(No Model.)

# P. A. SNYDER.

## ICE VELOCIPEDE.

No. 302,044. Patented July 15, 1884.

fig: 1.

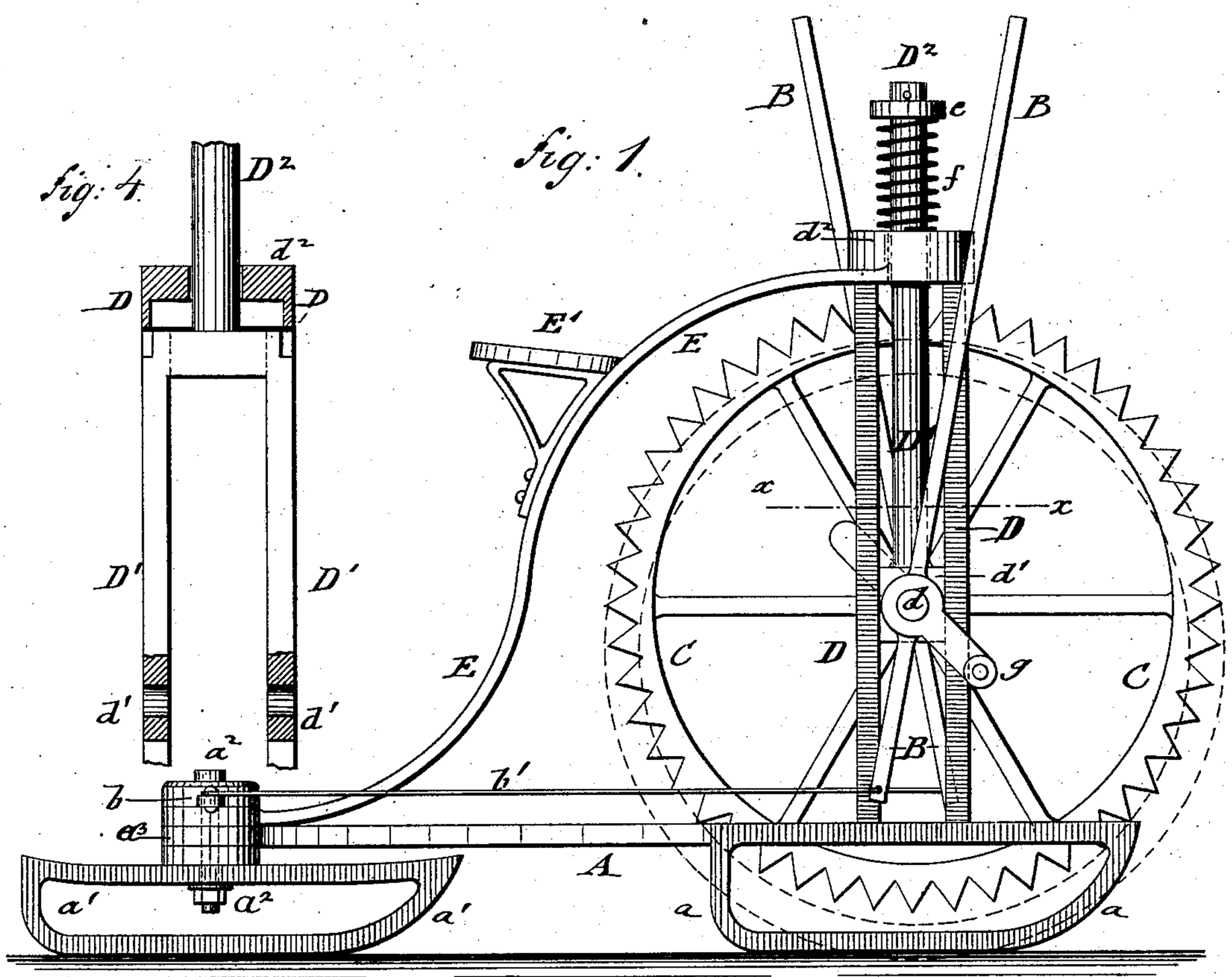



fig: 4.




fig: 2.

