(No Model.) 2 Sheets—Sheet 1.

G. SEEBICK.

ICE VELOCIPEDE.

No. 485,335. Patented Nov. 1, 1892.

Fig. 1.

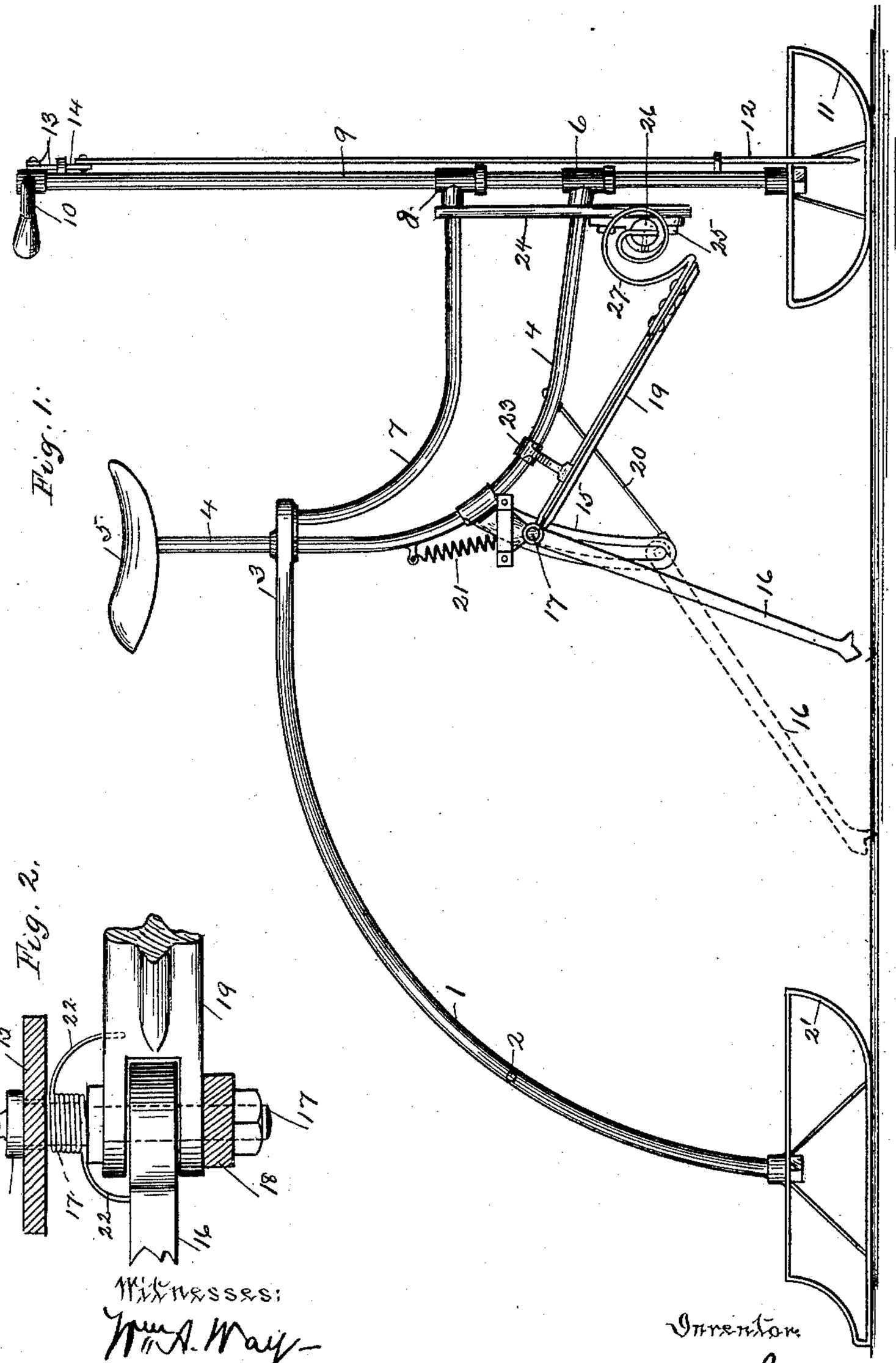

Fig. 2.

