

No. 765,966.

PATENTED JULY 26, 1904.

G. S. FRARY.
ATTACHMENT FOR SLED RUNNERS.

APPLICATION FILED MAR. 28, 1904.

NO MODEL.

Fig. 2.

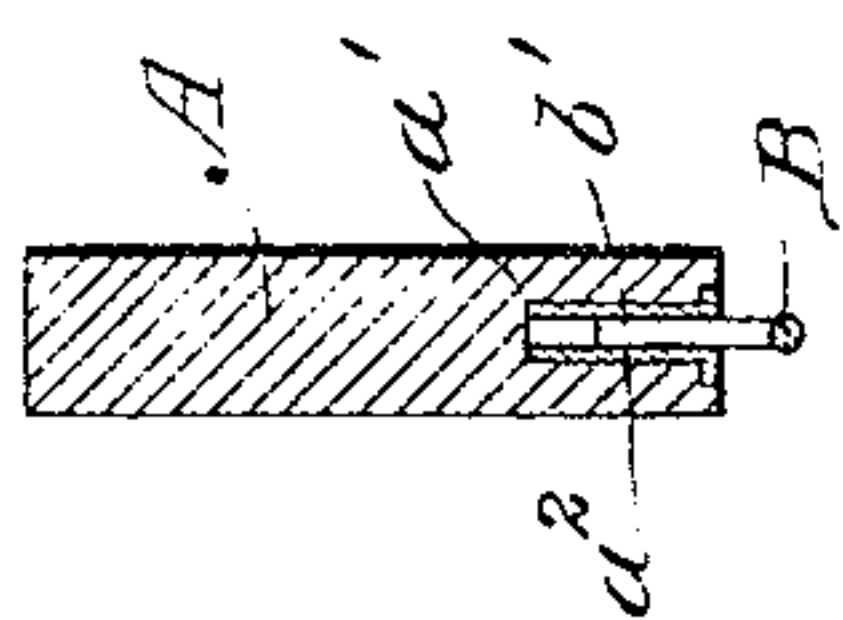


Fig. 4.

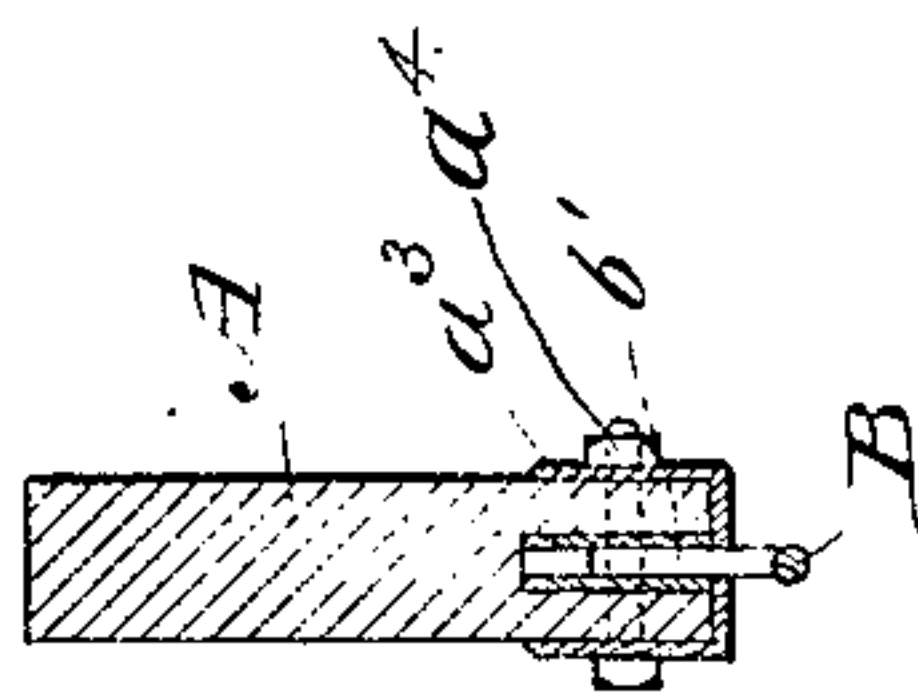


Fig. 1.

