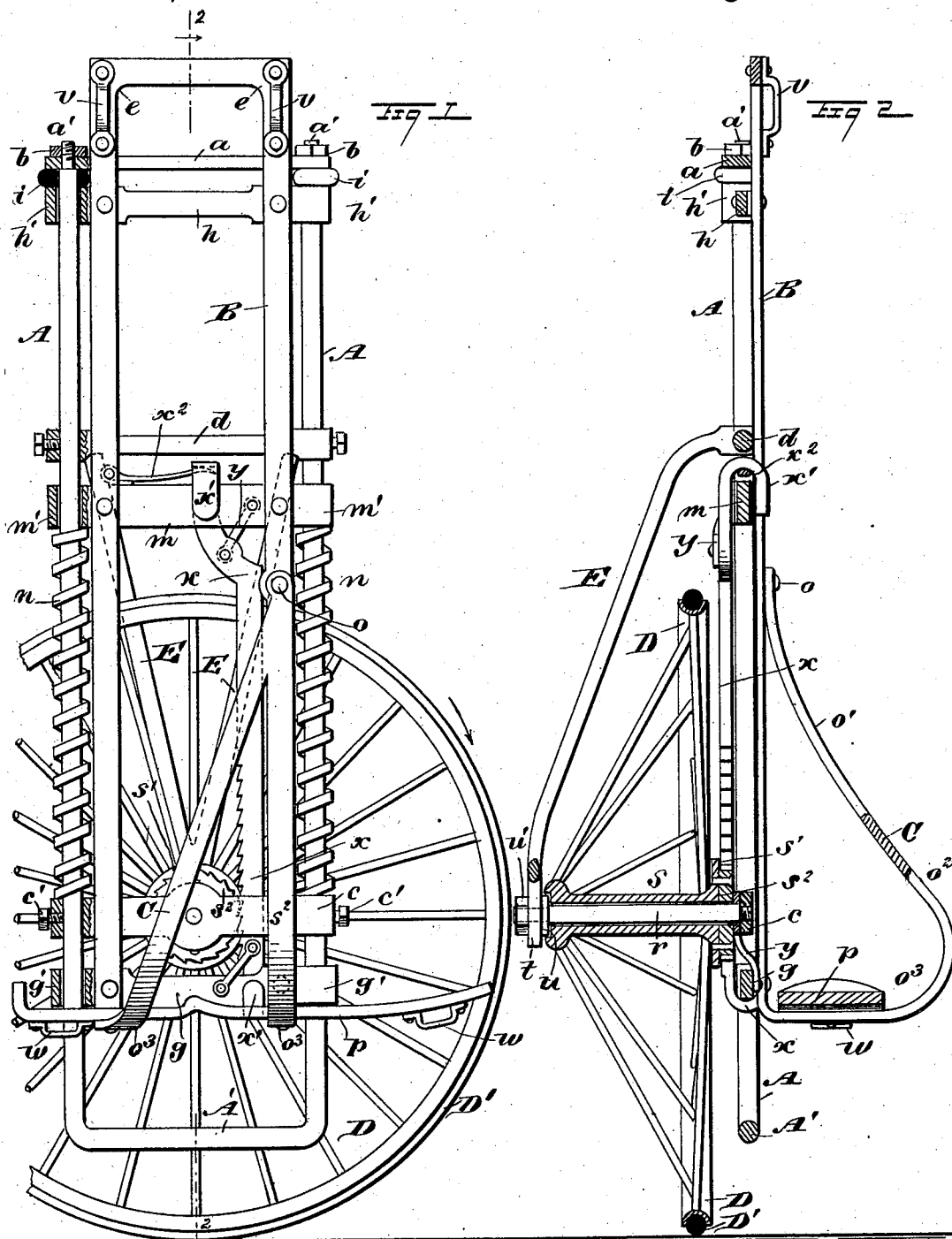


(No Model.)

R. C. LEEDHAM.
ROLLER SKATE.

No. 504,226.

Patented Aug. 29, 1893.



WITNESSES:

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RUSSELL CLINTON LEEDHAM, OF SALT LAKE CITY, UTAH TERRITORY.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 504,226, dated August 29, 1893.

Application filed June 7, 1892. Serial No. 435,798. (No model.)

To all whom it may concern:

Be it known that I, RUSSELL CLINTON LEEDHAM, of Salt Lake City, in the county of Salt Lake and Territory of Utah, have invented a new and useful Roller-Skate, of which the following is a full, clear, and exact description.

This invention relates to a novel device for rapid locomotion, and consists in the peculiar construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a side view broken, of the device; and Fig. 2 is a transverse sectional view on the line 2—2 in Fig. 1.

The device, briefly considered, comprises a transporting wheel rotatably supported upon a frame that is spring cushioned on guides that are adapted for attachment upon the wearer's feet and legs, there being provision made to prevent a retrograde movement of the wheels of the pair of similar unicycles, so that a wearer may with a little practice safely glide at great speed over level surfaces, or up grades that are not excessive in pitch.

Referring to the drawings: A, A, represent a pair of parallel guide rods which are joined together at the lower ends by a spacing bar A', that is preferably made integral with the parts it joins. The upper end portions of the guide rods are retained in parallel condition by a transverse stay bar a, which is perforated near each end to slip over the reduced and threaded ends a' of the rods A, and be held seated upon the shoulders thereon produced, by the nuts b.

At a proper distance from the spacing bar A', a cross bar c is adjustably secured upon the guide rods A, by set screw bolts c', and between this cross bar and the stay bar a, preferably near the latter, a transverse brace-rod d is affixed by set screws, the pieces a, c, d, being all perforated in their end portions an equal distance apart, to permit them to be slid upon the guide rods before the top bar a is clamped in place as stated.

