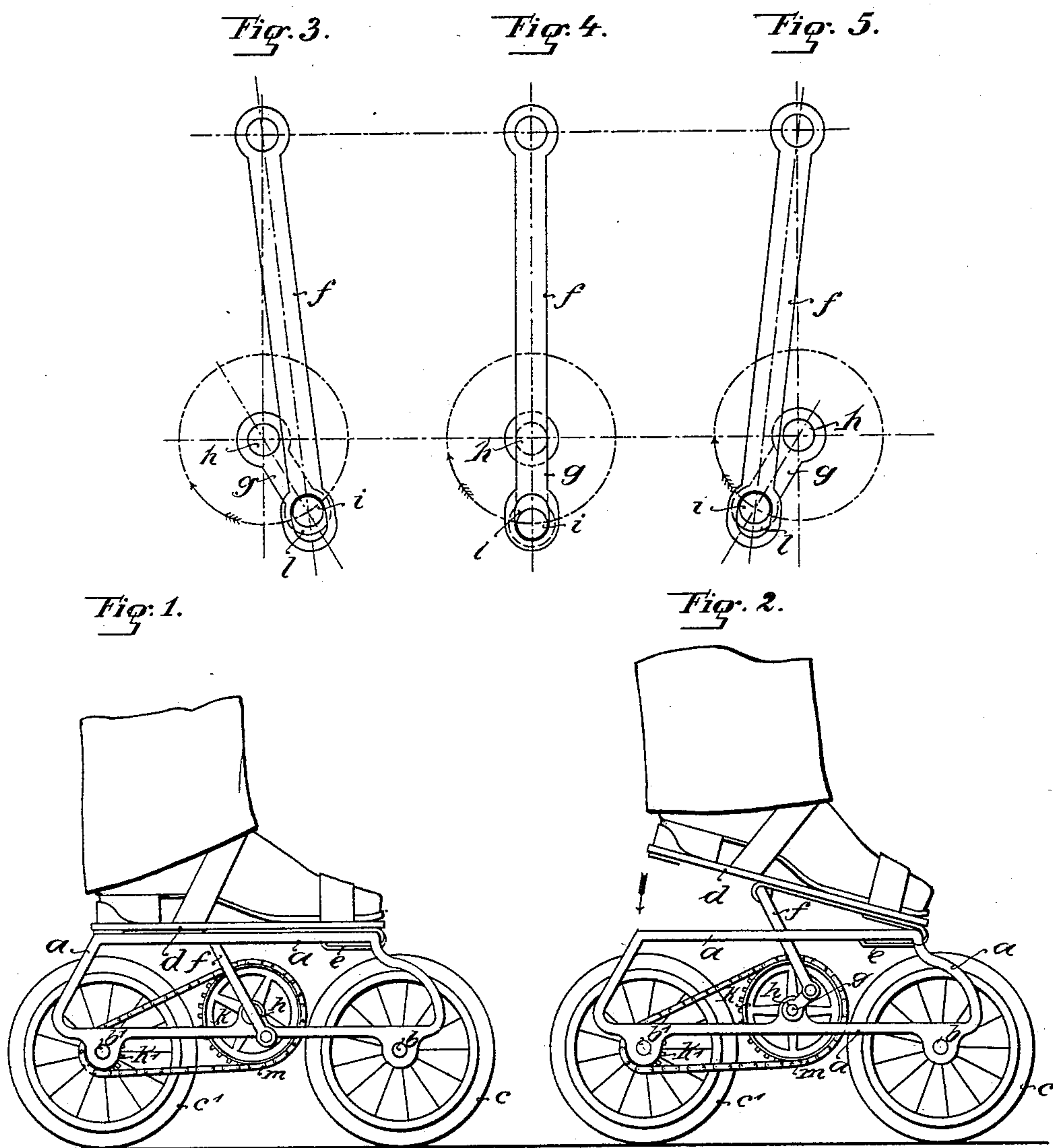


(No Model.)

