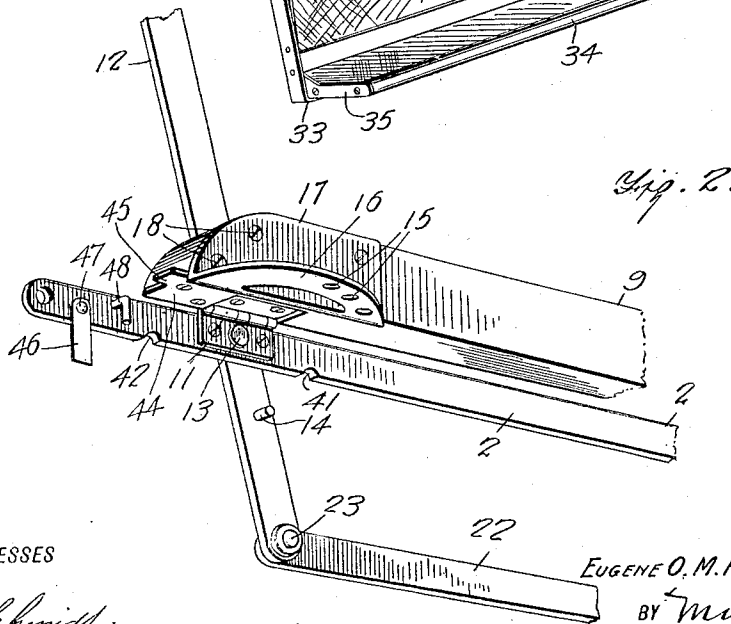
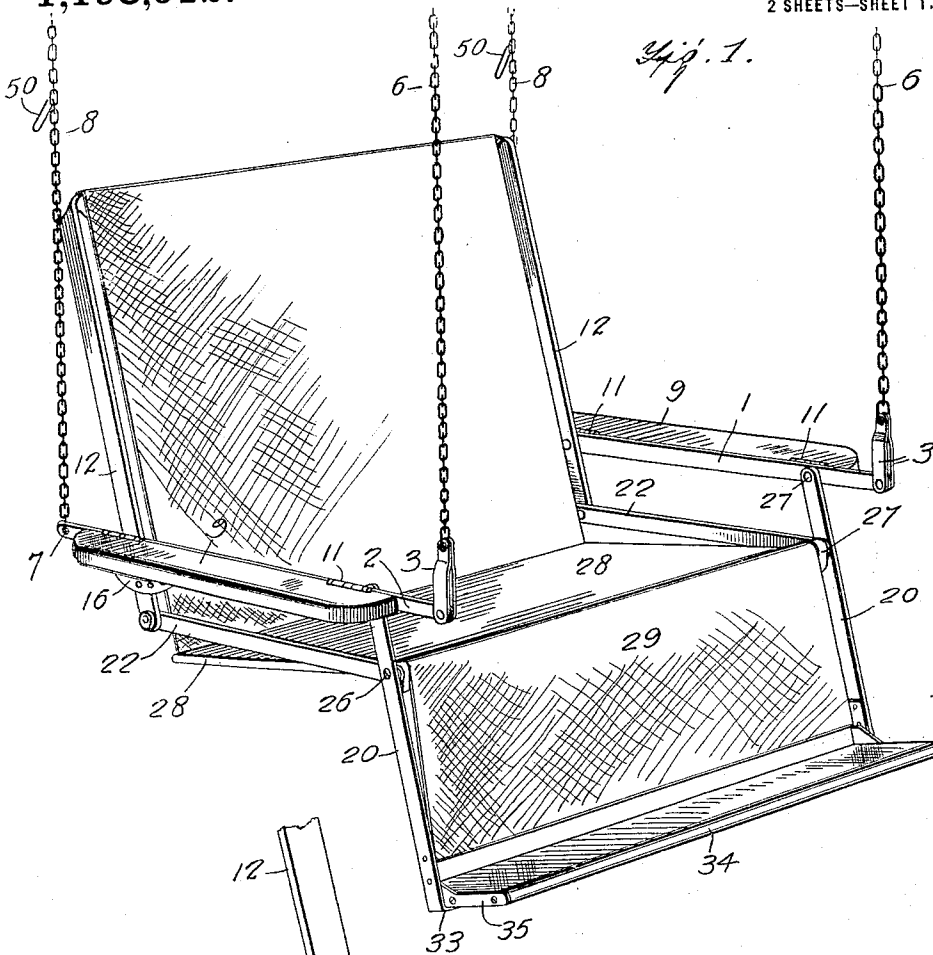


E. O. M. HABERACKER.
 SWING.
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2 SHEETS—SHEET 1.

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WITNESSES

L. H. Schmidt.
O. C. Travis

INVENTOR
 EUGENE O. M. HABERACKER,
 BY *Munn & Co.*

ATTORNEYS

1,198,912.

UNITED STATES PATENT OFFICE.

EUGENE O. M. HABERACKER, OF ALTOONA, PENNSYLVANIA.

SWING.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EUGENE O. M. HABERACKER, a citizen of the United States, and a resident of Altoona, in the county of Blair and State of Pennsylvania, have made certain new and useful Improvements in Swings, of which the following is a specification.

