

(No Model.)

T. D. DAVIS.
SKATE.

No. 332,881.

Patented Dec. 22, 1885.

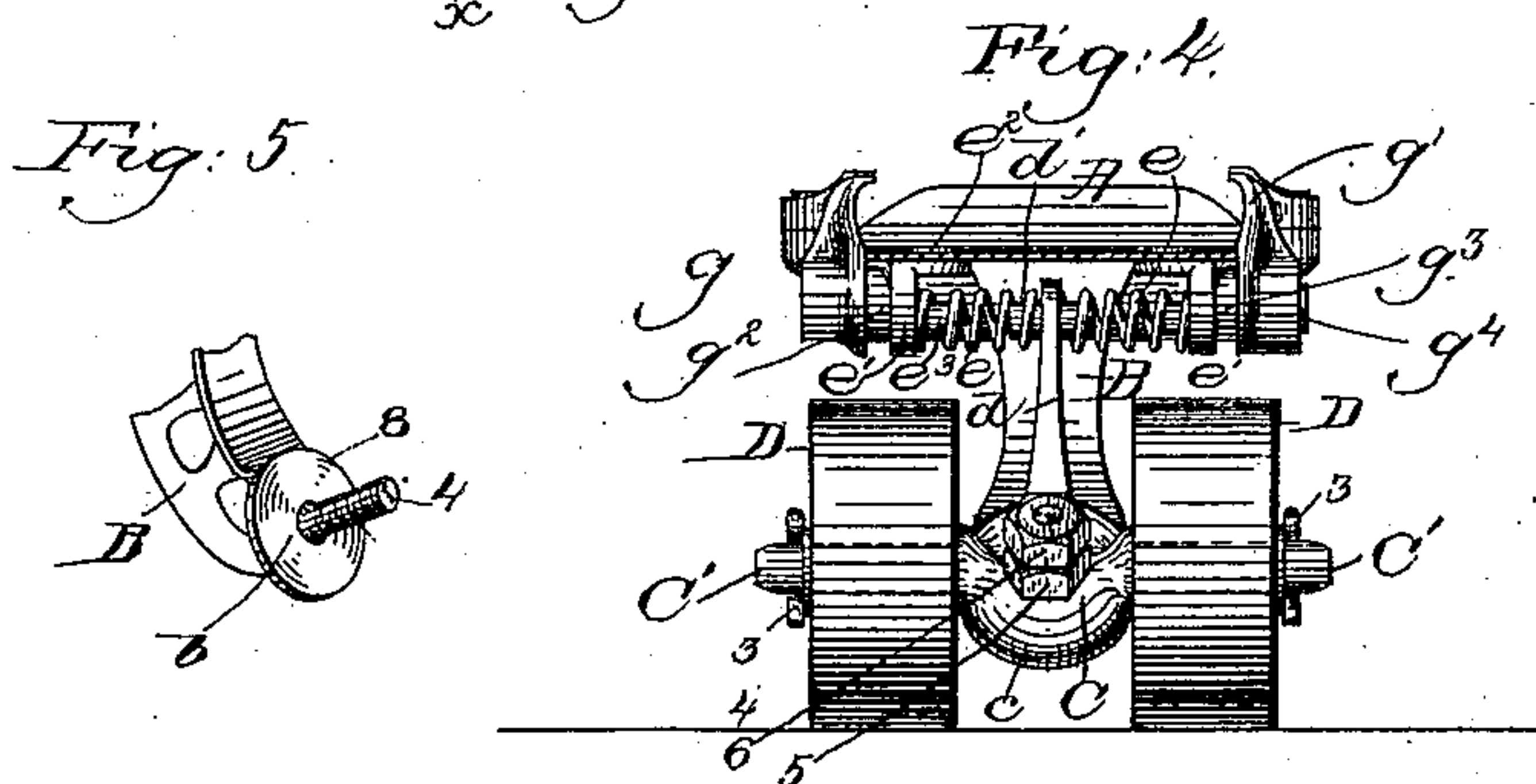