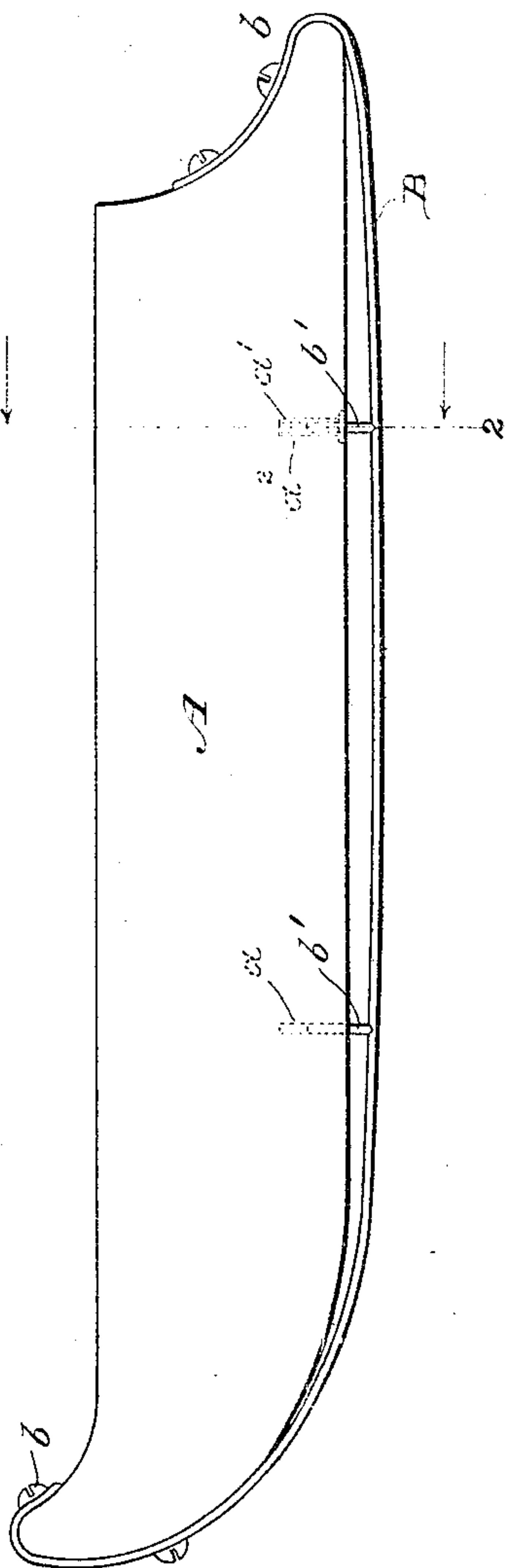
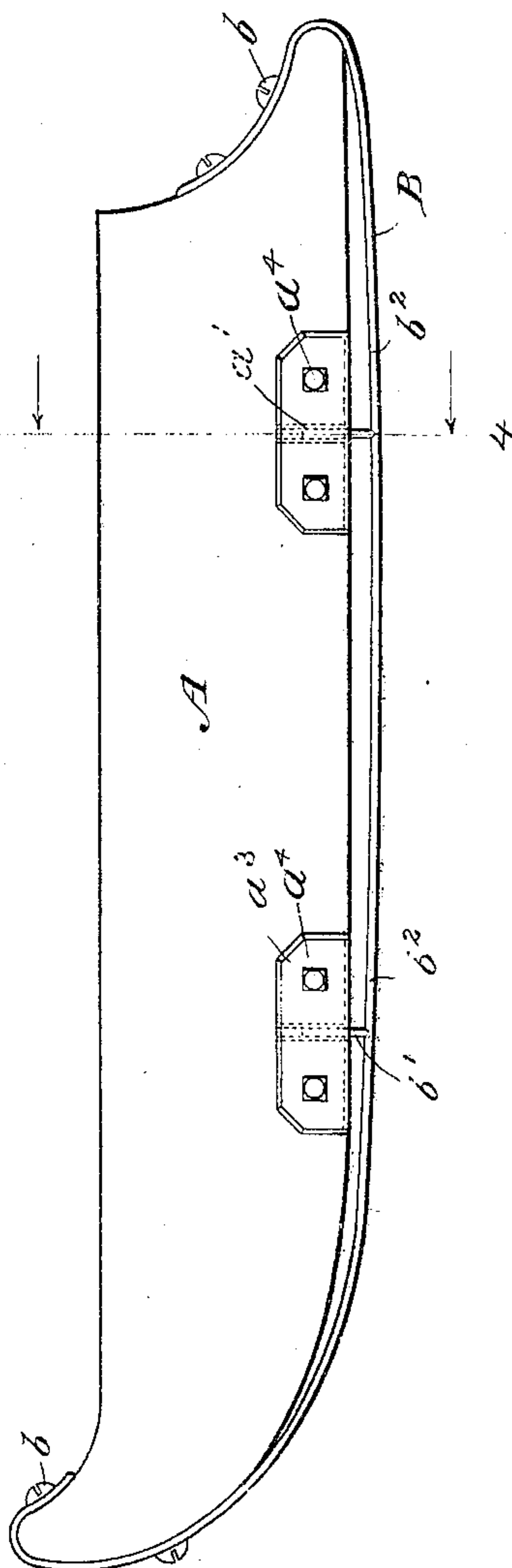


