Nov. 1, 1955 P. J. OWSEN ET AL 2,722,430

ROLLER SKATE CLAMPING DEVICE

Original Filed April 25, 1950

FIG. 5.

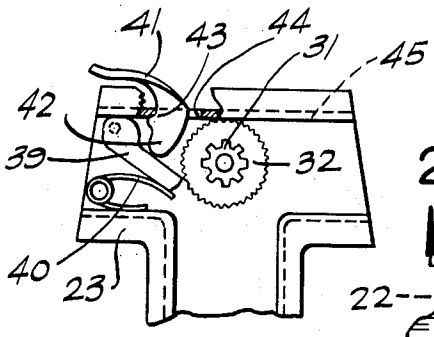


FIG. 1.

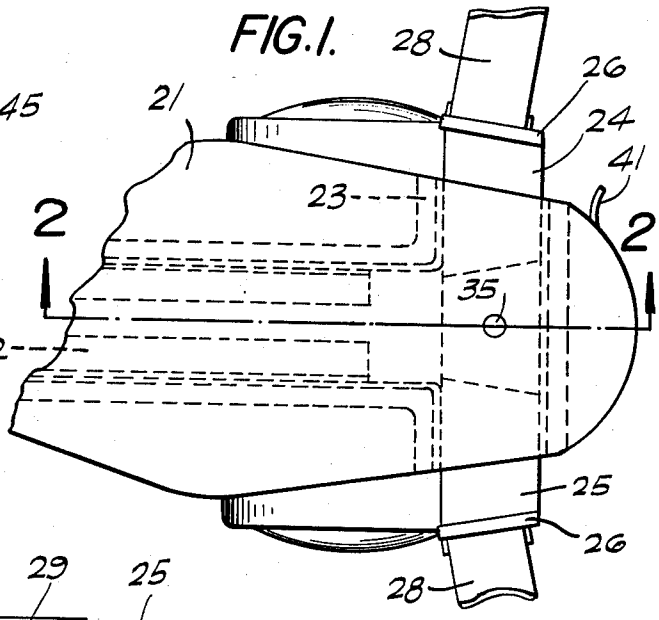


FIG. 3.

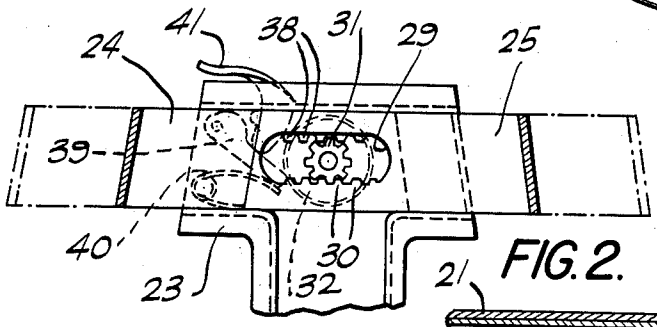


FIG. 2.

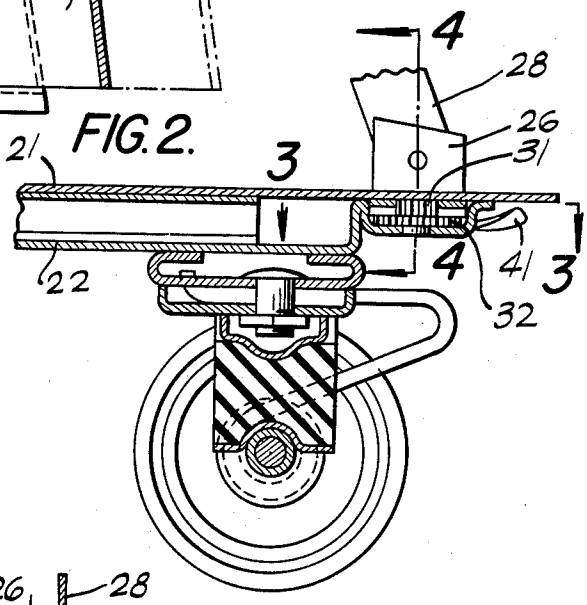
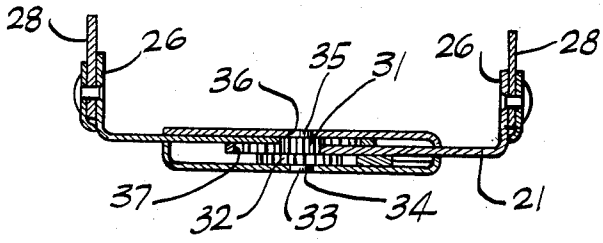


FIG. 4.