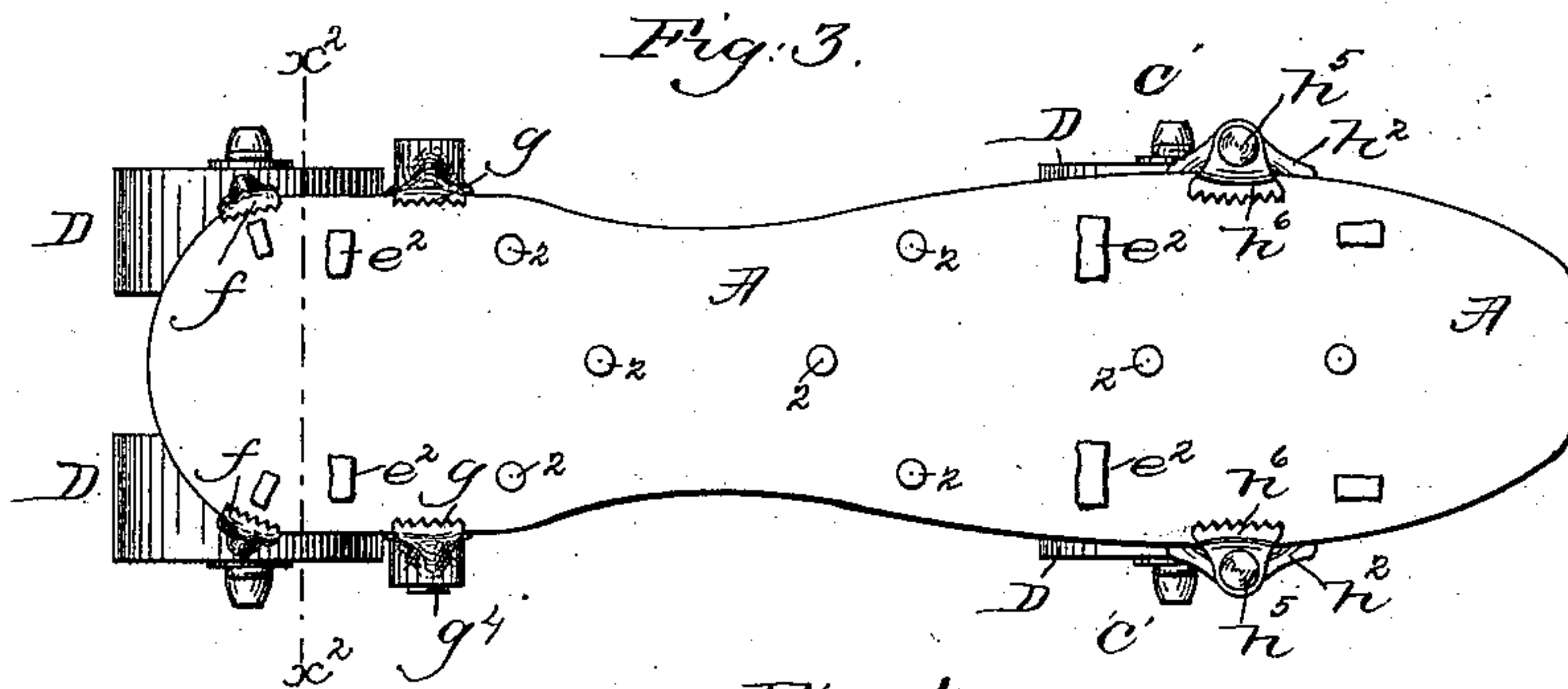
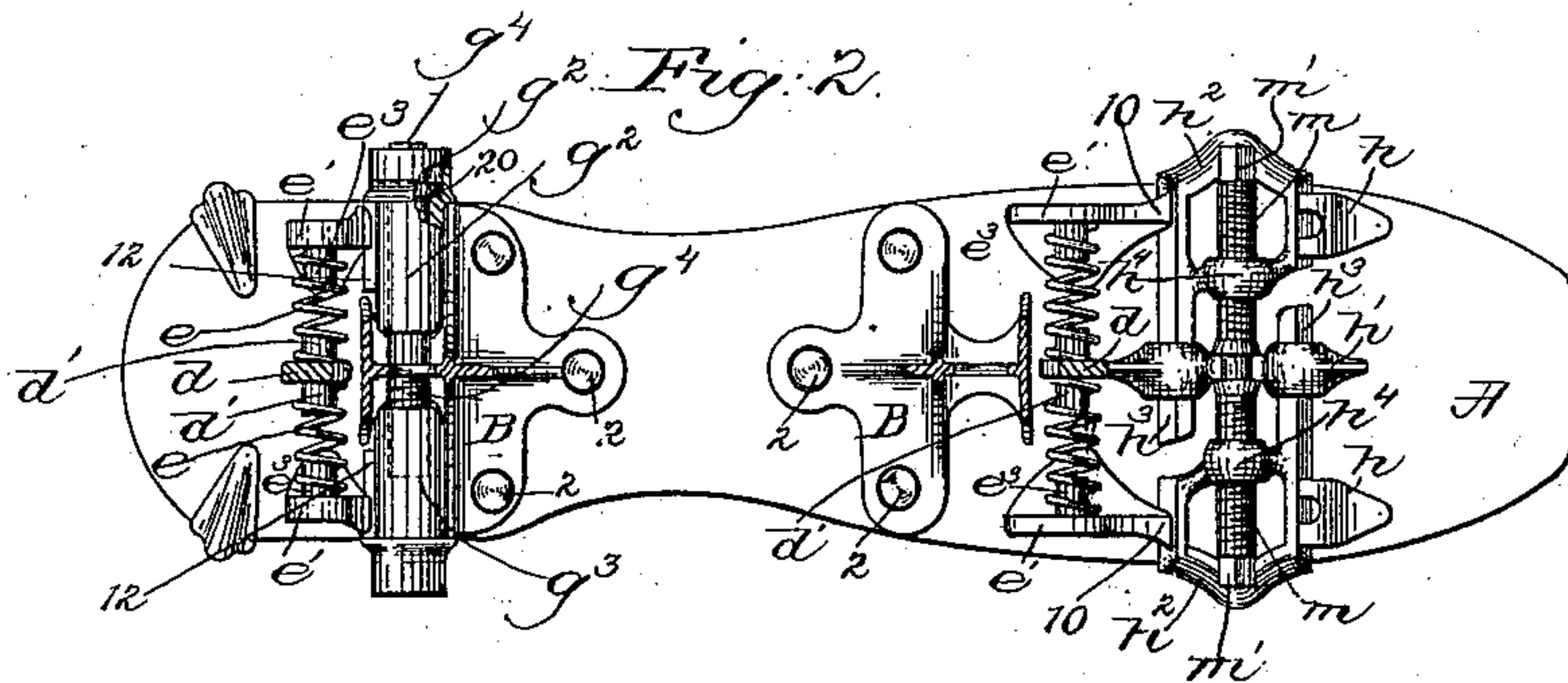