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR SLED-RUNNERS.

SPECIFICATION forming part of Letters Patent No. 765,966, dated July 26, 1904.

Application filed March 28, 1904. Serial No. 200,250. (No model.)

To all whom it may concern:

Be it known that I, GEORGE SPENCER FRARY, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Attachments for Sled-Runners, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to attachments for sled-runners, and has for its object the provision of shoes for such runners that may be prevented from slipping off or being bent or broken off the runners, that can be attached to the latter without the necessity of bolts, screws, or other rigid fastenings that would weaken the runner, and that shall allow the shoes to spring up and down freely, according to the pressure exerted upon the sled.

Said invention consists of means hereinafter fully described, and specifically set forth in the claims.

The annexed drawings and the following description set forth in detail certain means embodying the invention, such disclosed means constituting but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings, Figure 1 represents a side view of a sled-runner with my invention applied thereto, also a slightly-modified form of said invention. Fig. 2 represents a vertical sectional view of said modification, taken upon the plane indicated by the line 2 2, Fig. 1. Fig. 3 represents a side view of a sled-runner with a second modified form of my invention applied thereto; and Fig. 4 represents a vertical sectional view taken upon the plane indicated by the line 4 4, Fig. 3.

Any ordinary form of runner for a sled, sleigh, sledge, or other conveyance designed to slide upon runners provided with shoes may be provided with my improved attachment, and one such is illustrated at A in the drawings. A suitable shoe B is provided for such runner and is attached to the same at the front and rear parts only of said runner by screws *b b* or in any other desired man-

ner. The runner A is provided with a vertical elongated slot or opening *a* in its lower edge, and into this opening projects a small lug or pin *b'*, attached to the shoe B, and which is of substantially the same height as the depth of said opening. Said pin *b'* registers loosely within the opening *a* and is adapted to slide up and down within the same as the shoe is sprung by the different pressures exerted upon the sled. The second opening *a'* of the runner A in Fig. 1 is provided with a metallic collar *a''*, covering the periphery of such opening and lying flush with the under side of the runner for a short distance on either side of the opening, the latter being of a diameter sufficient to accommodate such collar and still permit the loose registration of the pin *b'* within the same.

