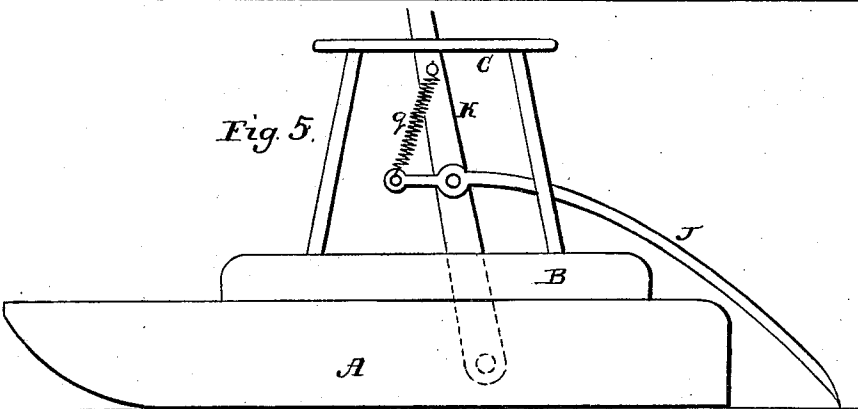
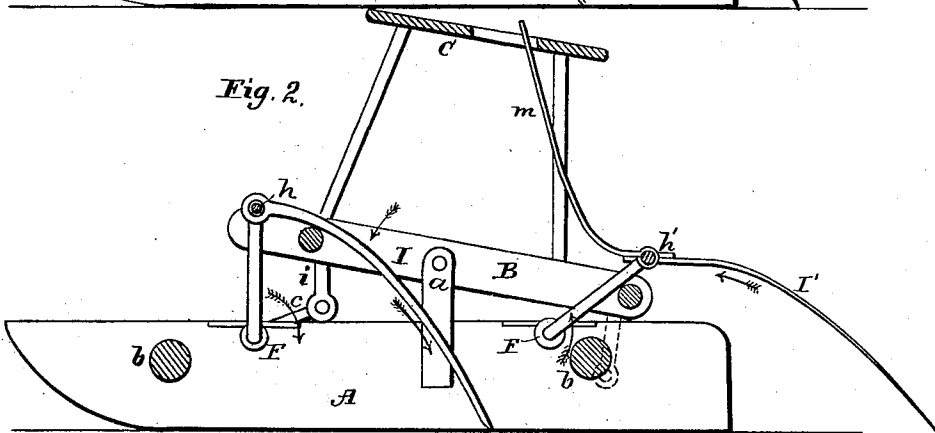
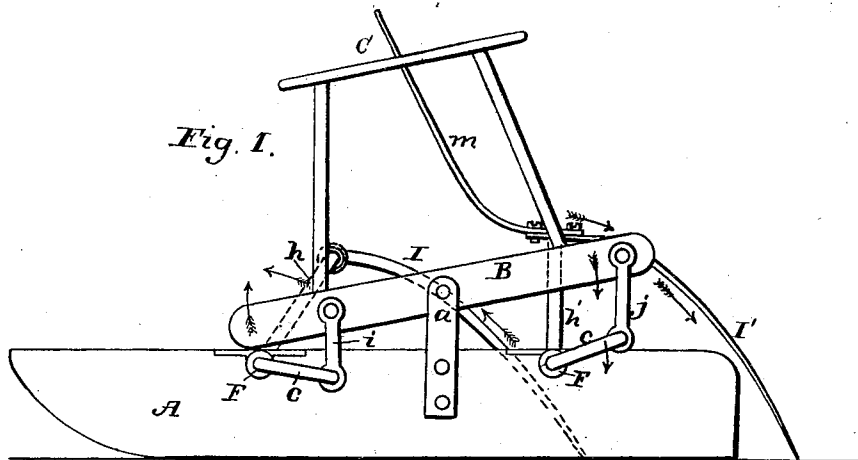


J. BRAUN
Sled Propeller.

No. 92,574.

