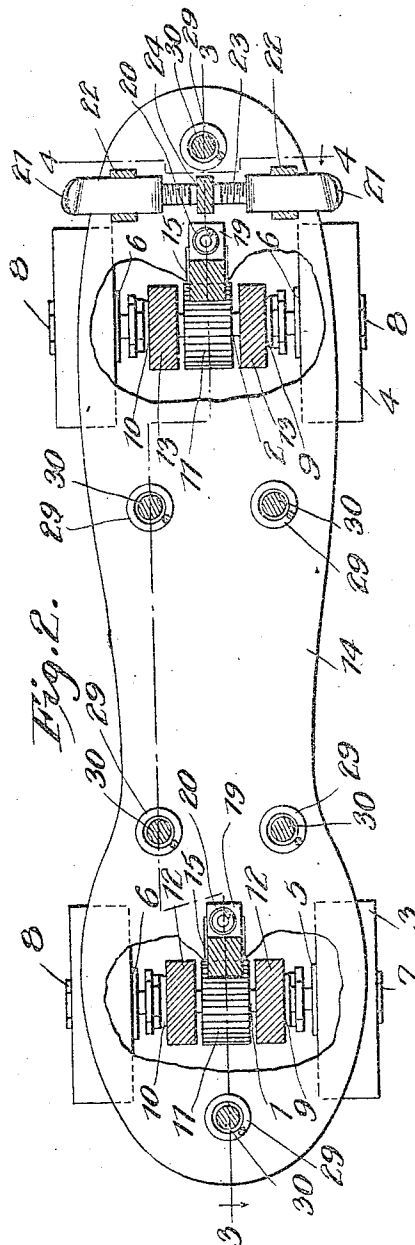
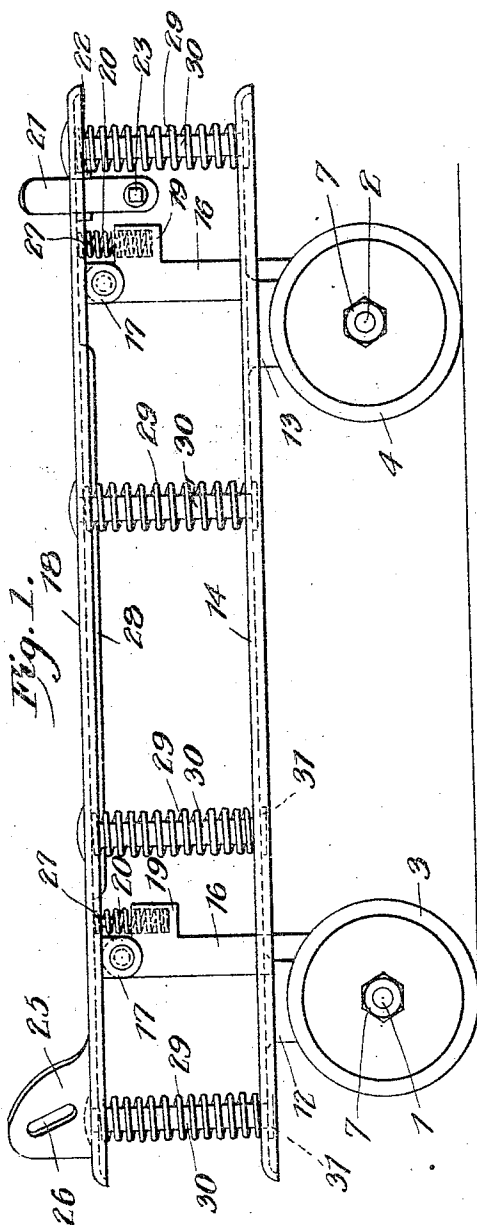