INVENTORS.
PAUL J. OWSEN,
PETER OWSEN
BY
Thos. L. Donnelly
ATTORNEY.

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ROLLER SKATE CLAMPING DEVICE

Paul J. Owsen and Peter Owsen, Dearborn, Mich.

Original application April 25, 1950, Serial No. 157,928. Divided and this application July 28, 1951, Serial No. 239,102

3 Claims. (Cl. 280—11.31)

This application constitutes a division of our application Serial No. 157,928, filed April 25, 1950.

Our invention relates to a new and useful improvement in a roller skate clamping device adapted for use in clamping against the side edges of the shoe sole of the user of the roller skate.

It is an object of the present invention to provide in a roller skate, shoe clamping members for clamping against opposite sides of the sole of a shoe and so arranged and constructed that they may be easily spread apart and easily and quickly moved into engagement with the opposite sides of the shoe sole and locked in such engaging position without the use of a key or any other type of a tool.

Another object of the invention is the provision of a clamping mechanism of this class having at opposite sides clamping members movable inwardly and outwardly relatively to each other and provided with a mechanism whereby a proper alignment of these members will always be retained.

Other objects will appear hereinafter.

It is recognized that various modifications and changes may be made in the detail of structure illustrated without departing from the invention and it is intended that the present disclosure shall be considered but the preferred embodiment.

Forming a part of this specification are drawings in which:

Fig. 1 is a fragmentary top plan view of the forward end of a roller skate showing the invention applied,

Fig. 2 is a fragmentary sectional view taken on line 2—2 of Fig. 1,

Fig. 3 is a fragmentary sectional view taken on line 3—3 of Fig. 2,

Fig. 4 is a sectional view taken on line 4—4 of Fig. 2,

Fig. 5 is a fragmentary top plan view of the forward end of the invention with parts broken away, parts shown in section and parts removed.

As shown in the drawings the invention comprises a forward or sole supporting plate **21** secured to the bottom of which and depending therefrom is a U-shaped structure **22** which forms a channel member or trough with the opening directed to the bottom of the plate **21**. At the forward end of this member **21** is a cross head **23** which is also U-shaped to form a channel or troughlike part and which engages at its open upper edges and is secured to the under surface of the forward end of the plate **21** so as to provide therewith a housing. Slidable in this housing, transversely of the plate **21**, are a pair of arms **24** and **25** provided with the upwardly turned sole engaging portions **26**, to each of which is secured a strap **28** adapted to be fastened over the toe of the shoe resting upon the plate **21**. Formed in the plate or arm **25** is a slot **29** having teeth **30** on one side or edge meshing with the gear **31** which is rotatably mounted in the channel **23** or housing formed thereby. As shown in Fig. 4, this gear **31** is integral with a larger pinion **32** from which projects a stud **33** engaging in the opening **34** formed in the member **23**.

A stud **35** projects from the gear **31** and engages in an opening **36** formed in the plate **21**. A slot **37** is formed in the plate or arm **24** and has teeth **38** on one side meshing with the gear **31**. The construction is such that the arms **24** and **25** may be moved outwardly or inwardly of the edges of the plate **21**. As one of the members **24** or **25** is pulled outwardly, the gear **31** will rotate to force the other outwardly and likewise when one of the plates **24** or **25** is moved inwardly, the other one will also move inwardly because of this pinion rack bar construction.

