

(No Model.)

F. C. MILLER.
ROLLER SKATE.

No. 329,583.

Patented Nov. 3, 1885.

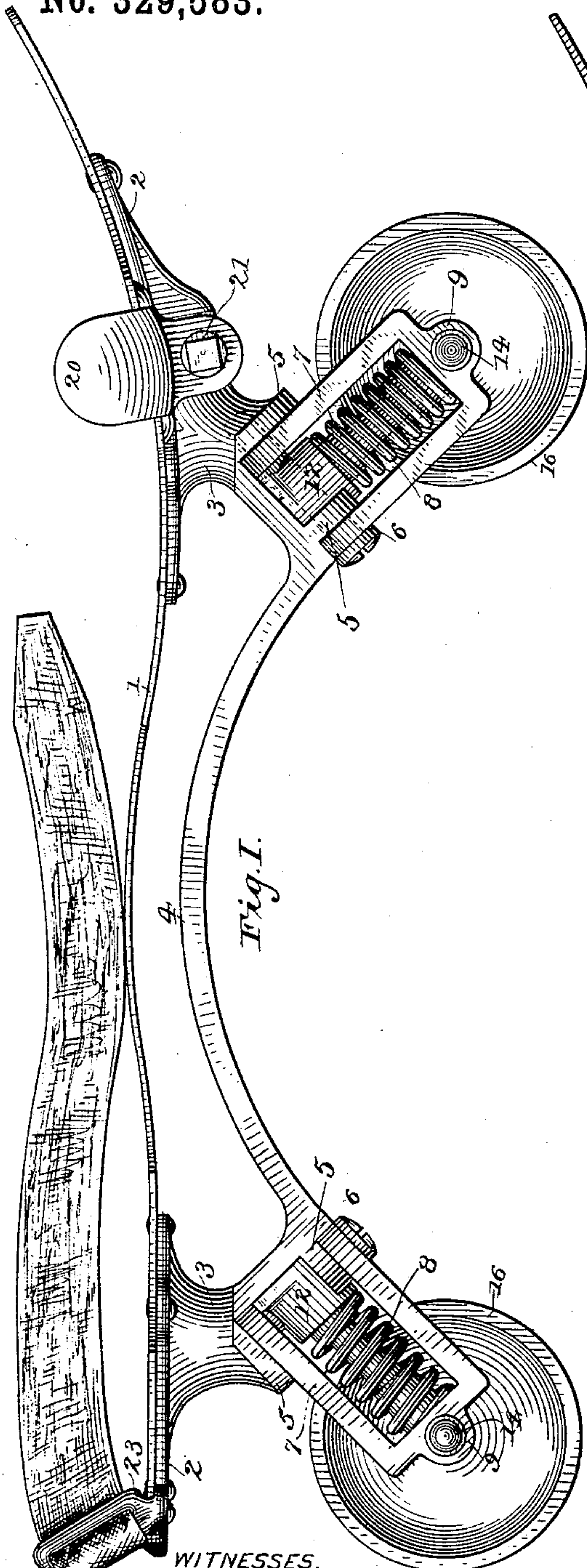


Fig. I.