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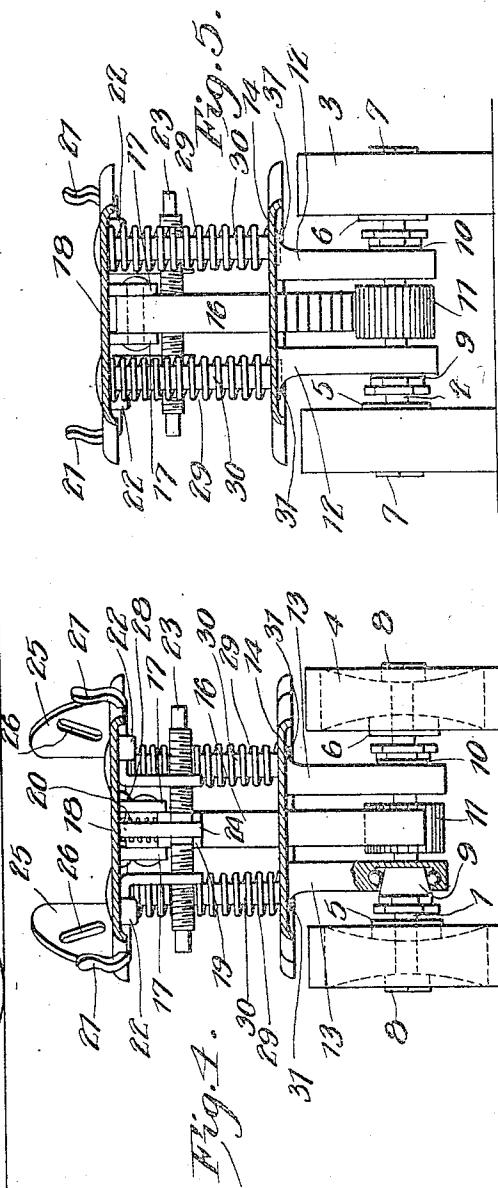
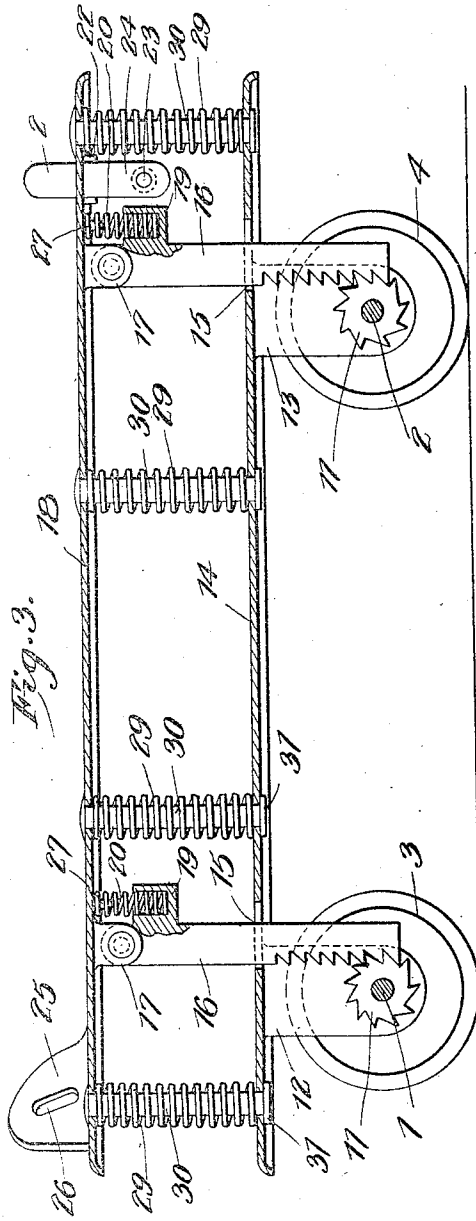


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936,173.

Patented Oct. 5, 1909.
 2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM SCHOENBERG, OF CHICAGO, ILLINOIS.

ROLLER-SKATE.

936,173.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed September 10, 1908. Serial No. 452,488.

To all whom it may concern:

Be it known that I, WILLIAM SCHOENBERG, a citizen of the Argentine Republic, and residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Roller-Skates; and I do 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 appertains to make and use the same.

This invention contemplates the construction of a roller skate provided with means for transferring the alternately-applied pressure of the wearer into rotary motion adapted to carry said wearer over the ground.

In the roller skates as they are at present constructed and used, the skate is propelled over the ground by means of oblique strides, and my invention comprises the construction of a skate provided with a plurality of rack bars engaging ratchet wheels rigidly mounted on the wheel axles and arranged to rotate the wheels carried on said axles by the vertical pressure of the wearer upon the skate.

With this object in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be described and particularly pointed out in the appended claims, and in the accompanying drawing, in which—

Figure 1 is a side elevation of my improved roller skate; Fig. 2 is a plan view, with parts broken away; Fig. 3 is a longitudinal sectional view taken on the line 3—3 of Fig. 2; Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 2; and Fig. 5 is a rear elevation.