In the second modification (illustrated in Figs. 3 and 4) the collar is extended fully across the under edge of the runner flush with the same, extends longitudinally along said edge for a considerable distance in both directions from the opening, and is carried upwardly upon both sides of the runner to substantially the same height as the slot *a'*, thus providing a sheathing *a'''* completely enveloping that part of the runner into which the pin *b'* projects and being provided with an opening in its under side through which the pin passes. Such sheathing is fastened to the runner A by transverse bolts *a''* or in any other suitable manner.

It will be noted from a study of the above-described mechanism that the openings *a a* and the registering pins *b' b'* afford means for securely holding the shoe to the runner, so that the shoe cannot spring off the latter or be bent or broken off from the same, that the free vertical play of the pin within the opening provides for the spring of the shoe due to the different pressures exerted at different times upon the sled, that the runner and shoe are thus securely fastened together without the use of vertically-located screws, bolts, or other rigid fastenings that would tend to split or impair the strength of the runner, and that they are relatively movable without impairing the efficiency of such fastening. Pins *b'* and openings *a* may be of any number, the

runner illustrated in the drawings being provided with two.

The modifications illustrated provide the same advantages as the simple form of the invention, but tend to protect the runner from wear somewhat more effectively. In the form illustrated in Fig. 2 the inner peripheral collar a^2 protects the wall of the opening a' from wear due to the upward and downward movement of the pin b' , and in the form illustrated in Figs. 3 and 4 this strengthening feature is extended still further by providing the sheathing a^3 , as shown, which protects the runner both from the pin b' and from the contiguous portions b^2 of the shoe B and also from the lateral strain to which the runner is often subjected. This strain upon the runner, which is often very severe and is apt to crack or break the same, is obviated to a great extent by providing the sheathing a^3 , as shown. Such advantages and additional features, however, are not necessarily included in an embodiment of my invention, which consists in its simple form of the elongated openings in the runner and the registering pins upon the shoe, as shown and described, with the consequent advantages stated.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the means herein disclosed, provided the means stated by any one of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention—

1. The combination with a sled-runner provided with an opening, of a shoe for said runner provided with means constructed to play in said opening concurrently with the spring of the shoe.

2. The combination with a sled-runner and a shoe therefor, of an elongated opening in the lower edge of said runner, and means attached to said shoe and adapted to play in said opening as said shoe springs up and down.

3. The combination with a sled-runner and a shoe therefor, of an elongated opening in

the lower edge of said runner, and a pin attached to said shoe, adapted to enter said opening to retain said shoe in its proper position upon said runner, and constructed to travel up and down in said opening concurrently with the spring of the shoe.

4. The combination of a sled-runner, a shoe therefor secured to the same at the extremities only of said runner, slots in the under edge of said runner, and pins attached to said shoe, registering with said slots, and constructed to play in the latter as the shoe springs up and down.

5. The combination with a sled-runner and a shoe therefor, of a vertical elongated opening in the lower edge of said runner, a collar bounding the periphery of said opening, and a pin attached to said shoe and adapted to continuously travel up and down in said opening a distance dependent upon the pressure exerted upon the sled.

6. The combination with a sled-runner and a shoe therefor, of a vertical elongated opening in the lower edge of said runner, a metallic sheathing bounding said runner adjacent to said opening and extending up into the latter to cover the periphery thereof, and a pin attached to said shoe and adapted to enter said opening a distance dependent upon the weight borne by the sled.

7. The combination of a sled-runner, a shoe therefor secured to the same at the extremities only of said runner, elongated openings in the under edge of said runner, pins attached to said shoe and adapted to register with said openings to retain said shoe in its proper position upon said runner, and metallic collars located intermediately of said pins and the walls of said openings, said pins adapted to continuously travel up and down in said openings a distance dependent upon the pressure exerted upon the sled.

Signed by me this 24th day of March, 1904.

GEORGE SPENCER FRARY.

Attest:

D. T. DAVIES,
G. W. SAYWELL.