No. 743,902. PATENTED NOV. 10, 1903.

J. MANN.

SLED RUNNER.

APPLICATION FILED DEC. 17, 1902.

NO MODEL.

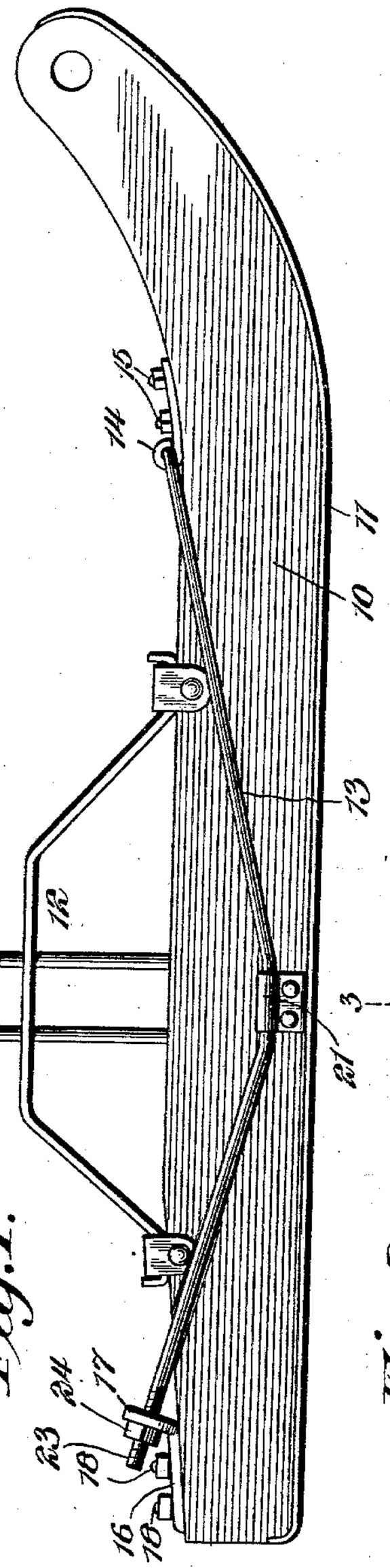

Fig. 1.

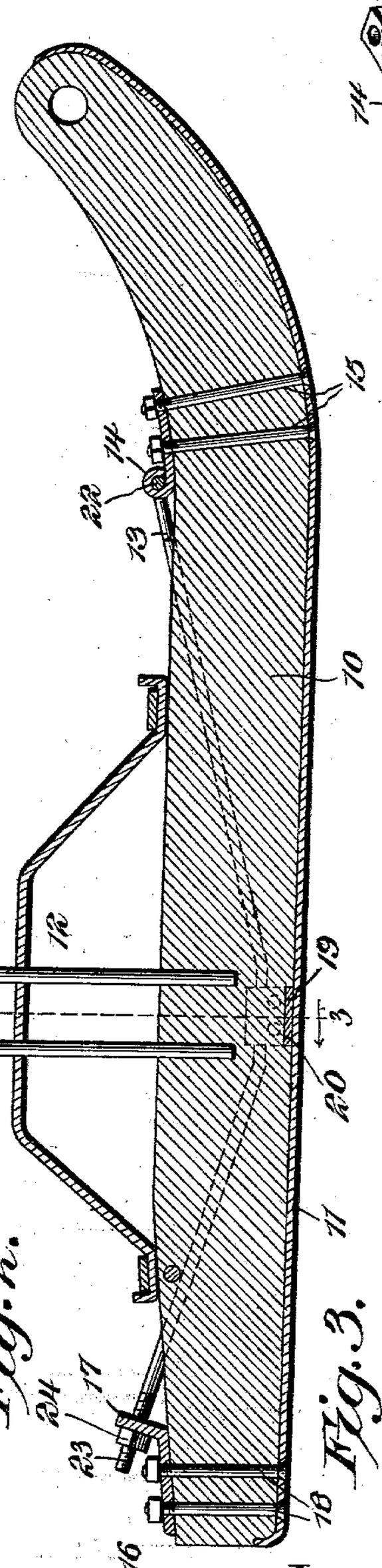

Fig. 2.

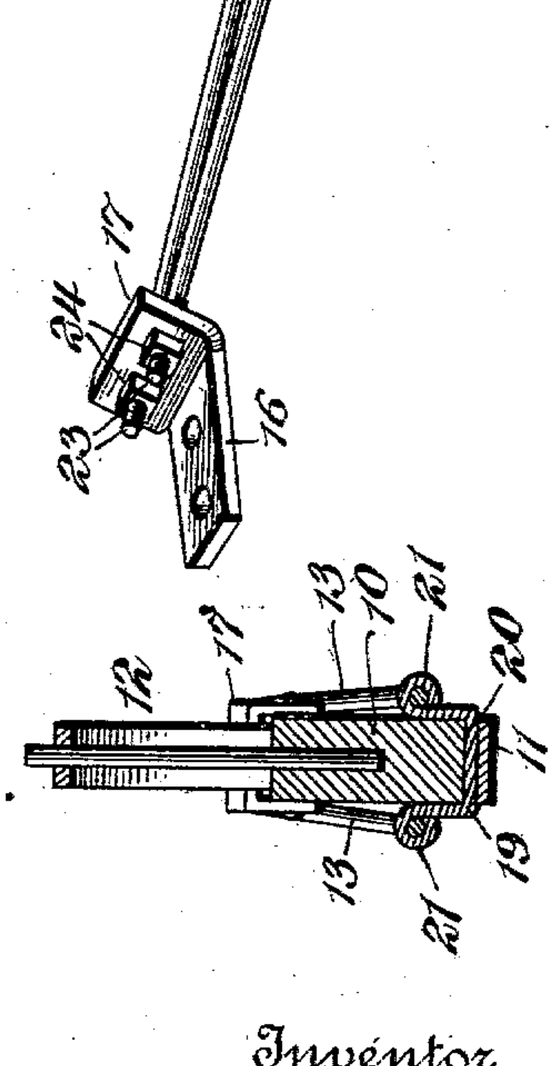

Fig. 3.

