

No. 840,953.

PATENTED JAN. 8, 1907.

J. PEDERSEN.  
SLED RUNNER.

APPLICATION FILED AUG. 4, 1906.

Fig. 1.

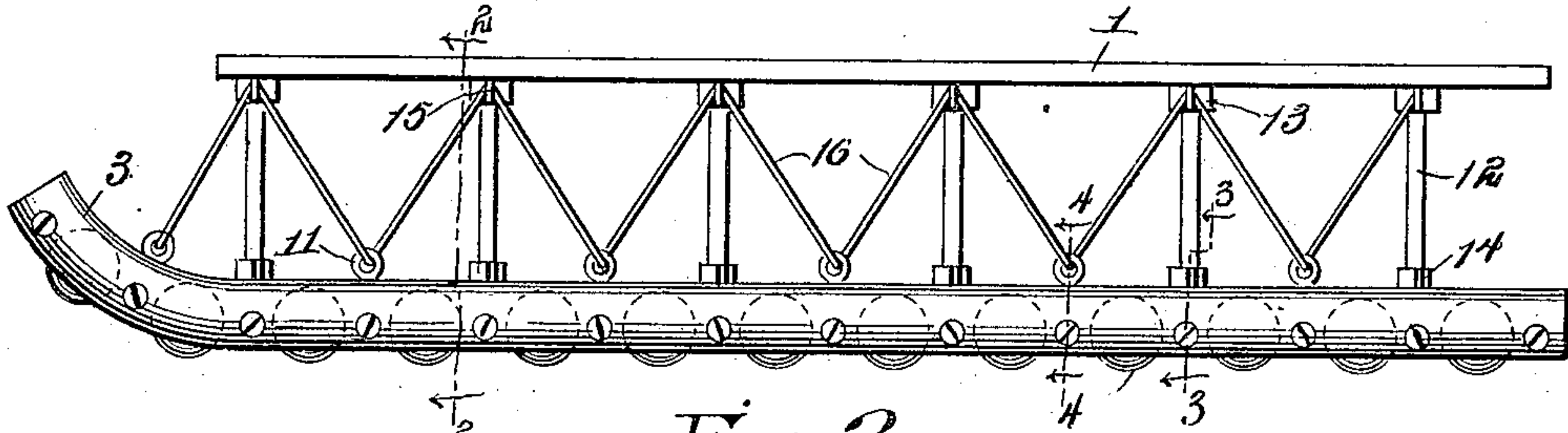


Fig. 2.