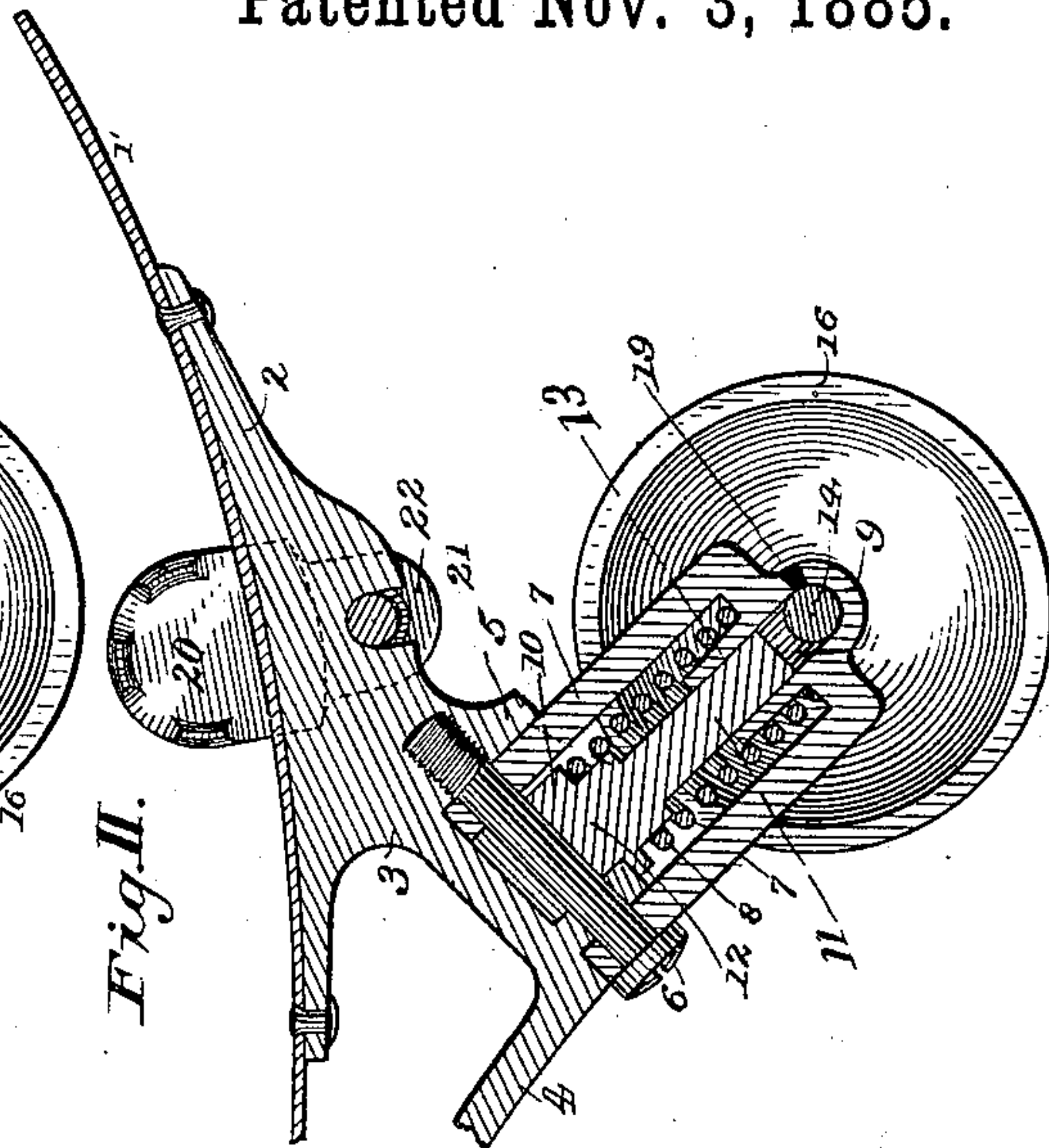


Fig. II.

Fig. IV.

