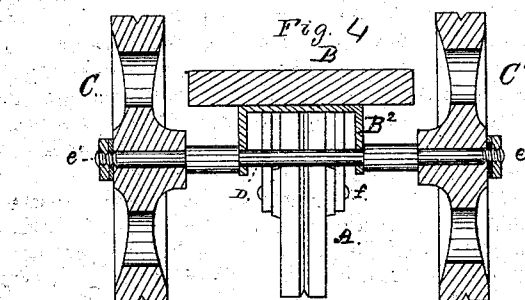
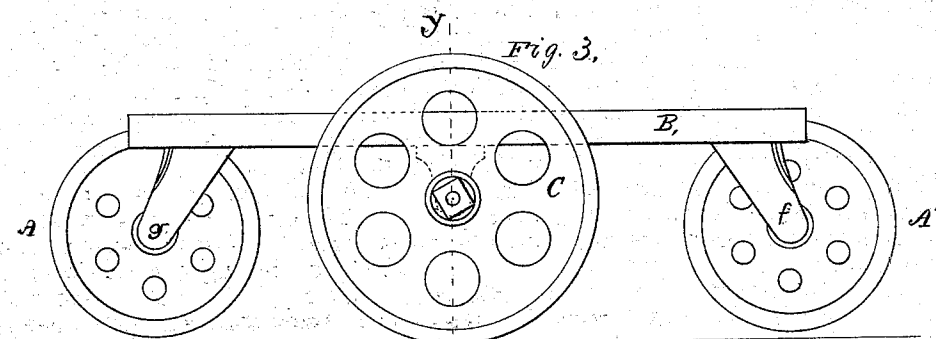
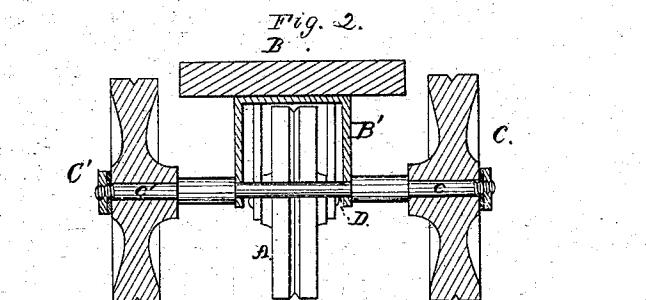
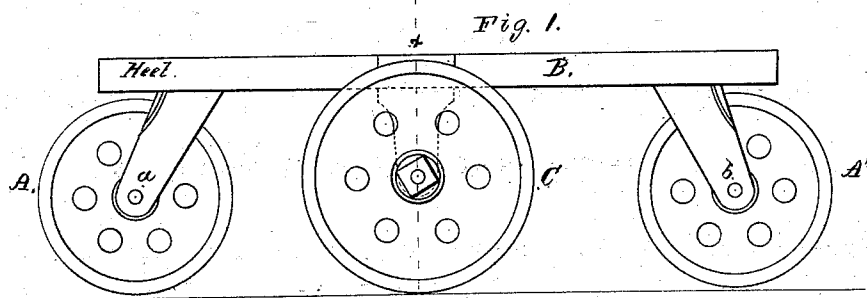


Roller-Skates.

Patented Aug. 11, 1874.



Witnesses.

Wm R. Stansbury
N. P. Jew

W. P. Gregg

By his Attorney
Chas. F. Mansbury

UNITED STATES PATENT OFFICE.

WASHINGTON PARKER GREGG, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN ROLLER-SKATES.

Specification forming part of Letters Patent No. **153,947**, dated August 11, 1874; application filed March 3, 1874.

To all whom it may concern:

Be it known that I, WASHINGTON PARKER GREGG, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Roller-Skates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

In such drawings, Figure 1 is a side elevation of my improved skate, the peripheries of the side wheels or drivers being below the plane of the upper surface of the foot-rest. Fig. 2 is a transverse vertical section through the line *xx* of Fig. 1. Fig. 3 is a side elevation of another form of my improved skate, the upper parts of the peripheries of the side wheels or drivers being above the level of the plane of the upper surface of the foot-rest. Fig. 4 is a transverse vertical section in line *yy* of Fig. 3.

The same letter marks the same part wherever it occurs.

In a patent granted to me July 25, 1865, re-issued December 23, 1873, I secured a skate having side driving-wheels turning on axles projecting laterally from the foot-rest, the upper parts of the peripheries of said driving-wheels extending above the surface of the foot-rest, and said skate being provided with heel and toe supporting rollers, so hung that a horizontal line, tangent to their bearing-surfaces, should be in a plane a little above that of the bearing-surfaces of the driving-wheels.

