

John Lemman.

# Roller Skate.

PATENTED MAY 24 1870

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Fig. 1.

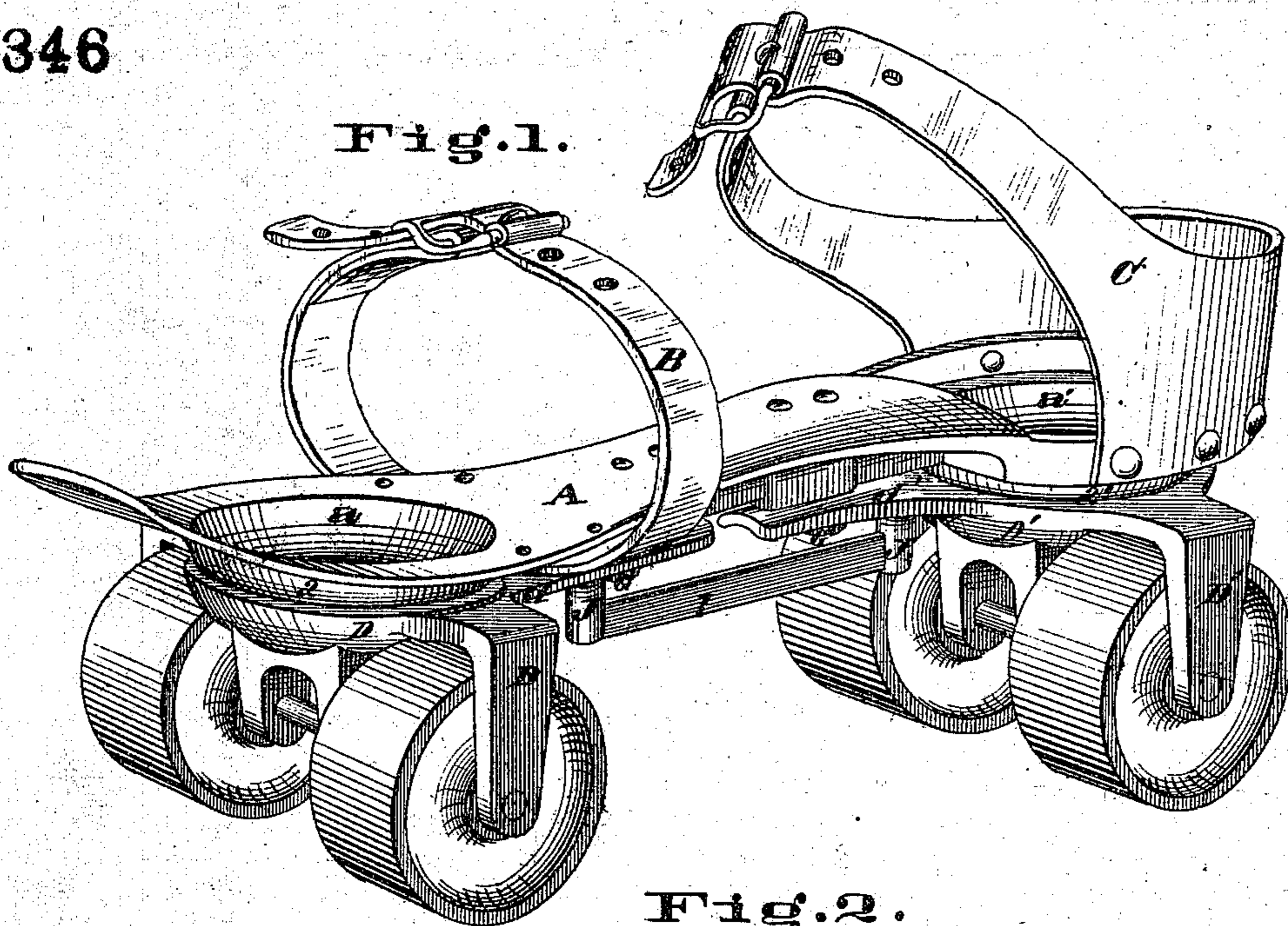


Fig. 2.

