

(No Model.)

H. W. LIBBEY.

ROLLER SKATE.

No. 346,664.

Patented Aug. 3, 1886.

FIG. 1.

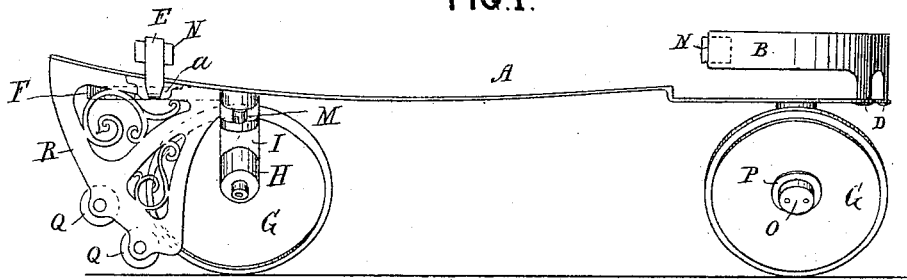


FIG. 2.

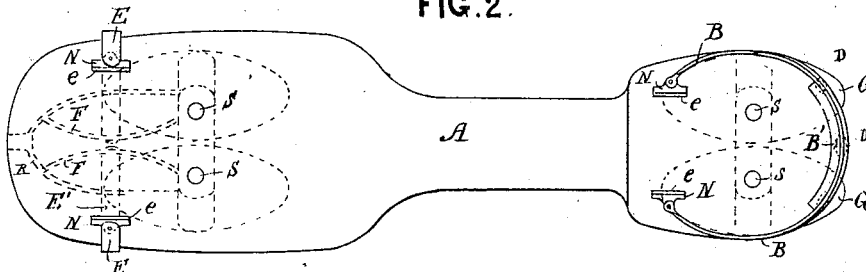


FIG. 3.

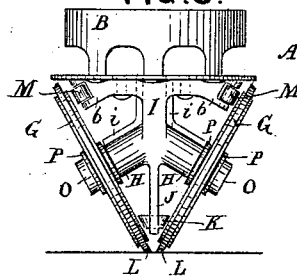


FIG. 6.

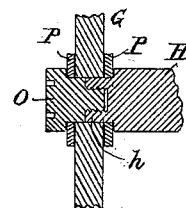


FIG. 5.

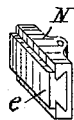
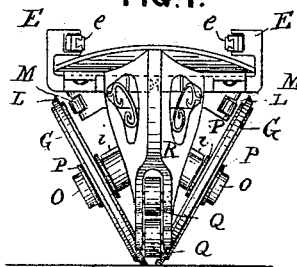


FIG. 4.



Witnesses.

E. Blum.

Andrew Blum

Inventor.

H. W. Libbey

by J. H. Adams  
attorney.

# UNITED STATES PATENT OFFICE.

HOSEA W. LIBBEY, OF BOSTON, ASSIGNOR OF ONE-FOURTH TO MRS. EMILY WARD, OF LINDEN, MASSACHUSETTS.

## ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 346,664, dated August 3, 1886.

Application filed April 27, 1885. Serial No. 163,522. (No model.)

### *To all whom it may concern:*

Be it known that I, HOSEA W. LIBBEY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Roller-Skates, of which the following is a specification.

The object of my invention is to produce a roller-skate that shall possess the advantage in its action of an ice-skate, whereby a greater degree of speed can be attained with less exertion than can be effected by the roller-skates in ordinary use and with less floor-friction.

The invention consists in mounting the foot plate or stock upon wheels which are journaled upon axles formed or bent in such a manner that two of said wheels will stand at an angle with each other and converging together at the lower portion of their perimeters. Two sets of wheels are used—one set being under the toe portion and the other at the heel. On the under side of the bent axle is a bar that extends downward and carries at its lower end a beveled friction wheel or roller, against which the lower portion of the wheels bear, so as to maintain them in their proper relative position. Friction-rolls are also attached to ribs under the foot-plate, so as to maintain the upper portions of the wheels in position.

The invention further consists in certain details of construction, hereinafter fully set forth.