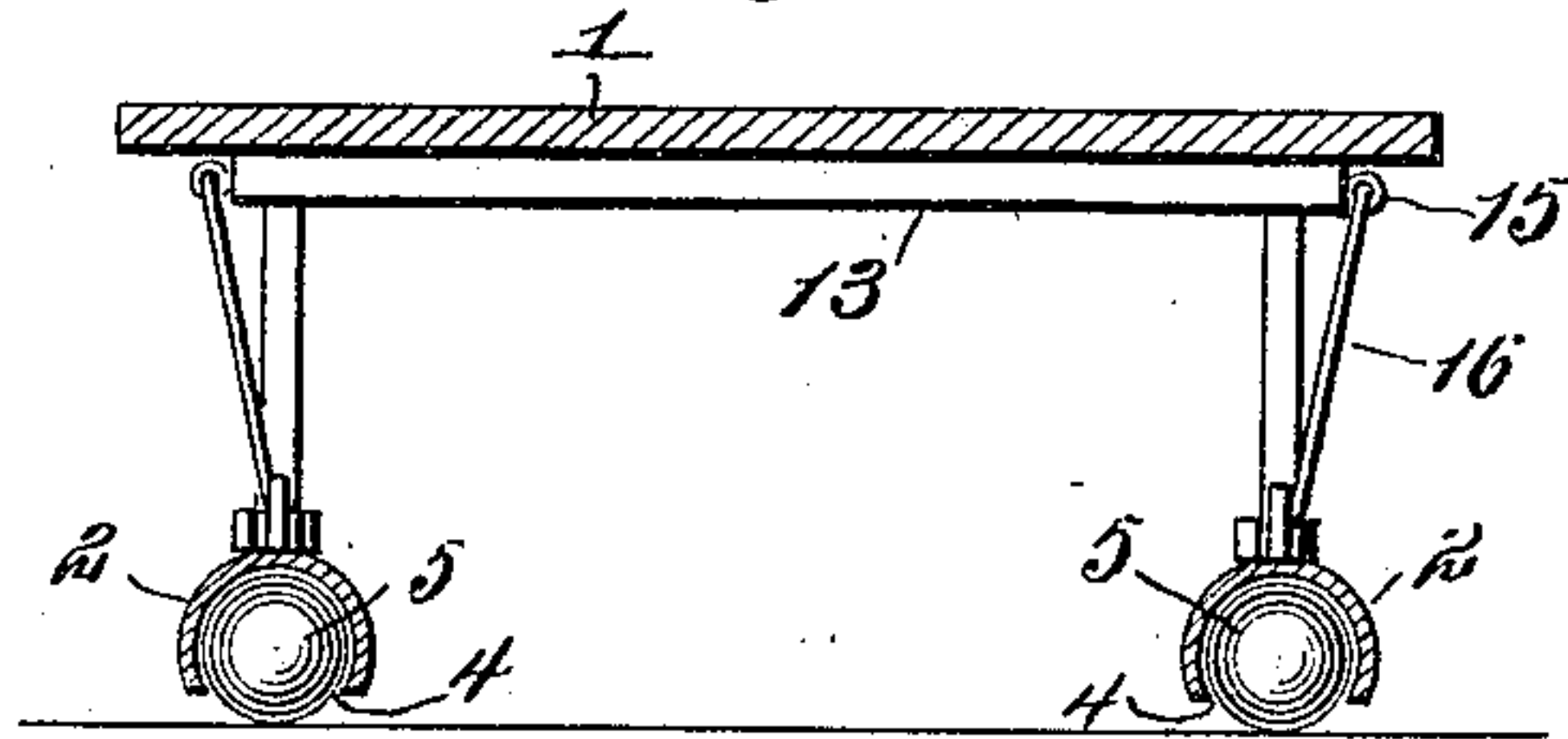


Fig. 4.

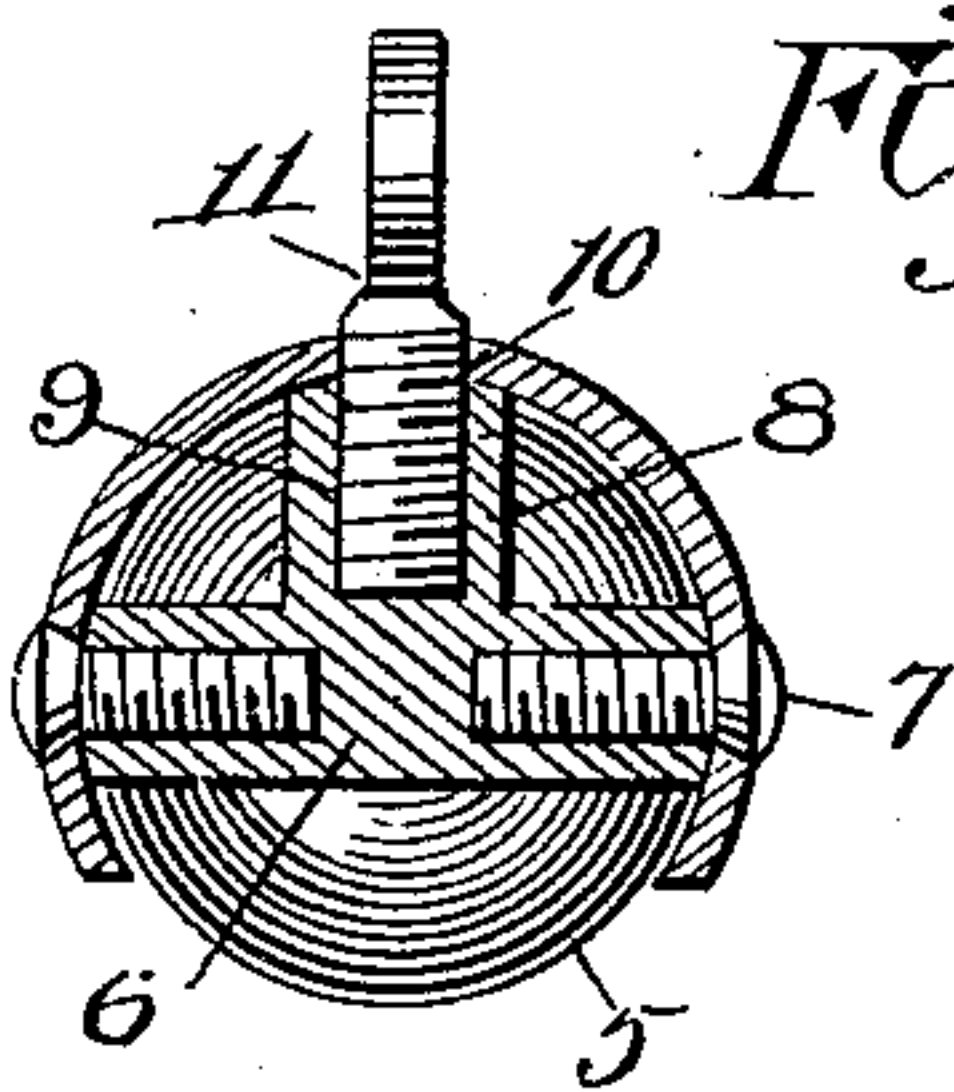


Fig. 3.

