(No Model.)

A. L. KITSELMAN.

ROLLER SKATE.

No. 322,383. Patented July 14, 1885.

Fig. 1.

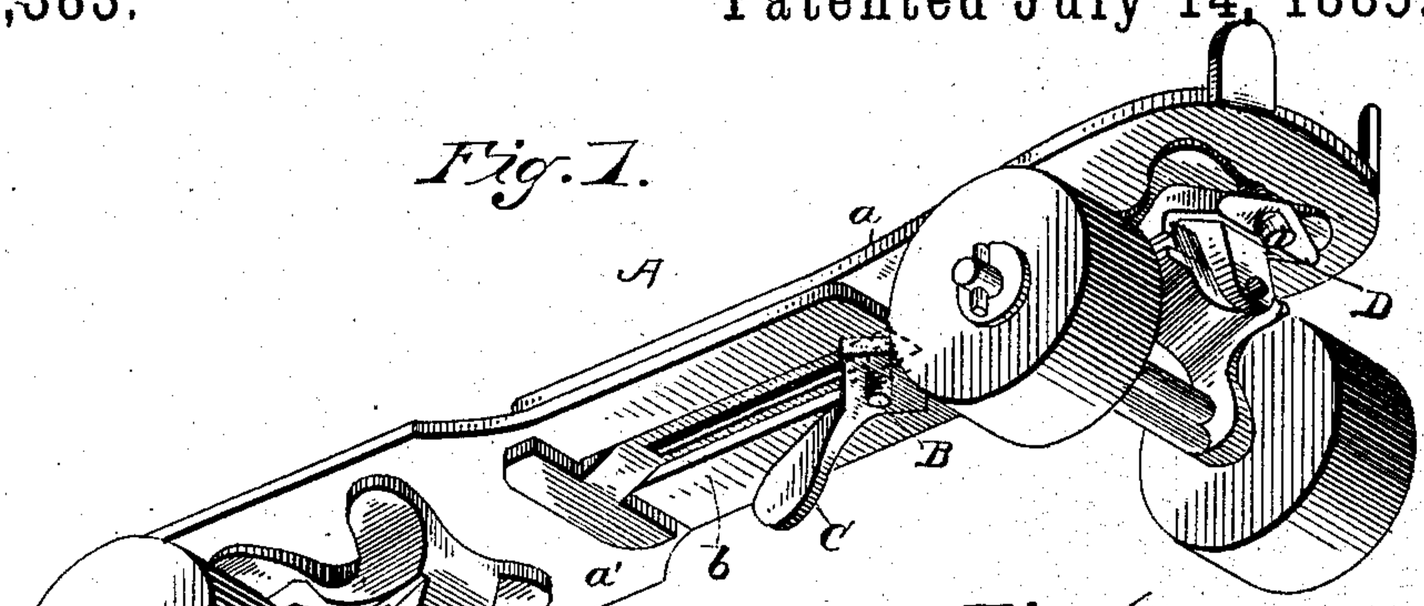


Fig. 4.

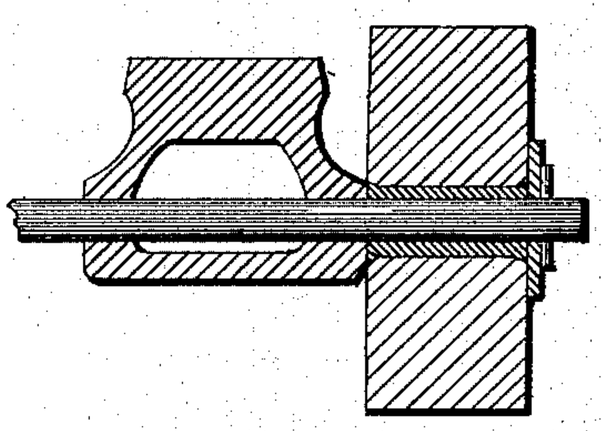


Fig. 5.