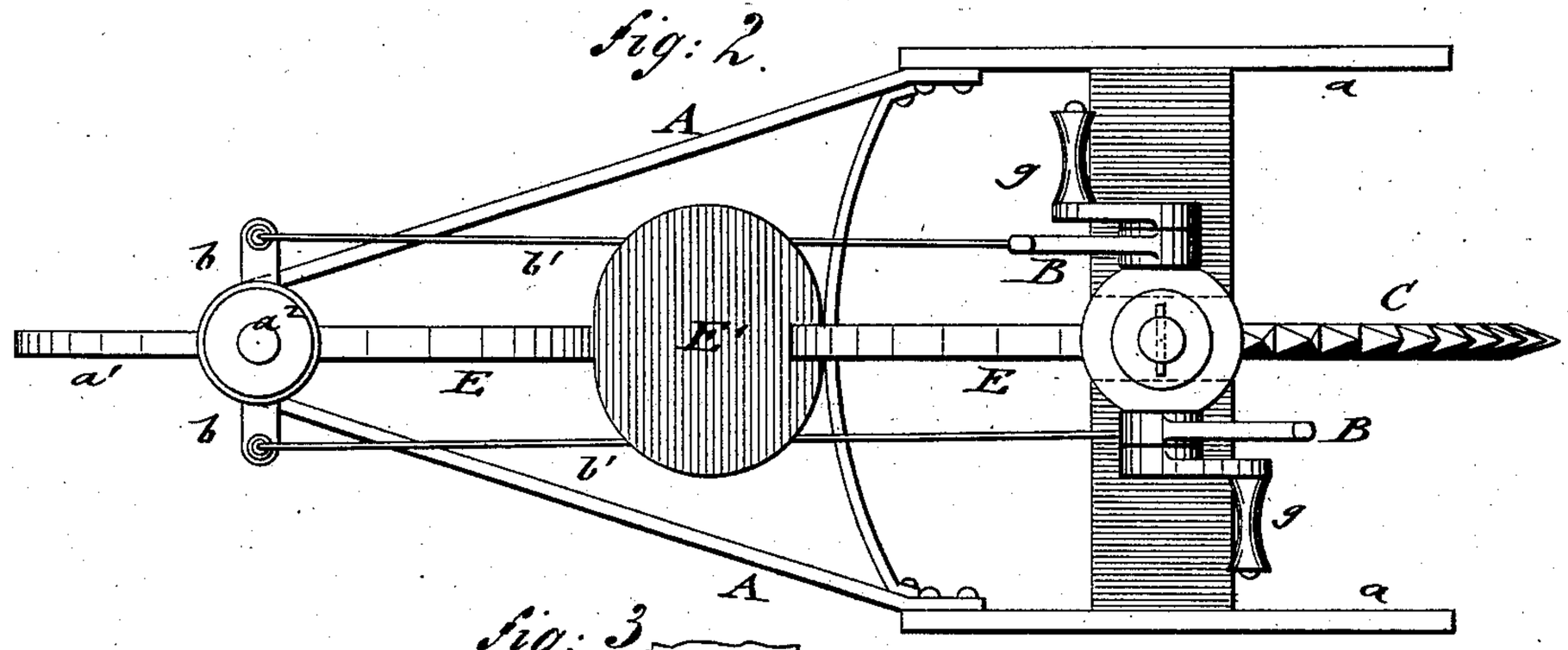
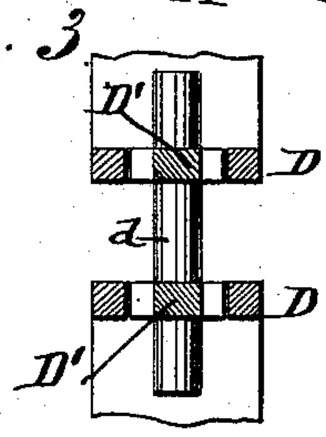



fig: 3




WITNESSES:

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# UNITED STATES PATENT OFFICE.

PETER A. SNYDER, OF JERSEY CITY, ASSIGNOR TO HIMSELF, AND RICHARD S. T. CISSEL, OF ELIZABETH, NEW JERSEY.

## ICE-VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 302,044, dated July 15, 1884.

Application filed December 5, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, PETER A. SNYDER, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Ice-Velocipedes, of which the following is a specification.