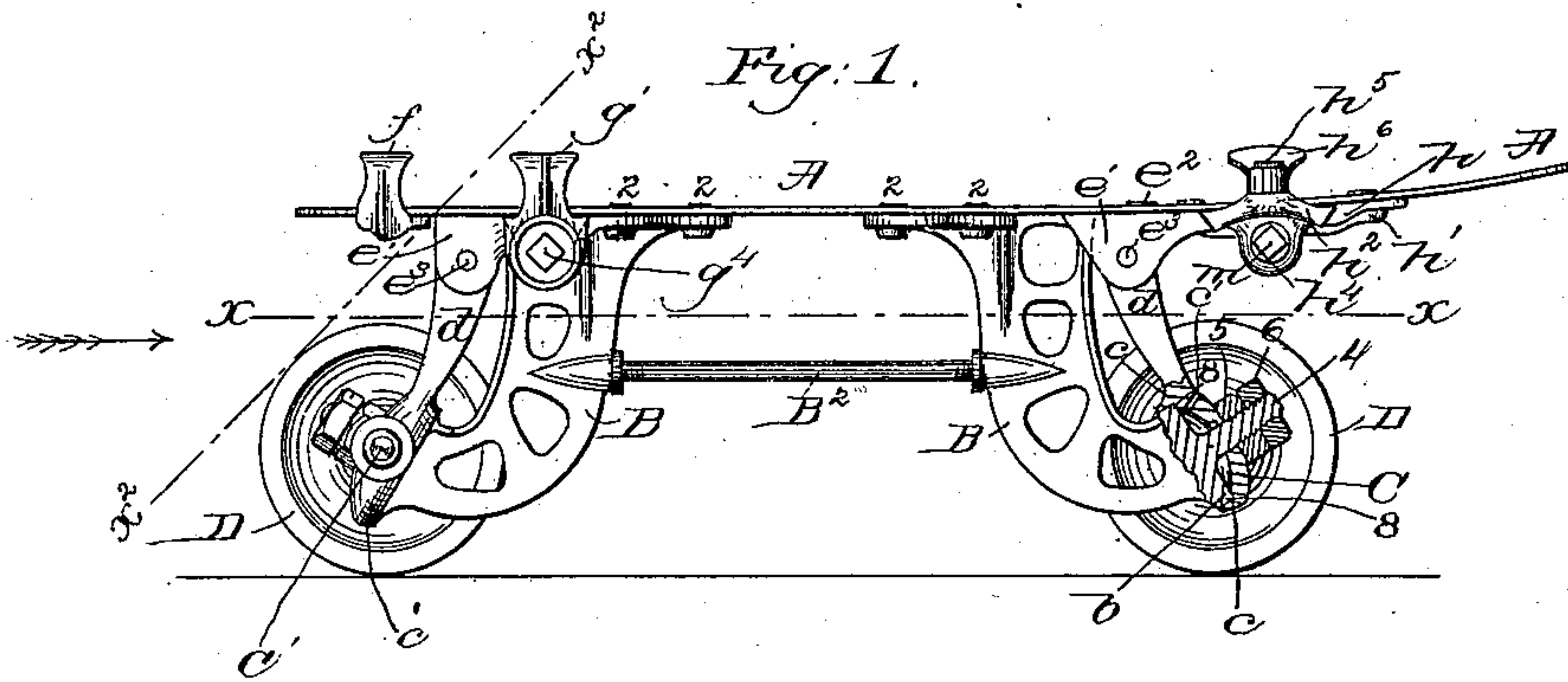


