

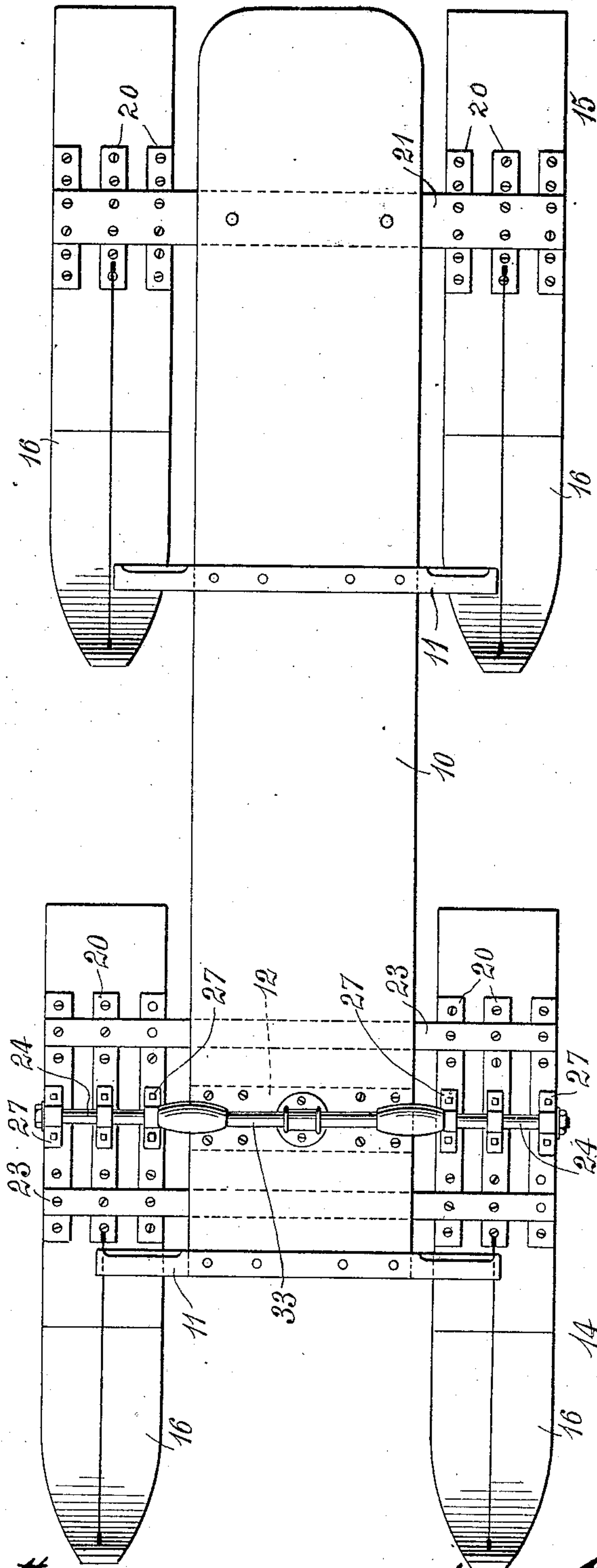
R. H. DOUGHTY.
DIRIGIBLE TOBOGGAN RUNNER SLED.
APPLICATION FILED NOV. 9, 1908.

944,848.

Patented Dec. 28, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



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G. Blake

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Fig. 2.