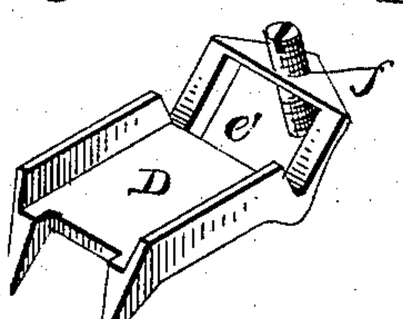


Fig. 3.

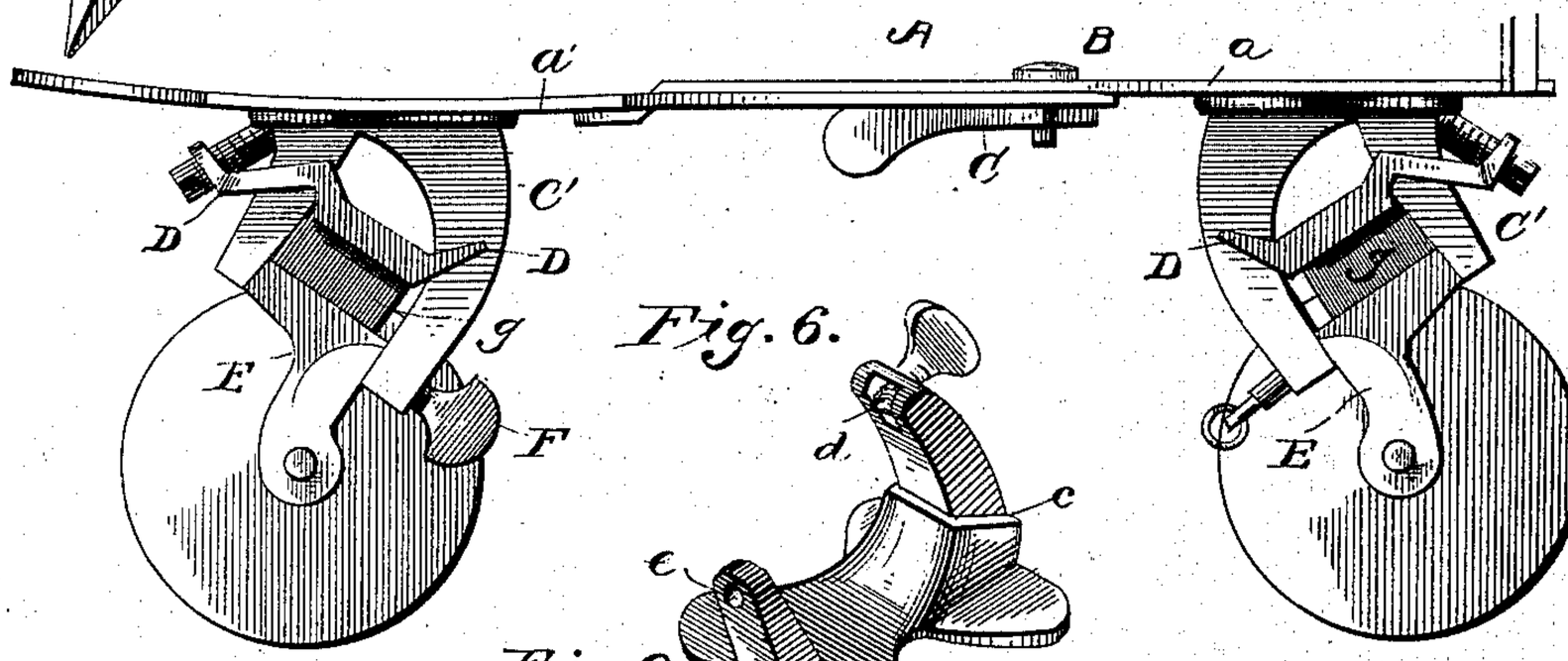
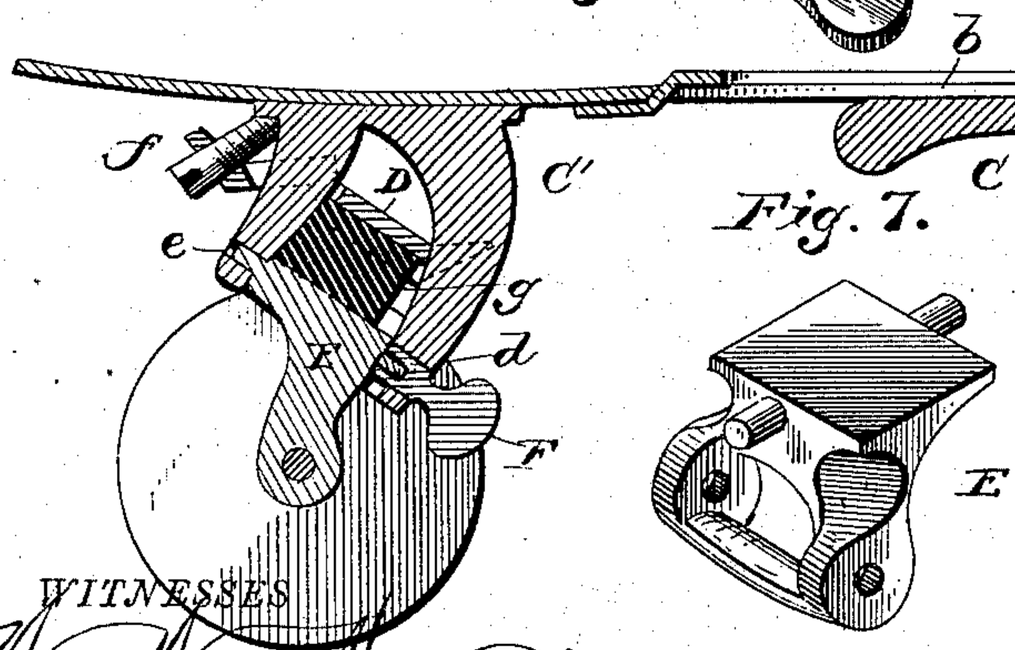