Fig. 5.

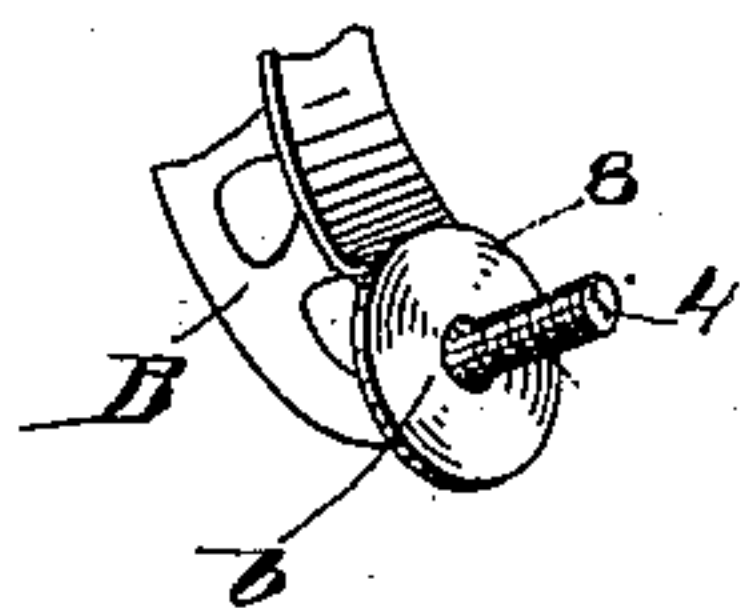
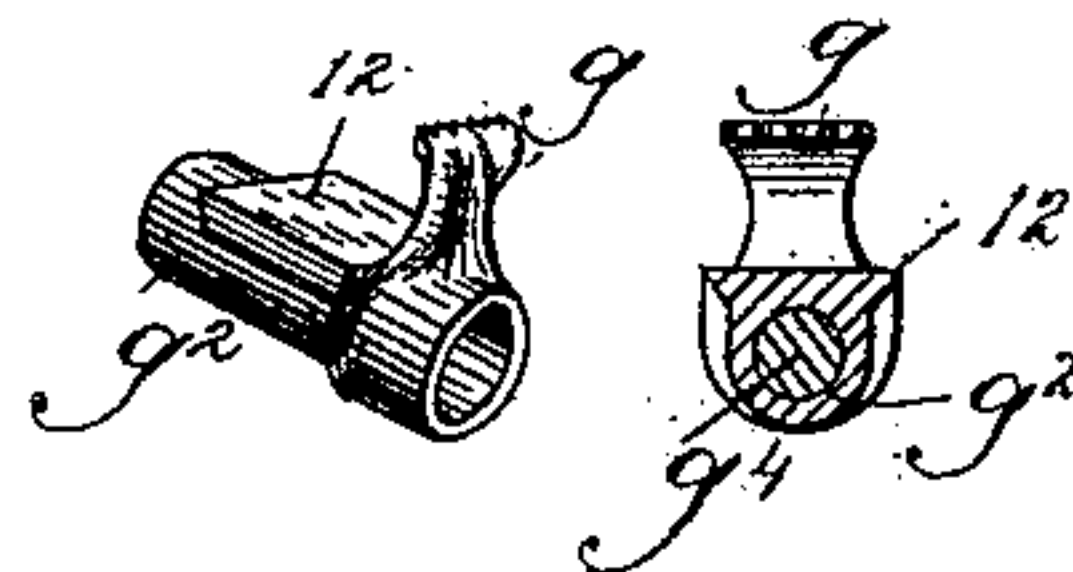
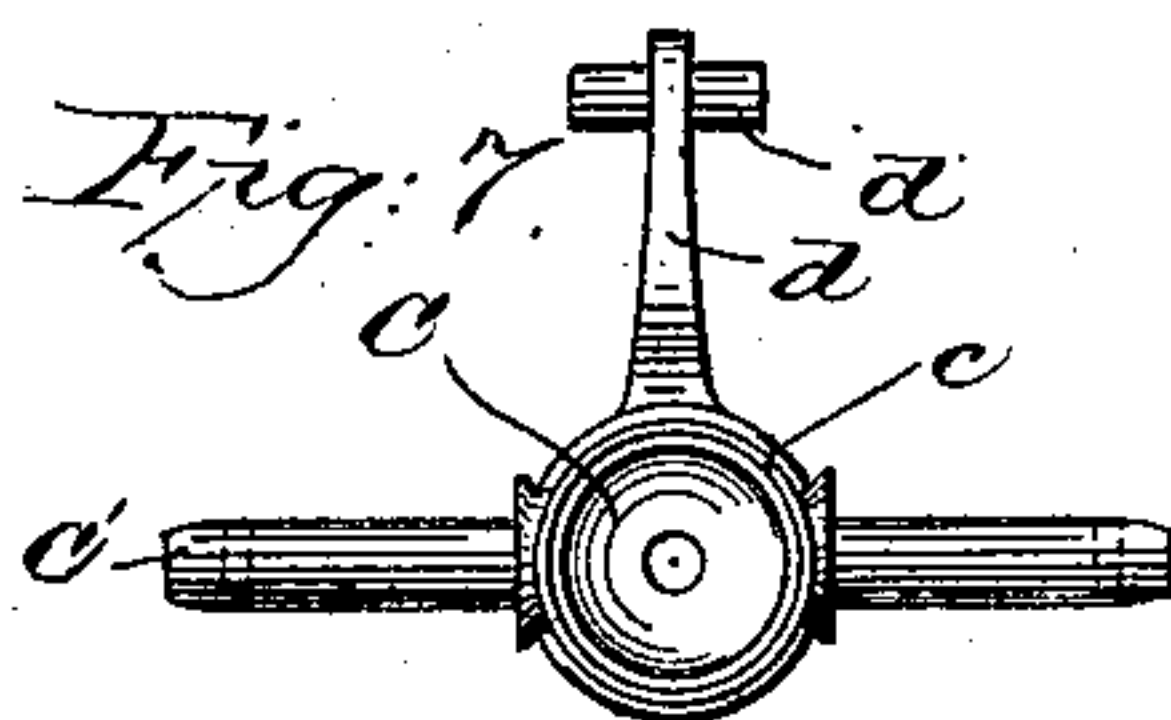


