

J. R. HOUK & H. E. FERGUSON.

SWING.

No. 173,635.

Patented Feb. 15, 1876.

Fig. 1.

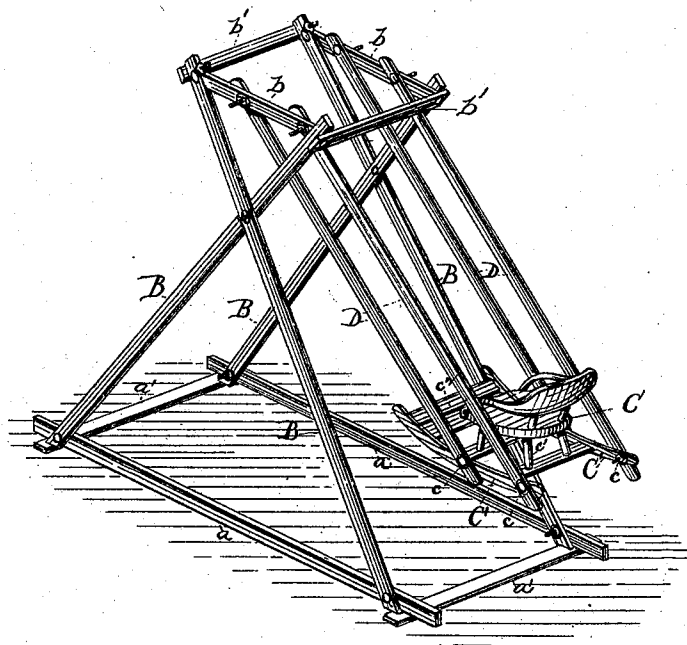


Fig. 2.

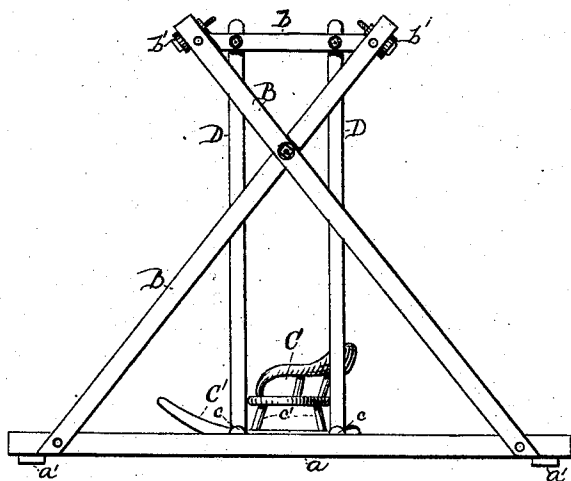
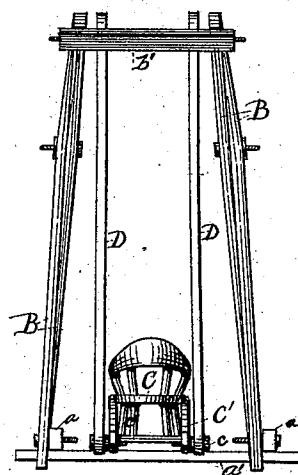


Fig. 3.



Attest:

R. T. Dyer.
Charles H. H. H. H.

Inventor:

Job. R. Houk.
Hiram E. Ferguson.
by Geo. W. Dyer

UNITED STATES PATENT OFFICE.

JOB R. HOUK AND HIRAM E. FERGUSON, OF WILLIAMSPORT, PA.

IMPROVEMENT IN SWINGS.

Specification forming part of Letters Patent No. **173,635**, dated February 15, 1876; application filed July 14, 1875.

To all whom it may concern:

Be it known that we, JOB R. HOUK, of Williamsport, in the county of Lycoming and State of Pennsylvania, and HIRAM E. FERGUSON, of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Swings; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object of our invention is the production of a swing, which can be easily operated by the person using it, especially adapted to be hung in a portable frame, the carriage of which swing shall be level at all positions of it, in use; and our invention therein consists in the peculiar means of supporting the carriage to the swing; and, further, in the peculiar construction of the frame, all as more fully hereinafter explained.

To enable others skilled in the art to manufacture our invention, we now proceed to describe the same in connection with the drawings, in which—

Figure 1 is a perspective view; Fig. 2, a side elevation, with the carriage at the limit of its motion in one direction; and Fig. 3, an end elevation of the whole device.