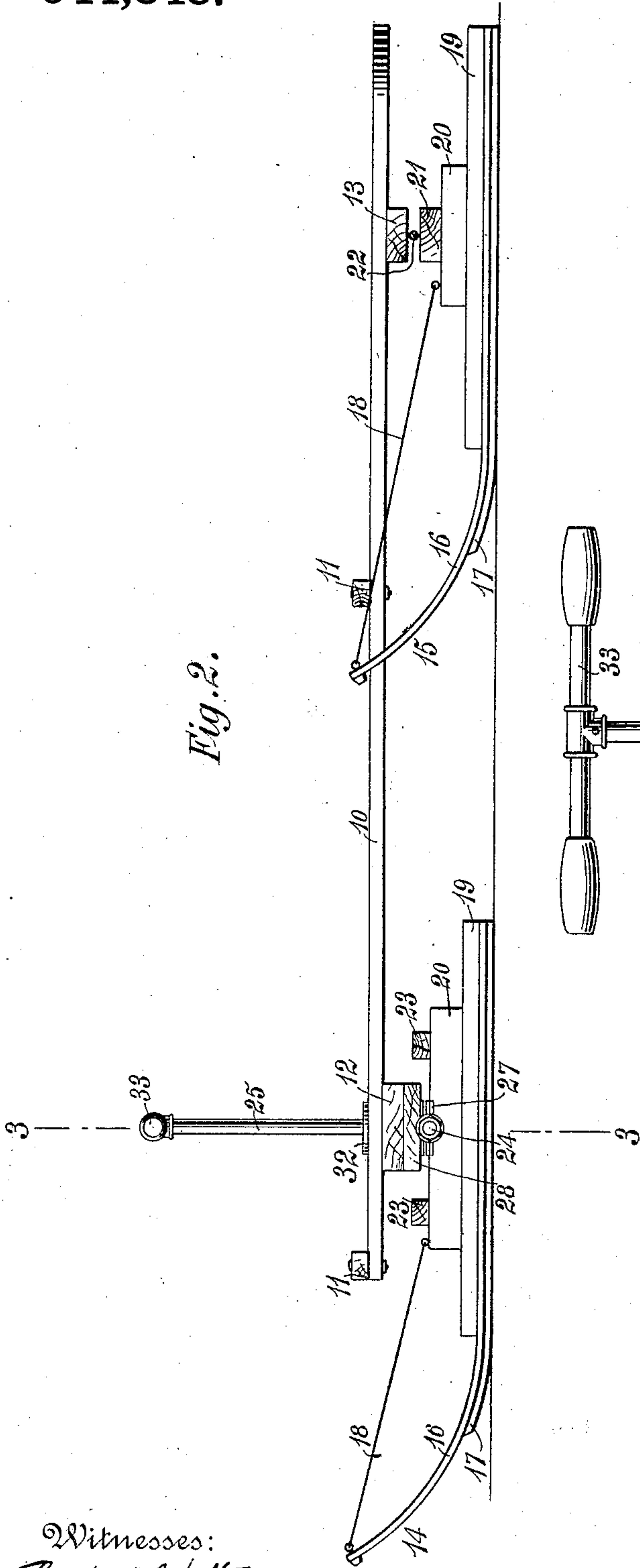
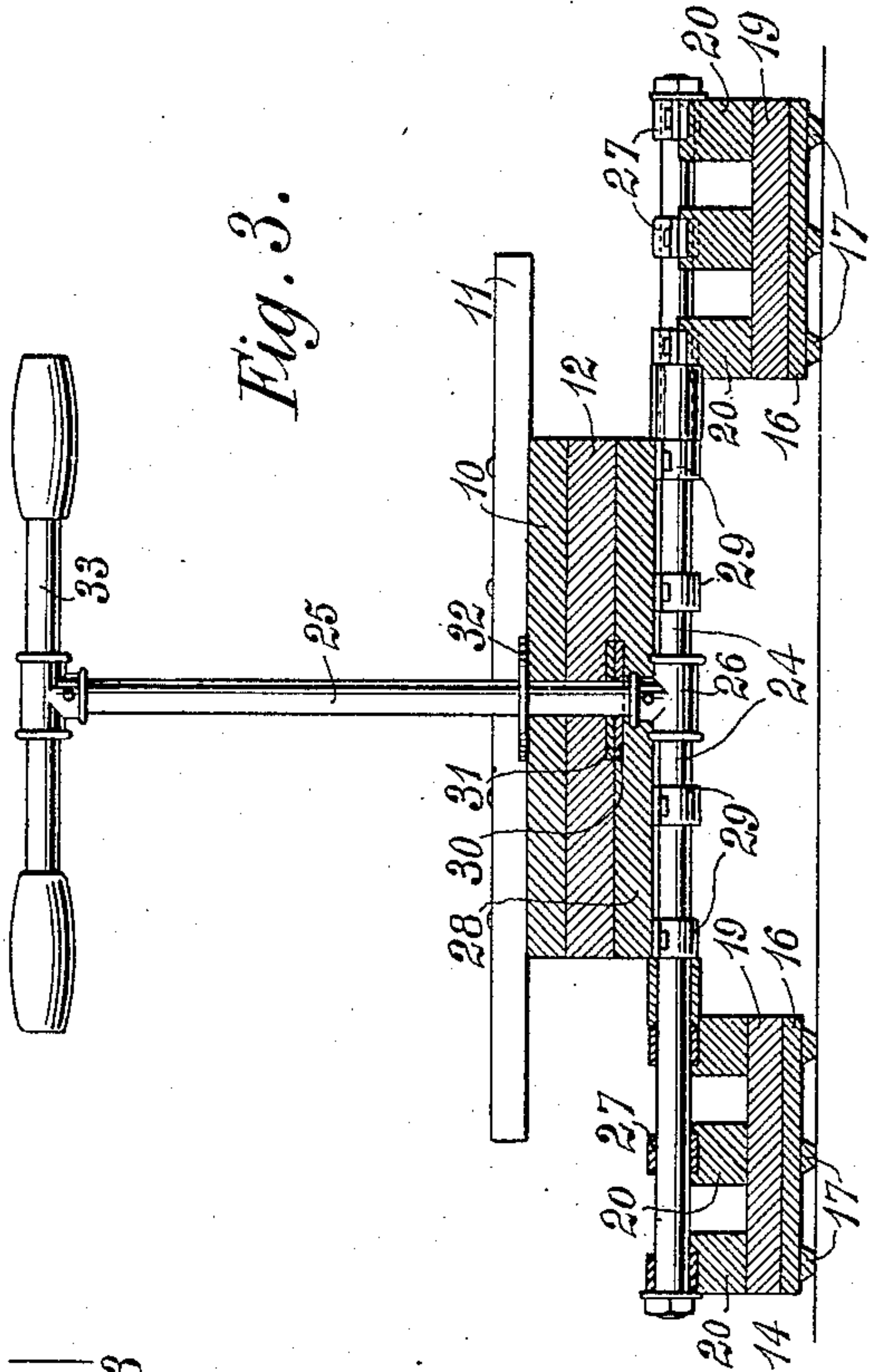


Fig. 3.