Fig. 6.

Fig. 2.

Fig. 7.



WITNESSES

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ALVA L. KITSELMAN, OF RIDGEVILLE, INDIANA.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 322,383, dated July 14, 1885.

Application filed November 8, 1884. (No model.)

To all whom it may concern:

Be it known that I, ALVA L. KITSELMAN, a citizen of the United States, residing at Ridgeville, in the county of Randolph and State of Indiana, have invented a new and useful Improvement in Roller-Skates, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to roller-skates, and it has for its object to provide improved means whereby the same may be adjusted to different lengths to accommodate different sizes of feet.

A further object of the invention is to so construct the skate of two sections or trucks that any desired adjustment may be almost instantly obtained and the sections securely clamped or held rigidly together.

A further object of the invention is to provide improved devices for regulating the tension or weight required to depress either side of the skate to facilitate the turning of curves, &c.

A further object of the invention is to provide an improved spider, whereby the hanger carrying the wheels may be readily attached to or detached from said spider when desired or found necessary.

A further object of the invention is to improve the details of construction and to provide a skate which shall possess superior advantages in simplicity, ease and rapidity of adjustment, cheapness, and durability.

With these ends in view the invention consists in the combination of a skate constructed of two sections, each having an elongated slot and a T-shaped lug on the end of one of said sections, a set-screw, and means for tightening the same.

The invention further consists in a skate the foot-rests of which are constructed of two sections, said sections having elongated longitudinal slots, a T-shaped lug formed on the end of one of said sections, a set-screw having square shoulders, and a lever-nut for tightening the same.

The invention further consists in the improved construction of spider, hanger, pressure-plate, in the improved manner of securing and arranging the same, and in the details of construction hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a skate constructed in accordance with my invention. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a side elevation. Fig. 4 is a transverse section through one of the wheels or rollers. Figs. 5, 6, and 7 are detail views in perspective of the pressure-plate, spider, and hanger detached.

