

(No Model.)

W. A. JAMES.
SKATE.

No. 463,666.

Patented Nov. 24, 1891.

Fig 1

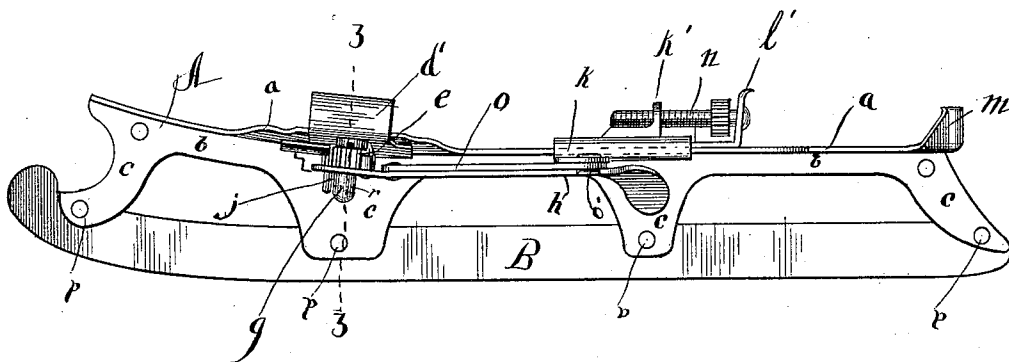


Fig 2.

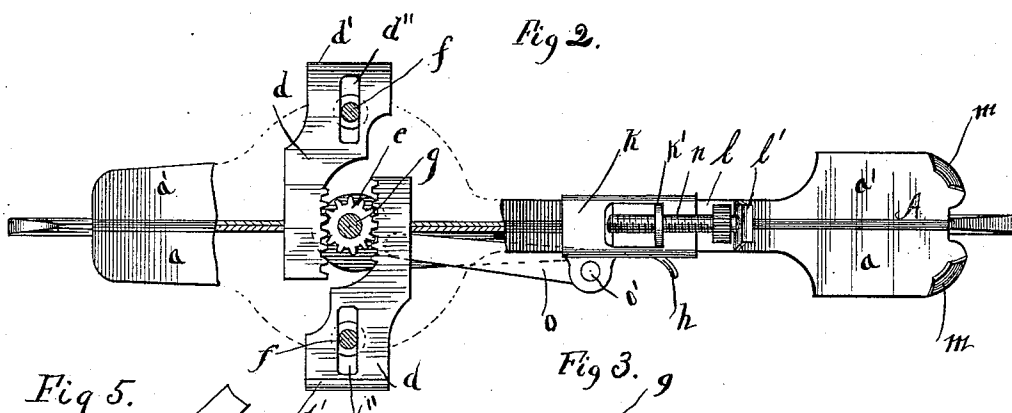


Fig 5.

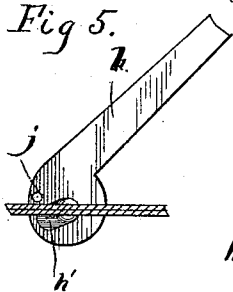


Fig 3.

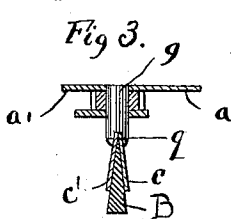
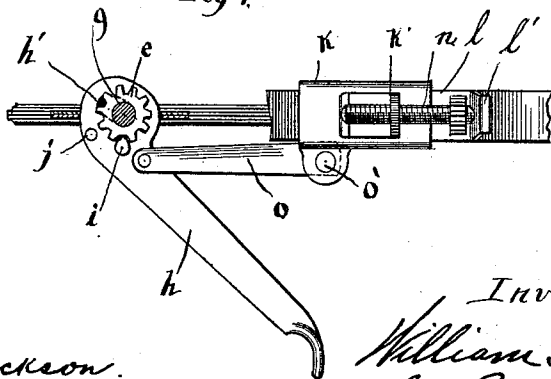


Fig 4.



Witnesses

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SKATE.

SPECIFICATION forming part of Letters Patent No. 463,666, dated November 24, 1891.

Application filed February 7, 1891. Serial No. 380,683. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. JAMES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Skates, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the skate. Fig. 2 is a top view, with that portion of the plate on which the ball of the foot rests broken away, showing the clamp beneath it. Fig. 3 is a section of a portion of said skate on line 3 3 of Fig. 1. Fig. 4 is a top view of the lever, the heel-clamp, and adjustable parts. Fig. 5 is an under side view of the lever or stop.