Witnesses:
Wm A. Mayo
W. E. Harrison.

Inventor
George Seebick
by his Attorney,
Wm L. Pierce

(No Model.) 2 Sheets—Sheet 2.

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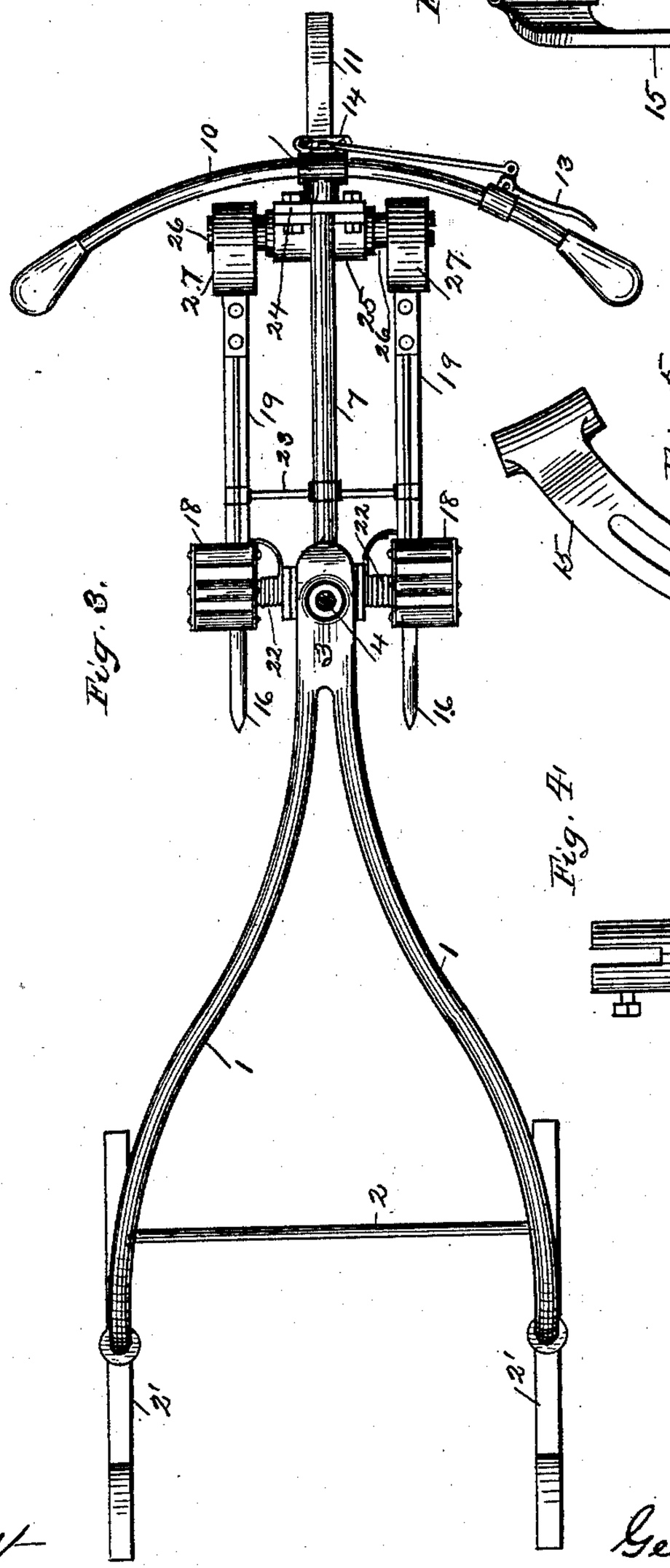

Fig. 3.

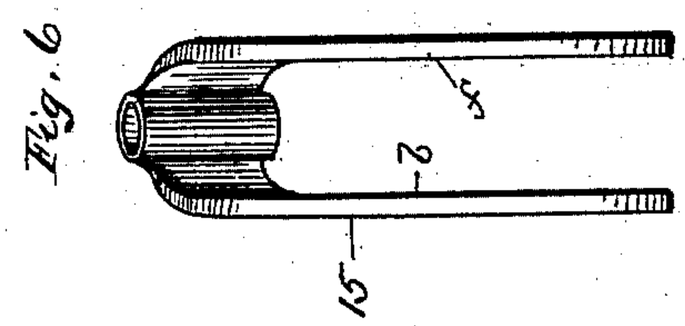

Fig. 6.