In the accompanying drawings, in which like letters of reference indicate corresponding parts in all the figures, A represents a skate the foot-rest of which is constructed of two pieces or sections, *a a'*, said sections being preferably of steel. Each of these sections *a'* is provided with a longitudinal slot, *b*, extending from its inner end to a point nearly on a vertical line with the inner ends of the hangers, though the length of the slots may be varied when desired or found necessary. The end of the section *a* is provided with a forwardly and downwardly extending T-shaped lug, which is adapted to engage the slot in the section *a'*. It will be seen, however, that instead of the section *a* overlapping the section *a'*, such overlapping might be reversed. In this case the section *a'* would be provided with the T-shaped lug to engage the slot in the section *a*.

B represents a set-screw, which is preferably formed with a flattened head, as shown, in order that when it is tightened to secure the sections together it will project as little as possible above the upper or top section. This set-screw is formed near its upper end, at the point of junction of the screw-threaded or body portion of the screw and the head with square shoulders, so that all possibility of its turning will be prevented, said square shoulders bearing against the sides of the slot in the overlapping section. It will be seen, however, that when said set-screw is loosened the sections may be readily adjusted.

For tightening the set-screw to hold the sections rigid I have provided a lever-nut, C. By giving the said lever-nut a quarter-turn, when the sections are rigidly clamped, the set-screw will be sufficiently loosened to allow a ready adjustment. Another quarter-turn in a reverse direction will tighten the sections.

By the employment of a lever-nut it will be obvious that the set-screw may be more

readily and quickly loosened or tightened than by the use of a nut, which would necessitate the use of a wrench to turn the same.

C′ represents the spider of the forward section, said spider being secured to the under side thereof in any suitable or well-known manner. The rear arm of said spider extends down a slight distance below the forward arm, and is inclined slightly forward. The rear arm of the said spider is formed near its upper end with offsets or shoulders *c*, for a purpose which will be more fully explained. The lower end of the rear arm of the spider is provided with a screw-threaded opening, *d*, while the forward arm of the spider is provided with a somewhat smaller perforation or opening, *e*, said opening being plane. Upon the rear side of the rear arm of the spider, near the lower end of said arm, is provided a recess or slot which communicates with said opening *d*.

D represents the tension-plate, which is provided near its forward or front end with a rectangular slot or opening, *e′*, which is adapted to receive the forward arm of the spider. At the other end of the tension-plate are provided two rearwardly-extending lugs or projections, which incline slightly upward, said lugs or projections bearing against the offsets or shoulders on the rear arm of the spider, and serving to hinge the said tension-plate to said spider, the said shoulders on the rear arm in a corresponding direction and at the same angle as the lugs or projections on the pressure or tension plate. The tension-plate D is also formed on its sides with downwardly-extending flanges, which, when the rubber cushion is in position on said pressure or tension plate, prevent the lateral movement of said cushion.

E represents the hanger, which is provided with two downwardly-extending arms connected at their lower ends, said arms having holes or openings for the passage of an axle, upon the ends of which are mounted the wheels or rollers. The hanger has a flat or plane surface, and between said hanger and the tension-plate is located a block or cushion of rubber, *g*. The hanger has at its front and rear end an outwardly-extending trunnion. The trunnion on the forward end of the hanger fits in the hole or opening in the forward arm of the spider, while the trunnion on the rear end of said hanger fits or rests in the slot or recess on the inner side of the rear arm of the spider.

