M H Kimball

PATENTED JAN 10 1871

110858

ROLLER SKATE

FIG.1

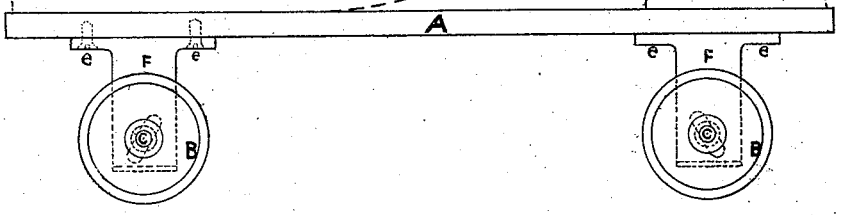


FIG.2

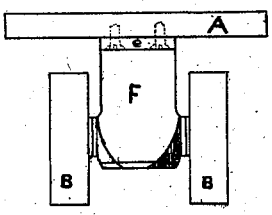


FIG. 3

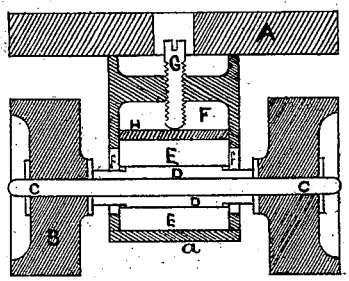


FIG.4

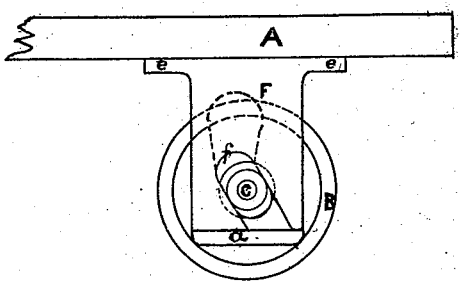


FIG. 5

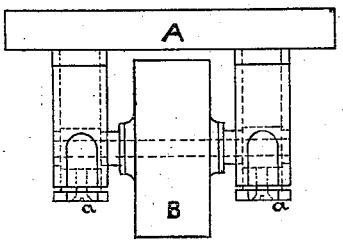
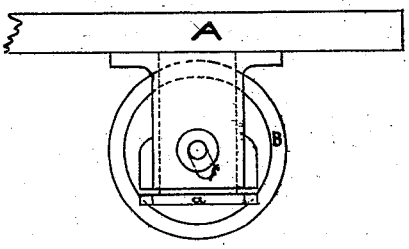


FIG.6



WITNESSES

George Pardy

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INVENTOR

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MATTHEW H. KIMBALL, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO HIMSELF AND JAMES GARVEY, OF SAME PLACE.

Letters Patent No. 110,858, dated January 10, 1871.

IMPROVEMENT IN ROLLER-SKATES.

The Schedule referred to in these Letters Patent and making part of the same.

I, MATTHEW H. KIMBALL, of the city and county of San Francisco, State of California, have invented a new and improved "Roller-Skate," of which the following is a specification.

Nature and Objects of the Invention.

This invention relates to an improved device for applying the swaying motion of the body, as made naturally when turning a curve in the act of skating, to produce a turning or swinging around in a plane parallel to the floor, of the axle and wheels thereto attached of the skate, for the purpose of causing the skate to follow a curved line of more or less radius, according to the amount of inclination given the body, or, more properly speaking, the foot of the skater.

The object of the improvement being to produce a skate which shall be easily and cheaply constructed, be less liable to get out of order than other skates utilizing the same principle, and which shall be lighter, more elastic to the tread, and offer better facilities for easy and graceful motion in skating.

Description of Accompanying Drawing.

Figure 1 is a side view of my arrangement for a four-wheeled skate.

Figure 2 is an end view of same.

Figure 3 is a cross-section of my box or bearing for my wheel axle.

Figure 4 is a side view of this same box or bearing.