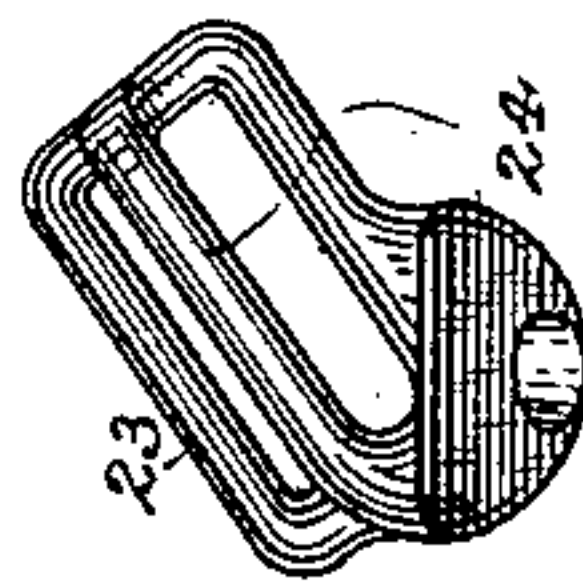
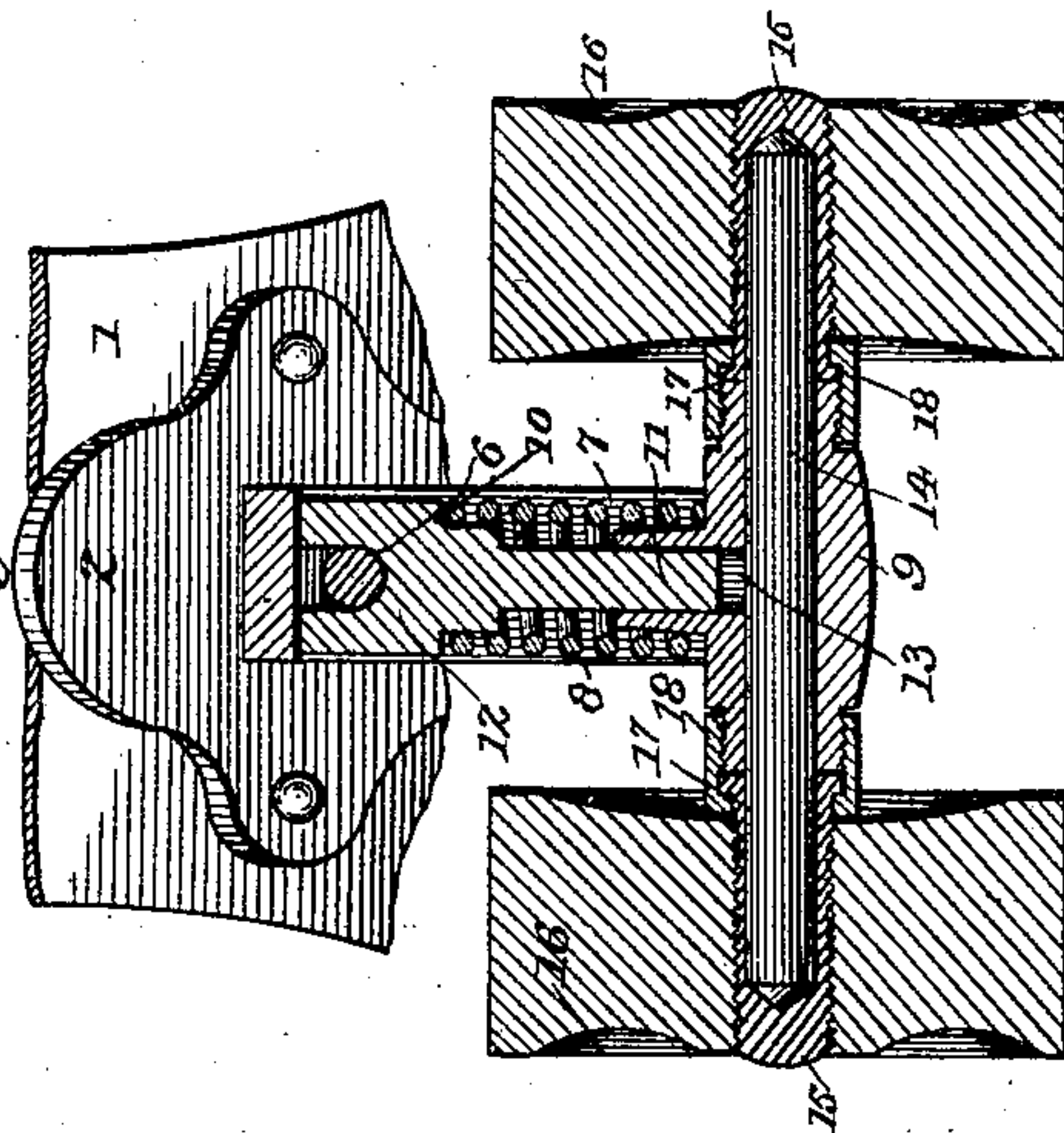


Fig. III.



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FREDRICK C. MILLER, OF NEWPORT, KENTUCKY.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 329,583, dated November 3, 1885.

Application filed April 7, 1885. Serial No. 161,453. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK C. MILLER, a citizen of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have invented a new and useful Improvement in Roller-Skates, of which the following is a specification.

My invention relates to the combining with a foot-plate, preferably wrought in one piece, a coupling-reach of arched form, fixed to said foot-plate by flanged standards provided at each end of said reach, and having also means of attachment to the oscillating axle or journal box or housing. Preferably the axle-box is cast or formed in one with the housing for the cushioning-spring, which housing is pivoted suitably to the end of the coupling-reach. The effect of this arrangement is to elevate the point of oscillation of the foot-plate above the floor-wheel axle, and thus enable the employment of floor-wheels of greater diameter than those now in use. The floor-wheels have fixed within them bushings, preferably closed exteriorly, which receive the axle-journals. Gland-nuts surrounding a collar or flange on said bushings, or equivalent means, are employed for retaining the wheel upon its journal. The forward flange of the coupling-reach, to which is fixed the toe of the foot-plate, is recessed to receive the central groove or depression of the right-and-left screw of the toe-clamp, and thus serves as an abutment for said screw. At its rear the heel-plate is provided with lugs cast or otherwise formed, and provided with a bridge-piece to receive and fix the heel strap or straps, as will be hereinafter more fully described.

In the accompanying drawings, Figure I is a side elevation of my improved roller-skate, two floor-wheels being removed. Fig. II is a vertical longitudinal section of the forward end of the skate. Fig. III is a section at right angles thereto. Fig. IV is a rear view of a left-hand heel-strap lug detached from the foot-plate.