Patented July 13, 1869.



Witnesses:
Leopold Rice
John Parker

Inventor:
J. Braun
by his attorney
H. Howson

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Fig. 3.

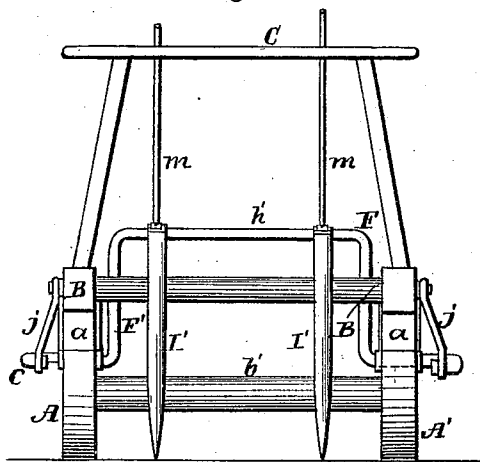
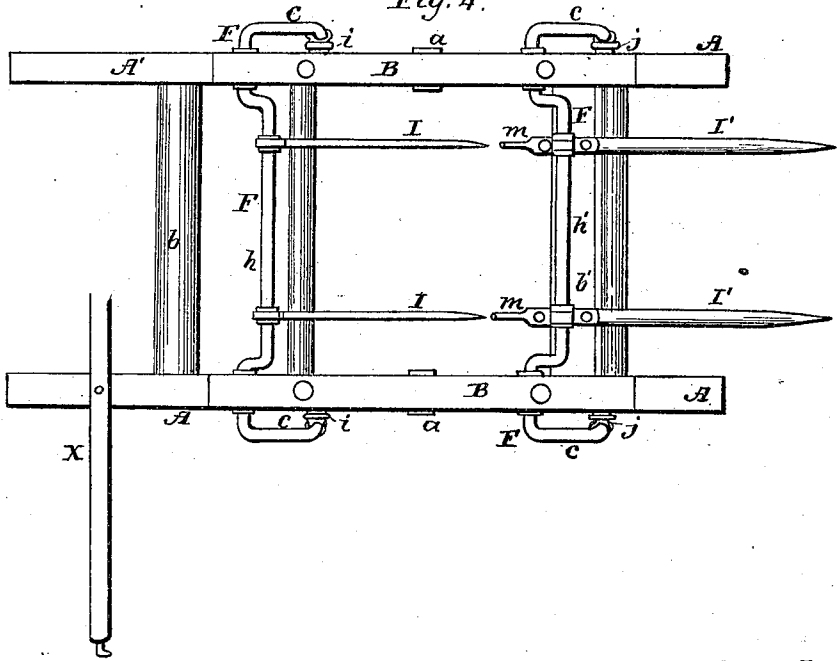


Fig. 4.



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United States Patent Office.

JOHN BRAUN, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 92,574, dated July 13, 1869.

IMPROVED METHOD OF PROPELLING SLEDS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN BRAUN, of Philadelphia, Pennsylvania, have invented a Method of Propelling Sleighs; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists in the combination, with a sleigh, of two or more pointed propelling-rods, which are so operated, either by a rocking motion of a frame or chair vibrating on the sled, or by means of levers, that, by a rapid succession of pushes on the ice or snow, they shall urge the sleigh forward.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1, sheet 1, is a side view of a sleigh, showing my method of propelling the same;

Figure 2, a sectional view, with the working parts moved to a different position;

Figure 3, sheet 2, a rear view of the sleigh;

Figure 4, a sectional plan view on the line 1-2, fig. 1; and

Figure 5, sheet 1, a modification of my invention, to be used, either independently or in connection with the devices shown in former figures.

Similar letters refer to similar parts throughout the several views.

