

No. 674,096.

Patented May 14, 1901.

J. W. PEASE.
ROLLER SKATE.

(Application filed Dec. 2, 1899.)

(No Model.)

Fig. 1.

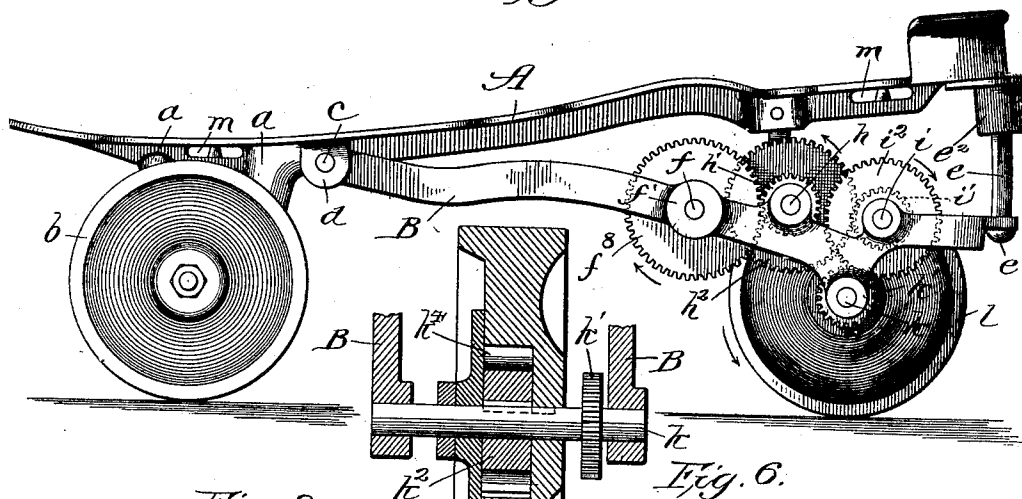


Fig. 2.

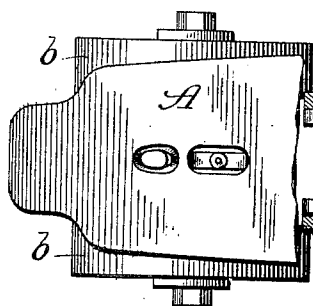


Fig. 6.

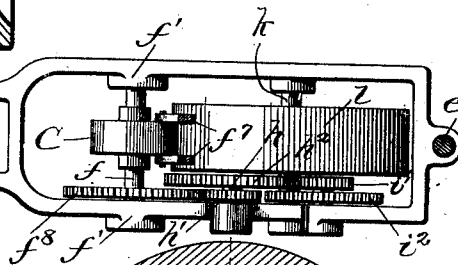


Fig. 3.



Fig. 4.

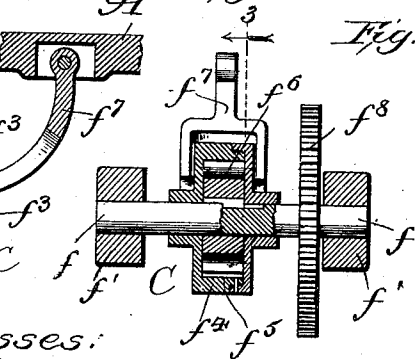
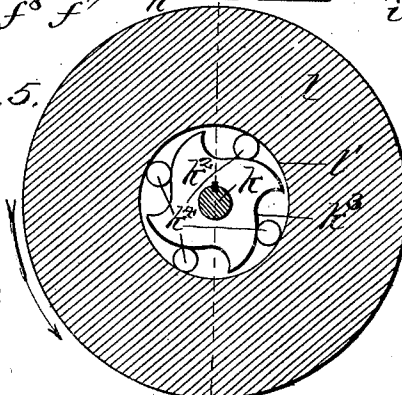


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH WARREN PEASE, OF CHICAGO, ILLINOIS.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 674,096, dated May 14, 1901.

Application filed December 2, 1899. Serial No. 738,971. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH WARREN PEASE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Roller-Skates, of which the following is a specification.

My invention relates to improvements in roller-skates of the class wherein the intermittent application of pressure by the skater enhances the speed of rotation of the rollers, and consequently the velocity of locomotion.

My object is to provide an improved skate of the above class of a simple, durable, and compact construction which renders it particularly desirable for its purpose.

In the drawings, Figure 1 is a view in side elevation of a roller-skate of my improved construction; Fig. 2, a top plan and sectional view with part of the foot-plate broken away; Fig. 3, a broken sectional view of intermittent grip mechanism which I provide between the foot-plate and roller-driving speed-gear, the section being taken on line 3 of Fig. 4 viewed in the direction of the arrow; Fig. 4, a section taken on line 4 of Fig. 3 and viewed in the direction of the arrow; Fig. 5, an enlarged section through the skate-propelling speed-roller, and Fig. 6 a broken section taken on line 6 of Fig. 5.

A is a footpiece or foot-plate provided near its forward end with a suitably-constructed hanger or bracket *a*, in which the forward rollers *b* are journaled.

B is a swinging frame fulcrumed at its forward end upon a pin *c*, which passes through ears *d* on the under side of the foot-plate. On the rear end of the foot-plate A is a downward-extending guide-pin *e*, describing the arc of a circle of which the fulcrum-pin *c* is the center. The swinging frame B at its rear end has a guide-opening through which the pin passes and at which the frame B is movable upon the pin between a head or stop *e'* and buffer *e''* thereon.