Figure 5 is an end view, illustrating a second arrangement of parts to accommodate a single roller.

Figure 6 is side view of same.

Such parts of the skate as are in no way improved by this invention, as the straps to fasten the skate to the foot, &c., are not shown.

General Description.

The sole or foot-plate A of my skate may be fashioned in any known way suitable, and may be of iron or wood, or other material.

The skate may be secured to the foot by any means suitable.

My rollers, runners, or wheels B are of common construction, and may be of box-wood or other suitable material, about two inches being a suitable diameter.

The axles C, carrying the rollers, may be of steel, and the rollers will revolve upon them, the axles themselves not turning.

Between the hubs of the wheels, where the wheels are set in pairs, a sleeve or socket, D, will be provided, serving to keep the wheels apart, and also this sleeve having increased surface over the axle is not so liable to cut and wear away the rubber spring or cushion E in which it is imbedded.

I make the sleeve D separate, and afterward drive the steel axle into it, or it may be cast on the steel axle, either way being cheaper than making this sleeve solid with and of a piece with the axle.

To prevent the axles from having too much side play, it will be seen in fig. 3 that I provide little shoulders on the sleeve D, just inside the box F, after passing through the slots *f*.

Of course many ways may be devised to introduce the sleeve into the box F besides passing it through the slot *f*, which would be too small to admit it. In fig. 4 I show the slot continued to the bottom of the box to the lower cap *a*, so that the sleeve can be introduced from below before the cap is secured, and afterward little metal pieces can be soldered in, or may form a continuation of the lower cap; another way I show in dotted lines, same figure, consisting of continuing the slot upward till it widens out to be large enough to pass the sleeve through.

F is simply a hollow metal box, having the slotted holes *f* through opposite sides, which set at an angle from the perpendicular, as shown in figs. 1, 4, and 6; through these slots the sleeve carrying the axle passes.

In this box above and below the axle will be the rubber cushions or springs E, which lend elasticity to the tread of the skater and produce action, as hereinafter described.

The box F is secured to the sole A by wood-screws passing through the lugs *e*.

The springs or cushions E may be adjusted to have more or less force by screwing up the set-screw G, fig. 3, which bears upon the plate H, access being had to the set-screw through a hole bored through the sole A. A second method is illustrated in figs. 5 and 6, where the lower cap *a* being secured with screws, when it is screwed up the spring is compressed, or *vice versa*.

My skate may have any desirable number of rollers suitable, either each roller single or in pairs; where a single roller is used an arrangement of the bearings will be made as in fig. 5, that is a bearing on each side of the roller will be provided, which need not be quite so broad as where but one bearing is used between two wheels.

The Operation.

The operation is as follows:

When the foot of the skater is inclined sidewise as in the act of turning a curve, the end of the axle on the side he leans is forced up the inclined slot and down the slot on the opposite side; now, the slot not being vertical, this causes a swinging motion to be given the axle, as before stated, in a plane parallel to

the skating floor, which causes the skate to follow in a curved direction.

The axles resting in rubber, a peculiarly easy and springy or elastic tread is obtained.

I know of the "Plimpton" skate patented in 1863, reissued in 1870, but recognize no similarity between my skate and his, further than that we both make application of the well-known principle as exemplified in the carriage of ordinary use, viz., that of swinging the axle to make the wheels follow in a curved line, and my skate I recognize only as a diminutive "carriage" for the foot, utilizing this principle.

I and Plimpton use the motion of the foot to turn the axles, but, of course, there is no invention in such application aside from the device adopted to transmit the motion.

I do not claim my skate as simply an improvement on Plimpton's, but entirely independent of his, and as not in any way infringing.

Claim.

I claim—

The boxes or bearings F, having the slots *f* through their sides, with the springs or cushions E, as and for the purpose described.

MATTHEW H. KIMBALL.

Witnesses:
GEORGE PARDY,
J. D. BROWNE.