My invention relates to the construction of the body of the skate, and also to the means of securing it to the foot, and is chiefly useful in that class of skates which are secured to the sole of the boot or shoe by adjustable clamps, which are fastened by a lever.

The principal object of my invention is to cheapen the manufacture of skates, at the same time providing a light and durable article of good appearance. I accomplish these results as illustrated in the accompanying drawings and as hereinafter described. That which I regard as new will be pointed out in the claims.

Similar letters refer to similar parts throughout the drawings.

In the drawings, A is the body of the skate, of which B is the runner. The body of the skate is formed of two plates *a* and *a'*, which are so cut as to form the supporting-tongues *c c'*. The plate *a* is bent at or nearly at right angles a short distance above the origin of the tongues *c*. The portion *b* thus formed serves to support and strengthen the upper portion of the plate *a*, which upper portion forms one-half of the plate on which the foot rests. The plate *a'* is similarly cut to form supporting-tongues *c'*, and is similarly bent at or nearly at right angles, but in an opposite direction, the two plates thus being complements of each other. They are fastened together by rivets *p* or by brazing, or in any suitable manner. The runner B is inserted

between the supporting-tongues *c c'* and fastened by rivets *p'*, or by brazing, or in any suitable manner. That portion of the plates *a a'*, on which the ball of the foot rests, is best curved to conform to the curve of the sole of the shoe. The front clamps are formed on the ends of two racks *d* by turning up the ends thereof *d'*. These clamps are adapted to clamp the sole of the shoe under the ball of the foot when said clamps approach each other. Said clamps are provided with teeth adapted to engage with opposite sides of a cog-wheel *e*, and will be moved in opposite directions by turning said wheel. Said racks are fastened to and slide under the foot-plate in a direction at right angles to the runner of the skate. Each rack is provided with a slot *d''*. Through this slot passes a screw *f*, the stem of which is slightly smaller and the head much larger than the breadth of said slot. The screws are screwed into the foot-plate from below and securely fastened therein. The head projects far enough below said plate to allow the racks to slide easily on the stem of said screw. Said racks also slide in a slot cut in the supporting-bar *b*, and such slot is of such length that the ends thereof will hold the teeth on said rack at all times securely meshed with the cogs of the wheel *e*. These racks may be secured to said foot-plate in many ways, and I do not wish to be confined to any particular way of doing the same. The cog-wheel *e* rotates on a pin *g*, and in the lower end of said pin *g* is a slot *q*, adapted to fit over two of the supporting-tongues *c c'*, Fig. 3. From said tongues *c c'* is cut a rectangular notch *r*, (shown by dotted lines in Fig. 1,) adapted to receive the pin *g*. The slot *q* and the notch *r* thus hold the lower end of the pin *g* firmly in place. The pin *g* is inserted through a hole in the foot-plate and firmly fastened therein by spreading the head of it with a riveting-hammer or by fastening it in any suitable manner. A lever *h* is provided with an elliptical slot *h*, through which slot the pin *g* passes. Secured to this lever is a catch *i*. This catch may be made of a segment of a circle toothed on the inside and adapted to engage with more than one