1 may represent the foot-plate of a roller-skate, preferably of wrought-iron, having riveted to it at each end the flanges 2, formed on the standards 3, which are cast in one with a coupling-piece, 4, of arch shape, extending longitudinally under the foot-plate, to brace

and strengthen it. Lugs 5 are formed on the outer extremities of the coupling-reach, to receive the pin 6, on which are pivoted the cheeks 7, forming the housing of the cushion-spring 8, and fixed to or formed on the axle box or casting 9. The spring 8 bears between the axle-box and a shoulder, 10, on guide-pin 11, which has bifurcated or T head 12, bearing on the end of the coupling-reach, and thus serving in a manner substantially similar to the mechanism shown in my former application, No. 153,538, filed January 21, 1885, to maintain the foot-plate horizontal with a yielding pressure. It will be seen, however, that in the present improvement the point of oscillation is brought immediately under the foot-plate, the advantage of which I have already pointed out. At bottom the pin 11 bears in a socket or neck, 13, on the axle-box, as clearly shown in Fig. II, and is thus allowed endwise movement by the alternate action of the spring 8 and the flat bearing-face between the T-head of the pin and the end of the coupling-reach. The axle 14 is either rigid or loose within the box 9. Its ends are preferably conical, to bear with as little friction as possible on the closed outer ends of bushings 15, forced or screwed axially into the floor-wheels 16. The inner ends of bushings 15 are provided with rim or collar 17, which serves in any desired manner for enabling the retention of the floor-wheel upon its journal. Preferably I form the ends of the axle-box 9 screw-threaded, as shown, and provide gland-nuts 18, screwing thereon and surrounding the collar 17, as shown, so as to allow of the free rotation of the bushing with the floor-wheel, while preventing any but a very limited endwise movement on its journal. It will be seen that a wheel and journal of this construction will present no unsightly and inconvenient attaching devices on the exterior of the roller, will prevent the issue of lubricating-oil from the bearing, and will be always secure in place. Oil is preferably admitted to the bearing by hole 19, drilled in the back of the axle-box at center. The foot-plate 1 is provided near the front with usual toe-clamps, 20, adjustable by right-and-left screw 21, grooved centrally, as shown at 22, to occupy a recess formed in the flange 2, so that the flange serves as an abut-

ment to the screw and clamps. Lugs 23 are riveted on the foot-plate at rear, and serve as heel-stops, and also for the attachment of the heel-straps. The upper arms of the said lugs are inclined toward each other at the proper angle to give the necessary direction to the heel-straps and enable them to pass around the instep without twisting. They are made with bridge-pieces 24 at rear, between which and the body of the lugs the heel-straps are clamped or retained. Either one or two straps may be employed. If the former, it is passed loosely under both bridge-pieces 24. If the latter, the ends are doubled over, so as to be clamped in place.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The coupling-reach formed with an arched body, 4, lugs 5 5 at the extremities of the body, and standards 3 3, having flanges 2, in combination with a foot-plate, 1, secured to the flanged standards over the arched body, substantially as set forth.
2. The combination of a journal-box having cheek-plates 7 7 projecting upwardly in parallel oblique planes, and a socket, 13, a coupling reach formed with lugs 5, a pin, 6, by which the cheek-plates are hinged to the lugs, a guide-pin, 11, having shoulder 10 and bifurcated head 12, and a spring, 8, surrounding the socket and guide-pin between the journal-box and shoulder.
3. A roller-skate constructed with an oscillating journal-box kept to its normal position by a spring bearing down upon it, and a guide-pin which has an enlarged head at its upper end bearing against the end of the coupling-reach, and having its other end guided in the oscillating journal-box to permit an up-and-down movement, substantially as and for the purpose set forth.
4. The combination of an axle-box having a socket housing, reach, foot-plate, and the

guide-pin having enlarged bearing-face at its upper end, and bearing in the socket at its lower end, substantially as set forth.

5. The combination of a floor-wheel having a bushing closed at its outer end, an axle, an oscillating journal-box carrying the axle, and means for connecting the bushing to the journal-box, substantially as set forth.

6. In combination with the axle of a roller-skate and its oscillating journal-box, a floor-wheel having a bushing closed at its outer end and a gland fastened on the axle-box and retaining the floor-wheel by its bushing upon the box, substantially as set forth.

7. In combination with an axle, a floor-wheel, a bushing having a collar or rim and connected with the floor-wheel, an oscillating journal-box mounted on the axle, and a gland-nut connecting the bushing by its collar or rim to the journal-box, so as to allow of their relative rotary movement, substantially as set forth.

8. The combination of a coupling-reach formed integral with body 4, lugs 5 5, standard 3, and flange 2, having screw-recess, the toe clamps 20, foot-plate, and right-and-left screw having central groove, 22, the flange serving as an abutment to the screw and clamps, substantially as set forth.

9. The combined heel-stop and heel-strap lug 23, inclined upwardly and inwardly, and formed with central bridge-piece, 24, inclined in the same direction, substantially as set forth.

10. The combination of the foot-plate and paired heel-stop, and strap lugs riveted thereto and inclined upwardly and inwardly toward each other, and formed with bridge-pieces 24, inclined in the same direction as the lugs, substantially as set forth.

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