F represents a thumb-screw, which fits the screw-threaded opening in the rear arm of the spider. This set-screw is formed with an opening in end of a size sufficient to receive the rear trunnion of the hanger and serve as a bearing for the same. It will thus be seen that to secure the hanger in place it is only necessary to insert the front trunnion in the opening of the front arm of the spider and to insert the rear trunnion in the slot in the inner side of the rear arm of the spider, and by tightening the set-screw the hanger is held in place in such manner that the spider may be oscillated by the weight of the user. In the front end of the tension-plate is provided a screw-threaded hole or opening, *f*, which is adapted to receive a feed-screw, *f*, which is inclined at an angle of about forty degrees. The lower end of said feed-screw is smooth, and has a seat or bearing in the forward end of the spider. By turning this screw downwardly it will be seen that the tension or pressure plate is lowered, thus increasing the amount of weight necessary to oscillate the foot of the skate. The rubber block or cushion is equally depressed throughout its length by the lowering of the front end of the tension-plate, which forces the lugs on said plate farther up on the inclined offsets or shoulders.

In the rear truck I have shown a modified form of securing the hanger to the spider. In this case the long arm of the spider is provided with a hole or opening and a collar, *i*, extending therefrom. A bolt provided with a shoulder is mounted in said collar and opening, and upon said bolt is a spiral spring, *j*, which bears against the shoulder above mentioned at one end and against a shoulder in the collar at its other end. The end of this bolt is adapted to engage a hole or opening in the hanger, thus pivoting the same, said bolt being held in place by the spiral spring thereon. In other respects the rear truck is the same as the forward one, with the exception that it is secured to the foot-rest in a reverse direction from the forward truck.

A roller-skate constructed as above described may be supplied at a comparatively slight cost, its operation is easy and efficient, the several parts may be readily and quickly adjusted and secured in place, and are also, as will be readily seen, interchangeable.

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

1. A roller-skate constructed of two sections, the foot-rests of which are each provided with an elongated slot, a downwardly-extending T-shaped lug formed integral with the foot-rest of one of the sections and engaging the slot of the other section, a screw passing through the slots of the sections, and a nut to engage said screw, substantially as set forth.

2. A roller-skate constructed of two sections, the foot-rests of which are each provided with an elongated slot, a T-shaped lug formed integral with one of the sections, said sections being lapped and the T-shaped lug engaged with the slot of the adjacent section, a screw having rectangular shoulders and engaging the slots of the sections, and a lever-nut to engage said screw, substantially as set forth.

3. The combination, with a spider having downwardly-extending arms having openings near their lower ends, one of which openings is threaded, of a hanger having trunnions, and a hollow thumb or set screw exteriorly threaded, said screw engaging the threaded opening

in the spider and affording a bearing for one of the trunnions of the hanger, substantially as set forth.

4. The combination, with the spider having the inclined shoulders, of the tension-plate having the upwardly-inclined lugs to bear against said shoulders, a feed-screw located at the same angle as the lugs on the tension-plate and bearing loosely against the under side of the spider, a hanger journaled in the spider, and an elastic cushion interposed between the hanger and tension-plate, substantially as set forth.

5. The combination, with the spider having the downwardly-extending arms, the forward one of which is provided with a hole or opening, while the rear one is provided with a screw-threaded opening and a recess or channel communicating therewith, of the hanger having trunnions, and a thumb-screw having a hole or opening to afford a bearing for one of said trunnions, as set forth.

6. The combination, with the spider having the downwardly-extending long and short arms, as shown, said long arm having shoulders, a screw-threaded opening at its lower end, and a recess or channel communicating therewith, an opening in the lower end of the short arm, of a tension-plate having lugs to bear against said shoulders, and an opening to receive the short arm of the spider, a screw-threaded opening in said tension-plate, a feed-screw fitting therein, a hanger swiveled in the lower end of the spider, one of its ends being supported by a hollow thumb-screw, and an elastic cushion interposed between the tension-plate and hanger, as set forth.

7. In a roller-skate, the herein-described tension-plate, having the upwardly-inclined lugs, a rectangular opening, flanges, and a screw-threaded opening, as set forth.

8. The spider for roller-skates herein described, having a downwardly-extending long and short arm, said short arm having an opening, while the other is provided with a screw-threaded opening and recess or channel on its inner side communicating therewith, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ALVA L. KITSELMAN.

Witnesses:
LINCOLM HALL,
JOHN W. SEANEY.