Referring to the accompanying drawings, Figure 1 is a side elevation of a roller-skate embodying my invention. Fig. 2 is a top or plan view of the same. Fig. 3 is a rear end view, and Fig. 4 a front end view. Figs. 5 and 6 are enlarged views in detail of portions of the skate.

A is the foot-plate, made of metal, or it may be of wood. Underneath the toe and heel portions of the foot-plate are secured, by means of screws or rivets S S, ribs *b*, extending nearly across the plate. Extending downward from the rib *b* is a projection, I, on each side of which is an arm, H H, inclining downward and outward and constituting each an axle. On the outer ends of the axles H H are journaled the wheels G G, so arranged that the lower portions of their perimeters are nearly in contact, while

the upper portions of the same spread outward, as shown in Figs. 3 and 4. On the under side of the projection I is a bar, J, which extends downward and carries on its lower end a beveled friction-roller, K, against which the lower portions of the wheels G G bear, so as to maintain them in proper relative position. On the ends of the rib *b* are also placed friction-rolls M M, against which the upper portions of the wheels bear. The ends of the axles H H are formed as shown in Fig. 6.

*h* is a reduced portion of the bearing, into the end of which is fitted a screw, O, forming a part of the bearing upon which the hub of the wheel is journaled, and serving to hold the wheel upon the axle.

P P are washers placed on the axle at each side of the hub.

On the upper side of the heel portion of the foot-plate is a heel-holder, B, which consists of an elastic piece of metal having pivoted at each end a clamp, N, in the face of which is fitted a dovetailed piece of rubber, *e*, as shown in Fig. 5. This pivoted clamp and rubber adapts itself to the sides of the boot or shoe heel of the skater and serves to hold the skate on. On the inside of the rear of the holder B is a rubber bearing, B', for the heel. Similar clamps, N N, are also arranged at the toe portion of the foot-plate. These clamps N, having a facing of rubber, *e*, as shown in Fig. 5, are pivoted to uprights E E, which are connected to bars E', that pass under the foot-plate and are fitted to slide in guides *a* at each side. The inner ends of the sliding bars E' E are attached to curved springs secured to the under side of the foot-plate, so that when the clamps N are drawn outward for the insertion of the boot or shoe of the skater, they will spring inward and clamp the boot or shoe sole, and thus hold it upon the skate.

At the front part of the skate is secured a frame, R, which carries two small rollers, Q Q, arranged one above the other. Instead of the rollers, a ball placed within a socket may be used in the place of one or both rollers. These rollers are for the purpose of being used by professional skaters skilled in the art.

Extending from the foot-plate and passing down by the axle H H are tubes *i i*, leading to

the bearings of the wheels. In these tubes is to be placed some absorbent material saturated with oil for the purpose of lubricating the journals.

- 5 By arranging the wheels at an angle, as above described, they can be of larger diameter, and consequently of a much longer circumference without raising the height of the foot-plate, than if the wheels stood upright.  
10 At the same time the friction on the floor or ground is very much less than that of the wide rollers used in the ordinary roller-skate.

What I claim as my invention is—

- 15 1. In a roller-skate, the combination, with the foot-plate A, of the downwardly-projecting piece I, the inclined axles H H, forming part of said projection, and the wheels G G, arranged at an angle and nearly in contact with each other at their lower ends, and both bearing  
20 upon the ground or floor, all as shown and described.

2. The combination, with the wheels G G and inclined axles H H, of the beveled roller K, the friction-rollers M M, the rib b, and extension I, as and for the purpose described.  
25

3. In combination with the foot-plate A, the elastic heel-holder B and the pivoted clamp N, having a facing of rubber, e, as set forth.

4. In a roller-skate, the tubes i i, for containing a lubricating substance and extending 30 from the foot-plate A, in combination with the axles H H and the bearings of the wheels, as and for the purpose set forth.

5. The axles H H, having the diminished bearing portions h h, in combination with the 35 screw O, forming a part of the bearing, the washers P P, and the wheels G G, as specified.

6. In combination with the foot-plate A, the pivoted toe-clamps N, faced with rubber e, the uprights E, the sliding bars E' E', and springs 40 F F, as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HOSEA W. LIBBEY.

Witnesses:

J. H. ADAMS,  
E. PLANTA.