Fig. 6.



Witnesses.
Thos L. Emery.
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UNITED STATES PATENT OFFICE.

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SKATE.

SPECIFICATION forming part of Letters Patent No. 332,881, dated December 22, 1885.

Application filed October 5, 1885. Serial No. 179,015. (No model.)

To all whom it may concern:

Be it known that I, THEODORE D. DAVIS, of Williamsport, county of Lycoming, and State of Pennsylvania, have invented an Improvement in Skates, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to simplify and improve the class of skates known as "roller-skates;" but parts of my invention are applicable to skates employed on ice.

In accordance with my invention the sole-plate of the skate has at its under side two brackets provided at their upturned ends with annular bearing seats and studs, the seats receiving and being embraced by annular bearing-sockets having extended from them roller-supporting arms or axles, each socket having also extended upward from it a regulating-arm, the upper end of which is normally held in the longitudinal center line of the sole-plate by means of springs arranged at each side of the said arm, the said springs permitting the sockets and their arms, provided with rollers, to yield properly when the skater is turning a curve, as is well understood. The sole-plate is provided with novel sole-clamps, which by a screw may be quickly adapted to the heel or sole of the boot or shoe to which the skate is to be attached.

The particular features in which my invention consists will be hereinafter described, and pointed out in the claims at the end of this specification.

Figure 1, in side elevation, represents a roller-skate provided with my improvements, both rollers being removed from one side of the skate, and the annular bearing seat and socket at one end of the skate being in section or broken out, to better show their construction. Fig. 2 is an under side view of my improved skate, looking upward from the dotted line $x x$, Fig. 1. Fig. 3 is a top or plan view of Fig. 1, all the rollers being in position. Fig. 4 is a view of the left-hand end of Fig. 3, the sole-plate being cut off in the dotted line $x^2 x^2$. Fig. 5 is a perspective view of the face of the annular bearing-seat. Fig. 6 is a perspective view and section of one of the adjustable clamp-carrying sleeves, and Fig. 7 shows

the casting which receives the rollers and forms the truck.

The sole-plate A, of metal or of wood, has two brackets, B B, secured to its under side by rivets, or it may be screws 2 2, the lower ends of the said brackets being partially upturned, the one toward the toe and the other toward the heel of the sole-plate, and being made circular, as shown best in Fig. 5, to constitute an annular bearing-seat, b , the periphery of which is suitably turned and finished to form a smooth seat for the co operation with it of the bored or planed annular lip or flanges c , forming part of the socket-piece C, which has extending from it at each side the roller-supporting arms or axles C' C', upon which, by pins 3 or in other usual manner, are held loosely the rollers D, of usual construction, and preferably these arms or axles are cast integral with the socket-piece, the combined socket and arms with the wheels forming trucks for the skate. Each annular bearing or seat b has at its center a stud, 4, provided with threads, and the socket is applied to its seat, as in Figs. 1 and 4, the stud being extended through a central opening of the socket, receiving one or more nuts, 5 6, which force the annular shoulder 8 of the socket-piece against the face of the annular-bearing b with the desired friction. The annular lips c of the socket-pieces embracing the annular planed or turned edges of the bearings or seats receive the principal part of the weight applied to the sole-plate, the strain on the stud 4 being chiefly in the direction of its length, thus making the skate very durable.