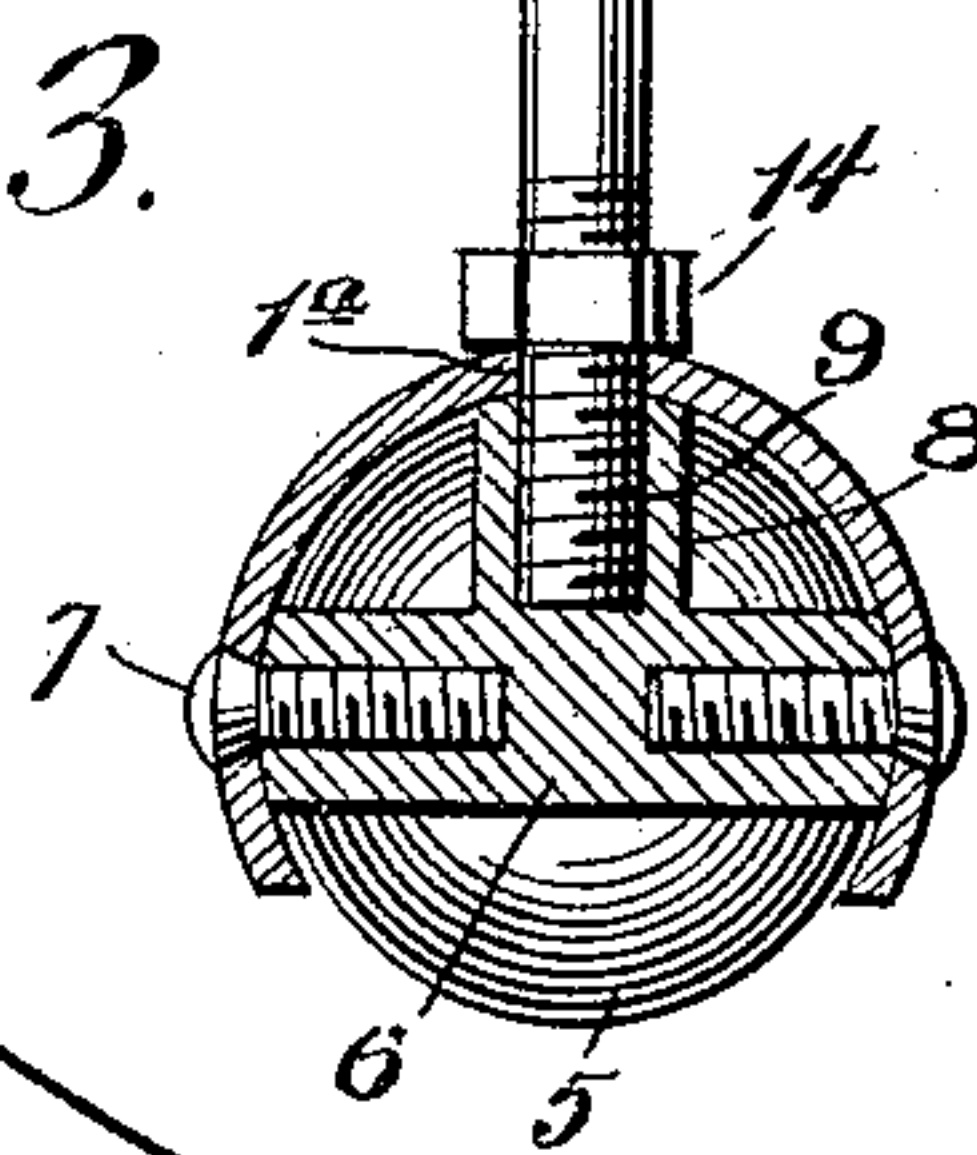