In the drawings, 1 and 2 denote wheel shafts, or axles, which are provided with wheels, 3 and 4. The wheels, 3 and 4, are secured to the shafts, 1 and 2, by washers, 5 and 6, and nuts, 7 and 8, and said shafts are provided with cones, 9 and 10, and ratchet wheels, 11. The shafts, 1 and 2, connect with depending legs, 12 and 13, which are positioned on opposite sides of the ratchet wheels, 11 and formed with ball bearings for assuring a free rotary movement of the shafts, 1 and 2. The legs, 12 and 13, are secured at their upper ends (which are slightly enlarged) to a horizontally-disposed plate, 14, which plate is formed with the curvature of a shoe sole.

The plate, 14, is formed with openings,

15, through which rack bars, 16, extend downwardly in order to engage the ratchet wheels, 11. The rack bars, 16, are formed with teeth corresponding to the teeth formed in the ratchet wheels 11, and are pivotally secured at their upper ends to lugs, 17, depending from a foot plate, 18. At their upper ends the rack bars, 16, are formed with offsets, 19, which are provided with pockets adapted to accommodate pressure springs, 20. The foot plate, 18, is preferably of the same curvature and size as the plate, 14, and is provided at its forward end with toe clamp members, 21, which extend through legs, 22, and are capable of being adjusted with relation to each other by a double screw, 23, which extends through a depending lug, 24, formed on the underside of the foot plate, 18. The foot plate, 18, is further provided with a heel-engaging stop member, 25, formed with strap openings, 26. The rack bars, 16, are positioned on opposite ends of the foot plate, 18, and the teeth of said bars preferably face rearwardly. The springs, 20, seated in pockets of the offsets, embrace depending studs, 27, formed on the underside of the foot plate, 18. The foot plate, 18, is reinforced at its central portion by longitudinal corrugations, 28, and is normally held above the plate, 14, by compression springs, 29, which surround downwardly-moving guide pins, 30, which are arranged to project through the openings formed in the plates, 14, and are formed with enlarged ends, 31.

When vertical pressure is applied to the foot plates, 18, the springs, 29, will be compressed and the guide pins, 30, will be forced downwardly through the openings formed in the plate, 14, thereby forcing the rack bars, 16, against the ratchet wheels, 11, and, consequently, rotating the shafts, 1 and 2, so that the wearer will be propelled forwardly. When pressure is relieved from the foot plate, 18, the springs, 29, will expand and the rack bars, 16, will ride freely upward on the teeth of the ratchet wheels, 11, the pivotal connection of said bars permitting them to swing slightly outward thereby, slightly depressing the springs, 20, said pivotal connection of the bars also permits the ratchet wheels, 11, and the wheels, 3 and 4, to have a substantially free movement with the shafts, 1 and 2.

It will be seen from the foregoing description and accompanying drawing that my

improved roller skate provides means whereby its wearer secures a double exercise in the manipulation of the skates over the ground, and that the rotation of said skate is increased, thereby enabling the wearer to travel more rapidly and with less effort.

From the foregoing description, taken in connection with the accompanying drawing, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters-Patent, is:

1. A plurality of shafts provided with wheels, ratchet wheels arranged on the shafts, a horizontally extending plate supported on the shafts above the wheels, a compression plate, a plurality of guide pins secured to the compression plate and adapted to extend slidably through the first mentioned plate, depending lugs secured to the under side of the compression plate adjacent to the rear and forward ends of said plate, rack bars adapted to impart motion to the ratchet wheels of the shafts and having pocketed off-sets said bars being pivotally secured to the depending lugs of the compression plate, springs disposed in the pockets of said offsets and adapted to bear at their upper ends against the compression

plate whereby the rack bars are held normally against the ratchet wheels, and springs arranged around the guide pins and adapted to be compressed by the compression plate.

2. A plurality of shafts provided with runner wheels, ratchet wheels mounted on the shafts intermediately of their ends, legs secured to the shafts and extending above the same, a horizontally disposed plate arranged on the legs, a compression plate, a series of guide pins secured to the compression plate and extending through opposite sides of the horizontally disposed plate, depending lugs formed on the under side of the compression plate, rack bars adapted to slidably extend through the first mentioned plate and engage with the ratchet wheels pivotally secured at their upper ends to the depending lugs, said rack bars being formed at their upper ends with off-sets having pockets formed therein, springs arranged in the pockets adapted to bear against the under side of the compression plate for normally holding the rack bars in engagement with the ratchet wheels, and a series of springs arranged around the guide pins for holding the compression plate normally distant from the horizontally disposed plate.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM SCHOENBERG.

Witnesses:

L. H. OBERNDORF,
H. ROSENBLUM.