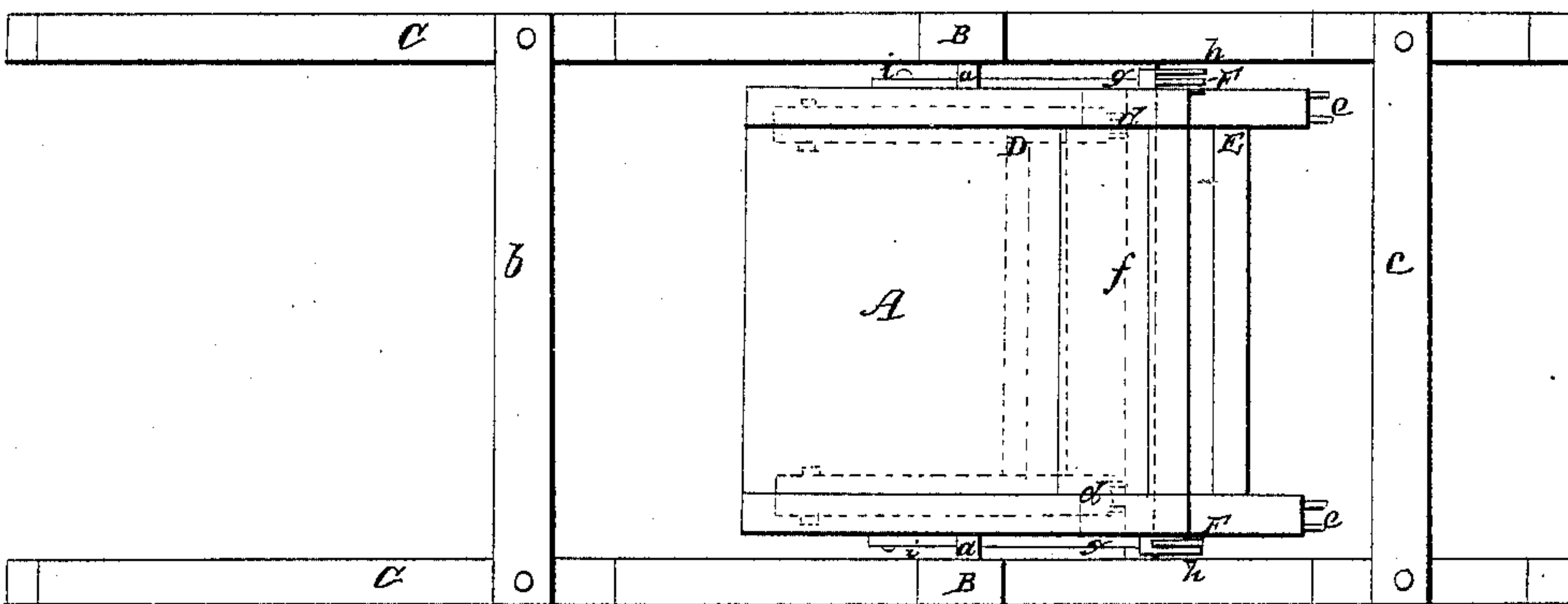


Rocking Sled Propeller.

Patented Dec 16, 1862.



Inventor

John Warda

UNITED STATES PATENT OFFICE.

JOHN WIARDA, OF HOBOKEN, NEW JERSEY.

IMPROVEMENT IN ROCKING-SLED PROPELLERS.

Specification forming part of Letters Patent No. 37,191, dated December 16, 1863.

To all whom it may concern:

Be it known that I, JOHN WIARDA, of Hoboken, in the county of Hudson and State of New Jersey, have invented a new and Improved Rocking-Sled Propeller; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of my invention. Fig. 2 is a plan or top view of the same.

Similar letters of reference in both views indicate corresponding parts.

The object of this invention is to employ the rocking motion of the seat for the purpose of propelling a sled.

The invention consists in the arrangement of one or more pointed feet hinged to the under surface of the rocking seat of a sled suspended from a pivot or pivots in such a manner that by imparting to said seat an oscillating or rocking motion the feet are alternately depressed on the ground in an inclined direction, so as to propel the sled, and raised for a fresh hold, and thereby a considerable velocity can be imparted to the sled with a comparatively small exertion of the person or persons occupying the seat.