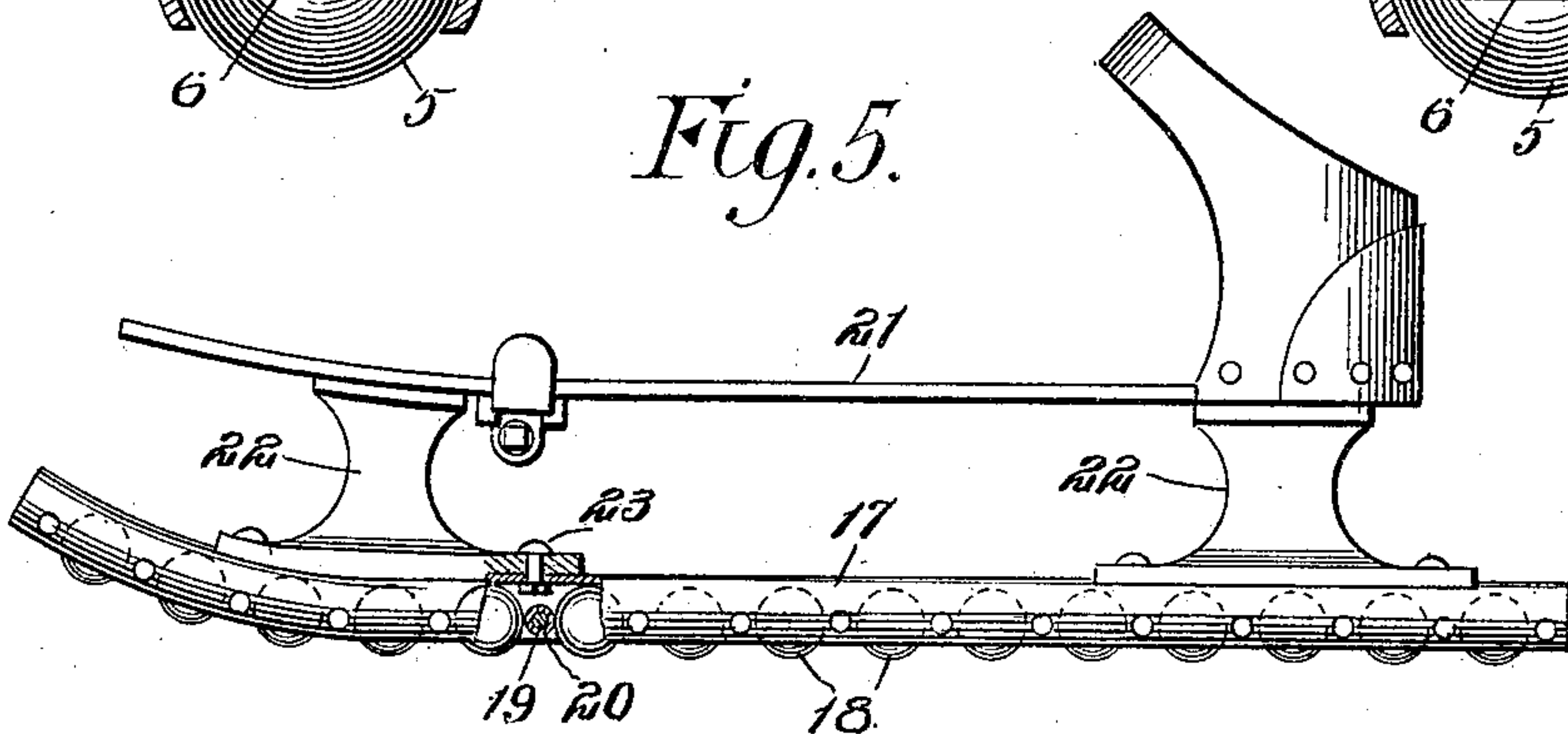