My present improvement consists in suspending the axle of the side driving-wheels in brackets depending from the lower side of the foot-rest, so that the upper parts of the peripheries of the side driving-wheels may either extend above the plane of the surface of the foot-rest, or be level with, or below it, as may be preferred, by merely altering the depth of the bracket without any necessary alteration of the size of the drivers; the driving-wheels, in all the cases supposed, being outside of the perpendicular face of the sides of the foot-rest, and never underneath said rest, and the heel and toe supporting rollers so hung that the lower part of their peripheries shall be in a

plane a little higher than that of the lower part of the peripheries of the driving-wheels.

The drawings represent this invention in two forms, differing only in the depth of the brackets, the size of the driving-wheels, and the relation of the peripheries of the driving-wheels to the surface of the foot-rest.

In such drawings, Figs. 1 and 2 show the arrangement of the wheels and rollers in accordance with the first form of my invention; and Figs. 3 and 4 the arrangement of the same in accordance with the second form thereof.

The first form of my invention may be said to consist, mainly, in arranging the outside driving-wheels so that the upper part of their peripheries shall be below the plane of the upper surface of the stock. In carrying out this part of my invention, I place two comparatively small rollers, *A A'*, (one partially under the heel,) on an axle, *a*, and the other partially under the toe on an axle, *b*, of the stock or foot-rest *B* for support, and to facilitate turning; and I also arrange two larger wheels, *C C'*, for driving and side support, upon the journals *c c'* of an axle, *d*, suspended in bracket *B'* below the arch of the instep of the stock *B*, so that one of the said driving-wheels shall be at each side of the stock, on a plane outside of the perpendicular face thereof, the peripheries of said driving-wheels being below the plane of the upper surface of the stock.

In the drawings, Figs. 1 and 2, the upper parts of the peripheries of the driving-wheels are shown as extending nearly to the top of the stock, but they may be lower down, if preferred.

By these means is produced an outside wheel-skate which has no axle through its stock, or projecting laterally therefrom, nor any portion of the peripheries of its wheels above the plane of the upper surface of the stock, though the two driving-wheels are outside of the stock, and larger in diameter than the toe and heel rollers. Designed to be compact, and to run easily with speed and safety, its driving-wheels may be of any reasonable size; but, as the peripheries do not reach above the upper surface of the stock, on this and other accounts it is not proposed that they should be equal in diameter to the larger ones, to be used

under the second form of my invention hereinafter mentioned.

This second form may be said to consist, principally, in hanging the journals of the two outside driving-wheels on the bracket B², so that the upper part of their peripheries shall extend above the plane of the upper surface of the stock, and said wheels be, at the same time, used with two smaller rollers, one under the toe, and the other under the heel, of the stock, thereby not only retaining most of the advantages of my said patented invention, but, by reason of dispensing with the axle through the stock, securing others important and peculiar to this second form of my improvements. To accomplish this, instead of using two driving-wheels, with their peripheries below the plane of the upper surface of the stock, as set forth in the first part of this specification, I put upon the journals *e e'* of the axle D, suspended in bracket B² below the arch of the instep of the stock B, two outside driving-wheels, C C', so large in diameter that the upper part of their peripheries will extend above the plane of the upper surface of the stock, said stock having two small rollers, A A', one on an axle, *f*, under the toe, and the other on an axle, *g*, under the heel, to be used with said side wheels.

By these means either low or high journals may be employed, and thus the smallest and largest wheels or rollers suitable for roller-skates be brought into use. In a word, not only can we employ as large outside driving-wheels as can be used to advantage, but larger toe and heel rollers can be used with the driv-

ing-wheels than could be employed in my previous patent without unduly increasing the diameter and weight of such driving-wheels as therein shown, on account of their axles passing through the sides of the stock, thereby enabling different skaters to avail themselves of the differences in these respects, according to their skill, age, strength, the state of the skating-surface, and other circumstances.

In the second, as in the first, form of these improvements, the bearing-surfaces of the driving-wheels are arranged to come down a little lower than those of the toe and heel. So in both, the stocks or foot-rests, wheels, rollers, axles, journals, connections, and other parts may be made of any materials, size, or description consistent with my said improvements and their use for skating purposes, and may be fitted to the foot and fastened in any convenient way or manner.

What I claim is as follows:

A roller-skate having the axles of the side driving-wheels suspended under the arch of the instep in brackets depending from the lower side of the stock or foot-rest, which is provided with heel and toe supporting rollers of smaller diameter than the side driving-wheels, all constructed in the manner and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 28th day of February, 1874.

WASHINGTON PARKER GREGG. [L. s.]

Witnesses:

F. P. HALE,

JOHN R. BAKER.