A and A' represent the opposite side pieces or runners of a sleigh, connected together by cross-pieces, *b* and *b'*; and to upright bearings, *a a*, secured to these runners, is pivoted a frame, B, to which the seat C is attached.

A rock-spindle, F, is arranged to turn in suitable bearings of the runners A and A', beneath or adjacent to the front end of the frame B; the said spindle having at each end a crank, *c*, and in the centre, between the runners, a second crank, *h*, arranged at an angle with respect to the cranks *c*.

The front end of the frame B is connected to the cranks *c'* by means of links, *i i*, links, *j j*, serving to connect the rear end of the said frame with the cranks of a second spindle, F', which also turns in the opposite runners, and is provided with a central crank, *h'*.

Two propelling-rods, I I, are hung loosely to the crank *h* of the spindle F, and are so curved that their pointed ends shall (whatever may be the position of the vibrating frame B) rest upon the surface of the ice or snow over which the sleigh is to be propelled.

Similar curved and pointed propelling-rods, I', are hung loosely to the crank *h'* of the rear spindle F'; these latter rods being in the present instance made of flat metal for facility of attachment to the spindle, and to enable their points to be sharpened more readily.

The method of propelling the sleigh by means of the above devices is as follows:

The operator having mounted the seat C, of the vibrating frame or chair, places his feet against the "round" or cross-piece *b* of the sleigh, and then, by a movement of his body, imparts a vibrating or rocking motion to the seat and frame B upon the pivots *a a*.

If the several parts are in the position shown in fig. 1, and a backward motion be given to the frame B, so as to depress its rear end, the cranks *c c'* of the spindle F' will also be lowered, as indicated by the arrow, and the crank *h* will be moved in such a direction as to exert a backward pressure upon the rods I, driving their points into the ice or snow, and thus urging the sleigh forward.

While the spindle F' and its rods are thus operated by the depression of the rear end of the frame B, the elevation of the front end of the said frame so turns the spindle F, (see arrows, fig. 1.) as to withdraw the points of the rods I from the ice or snow, and to bring the said rods to a position most favorable for propelling the sleigh when the motion of the frame B is reversed. (See fig. 2.)

The arrows, in fig. 2, illustrate the operation of the several parts when the front end of the frame B is being depressed, the rods I then performing their duty of propelling the sleigh, while the rear rods I' are being brought to their former position, (fig. 1.) to be ready for action when the direction of the motion of the frame B is again changed.

It will be seen that as the seat of the frame or chair is above the axis on which it vibrates, the weight of the operator is rendered much more available in propelling the sleigh, than in sleds where the said axis is above the seat.

It will be understood, without further description, that, as the propelling-rods are brought into play, at both the forward and backward motion of the seat, a series of pushes will be given to the sleigh in such quick succession as to urge it forward at a considerable rate of speed.

For the purpose of steering the sleigh, each of the rear rods I' is provided with an arm, *m*, which projects

also be used to assist in propelling the sleigh, or they may be used for this purpose independently, as shown in fig. 5, where the frame B is secured permanently to the runners, and serves merely as a support for the seat.

Various means, however, of steering the sleigh may be resorted to. The oar-like rod X, shown in fig. 4, would, for instance, answer the purpose.

I claim as my invention, and desire to secure by Letters Patent—

1. The vibrating frame or chair C, hung to a sled, and having its seat above the axis on which it vibrates, in combination with pointed rods, I I, operated by the movement of the seat, as specified.

2. The curved and pointed propelling-rods I and I', when hung loosely to the cranked portions, h, of rock-spindles F and F', for the purpose described.

3. The combination, substantially as herein described, of the rocking frame B, with the crank-spindles F and F', for the purpose specified.

4. The arms m, of the propelling-rods I', for the purpose set forth.

5. The arms K, hinged at their lower ends to the sled, and having handles at their upper ends, in combination with the pointed rods J, hung to the arms, all as set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOHN BRAUN.

Witnesses:

JOHN WHITE,
HARRY SMITH.