

HENRY PENNIE.

Witnesses:

LEWIS A. TUCKER,
 M. M. LIVINGSTON.