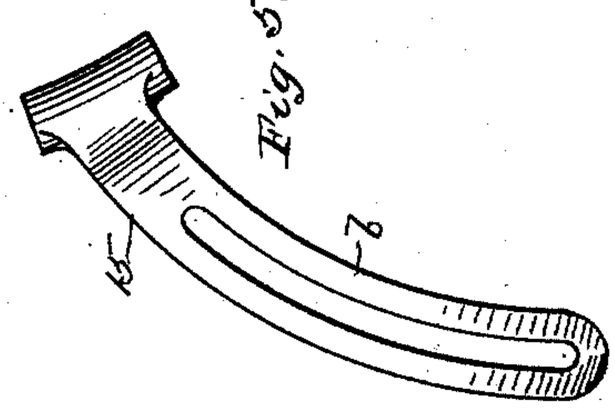

Fig. 5.

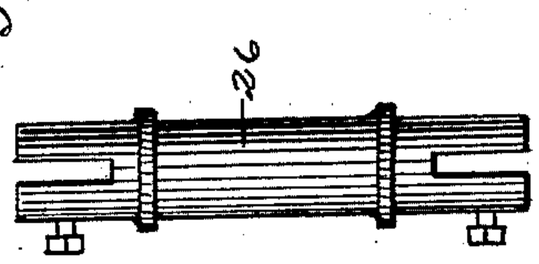

Fig. 4.

Witnesses:
Wm A Wayt
H. E. Harrison.

Inventor.
George Seebick
by his Attorney
Wm L. Reed.

UNITED STATES PATENT OFFICE.

GEORGE SEEBICK, OF PITTSBURG, ASSIGNOR OF ONE-HALF TO JOHN SCHEILLEIN, OF ALLEGHENY, PENNSYLVANIA.

ICE-VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 485,335, dated November 1, 1892.

Application filed December 2, 1891. Renewed September 6, 1892. Serial No. 445,190. (No model.)

To all whom it may concern:

Be it known that I, GEORGE SEEBICK, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered new and useful Improvements in Ice-Velocipedes, of which the following is a specification.

In the accompanying drawings, which make part of this specification, Figure 1 is a side elevation of my propeller; Fig. 2, a detail plan view, broken away, of the joint between the fore leg and hind leg of the pusher, the spring connecting said legs, with the beams of the treadle in section and with treadle removed. Fig. 3 is a plan view of my propeller with the saddle removed. Fig. 4 is a detail perspective of the shaft, to which pivot-springs are secured. Fig. 5 is an edge view of the guide for the hind leg, and Fig. 6 a front view of the same.

My invention, generally stated, relates to a snow and ice propeller, and more particularly to the devices for impelling said propeller, guiding the same, and supporting the rider thereon, as well as in certain details of construction.

In the accompanying drawings the frame is seen to consist of two back supports 1 1, suitably braced by the bar 2. On the rear and lower end of each of said supports 1 1 is attached a runner 2′ of metal or wood. In certain cases a wheel or roller may be substituted for the runner. The two back supports are united at their forward end in a common piece 3, and in which is a bearing for the saddle-supporter 4 for the saddle 5. The saddle-supporter 3 is continued forward and terminates in a vertical sleeve 6. To the extreme front end of the piece 3 is attached the front support 7 of the frame, which also runs forward and terminates in a vertical sleeve 8. In said sleeves 8 and 6 turns the guiding-bar 9, with handle-bar 10, like the corresponding parts in an ordinary bicycle, and which, therefore, need no further description. To the lower end of said guiding-bar is rigidly screwed a front runner 11, for which a wheel or roller may in some cases be substituted.

12 is a brake, which, by means of the handle 13 and bell-crank 14, can be depressed so as to dig into the ice, &c., and stop or slacken the machine.