tooth of the wheel *e*, or as shown. When the lever *h* is in either of the positions shown in Figs. 2 and 4, the catch *i* will engage with the cogs of the wheel *e*, and turning the lever on the pin *g* will rotate the wheel *e*. When the lever *h* is pulled endwise, the lever will slide on the pin *g* until the pin *g* is in the other end of the elliptical slot *h'*, and the catch *i* will then not engage with the cogs of the wheel *e*, so that the wheel *e* and the lever *h* can each move independently and the racks *d* can be adjusted to the proper width for clamping the sole of the shoe and then tightened by pushing the catch *i* into engagement with the cogs of the wheel *e* and turning the lever. Upon the lever *h* is provided a pin *j*, (best shown in Fig. 5,) which extends downward from said lever and is so placed that it will strike against the supporting-tongue *c* and limit the outward motion of the lever. In front of the heel the foot-plate is considerably narrowed, and on the same is a sliding piece *k*, adapted to slide lengthwise on said foot-plate by having its edges turned over the edges of said foot-plate. Between said foot-plate and the sliding piece *k* is another sliding piece *l*, adapted to slide between the sliding piece *k* and the foot-plate, and the end of said piece *l*, which is nearest the heel, is turned up, so as to form a catch *l'*, adapted to clamp the heel of the shoe from in front and press it against the ears *m m*, which are bent from the foot-plate. Said ears *m m* may be re-enforced, if thought best, in any way desired. The end of an adjusting-screw *n* is journaled in the catch *l'* and the screw passes through the screw-eye *k'*, which is fastened securely to the sliding piece *k*; or it may be formed by cutting an ear properly provided with a thread from the piece *k* and turning it up at right angles, so that the thread will receive the screw *n*. By turning the adjusting-screw *n* the distance between the catch *l'* and the ears *m m* may be varied, so as to adapt the clamp to heels of different sizes. The sliding piece *k* and the lever *h* are joined by a link *o*, which is pivotally attached to each of them and is attached to the lever near its fulcrum. A rivet *o'*, which attaches the link *o* to the sliding piece *k*, extends through far enough to hold the lever *h* in its place when pushed in toward the runner of the skate and slipped behind the end of said rivet *o'*, as shown in Fig. 1. Drawing the lever *h* toward the runner of the skate will push the sliding piece *k* back, so as to clamp the heel between the ears *m m* and the catch *l'*, and the same motion of the lever also rotates the wheel *e* and fastens the clamps *d' d'*, securing the skate to the shoe. When the skate is held in position on the foot and the sliding piece *k* held by the contact of the catch *l'* with the heel, the lever *h* is pushed forward by the link *o* and the catch *i* held firmly meshed with the cogs of the wheel *e*, as shown in Fig. 1. When the

skate is loosened from the foot by moving the loose end of the lever *h* away from the runner *B*, the link *o* pulls the catch *i* away from engagement with the wheel *e*, so that the same movement of the lever which loosens the skate from the foot also throws the catch *i* out of engagement with the wheel *e*.

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

1. A skate consisting of a pair of united foot-plates *a a'*, each the counterpart of the other and provided with the strengthening portion *b* and pendent tongue-pieces, and a runner interposed between and secured to the tongue-pieces, substantially as described.

2. In a skate, the combination, with a pin *g*, a foot-plate *a a'*, having fastened thereto and sliding thereon racks *d*, adapted to engage with a cog-wheel *e*, having clamps *d'*, of a cog-wheel *e* and a lever *h*, adapted to rotate the wheel *e*, substantially as and for the purpose specified.

3. In a skate, the combination, with a pin *g*, cog-wheel *e*, and racks *d*, adapted to be moved by said cog-wheel *e* and having clamps *d'*, of a lever *h*, having an elliptical slot *r*, and catch *i*, adapted to be engaged or disengaged with said cog-wheel, substantially as and for the purpose specified.

4. In a skate, the combination, with a skate-body having a cog-wheel *e* pivoted thereto, lever *h*, having an enlarged opening *l'*, having catch *i*, adapted to engage with said cog-wheel, and forward clamps adapted to be operated by said cog-wheel, of rear clamps for said skate and devices for operating said rear clamps by said lever *h*, substantially as and for the purpose specified.

5. In a skate, the combination, with a skate-body having a cog-wheel *e* pivoted thereto, a lever *h*, having an enlarged opening *l'*, having a catch *i*, adapted to engage with said cog-wheel, and forward clamps adapted to be operated by said cog-wheel, of the sliding plate *k*, catch *l'*, secured to said sliding plate *k*, and bar *o*, connecting said sliding plate with said lever *h*, substantially as and for the purpose specified.

6. In a skate, the combination, with a foot-plate having clamps *m*, lever *h*, having the plate *k*, adapted to slide on said foot-plate, and plate *l*, adapted to slide between the plate *k* and said foot-plate and having the catch *l'* thereon, of an adjusting-screw *n*, connecting the catch *l'* and the plate *k*, and devices for operating said plate *k*, substantially as and for the purpose specified.

7. A skate having its body composed of two plates of metal cut, bent, and fastened together to form a foot-plate, and provided with pendent tongue-pieces between which the metallic runner is interposed and riveted in place, substantially as described.

8. In a skate, the combination, with a skate-body having rear clamps *m* and having a cog-

wheel *e* pivoted to said skate-body, and racks
d, having clamps *d'* thereon and adapted to
be moved by said cog-wheel and having a le-
ver *h*, with an enlarged opening *h'*, and catch
5 *i*, adapted to engage with said cog-wheel, of a
link *o*, and sliding piece *k*, sliding piece *l*,
having the clamp *l'*, and adjusting-screw *n*,

connecting said clamp *l'* and sliding piece *k*,
substantially as and for the purpose specified.

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Witnesses:

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