C is an intermittent grip device comprising a shaft *f*, journaled to rotate in bearings *f'* on the frame B, a disk *f''*, keyed to the shaft and provided around its periphery with a series of ogee-shaped cams *f'''*, a hollow wheel or cylinder *f''''*, loosely journaled upon the shaft at opposite sides of the disk and having an

inner circumferential friction-surface *f''''''* surrounding the cams, and rollers *f''''''''*, resting in the sockets formed by the cams. A bifurcated link *f''''''''''* is pivotally connected at one end with the under side of the foot-plate and at its bifurcated end with opposite sides of the hollow wheel *f''''*, near the circumference thereof. The parts are so constructed, as shown most clearly in Fig. 3, that in the relative downward movement of the foot-plate the link *f''''''''''* turns the wheel *f''''* in the direction which causes the rollers *f''''''''* to be gripped and to lock the wheel and disk *f''''*, whereby they must rotate together, while in the relative upward movement of the foot-plate the wheel is turned in the direction to release the rollers, and thus unlock itself from engagement with the disk.

Fastened to one of the side bars of the frame B in the positions shown are stub shafts or pins *h* *i*. Fixed to the shaft *f* is a gear-wheel *f'''*, which engages a pinion *h'*, rotating upon the shaft *h*. A gear-wheel *h''*, integral with the pinion *h'*, engages a pinion *i'* on the shaft *i*, and a gear-wheel *i''*, integral with the pinion *i'*, engages a pinion *k'*, which is fixed to a rotary cross-shaft *k*, journaled in the side bars of the frame B. The rear or driving skate-roller *l* is loosely journaled upon the shaft *k* and houses a disk *k''*, which is keyed to the shaft. The disk *k''* is formed substantially like the disk *f''* described, with peripheral ogee cams *k'''*, surrounded by an inner annular friction-surface *l'* of the roller *l*, and interposed between the cams *k'''* and friction-surface *l'* are gripping-rollers *k''''*. The construction is such that when in the relative downward movement of the foot-plate the wheel *f''''* is turned a partial revolution the train of gears causes the shaft *k* to be rotated a number of complete turns at correspondingly-increased speed in the direction of the arrows, Figs. 1 and 5. This turning of the shaft *k* and disk or clutch member *k''* causes the rollers *k''''* to grip and turn the roller *l*, while further turning of the roller *l* in the same direction frees it from binding engagement with the rollers *k''''*.

The foot piece or plate A is provided with slots *m* to receive fastening-straps, though any other suitable means may be employed for securing the skates to the feet of the wearer.

The movements in skating with my improved skates, which are adapted for forward skating only, may be practically the same as in the use of the ordinary roller-skates. When an impulse is given and the impelling-foot is lifted, the frame B of the skate on that foot will swing downward by gravity on its fulcrum at *c* until arrested by the stop *e'*, in which movement the wheel *f*⁴ will move freely to the position shown in Fig. 3. As the skater shifts his weight to the then forward foot the frame or footpiece A of the skate carried thereby is pressed downward to swing upon the fulcrum *c* and turn the wheel *f*⁴, train of wheels, and roller *l*, as indicated by the arrows, at a speed enhanced by the force contributed by the weight of the skater. When the buffer *e*² strikes the frame B, the intermittent grip members will instantly release themselves and the roller *l* will rotate freely. Thus a greater speed may be attained by the skater and with much less effort than in the use of the ordinary roller-skates. In practice a suitable casing may be provided for the gears to house them against the access of dust.

The train of speed-multiplying gears may be increased or diminished, if desired and although I prefer to construct my improvements throughout as shown and described, they may be variously modified in the matter of details of construction without departing from the spirit of my invention as defined by the claims.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a roller-skate, the combination of a footpiece and frame pivotally connected together to swing toward and away from each other at their rear ends, a driving-roller and speed-gears therefor upon the frame, and speed-gear driving intermittent grip mechanism upon the frame operatively connected with the footpiece to be actuated thereby in

its movement toward the frame, substantially as and for the purpose set forth.

2. In a roller-skate, the combination of a footpiece and frame pivotally connected together to swing toward and away from each other at their rear ends, a guide on the footpiece for the swinging end of the frame, a driving-roller and speed-gears therefor upon the frame, and speed-gear driving intermittent grip mechanism upon the frame operatively connected with the footpiece to be actuated thereby in its movement toward the frame, substantially as and for the purpose set forth.

3. In a roller-skate, the combination of a footpiece and frame pivotally connected together to swing toward and away from each other, a driving-roller and speed-gears therefor upon the frame, intermittent grip mechanism between the said speed-gears and driving-roller, and speed-gear driving intermittent grip mechanism upon the frame operatively connected with the footpiece to be actuated thereby in its movement toward the frame, substantially as and for the purpose set forth.

4. In a roller-skate, the combination of a footpiece A and frame B, pivotally connected together toward their forward ends, a frame-guide *e* toward the rear end of the footpiece, intermittent grip mechanism C on a shaft *f*, journaled in the frame, intermittent grip mechanism actuating link *f*⁷, connected with the footpiece, a driving-roller *l* upon a shaft *k*, journaled in the frame, speed-gears between the shafts *f* and *k*, and intermittent grip mechanism between the shaft *k* and roller *l*, all constructed and arranged to operate substantially as and for the purpose set forth.

JOSEPH WARREN PEASE.

In presence of—

M. J. FROST,
F. J. MARTIN.