S. L. KINSBRUNER.  
ROLLER SKATE.

No. 602,704.

Patented Apr. 19, 1898.



Witnesses.

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# UNITED STATES PATENT OFFICE.

SAMUEL LEOPOLD KINSBRUNER, OF BERLIN, GERMANY.

## ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 602,704, dated April 19, 1898.

Application filed April 17, 1897. Serial No. 632,571. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL LEOPOLD KINSBRUNER, of Berlin, Germany, have invented certain new and useful Improvements in Roller-Skates, of which the following is a full, clear, and exact description.

My invention relates to roller-skates, and has for its object to utilize the weight of the skater for increasing his speed.

To this end my invention consists of a roller-skate constructed substantially as hereinafter described, and specifically pointed out in the claims.

Other features of the invention will appear from the description following hereinafter and from the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my improved roller-skate with the foot-support in its lower position. Fig. 2 is a like view showing the said support raised; and Figs. 3, 4, and 5 are diagrammatic side elevations illustrating different positions of the mechanism connecting the movable foot-support to the shaft driven thereby.

The improved skate has a frame *a*, of any suitable construction, said frame having bearings for the shafts *b b'* of the rollers or wheels *c c'*, of which there may be two or more.

To the front end of the frame *a* is hinged to swing in a vertical plane the foot-support *d*, preferably fitted with a spring *e*, tending to return it to the upper position. (Shown in Fig. 2.) This foot-support carries straps or other devices whereby the skate may be fastened to the skater's shoe.

A connecting-rod *f* is pivotally attached to the foot-support *d* and to a crank *g*, mounted on the shaft *h* of a sprocket-wheel *k*. A similar sprocket-wheel *k'* is rigidly secured upon the shaft of one of the rollers, and a driving-chain *m* connects the two sprocket-wheels.

The connecting-rod *f* is preferably made with a longitudinal slot *l*, where it engages

the pin *i* of the crank *g*. The object of this construction is to take off any radial or longitudinal strain from the crank *g* when it is in the dead-point position, (shown in Fig. 4,) so as to facilitate the overcoming of the dead-center.

The motion of the skater is similar to that used with ordinary roller-skates, except that there is the additional movement of raising and lowering the feet to swing the foot-support *d* up and down. The spring *e* assists in bringing the foot-support to its upper position. The formation of the connecting-rod *f* with the longitudinal slot *l* enables the skater to better overcome the dead-center, as above described. The oscillating movement of the foot-support imparts a rotary movement to the supporting wheel or roller *c'*, and thus the skater can obtain a much higher speed than with the usual construction of roller-skates. The skater may also, by an action similar to back-pedaling on a bicycle, employ the propelling mechanism as an effective brake.

Various modifications may be made without departing from the nature of my invention.

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

1. The combination of the frame and the supporting - rollers, with the foot-support hinged to the frame, the crank-shaft journaled in the frame and operatively connected to one of the rollers, and a connecting-rod pivoted to the foot-support and to the crank of said shaft, substantially as described.

2. A roller-skate having a frame carrying rollers, a foot-support movable vertically in relation to said frame, a crank-shaft journaled in the frame, a connecting-rod pivotally attached to the foot-support and to the crank of the said shaft, said connecting-rod having a longitudinal slot where it engages the crank-pin, and a driving connection between the crank-shaft and one of the rollers, substantially as described.

3. A roller-skate, comprising a frame provided with supporting-rollers, a foot-support movable up and down relatively to the frame,



and a permanent positive connection between  
said foot-support and one of the rollers, so  
that the said support will remain in driving  
or controlling connection with the support-  
5 ing-roller during the upward movement of  
the foot-support as well as during the down-  
ward movement thereof.

In testimony whereof I have signed this  
specification in the presence of two subscrib-  
ing witnesses.

SAMUEL LEOPOLD KINSBRUNER.

Witnesses:

STEGEMANN,

HENRY HASPER.