This invention is designed to furnish for boys' and gentlemen's use an improved ice-velocipede which can be propelled and steered with great facility; and the invention consists of a base-frame, supported on fixed front runners, and a laterally-movable hind runner, which latter is pivoted to the rear end of the frame and operated by crank-and-lever mechanism for steering the velocipede. A yoke is guided in fixed slotted standards of the base-frame, the lower end of the yoke being provided with bearings for the shaft of a spur-wheel that is rotated by cranks or treadles. The yoke has a vertical central shank, which is supported by a strong cushioning-spring, that lifts the spur-wheel when the pressure of the feet on the treadles is released. The upper ends of the standards are connected by a curved main rod with the lower rear end of the supporting-frame, said main rod being provided with a seat for the rider.

In the accompanying drawings, Figure 1 represents a side elevation, and Fig. 2 a plan, of my improved ice-velocipede; and Figs. 3 and 4 are respectively a horizontal section on line *x x*, Fig. 1, and a vertical transverse section of the standards and shaft carrying yoke.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents a V-shaped base-frame, that is made of iron or other suitable material, and provided at its front end with fixed runners *a a* and at the rear end with a movable center runner, *a'*. The center hind runner, *a'*, is pivoted by a center-pin, $a^2$, in an eye, $a^3$, of the base-frame A. To the pivot-pin $a^2$ are keyed short lateral arms *b b*, which are connected by rods *b'* with oscillating levers B B, by which the hind runner, *a'*, can be turned on its pivot-pin $a^2$ to one side or the other of the longitudinal axis, and thereby the entire structure steered with great facility. The V-shaped base-frame A is laterally stiffened in a suitable manner and provided at its front part, intermediately between the front runners, *a*, with a central opening for the driving spur-wheel C. The shaft *d* of the spur-wheel C turns in bearings at the lower end of a yoke, D', which is guided by fixed slotted standards D D of the frame A—one at each side of the spur-wheel C. The slotted standards D D are rigidly connected at their upper ends above the spur-wheel by a transverse cap-piece, $d^2$, to which the upper end of a downwardly-extending curved main rod or saddle-bar, E, is attached, the lower end of which is secured to the rear end of the base-frame A. The main rod or saddle-bar E is provided with a seat, E', for the driver, which is constructed in the usual approved manner. The yoke D' is extended by a vertical shank, $D^2$, through the cap-piece $d^3$ of the standards D, and provided at the upper end with a fixed collar, *e*, between which and the cap-piece $d^2$ a strong spiral spring, *f*, is interposed, that serves to support the weight of the spur-wheel. To the ends of the spur-wheel shaft are applied foot cranks or treadles *g g*, which extend in diametrically-opposite directions, and which serve to revolve the spur-wheel C and propel the velocipede whenever the rider presses with his feet down on the same, so as to lower the spur-wheel against the cushioning-spring *f*, and simultaneously turns the treadles.

When the velocipede is to be stopped, the pressure on the treadles is relaxed, so that the spring *f* instantly lifts the spur-wheel away from the snow or ice, while when a quick stop is desired the spur-wheel may be turned in opposite direction, so as to act as a powerful brake against the momentum imparted to the velocipede.

The steering-levers B B are hung by eyes to the shaft *d* of the spur-wheel C, and oscillate on said shaft, they being raised and lowered with the spur-wheel. The device forms a conveniently-operated velocipede for outdoor exercise in the winter season, which may be propelled at considerable speed, and which is fully within the control of the rider.

I am aware that ice-velocipedes in which a spur-wheel supported by a yoke on a sled and

operated by cranks have been used heretofore, and I lay, therefore, no claim to these features, broadly.

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

1. The combination of frame A, having front runners, *a a*, and a hind or steering runner, *a'*, upright slotted standards D D, a curved saddle-bar, E, extending from the upper ends of the standards to the hind end of frame A, a spring-cushioned yoke, D', guided in said standards, and a spur-wheel, C, having a shaft, *d*, turning in bearings at the lower end of the yoke, and provided with cranks *g g*, substantially as specified.

2. The combination of a supporting base-frame, A, having fixed front runners, *a a*, and a laterally-movable hind or steering runner, *a'*, levers B B, connected to the hind runner, for operating the same, upright slotted standards D D, a curved main rod, E, connecting the upper ends of the standards with the hind end of the base-frame, a vertically-guided yoke, D', supported by a cushioning-spring on the cap-plate of the standards, a spur-wheel, C, turning in bearings at the lower end of the yoke, and crank levers or treadles *g g*, applied to the shaft of the spur-wheel, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

PETER A. SNYDER.

Witnesses:

PAUL GOEPEL,

SIDNEY MANN.