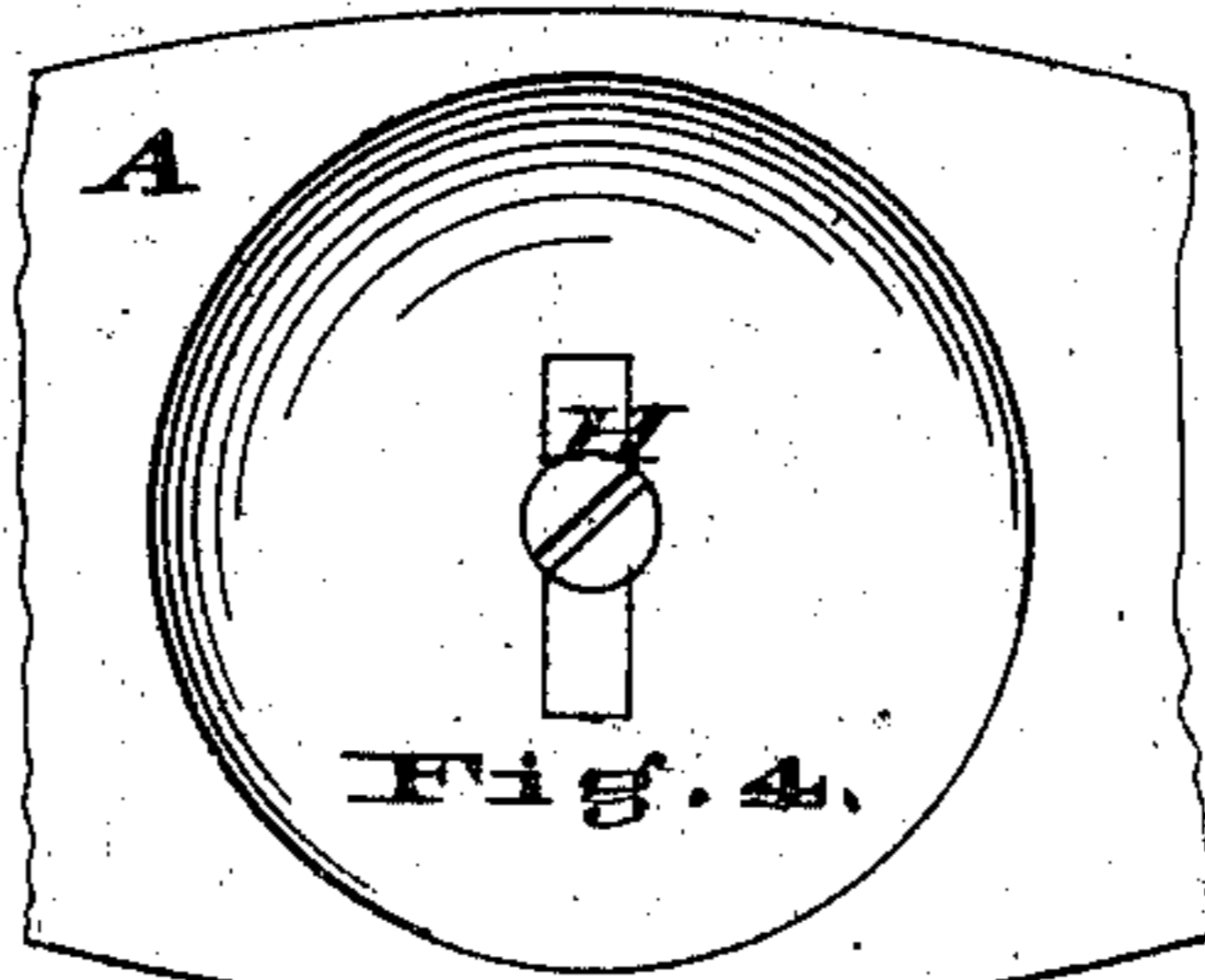
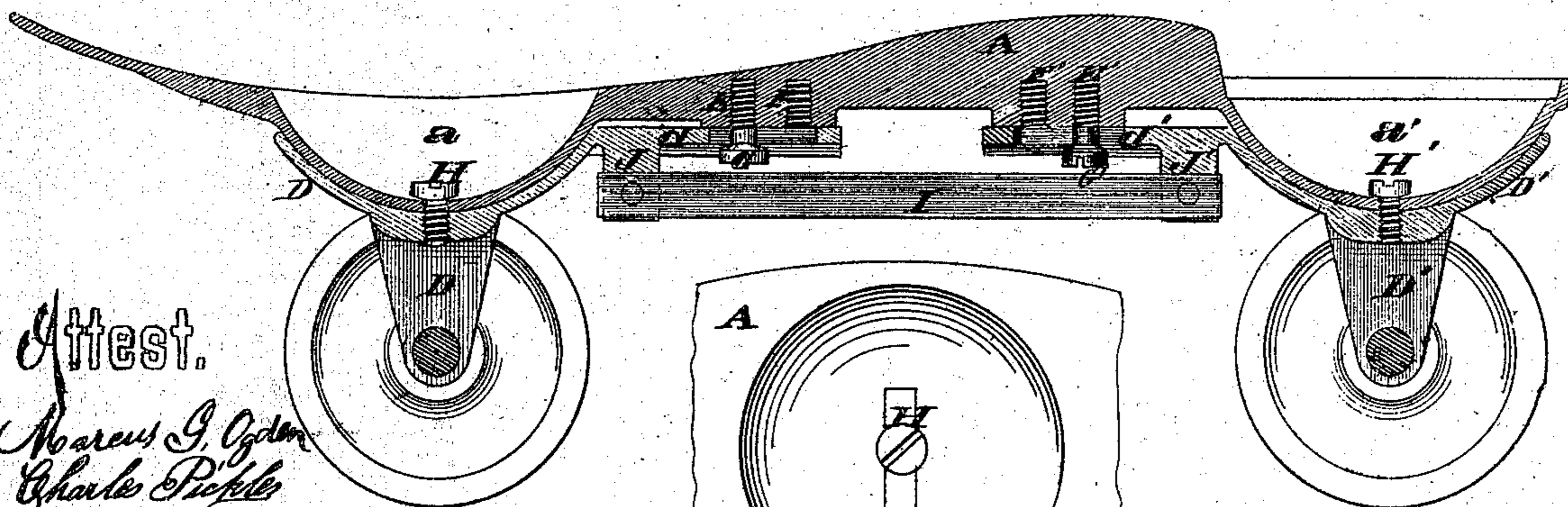