Swingably mounted in the housing in which the gears are mounted is a pawl **39** normally held by a spring **40** in engagement with the ratchet teeth formed on the gear **32** so as to prevent a rotation of the gear **32** in one direction. Extending into the housing in which the gears are mounted and accessible from the exterior thereof is a lever **41** having a nose **42** and provided with a boss **43**. This lever **41** extends through a slot **44** formed in the wall **45** of the housing. The arrangement is such that when the lever **41** is rocked in one direction it will force the pawl **39** out of engagement with the ratchet teeth of the gear **32** so that the gear **32** may freely rotate. When the nose **42** is in this position the sole engaging clips or angularly turned portions **26** may be spread apart so that the shoe of the user of the skate may be placed therebetween. When this has been accomplished the lever **41** would be rocked to permit the pawl **39** to engage the ratchet teeth and the members **26** may then be moved inwardly into close engagement with the opposite sides of a sole of a shoe. In this movement the gear **32** would be rotating and the pawl **39** would be riding over the ratchet teeth of the gear **32** so that the members **26** are automatically secured in their inwardly moved positions and prevented from sliding apart. In this way these members **26** may be moved into tightly clamping relation to the edge of the sole and the use of keys or the like is avoided.

What we claim is:

1. In a roller skate of the class described, a supporting body for supporting the shoe of the user with the sole of the shoe directed toward the forward end of the body; a pair of arms extending transversely of said body, and moveable inwardly and outwardly of the opposite edges thereof adjacent the forward end thereof; an engagement portion carried by each of said arms on its outer end, for, upon inward movement of said arms relatively to said body, engaging the sole of the shoe adjacent the forward end thereof; teeth formed on each of said arms adjacent the inner end thereof; a pinion rotatably mounted on said body for meshing with the teeth on said arms, the teeth on one of said arms meshing with said pinion at one side and the teeth on the other of said arms meshing with the pinion at the diametrically opposite side; a gear fixedly mounted on said pinion in axial alignment therewith; a rockable pawl on said body and engageable at its free end with the teeth of said gear; a spring for normally maintaining said pawl in engagement with the teeth of this gear; and a rockable cam on said body rockable into a position for moving said pawl out of engagement with the teeth of said gear and retaining said pawl in such moved position.

2. In a roller skate of the class described, a supporting body for supporting the shoe of the user with the sole of the shoe directed toward the forward end of the body; a housing mounted on the under surface of said body; a pair of arms extended transversely of said body and extending at one of their ends into said housing and movable inwardly and outwardly of opposite edges of said body adjacent the forward end thereof; an engagement portion carried by each of said arms for, upon inward movement of said arms relatively to said body, engaging the sole of the shoe adjacent the forward end thereof; teeth formed on said arms adjacent the inner end thereof; a pinion

rotatably mounted in said housing for meshing with the teeth of said arms, the teeth on one of said arms meshing with said pinion at one side and the teeth on the other of said arms meshing with the pinion at the diametrically opposite side; a gear fixedly mounted on said pinion in axial alignment therewith; a pawl rockably mounted at one of its ends in said housing and engageable at its opposite end with the teeth of said gear; a spring normally urging said opposite end of said pawl into engagement with the teeth of said gear; a rockable cam projected into said housing and engageable with said pawl for, upon rocking in one direction, moving said pawl and retaining the same out of engagement with the teeth of said gear.

3. In a roller skate of the class described, a supporting body for supporting the shoe of the user with the sole of the shoe directed toward the forward end of the body; a housing mounted on the under surface of said body; a pair of arms extended transversely of said body and movable inwardly and outwardly of opposite edges thereof adjacent the forward end thereof and extending at their inner ends into said housing, each of said arms having, adjacent its inner end, an elongated longitudinally directed slot formed therein; teeth formed on the arms at one side of the slot therein; an engagement portion carried by each of said arms for, upon inward movement of said arms relatively to said body, engaging the sole of the shoe

adjacent the forward end thereof; a pinion rotatably mounted on said housing and extending into said slots for meshing with the teeth on said arms, the teeth on one of said arms meshing with said pinion at one side and the teeth on the other said arm meshing with the pinion at the diametrically opposite side; a gear fixedly mounted on said pinion in axial alignment therewith and positioned in said housing; a pawl rockably mounted at one of its ends in said housing and engageable at its other end with the teeth on said gear; a rockable cam member extending into said housing and rockable into position for moving said pawl out of engagement with the teeth of said gear and retaining the same in such position.

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