A wheel carrier frame B, is provided, which is preferably formed of a flat bar bent at two

points e, in the same direction and parallel on all their edges.

Across the carrier frame B, at the lower end, a slide bar g, is secured thereto, that has hub like enlargements g' on the ends, which are perforated to loosely fit upon the guide rods A.

At a short distance from the upper end of the carrier frame B, another slide bar h, is transversely affixed on it, the enlarged end portions h' thereon being suitably apertured to slide freely on the guide rods, and between this slide bar and the stay bar a, gum washers i, are placed on the guide rods, and are designed to prevent percussion between these bars when the device is in use.

At a point near the brace rod d, there is a third slide bar m, secured across the carrier frame B, the end portions m', of which are perforated to engage loosely and reciprocate on the guide rods A.

Between the end portions c', of the cross bar c, and the perforated hubs m', on the slide bar m, the strong spiral springs n, encircle the guide rods A, and thus serve to cushion the frame B, and elastically support it on the guide rods.

From one side of the carrier frame B, a loop frame C, is projected, which is preferably shaped as shown, said frame being furcated near the upper end that is attached at o, to the one member of the frame B, the divergent limbs being bent downwardly and outwardly as at o', o², in Fig. 2, and at o³ curved inwardly to produce a horizontal bearing for the sandal or tread-piece p; which latter is properly formed to fit the sole of a wearer's foot covering, as indicated in Fig. 1, said tread piece being secured to the loop frame C, upon its lower portions within the loop, that should be of a proper size to freely admit the foot of a wearer.

The cross-bar c is centrally perforated and threaded therein to receive a spindle r, that is thereto secured by its threaded end that engages said perforation. A proper length is given to the spindle r, for the support of a wheel D, which is dished as shown in Fig. 2, and has its hub s, in loose engagement with the spindle. The outer end of the spindle r, is sustained by a V-shaped hanger frame E,

that is connected at the upper end to the brace rod d , on the guide rods A, its limbs converging to join at their lower ends, forming a hub plate t , that is perforated to receive the end portion of the spindle r which projects beyond the wheel hub s , there being an integral collar u , formed on the spindle that is located between the hub of the wheel D, and hanger frame, so that the wheel will not be cramped when the hanger frame is affixed upon the spindle by a nut u' , that engages the projected end portion of the spindle, as shown in Fig. 2.

The wheel D, is preferably tired with gum D' and is of such a diameter as will enable the wearer of a pair of these novel locomotors, to make rapid progress without excessive exertion, and to facilitate the donning of the like devices, each has loops v , formed on the carrier frame B, near its upper end, and similar loops w , on the under side of the tread piece p , and near its front and rear ends, through which suitable straps are inserted and then secured around the feet and lower limbs of the wearer.

It is essential that a forward movement only be permitted, so that the skater will not be liable to fall rearward by a reverse rotation of the wheels D. To effect such a provision, the end portion of the hub s , nearest to the carrier frame B, is furnished with a radial flange s' , to which a ratchet cut disk s^2 , is secured concentrically. A ratchet toothed bar x , is furnished, whereon the looped ends x' , are formed, which loops hook over the slide bars m , and g , to which the ratchet bar is loosely secured by the short limbs y , so that it will hang parallel with the carrier frame B, and engage its teeth with those of the ratchet wheel s^2 . To enforce such a contact of parts, a spring x^2 , is secured upon the slide bar m , with one end, and projects its other end within the bow of the upper loop x' , on the ratchet bar, so that its force will lift the latter and rock it toward the ratchet wheel. The teeth on the ratchet bar x , hook downwardly, and those on the wheel or disk s^2 , are adapted to interlock therewith, so that a rotative movement of wheel D, is only permitted in the direction indicated by the curved arrow in Fig. 1, which will adapt the appliances to move forward when actuated by the wearer.

In use, the operator simply steps forward as in walking or running, which will progressively move him at a rapid rate, the weight

of his body serving to give impetus to the skates. Should the wearer move on a descending grade, no exertion will be needed, while the ascent of inclines that are not too steep, may also be effected expeditiously after the operator becomes used to the locomotors or skates. By provision of the cushion springs n , percussion on a rough road-bed is absorbed, the gum tire D' of the wheel D coacting with said springs to effect such a result.

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

1. The combination with a sliding carrier frame, a foot rest thereon, guide rods spaced apart by transverse braces, and spiral springs on the guide rods between a brace thereon and a transverse slide bar on the frame, of a rotatable wheel, and a ratchet device therefor that permits its rotation in but one direction, substantially as described.

2. The combination with a carrier frame adapted for attachment on a wearer's lower limb, transverse slide bars thereon, two parallel guide rods, spacing bars therefor, and two spiral springs thereon between a spacing bar and a slide bar, of a dished rotatable wheel, a spindle therefor held at its ends on a spacing bar of the guide rods and a depending hanger frame, a hanger frame secured to a cross brace of the guide rods, a foot support, and a ratchet device which permits the wheel to rotate in one direction only, substantially as described.

3. The combination with a sliding carrier frame, two guide rods therefor, spacing braces for the guide rods, slide bars secured to the frame and loose on the guide rods, two spiral springs, two gum washers adapted to take up shock between the frame and guide rods, a loop frame on the carrier frame, a tread piece thereon provided with strap loops, and similar loops above on the carrier frame, of a dished wheel having a gum tire thereon, a fixed spindle on one of the guide rod braces and on a hanger frame depending from another guide rod brace, a ratchet disk on the wheel hub, a ratchet bar loosely connected to slide bars of the carrier frame, and a spring therefor, substantially as described.

RUSSELL CLINTON LEEDHAM.

Witnesses:

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