It consists, further, in the arrangement of two working-beams in combination with the hinged pointed feet with the rocking seat and with a foot-board in such a manner that the person operating the seat can exert a direct power in propelling the sled by pressing his feet on the foot-board and his back against the back of the seat, and by these means the sled can be propelled over rough or uneven surfaces if it should be desired.

To enable those skilled in the art to make and use my invention, I will proceed to describe it with reference to the drawings.

A represents the seat, which is suspended from two pivots, *a*, which have their bearings in from standards B, rising from sleigh-runners C. The seat is made of wood or any other suitable material, and the pivots *a* project from the middle of its sides near to their upper edges, so that a person sitting in the seat can rock conveniently backward and forward. The runners C are connected in front of the seat by a cross-bar, *b*, which also serves as a foot-board, and in the rear by a

cross-bar, *c*, and the standards *b* are of such a height that the person sitting in the seat can conveniently reach the foot board.

D represents a frame, which is hinged to the under surface of the seat near to its front edge by means of pivots and lugs, or in any other desirable manner. This frame ends in two pointed feet, *d d*, and it is of such a length that it stands in an inclined position when the feet touch the ground, as clearly shown in Fig. 1 of the drawings. If a rocking motion is imparted to the seat and the front edge of the same rises, the feet *d d* slide on the ground in a forward direction, and if now the front edge of the seat descends again, the points of the feet catch in the ice or snow, and the sled is propelled in the direction of the arrow marked on the runners in Fig. 1.

In propelling the sled by the feet *d d* the weight of the person or persons occupying the seat acts as propelling-power, and if this weight is not heavy enough to overcome the friction of the runners on the ground the forward motion of the sled stops.

E represents a frame similar to the frame D. This frame is suspended from the lower ends of two working-beams, F, which are secured to a rock-shaft, *f*, and it terminates in two pointed feet, *e*, which extend down to the ground in an inclined position, as clearly shown in Fig. 1 of the drawings. The upper ends of the working-beams F connect by means of rods *g* with the seat A, and these connecting-rods are attached to the working-beams by pivots *h* and to the seat by pivots *i*, so that they can readily adapt themselves to the varying positions of the seat. If an oscillating or rocking motion is imparted to the seat, and when the same swings in the direction of arrow 1, marked on it in Fig. 1, the working-beam is thrown in the direction of arrow 2, and the feet *e e* are drawn forward over the ground; but if the seat swings in the direction opposite to the arrow 1, the working-beams are moved in the direction opposite to arrow 2, and the feet *e e* are forced backward, so that they catch in the ice or snow, and thereby the sled is propelled. During this motion the person occupying the seat can exert a direct force on the feet *e e* by placing his or her feet on the foot-board and the back against the back of the seat, and in this way the sled can be forced over obstructions or up

hill on places where the weight of the person occupying the seat, as the same acts on the feet *d d*, would be unable to produce a forward motion of the sled.

By the combined action of the feet *d d e e* a very rapid motion can be imparted to the sled with comparatively little exertion of the operator, and if it becomes necessary or desirable to exert an extra power in propelling the sled over a rough or uneven surface the operator has it in his power to apply the same with advantage to the feet *e e*.

A simple contrivance, such as two tines placed in the foot-board so that they can be alternately or simultaneously depressed in the ground, may be applied to serve as a steering-gear or for the purpose of stopping the progress of the sled.

The whole device is very simple in its con-

struction. It can be made cheap, and its operation will prove to be an excellent and healthy exercise for both sexes.

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

1. The arrangement of one or more pointed feet, *d d*, in combination with the rocking-seat A of a sled constructed and operating as and for the purpose shown and described.

2. The arrangement of working-beams F, in combination with the hinged pointed feet *e e*, and with the rocking seat A and foot-board *b* of a sled constructed and operating substantially as and for the purpose specified.

JOHN WIARDA.

Witnesses:

TIMOTHY SHINE,
M. S. PARTRIDGE.