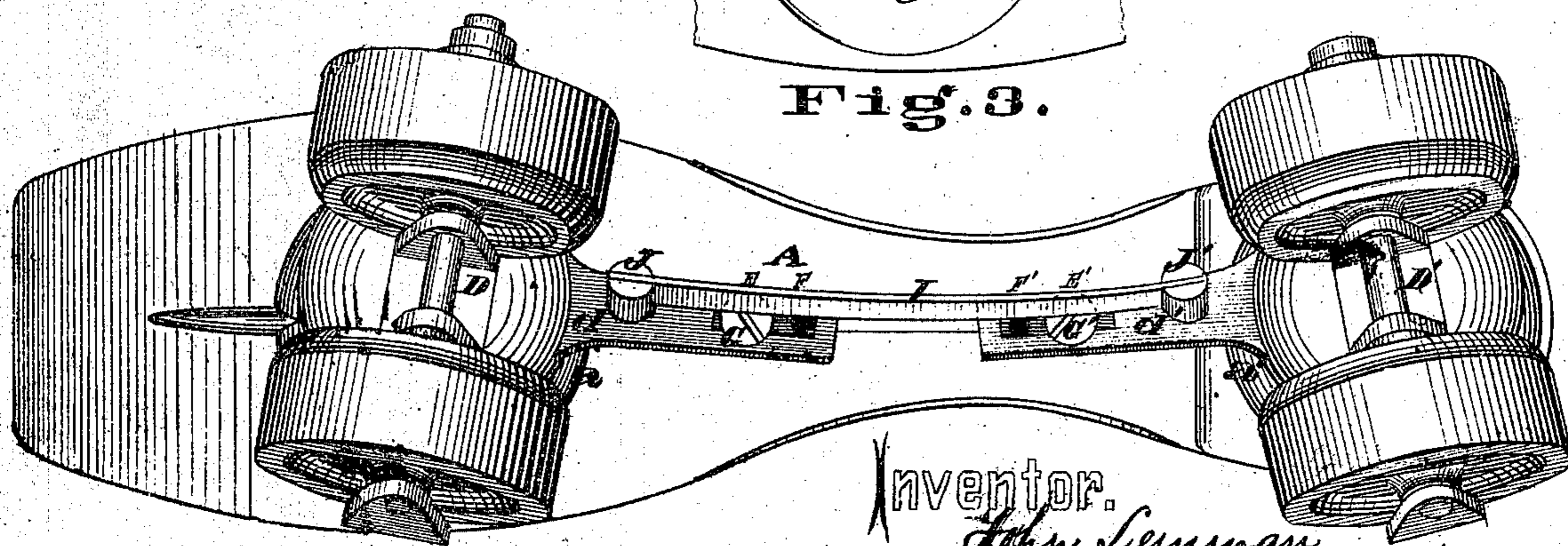