Fig. 5.



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# UNITED STATES PATENT OFFICE.

JOHN PEDERSEN, OF STAMFORD, CONNECTICUT.

## SLED-RUNNER.

No. 840,953.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed August 4, 1906. Serial No. 329,235.

*To all whom it may concern:*

Be it known that I, JOHN PEDERSEN, a citizen of the United States, residing at Stamford, in the county of Fairfield and State of Connecticut, have invented new and useful Improvements in Sleds and Skates, of which the following is a specification.

This invention relates to sleds and skates mounted upon runners that are provided with earth-engaging rotary members, such as balls, whereby they may be used upon other than icy and slippery surfaces; and it has for its object to provide an improved runner construction whereby the earth-engaging rotary members will be held securely in position for operation.

Further objects of the invention are to simplify and improve the construction and operation of this class of devices.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings there has been illustrated a simple and preferred construction of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alteration, and modifications within the scope of the invention may be resorted to when desired.

In the drawings, Figure 1 is a side elevation of a sled embodying the invention. Fig. 2 is a transverse sectional view taken on the plane indicated by the line 2 2 in Fig. 1. Fig. 3 is a sectional detail view, enlarged, taken on the plane indicated by the line 3 3 in Fig. 1. Fig. 4 is a sectional detail view, enlarged, taken on the plane indicated by the line 4 4 in Fig. 1. Fig. 5 is a side elevation of a skate embodying the invention.

Corresponding parts in the several figures are denoted by like characters of reference.

In the form of the invention illustrated in Figs. 1 to 4, inclusive, 1 designates the body of a sled, and 2 2 are the runners. The latter are composed of metallic tubes the front ends of which are upturned, as shown at 3, said tubes being provided in their under sides with longitudinal slots 4, which latter extend over less than one-half the circumference of the tubes, so that the latter will readily retain the antifriction members, which consist

of balls 5, which are placed in said tubes. The antifriction-balls are spaced within the tubes or runners by means of cross-pieces 6, which are secured, by means of screws 7, inserted through the sides of the runners and which serve to keep the latter from spreading. The cross-pieces 6 are provided with upward-extending lugs 8, having screw-threaded sockets 9 registering with apertures 10 in the up sides of the runners. Screw-eyes 11 are fitted in the sockets 9 of the lugs 8, extending from alternate cross-pieces 6. In the sockets 9 of the lugs 8, extending from intermediate cross-pieces 6, are secured brace-rods or knees 12, that serve to support the body of the sled, which is provided on its under side with cross-pieces 13, to which the knees 12 are connected in any suitable manner. The threaded ends of the knees that engage the sockets 9 are provided with lock-nuts 14, engaging the upper sides of the runners. The cross-bars 13 are provided at their ends with eyes 15, and flexible members, such as wires 16, are threaded through the eyes 11 and 15, as will be clearly seen in Fig. 1, thus assisting in making a suitable and rigid structure. The balls 5 will play freely in the tubular runners between the cross-bars 6, and said balls will project sufficiently beyond the slots 4 in the runners to engage the ground, as will be readily understood. A sled is thus provided which is serviceable for summer use and which may be readily propelled or dragged over any ordinary moderately-hard surface.

The application of the invention to a skate has been illustrated in Fig. 5 of the drawings. The runner here designated 17 is of identical construction with the sled-runners 2 2 before described, the same consisting of a slotted tube upturned at its front end and having a plurality of balls 18 placed therein, said balls being spaced by means of cross-bars 19. Said cross-bars have, however, in this form of the invention been illustrated as provided with bearing-sleeves 20, and the foot-piece 21 of the skate is provided with brackets 22, which are secured upon the runners by means of bolts 23, as shown in Fig. 5 of the drawings, or by other suitable means.

Sleds or skates constructed in accordance with the principles of the present invention will engage the ground or any ordinary hard surface with a small degree of friction, and they are therefore well adapted for the purposes for which they are provided.



Having thus described the invention, what is claimed is—

1. A runner for sleds and skates consisting of a tube having a longitudinal slot in its under side, rotary earth-engaging members within the tube protruding through the slot, and cross-bars secured within the tube constituting spacing members and having upward-extending lugs provided with screw-threaded sockets registering with apertures in the runner-tube.

2. Tubular runners having slots in their under sides, earth-engaging rotary members within the tubular runners and protruding through the slots, spacing members having sockets registering with apertures in the upper sides of the runners, and body-supporting members threaded into said sockets.

3. A tubular runner having a slot in its under side, earth-engaging rotary members within the tubular runners and protruding through the slot, spacing members interposed between and connected with the sides of the tubular runner between the earth-engaging members which are thereby spaced, and wear-sleeves upon said spacing members.

4. Tubular runners having slots in their under sides, earth-engaging rotary members within the tubular runners and protruding through the slots, cross-bars constituting spacing members secured to the sides of the tubular runners between the rotary members and having sockets alining with apertures in the upper sides of the runners, screw-eyes engaging the sockets of alternate cross-bars through the apertures in the runners, a body having cross-pieces on its under side, body-supporting members engaging the sockets of intermediate cross-bars and connected with the cross-bars upon the under side of the body, eyes at the terminal ends of the cross-bars beneath the body and flexible elements threaded through said eyes and through the screw-eyes engaging the alternate sockets of the cross-bars or spacing members within the tubular runners.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN PEDERSEN.

Witnesses:

NELS MICHELSEN,  
C. POND WEBB.