The parts $b C c$ described form an extended bearing-surface of great durability, and which will not wear loose and permit rubbing, and the space between the said parts may be filled with packing to contain oil, which may be introduced through an oil-hole, c' . The brackets B B are steadied or stiffened by the rod B². Each socket C has extended upwardly from it an arm or lever, d , provided, preferably at its upper end, with lugs d' , one at each side, to receive the ends of spiral springs $e e$, the outer ends of which rest against abutments e' , made, as herein shown, of cast-metal blocks having projections e^2 , which, extended through openings in the sole-plate, are riveted down or upon

it, thus confining the abutments in place. Each abutment has a lug, e^3 , to receive and support the outer ends of the spring e . The arms d , under the action of the springs e , normally stand in a line with the longitudinal center of the skate, but may yield or move to a limited extent toward one or the other edge of the sole-plate, as the weight of the operator thereon is thrown the most upon the right or on the left hand half of the skate, as is the fact when turning corners or when the skate is in use. The lugs d' and e^3 form stops to limit the oscillation of the sole-plate and its brackets with relation to the axles of the rollers. The heel end of the sole-plate has secured to it two dogs, f f , which engage the back of the heel. At a short distance from the end of the sole-plate are two clamps, g g' , forming parts of sleeves g^2 g^3 , one of which is shown separately in Fig. 6, each of the said sleeves having an attached dovetailed lug, 12, to slide in guides formed in the bracket B, secured to the sole-plate. (See Figs. 1 and 2.) The sleeve g^3 is threaded to receive and be engaged by the screw g^4 , having a squared head and a collar, 20, the latter resting against a shoulder in the sleeve g^2 , so that rotation of the said screw in one direction compels the clamps g g' to be moved toward each other to grasp a sole, rotation of the screw in the other direction enabling the clamps g g' to be separated or leaving them free to be slid one away from the other in the guides holding them at the under side of the sole-plate. The sole-plate at its under side near its toe is provided with small guiding-plates h , securely attached thereto, and the ends 10 of the abutments e' , at the toe end of the sole-plate and opposed to the said plates h , serve as guides for the carriages h^2 , each carriage having a finger, h^3 , which enters a guide, h' , attached to the sole-plate. The guide h' is forked near its center to enter an annular groove in the right-and-left-threaded screw m , squared at either end, as at m' , to receive a wrench or key, the said

screw being extended through threaded sockets h^4 of the carriage h^2 , to adjust or move the latter longitudinally toward or from each other as the screw m is rotated. Each carriage h^2 has a stud or upright, h^5 , upon which are pivoted dogs h^6 , which are shown as segmental blocks toothed at their inner sides, the said dogs adapting themselves to the edge of the sole as the carriages are moved by the screw to fasten the skate to the sole.

In my improved skate the axis of oscillation of the socket-piece C carrying the arms or axles is in the plane of a line drawn longitudinally through the centers of the arms or axles.

I desire it to be understood that instead of the metallic sole-plate shown I may employ my improved brackets and trucks in connection with the usual wooden sole-plate.

I do not broadly claim an arm connected with a truck and acted upon by a spring.

I claim—

1. A skate having the bracket B, constructed with the circular bearing portion b and the stud 4, combined with the socket-piece C, having the lip c , fitted to the bearing b and upon the stud thereof, and held upon the same by nuts 5 6, the wheel-axles projecting from said socket-piece, and means, as set forth, to permit said socket-piece to rock upon its bearing, substantially as described.

2. The sole-plate, its attached projections 10 and h , the carriages h^2 , fitted to slide therein, and provided with sole-engaging dogs h^6 , pivoted on posts h^5 of said carriages, and with threaded sockets, combined with a right-and-left-threaded screw, m , and with a holder, h' , for the said screw, substantially as described.

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

THEODORE D. DAVIS.

Witnesses:

ALBERT WOOD,
JNO. M. LAUX.