The guide 15 for the rear legs 16 16 consists of the central sleeve *a*, by which it is attached to the saddle-supporter 4 and the two slotted arms *b f*. The slots in said arms are guides for the short shaft or pivot 17, upon which turn the usual bicycle-treadles 18 18, the two hind legs 16 16, and the two fore legs 19 19. Said guide 15 is best seen in Figs. 5 and 6, and is braced to the saddle-supporter 4 by the brace 20. A pair of springs 21 21 are attached to the saddle-supporter and to the respective hind legs 16 16. A pair of coiled springs 22 22 also connect the pairs of fore legs with the pairs of hind legs, as best seen in Fig. 2. The springs may be attached to the respective parts by a lug with an eye therein on said parts or in any other suitable way.

23 is an inverted-T stop to limit the upward movement of the fore legs, although this may be omitted and the movement terminated by the length of the slot in the guide.

From the front support 7 drops a plate 24, to which is bolted a sleeve-bearing 25, in which turns a shaft 26, seen in Fig. 4. Both ends of shaft 26 are slotted to receive the ends of flat coiled springs 27 27, secured by set-screws thereto, and also attached to the front ends of their respective fore legs.

The operation of my machine will now be readily understood. When the rider takes his seat, the lower ends of the hind legs will normally be drawn about an inch above the ground or ice by the action of the springs 21, 22, and 27. As soon, however, as he pushes upon the treadles the claws of the hind legs will be driven into the ice, &c., and a most vigorous shove can be given, the above-mentioned springs giving sufficient resistance to the foot to permit of great power being applied. The claws will remain engaged in the ice, &c., until the propeller has shot forward several feet, when they will be readily drawn out, owing to their peculiar shape, and by the action of the said springs the hind legs will be quickly retracted to their normal position ready for another shove. By this mechanism a very rapid movement may be attained over

snow and ice on runners or over any reasonably-level surface on wheels or rollers. As the claws are normally raised about an inch above the surface of the ground or ice, the propeller can be used for coasting downhill very successfully. By varying the distance from the ground of the treadle-shafts longer or shorter legs may be put upon the machine, thus altering the leverage and power, as desired.

I prefer to make the guide of a malleable casting, as well as the front support and the saddle-support. The rest of the machine is preferably wrought-iron, except the legs, which may be either steel or wood. The front ends of the fore legs may also obviously be attached in many other ways to the frame than that shown in the drawings. No flat coiled springs, for example, may be used for this connection, but the legs may be secured rigidly without springs and directly attached to the frame or some support depending therefrom; nor do I limit myself to the particular number or location of the various springs here shown, as the only absolutely-necessary spring would be one to retract the hind legs.

Three pairs of springs are shown in the drawings for the purpose of dividing and distributing the strain.

I believe, however, the particular arrangement of springs here shown to be the best, as it distributes the weight and strain and cushions the treadle satisfactorily.

I claim—

1. In an ice-velocipede, the combination of a frame, treadle-guide attached to said frame, treadles moving in said guide, a fore leg having one end loosely connected with said treadle and the other end connected to said frame, a hind leg loosely connected with said treadle, and a spring to retract said hind leg, substantially as set forth.

2. In an ice-velocipede, the combination of a frame, a treadle-guide attached to said frame, a shaft moving in said guide, a treadle turning on said shaft, a fore leg having one end fast on said shaft and the other end connected to said frame, a hind leg having one end fast on said shaft, and a spring to retract said hind leg, substantially as set forth.

3. In an ice-velocipede, the combination of a frame provided with runners, a treadle-guide attached to said frame, treadles moving therein, and pushing-legs actuated by said treadles, substantially as set forth.

4. In an ice-velocipede, the combination of a frame, the leg 19, the spring 27, attached thereto and to the shaft 26, said shaft 26, and the sleeve-bearing 25, supported from the frame, substantially as set forth.

In testimony whereof I have hereunto set my hand this 23d day of November, A. D. 1891.

GEORGE SEEBICK.

Witnesses:
WM. A. WAY,
WM. L. PIERCE.