Fig. 3.



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JOHN LEMMAN, OF CINCINNATI, OHIO.

## IMPROVEMENT IN PARLOR-SKATES.

Specification forming part of Letters Patent No. 103,346, dated May 24, 1870.

*To all whom it may concern:*

Be it known that I, JOHN LEMMAN, of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Roller-Skates; and I hereby declare the following to be a sufficiently full, clear, and exact description thereof to enable one skilled in the art to which my invention appertains to make and use it, reference being had to the accompanying drawing, making part of this specification.

My invention relates to the class of broad-base roller-skates the rollers of which are adjusted to turn curves by the natural inclination of the body in skating curves; and my invention consists in the provision of ball-and-socket joints connecting the roller-frames to the stock of the skate, which device, in connection with pivoted levers attached to the sockets, enables the stock of the skate, by rolling in the sockets in obedience to the motion of the body of the skater, to so adjust the rollers as to compel them to follow the direction desired by the skater.

My invention further consists, in connection with the ball-and-socket device for the roller-frames of a flat steel spring, in connecting the two roller-frames together in such a manner that the roller-frames will be returned by the spring to the central position after being adjusted to turn or describe curves.

In the accompanying drawing, Figure 1 is a perspective view of a roller-skate embodying my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a plan of the under side of the skate, showing the position of the rollers and frames in describing curves. Fig. 4 is a top-plan view of one end of the stock.

The foot-stand or stock A of the skate is formed with downwardly-projecting spherical segments *a a'*, which are concave on the upper side, as shown, leaving a uniform thickness of metal between the convex and concave surfaces. The stock is secured to the foot of the skater by straps B C or any other preferred method.

The rollers, which are preferably four in number, are journaled in the frame D D', in the manner shown, in such a way as to per-

mit of the withdrawal of the axles for lubrication.

The frames D D' are concave on the upper side to fit over the spherical segments *a a'*, forming what is known as "ball-and-socket joints."

The frames D D' are also formed with projecting levers *d d'*, which are loosely connected to the stock A at E E' or F F' by set-screw pivots G G'.

The levers *d d'* are slotted, as shown, to permit of the changing of the pivots G G' from E E' to F F', in order to diminish the divergence of the levers from the center line of the stock when the stock is tilted.

The frames are connected to the stock A, at the center of the ball-and-socket joints, by set-screws H H', the stock being slotted across, as shown in Fig. 4, to permit the lateral adjustment of the roller-frames.

A spring, I, is fitted into the slotted projections J J' of the roller-frames, which serves to return the frames to the central position after being forced by the rolling of the stock A into position for curves. This provision is not essentially necessary, as the skate is complete without it; but it is preferred by some skaters, as it prevents "shackling."

In the operation of this skate the center of the concave of the roller-frames D D' is in line with the center line of the stock when skating straight. When skating curves the stock A is rolled or tilted by the necessary inclination of the body for curves, and both frames D D' are forced, by the action of the ball-and-socket joints, to the side of the skate on which the body leans. The ends of the levers *d d'* being retained by the pivots G G' in the center line of the stock, the axles of the rollers are necessarily twisted or cramped out of right angles with the skate-stock and compelled to assume the required position for a curve, the degree of adjustment, of course, always depending upon the extent to which the body of the skater is inclined, as in other skates of this class.

It will be seen that the oscillating frames D D' are not connected to the stock by small pintles or axles, upon which all the strain is sustained, as in other skates with tilting foot-

boards, but the connection is broad and solid, with the best known form for wearing surface—viz., ball and socket.

*Claims.*

1. In connection with the stock A, provided with spherical segments *a a'* and pivots G G', the concave roller-frames D D' *d d'*, combined, arranged, and operating substantially in the manner and for the purpose specified.

2. In connection with the oscillating roller-frames D D' J J', the provision of the spring I, connected and operating in the manner and for the purpose described.

In testimony of which invention I hereunto set my hand.

JOHN LEMMAN.

Witnesses:

FRANK MILLWARD,

EZRA COPE.