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UNITED STATES PATENT OFFICE.

RICHARD H. DOUGHTY, OF NEW YORK, N. Y.

DIRIGIBLE TOBOGGAN-RUNNER SLED.

944,848.

Specification of Letters Patent. Patented Dec. 28, 1909.

Application filed November 9, 1908. Serial No. 461,625.

To all whom it may concern:

Be it known that I, RICHARD H. DOUGHTY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Dirigible Toboggan-Runner Sleds, of which the following is a specification.

This invention relates to steerable sleds of the double-runner or bob-sled variety and its object is to increase the safety and stability of such vehicles, improve their running qualities, and permit their use on less compact snow than is required to support the ordinary narrow-runner sled. To this end I provide the sled with broad toboggan-like runners having auxiliary runner-strips on their under sides, and have devised an improved construction for the front end of the sled including the forward runner structure.

Of the accompanying drawings, Figure 1 represents a top plan view of a double-runner sled constructed according to my invention. Fig. 2 represents a side elevation thereof. Fig. 3 represents a transverse section on the line 3—3 of Fig. 2.

10 is the seat-board or seating body, preferably provided with fixed cleats 11, 11 for foot rests, and having fixed transverse bolsters 12, 13 under the front and rear ends. 14, 15 are the front and rear runner-structures respectively, each composed of a pair of broad toboggan-like runner-boards 16 with auxiliary runner-strips 17 on their under sides. The front ends or prows of the runners are curved upwardly and held in shape by tension rods or cords 18. The upper body of each runner is formed of a flat block 19 to the under side of which the runner-board 16 is secured, and a series of longitudinal stringer-blocks 20 attached to the block 19. The two runners of the rear runner-structure are connected across by a transverse bolster 21 which is hinged to the bolster 13 by eye-bolts 22 so that the rear runner-structure can rock on the body in a vertical plane.

The two runners of the front runner-structure are connected across by transverse beams 23 secured to the upper edges of the stringer-blocks 20 and this front structure is pivoted to swing both in a vertical plane to allow for inequalities in the ground, and in a horizontal plane to turn the direction of the sled under control of a steersman. This

double pivoting or swiveling is here provided by means of a horizontal cross-rod 24 and a vertical steering-post 25, both of which may conveniently be made out of sections of metal pipe joined by a T-fitting 26 into whose horizontal branches the end sections of the rod 24 are screwed, and into whose vertical branch the lower end of the steering-post 25 is screwed and pinned.

On the outer ends of the cross-rod 24 the front runners 16 are journaled by means of two-piece strap-bearings 27 mounted on the upper sides of the stringer-blocks 20. On the upper side of the bar 24, immediately under the fixed body-bolster 12 is a transverse bolster 28 secured to the bar by metal straps 29 and adapted to turn on the bolster 12, wearing plates 30, 31 being placed around the steering-post 25 in contact on these two bolsters and a third wearing-plate 32 being placed on the upper side of the seat board and surrounding the steering-post. The plates 31, 32 form a journal-bearing for the steering-post and the plates 30, 31 form a thrust-bearing for the front runner-structure. At the upper end of the steering-post 25 is a handle 33 to be grasped by the steersman. This form of front construction is simple, durable, and comparatively inexpensive to build, while it provides a strong and integral combination between the steering-post and the front runners.

It will be evident that the center of gravity in a sled of this kind can be placed quite low, while increased stability and a better supporting power and running qualities are secured by the toboggan-like runners.

I believe myself to be the first to apply the toboggan-runner principle to a sled of the character herein described. The sled as thus constructed is safer to run and steer than a narrow-runner bob-sled by virtue of the larger and wider sliding surface of the runners and the gripping action of the auxiliary runner-strips 17, which on changing the direction of the sled, tend to keep it in its intended path and prevent skidding or sluing. This improved tracking is afforded especially by the auxiliary runner-strips of the front runners, and to a lesser degree by those of the rear runners.

While I have illustrated what is considered the best form of my invention it will be understood that departures may be made from the particular structural em-

bodiment herein illustrated without departing from the spirit of the invention.

I claim:—

5 A steerable sled comprising a seat-board supported by front and rear runner-structures and having a transverse bolster under its front end, the front runner structure including a pair of broad toboggan-like runners composed of stringer-blocks and run-
10 ner-boards, cross-beams attached to the stringer-blocks and connecting the two runners together, a horizontal cross-rod on whose ends the stringer-blocks are jour-

naled, a transverse bolster attached to said cross-rod and adapted to turn on the seat- 15 board bolster, and a steering-post attached at its lower end to the cross-rod and passing upwardly through said bolsters and seat-board.

In testimony whereof I have hereunto set 20 my hand in the presence of two subscribing witnesses, this fifth day of November, 1908.

RICHARD H. DOUGHTY.

Witnesses:

SUMNER I. PRINDLE,
CLARENCE F. BROWN.