J. D. UPPLING.

ROLLER SKATE.

APPLICATION FILED DEC. 11, 1918.

1,345,038. Patented June 29, 1920.

Fig. 1

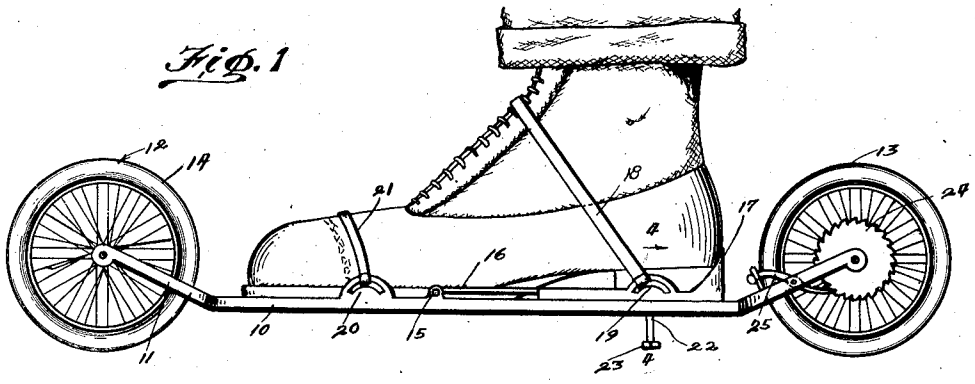


Fig. 2

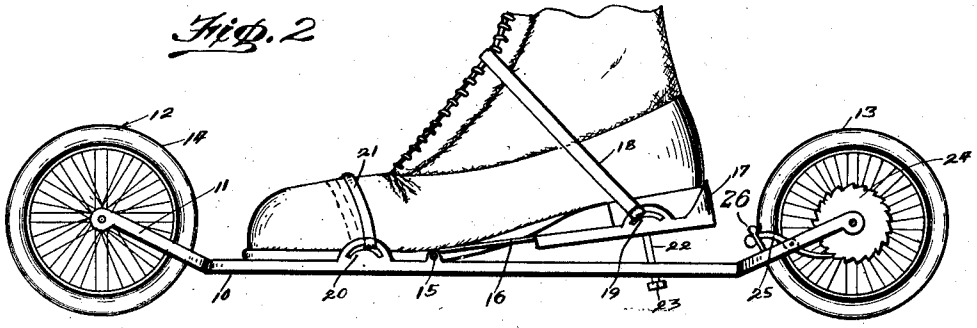


Fig. 3

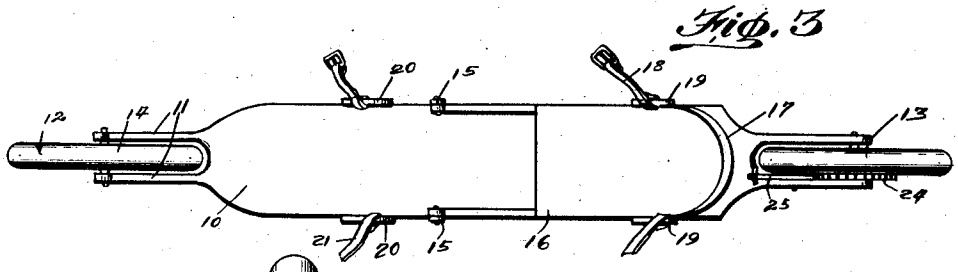


Fig. 4

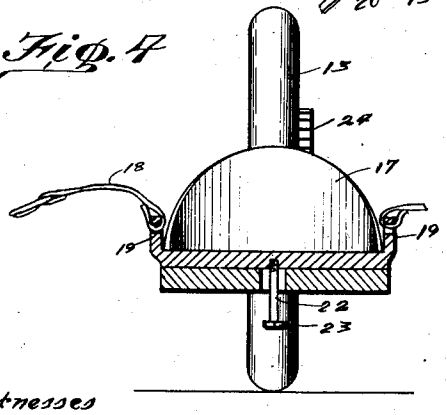
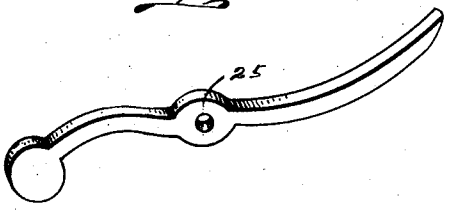


Fig. 5



Witnesses

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JOSEPH D. UPPLING, OF ROXBURY, MASSACHUSETTS.

ROLLER-SKATE.