Similar letters denote corresponding parts in each figure.

A represents the base-frame, rectangular in form, composed of the side beams *a* and end pieces *a'*. This frame, in length, is about the same as the entire length of movement of the swing in both directions; but, in width, need not be more than one-third that extent. The beams *a* are secured to the end pieces *a'* by removable screw-bolts, or like contrivances, so as to be readily taken apart. The ends of the end pieces *a'* are beveled, so that the beams *a*, when secured to them, incline inwardly from bottom to top. As will be readily seen, the same effect can be produced by having the outside of the beams *a* beveled, and the ends of the pieces *a'* straight. To each beam *a* two pieces, B, are secured, either on the outside or inside, by removable bolts, or other well-known devices, one near each end of said beam. These pieces take an in-

ward incline, corresponding to the incline of the surface of the beams *a*, to which they are secured, and also inclined toward each other, cross at a point about three-fourths of their length, and are removably secured to each other at the point of intersection, or so secured that they will fold together. A bar, *b*, connects the upper ends of each set of pieces, B, and is removably secured thereto. These bars *b* run parallel to each other, and have their inner surfaces beveled to allow for the inward incline of the pieces B, so that the said inner surfaces will be vertical. Two cross-pieces, *b'*, connect the two sets of pieces B, and rigidly brace them the proper distance apart.

These pieces *b'*, must be made very strong, as the rest of the frame is intended to be manufactured of quite light timber, and consequently a great part of the strain will come on them. This frame is intended to be taken apart and packed for transportation, and forms also a portable support for the swings, so without being taken down it can be moved to different situations.

C is the seat to the swing, rigidly supported by braces *c'* upon side rails C'. The braces *c'* diverge from the seat to the side rails, which extend some distance to the front and rear of the seat. In front of the seat the side rails are connected by a board, *c''*, which serves as a support for the feet. D are four pendent rods removably pivoted at their upper ends to the inside of the bars *b*, two on each bar an equal distance apart, and take a vertical direction corresponding to the inside of said pieces. These rods run parallel to each other, and are pivoted at or near their lower ends by the studs or bolts *e* to the side rails C', which support the seat. These rods are pivoted to the side rails entirely in front, and behind the seat and near the extremities of the said side rails.

By having the rods parallel the seat of the swing is always kept on a level. To have the rods parallel the side rails *c'* must be about the same distance apart as the bars *b*, and consequently it is necessary to have the crossed pieces B inclined inwardly to give room for the movement of the swing.

It is necessary to have the rods pivoted to the side rails entirely in front and behind the

seat, so that the swing can be operated by a direct application upon the rods. The diverging braces *c'* are also necessary, so as to place the rods clear of the seat, and give room for the shoulders of the operator. This swing is more especially designed for house and veranda use, and is intended to be packed with and separated from the frame for transportation.

The person seated in the carriage grasps the two rods in front of him, and leaning forward, by a pull, moves the seat of the carriage nearer to such front rods, and consequently moves the rods out of a vertical position, then by pushing against the same rods on the return movement, and by the force of gravity, the carriage moves backward. Thus the swing can be started from a state of rest by a person seated in the carriage, while at all times he has perfect control over it, and can stop it very readily.

The seat of the carriage alway being parallel to the lower frame, or to the bars *b*, from which it is hung, is thus safer for very small children, who are liable to be pitched out in the swings as heretofore made.

Having thus described our invention and

some of its advantages, what we claim as new, and desire to secure by Letters Patent, is—

1. A swing composed of the following elements, viz, a seat supported on side rails, a pair of rigid parallel vertical rods, pivoted on each side to the side rails, near the extremities thereof, one wholly in front, and one wholly in the rear of the seat, and top pieces *b b*, to which the upper extremities of the rigid rods are pivoted, substantially as and for the purposes set forth.

2. A portable support for a swing adapted for packing for transportation, composed of the bottom frame *a a'*, the inwardly-inclined cross-pieces *B*, the side bars *b b*, and the transverse bars *b' b'*, the several parts constructed, arranged, and secured together, substantially as described and shown.

This specification signed and witnessed this 10th day of July, 1875.

JOB R. HOUK.
H. E. FERGUSON.

Witnesses:

E. ANDREWS,
J. C. NEYHART.