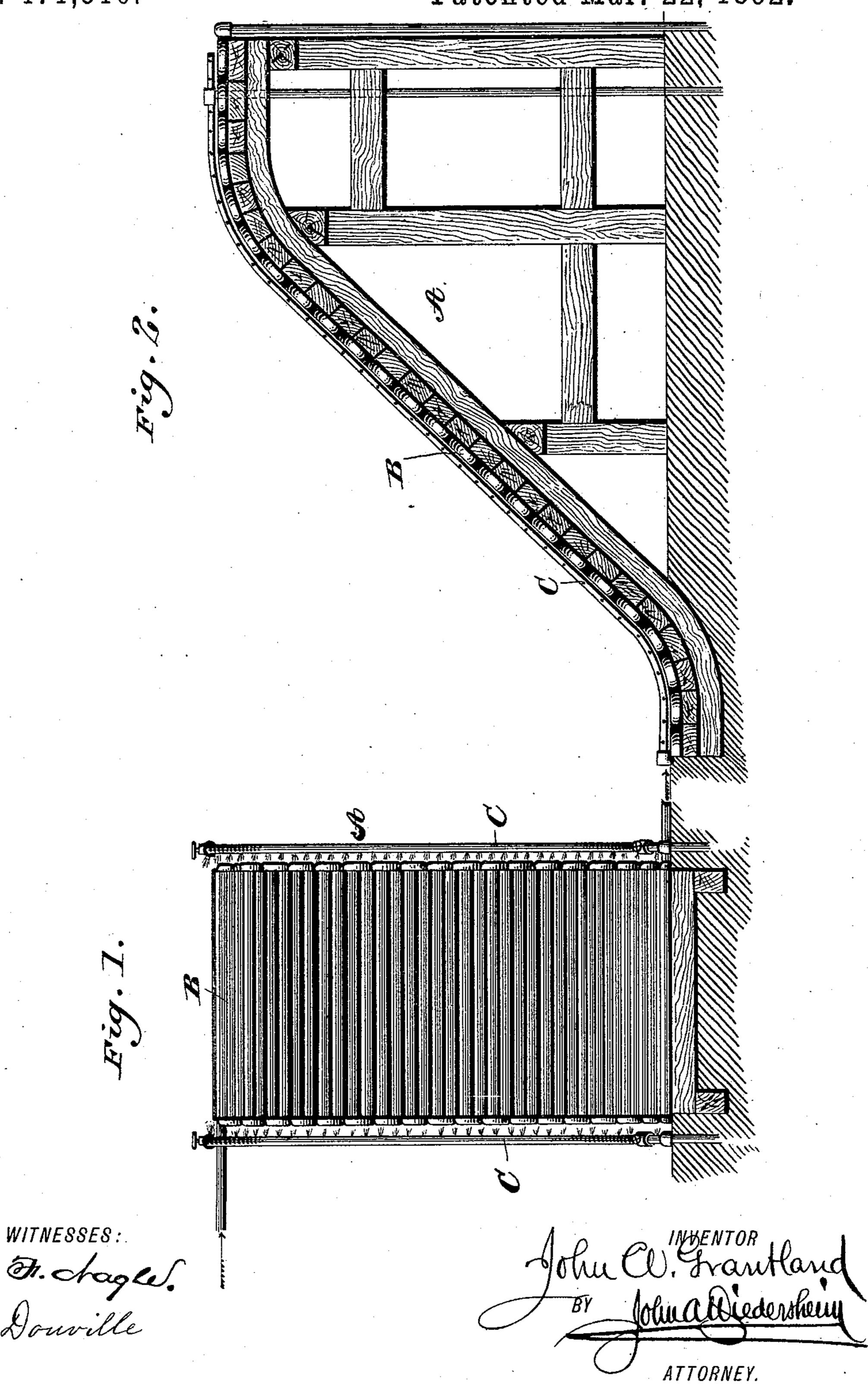
## J. W. GRANTLAND. TOBOGGAN SLIDE.

No. 471,510.

Patented Mar. 22, 1892.



## United States Patent Office.

JOHN W. GRANTLAND, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO WILLIAM P. MILLER, OF SAME PLACE.

## TOBOGGAN-SLIDE.

SPECIFICATION forming part of Letters Patent No. 471,510, dated March 22, 1892.

Application filed May 28, 1891. Serial No. 394,413. (No model.)

To all whom it may concern:

Be it known that I, John W. Grantland, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Toboggan-Slides, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to a toboggan slide or chute; and it consists, first, of a bed of closely-arranged and parallel ice-forming pipes, and, second, of a bed of ice-forming pipes, with means for spraying water thereon.

Figure 1 represents a side elevation of a toboggan slide or chute embodying my invention. Fig. 2 represents a front elevation thereof.

Similar letters of reference indicate corre-

Referring to the drawings, A designates a toboggan slide or chute, the same being constructed of a frame with a bed B of pipes properly supported thereon, said bed being arranged in inclined or curved form suitable for such slide or chute, the pipes being adapted to have ice or frost formed thereon after the manner of ice-making apparatus, the pipes being sufficiently close together, so that the ice or frost may fill the interstices thereof, whereby there is produced a surface of ice or

frost, which is serviceable for toboggans, sleds, &c. In order to increase the moisture and thus produce a proper quantity of ice or frost on the pipes, owing to the difficulty of freezing a body of water on an incline, I employ perforated pipes C, which are supported adjacent to the pipes B and connected with a supply of water, so as to spray water on said pipes B, thus increasing the volume of ice or frost thereon and producing a proper surface 40 of such material for the purpose intended.

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

1. A toboggan slide or chute having a bed 45 of closely-arranged and parallel ice-forming pipes, substantially as described.

2. A toboggan-slide having a bed of iceforming pipes and means for spraying water on said pipes, substantially as described.

3. Ice-forming pipes supported on a suitable frame forming the bed of a toboggan slide or chute, in combination with pipes adapted to spray water on said bed, substantially as described.

JOHN W. GRANTLAND.

Witnesses:

JOHN A. WEIDERSHEIM, A. P. JENNINGS.