Fig. 4.

Witnesses
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No. 743,902. Patented November 10, 1903.

UNITED STATES PATENT OFFICE.

JAMES MANN, OF YORKTON, CANADA.

SLED-RUNNER.

SPECIFICATION forming part of Letters Patent No. 743,902, dated November 10, 1903.

Application filed December 17, 1902. Serial No. 135,619. (No model.)

To all whom it may concern:

Be it known that I, JAMES MANN, a subject of the King of Great Britain, residing at Yorkton, North-West Territory, and Dominion of Canada, have invented a new and useful Sled-Runner, of which the following is a specification.

This invention relates more particularly to sled-runners, the object being to provide a brace that will be very strong and prevent the breakage to which the runners are so liable. It is also the aim to provide a structure which can be applied to ordinary runners now in general use either before or after a break has occurred, in the latter instance having proven entirely efficient in repairing the runner and making it strong and rigid.

The preferred form of construction has been illustrated in the accompanying drawings and is described in the following specification. An inspection of the claims will show, however, that the embodiment set forth is open to various changes and modifications.

In the drawings, Figure 1 is a side elevation of a runner, showing the brace applied thereto. Fig. 2 is a vertical longitudinal sectional view through the same. Fig. 3 is a transverse section, and Fig. 4 is a detail perspective view, of the brace.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

The runner-body is designated by the reference-numeral 10 and may be of any well-known form, having on its lower edge the usual metallic shoe 11. Upon an intermediate portion of the runner is arranged a beam-support or knee 12, that can be of any desirable construction, no claim being made to any of these features *per se*. The invention as illustrated by the present embodiment consists of spaced truss-rods 13, that are arranged longitudinally of the runner on opposite sides of the same and extending diagonally across the side faces. These braces are secured in the following manner:

An ear 14 is arranged upon the upper edge of the forward end of the runner, being secured thereto by bolts 15, which pass through the runner and also serve for securing the shoe in place. Upon the upper edge of the rear end of said runner is arranged a clip 16, having an upstanding transversely-disposed flange 17 and fastened in place by vertical bolts 18, which, like the bolts 15, pass through the runner-body and the shoe. Arranged transversely across an intermediate and lower portion of the runner, preferably beneath the beam-support or knee 12, is a stirrup 19, which is located between the shoe and the body, the latter having a seat 20 to receive the same. This stirrup has at its ends upstanding eyes 21, which are thus located on opposite sides of the runner-body, as clearly shown in Fig. 3. The brace-rods 13 are connected at one end by a cross-piece 22, which is passed through the ear 14, while the other ends of said rods are threaded, as shown at 23, and are passed through the flange 17 of the clip. Tension-nuts 24, screwed upon said threaded ends, bear against the flange.

In view of the fact that it is a very common occurrence for the runners to break transversely and substantially along the line 3 3 of Fig. 2 it will be apparent that the brace-rods constitute trusses, which will securely prevent such accidents. The improvement may be readily applied to runners now in use either before or after breaks have occurred, and from actual experience it has been found that in the latter case by tightening the rods through the medium of the tension-nuts the runner-body can be brought back to proper place and will be very strong and rigid. The parts are extremely simple, so that the brace can be manufactured at small cost, and the bolts which hold the shoe in place may also be employed for fastening the clip and ear, as already described.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. The combination with a sled-runner, of a knee, and a truss-brace having an interme-

diate portion secured to the runner beneath the knee and extending in opposite directions, and means for securing the oppositely-extending portions of the brace to the runner at points higher than the intermediate attachment thereof.

2. The combination with a sled-runner, of a knee and a truss-brace having an intermediate portion secured to the lower portion of the runner beneath the knee and extending in opposite directions diagonally of said runner, and means for securing the ends of the truss to the runner on opposite sides of the knee.

3. The combination with a sled-runner, of a knee, and a truss-brace having an intermediate portion secured to the lower portion of the runner beneath the knee and extending in opposite directions diagonally of the runner, being secured at separated points to the upper portion thereof on opposite sides of the knee.

4. The combination with a sled-runner, of a knee mounted on an intermediate portion thereof, and a truss-brace comprising spaced rods located on opposite sides of the runner, said rods having intermediate portions secured to the lower portion of the runner beneath the knee and extending in opposite directions diagonally of said runner, being secured at separated points to the upper portion thereof on opposite sides of the knee.

5. The combination with a sled-runner, of a knee mounted on an intermediate portion thereof, a stirrup extending across the lower portion of the runner directly beneath the knee and having eyes on opposite sides of said runner, and a truss-brace comprising rods located on opposite sides of the runner and having intermediate portions passing through the eyes of the stirrup, the ends of said rod being attached to the runner on opposite sides of the knee.

6. The combination with a sled-runner, of an ear secured to the upper face thereof contiguous to one end, a stirrup extending across the lower and intermediate portion of the runner and having eyes at its ends, a clip attached to the other end of the runner, brace-rods extending longitudinally along and diagonally across the opposite side faces of the runner, said rods passing through the eyes of the stirrup, a cross-piece connecting the rods at one end and passing through the ear, the other ends of said rods being threaded and passed through the clip, and tension-nuts screwed upon said ends.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES MANN.

Witnesses:
J. CAR BALINHARD,
HARRY EVANS.