1,345,038. Specification of Letters Patent. Patented June 29, 1920.

Application filed December 11, 1918. Serial No. 266,235.

To all whom it may concern:

Be it known that I, JOSEPH D. UPPLING, a citizen of the United States, residing at Roxbury, in the county of Suffolk, 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 appertains to make and use the same.

The present invention relates to new and useful improvements in roller skates, more particularly of that type including a wheeled skate body having a heel plate hingedly mounted thereon whereby relative movement of the foot and skate body is permitted so that the skates may be propelled without the necessity of lifting the skates from the ground in the flexing movement of the operator's legs.

It is in general the object of the present invention to simplify the structure and to increase the efficiency of skates of this character and also to lessen the strain imposed on the operator by simulating in the skating operation the ordinary walking movement.

It is more particularly the object to provide an arrangement whereby the operator's foot is permitted its normal flexure at the ball joint.

A still further object is to provide for the exertion of a maximum propelling force alternately for the skates in the skating action, by preventing retrograde movement of the skates.

With the above and other objects and advantages in view, the invention resides more particularly in the novel combination, formation and arrangement of parts hereinafter described and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a side elevational view of the skate embodying the present invention and showing the operator's foot resting flatly thereon.

Fig. 2 is a similar view but showing the relation of the foot in a rearward position of the skate.

Fig. 3 is a plan view of the skate.

Fig. 4 is a transverse sectional view through the skate on the line 4—4 of Fig. 1.

Fig. 5 is a detail perspective view of the pawl for preventing retrograde movement of the rear skate wheel.

Referring now more particularly to the accompanying drawings, 10 designates the main frame or body of the skate, which in the present instance comprises an elongated plate having its end portions upwardly inclined and bifurcated to provide forks 11 mounting front and rear ground wheels 12 and 13 respectively, these wheels being in actual practice about four inches in diameter and carrying rubber tires 14, and while no particular journals are shown for the wheels, it will be understood that they are of the usual ball-bearing type.

Secured by hinges 15 to the body plate is a second or heel plate 16, the hinges 15 being disposed a slight distance forwardly of the center of the body plate and approximating the position of the ball joint of the operator's foot when resting thereon, the plate 16 extending rearwardly from said hinges throughout the extent of the operator's foot and terminates in an upturned flange 17 engageable with the operator's heel. The rear portions of the sides of the heel plate also carry upstanding lugs 19 for securing a strap 18 adapted to extend over the instep of the shoe. Upstanding at the sides of the body plate forwardly of the hinges 15 are lugs 20 carrying a strap 21 for engagement with the toe portion of the shoe. Upward movement of the heel plate 16 relative to the body plate is limited by a bolt 22 depending from the plate 16 through an opening in the body plate and having a stop nut 23 threaded on its lower end.

Retrograde movement of the rear wheel is prevented by a ratchet wheel 24 secured thereto which is engageable by a pawl 25 intermediately pivoted to the adjacent fork furcation 11 of the body plate. The rear end of the pawl is engageable with the under portion of the wheel and the forward end of the pawl is weighted to hold the first named end in such engagement, said forward end of the pawl being engageable by a stop arm 26 upstanding from the furcation 11 to limit pivotal movement of the pawl.

An exceedingly simple skate structure is thus provided which may be operated with a maximum of ease, by the elimination of the necessity of lifting the skate or of turning it to procure a propelling fulcrum, it being particularly noted that by the permitted flexure of the foot at the ball joint by reason of the disposition of hinges 15

thereunder, the skating movement is rendered similar to an ordinary walking movement and hence does not bring into play any special muscular action.

What is claimed is:

1. A skate comprising a main frame including a body plate and ground wheels, a heel plate hinged to the intermediate portion of the body plate and extending rearwardly thereover, means for engaging the shoe carried by said hinged plate, and means for engaging the shoe carried by the main frame forwardly of the hinge.

2. In a roller skate, the combination with a body plate having a slot through it near its rear end, forks at its extremities, rollers mounted in said forks, and pawl-and-ratchet mechanism for preventing retrograde movement of one roller; of a heel plate hinged to the body plate at a point to stand beneath the ball joint of the foot, the heel plate having an upstanding flange to engage the heel, means for clamping the heel plate beneath the heel, means for clamping the body plate beneath the toe of the shoe, and a bolt depending from the heel plate through said slot and headed at its lower end, for the purpose set forth.

In testimony whereof, I affix my signature, in the presence of two witnesses.

JOSEPH D. UPPLING.

Witnesses:

FRANK E. CROFF,

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