My invention is an improvement in swings, and has for its object to provide a swing of the suspended type, suitable for use on porches and in houses, rooms, or with other supports; and so arranged that the inclination of the back and the foot plate support with respect to the seat may be simultaneously changed at will by the occupant, and wherein latch mechanism is provided for holding the said parts in adjusted position, and which may be compactly folded so as to occupy but little space when not in use.

In the drawings: Figure 1 is a perspective view of the improved swing, Fig. 2 is a detail perspective view showing the latch mechanism, Fig. 3 is a central vertical section, Fig. 4 is a perspective view of a portion of the seat, Fig. 5 is a detail side view showing the latch mechanism, Fig. 6 is a section on the line 6—6 of Fig. 5, Fig. 7 is a detail side view of the foot plate connection, Fig. 8 is a front view of the same, Fig. 9 is an enlarged sectional view of the upper cross bar, and Fig. 10 is a perspective view of the swing when folded and suspended in vertical position.

The present embodiment of the invention comprises supporting plates or bars 1 and 2, arranged in approximately parallel position, and spaced apart laterally from each other. To the front end of each of the bars 1 and 2, a pair of straps 3 is pivoted, the said straps being arranged on opposite sides of the bar, and pivoted thereto by a rivet or bolt 4. The upper ends of the straps are offset inwardly into contact with each other, and are provided with registering openings, for engagement by flexible suspending members 6, the said members being chains in the present instance. The said chains are adapted for connection with a porch or house ceiling or other suitable support. The straps 3 in addition to their function as a connection between the chains and the bar are primarily adapted for use as handles for

elevating the folded swing into the position shown in Fig. 10.

At its rear end, each of the bars 1 and 2 is provided with an opening 7 for engagement by a flexible suspending member 8, the said members being also chains in the present instance. An arm rest 9 is hinged to each of the bars 1 and 2, the said rest being of wood or like suitable material, and each rest has the recesses 10, near its ends for receiving one of the leaves of a hinge 11, the other leaf of the hinge being secured to the adjacent plate or bar 1 or 2 in any suitable manner. Thus the arm rest may be turned upwardly, as shown in Fig. 2, above the adjacent bar 1 or 2, or the said rests may be turned down into position with the inner edge abutting the outer edge of the bar 1 or 2, as the case may be, as shown in Figs. 1 and 6.

Lever 12 are pivoted to the bars 1 and 2 near the rear ends of the said bars, and near the lower ends of the levers, by means of rivets 13, the said rivets being passed through the levers 12, the bars 1 or 2 and the hinge leaf of the hinge 12 which is secured to the said bar, as shown more particularly in Figs. 2 and 6. Each of the levers 12 is provided below the bar 1 or 2, with a laterally extending pin 14, and the said pin is adapted to engage one of a series of openings 15 in a sector 16 secured to the adjacent arm rest.

Each of the sectors 16 is one of the portions of an angle plate, whose other portion 17 is secured to the under face of the arm rest, as shown in Fig. 2, by means of screws 18, or the like. It will be evident that when the arm rest is in normal position, as shown in Fig. 6, the sector 16 will engage one of its openings with the pin 14, to prevent swinging movement of the lever with respect to the supporting bar or plate.

The upper ends of the levers are connected by a cross bar 19, the said bar being arranged with its wide dimension parallel with the long axis of the levers. A lever 20 is pivoted to each of the supporting bars or plates 1 and 2, near the front end of the said bar or plate, by means of a rivet 21, the rivets being passed through the upper ends of the levers 20, the bars 1 or 2, and the hinge leaf of the front hinge 11, which is secured to the said bar, as shown in Figs.

1 and 3, and a link 22 connects the lower end of each of the levers 12 with the adjacent lever 20, each of the said links being pivoted to the lever 20 at the front end of the link, and near the upper end of the lever.

At its rear end each of the links 22 is connected to the lower end of the adjacent lever 12, by means of a rivet 23, the rivet being passed from within outward, and being headed outside of a washer 24, the function of which is to be presently described. A roller 25 is arranged between the front ends of the links 22, the said roller being engaged by screws 26 which are passed through the levers 20 and the links 22, and into engagement with the ends of the roller. The roller is engaged at its ends by loops or stirrups 27, and each stirrup is connected to a seat plate 28 at the front edge and near the end of the plate. The function of the said loops or stirrups will appear later. The seat plate is thus mounted to swing at its front edge on the roller, and the said plate is supported by means of a flexible strip 29 of fabric material, and of sufficient length to extend from near the lower ends of the levers 20, over the roller 25, beneath the seat plate, and from the rear edge thereof upwardly to the cross bar 19. In its attachment to the cross bar 19, the end of said flexible strip passes from the lower rear edge of said bar upward and forward around the upper edge of the bar and downward on the front of the same, and a thin metallic U-shaped member or clip 30 which fits over the upper edge of said bar, is pressed down over said cloth and bar and secured thereto; said flexible strip passes backwardly under said bar, thence upward and forward over the upper edge and over the U-shaped member, thence downward to and under the rear edge of the seat and forward under said seat and over the top of the roller 25, thence downward to the cross bar 31 which connects the levers 20 near their lower ends and to which said strip is attached by fitting a metallic U-shaped member over said cloth and bar, substantially as the same was attached to the upper cross bar 19. This connection is shown in Fig. 3, and more particularly in Fig. 9, and it will be evident that by wrapping the said flexible strip in the manner described, it will be held firmly in place. The said strip is of a width equal to the full length of the seat.

Since the seat 28 is supported by the elastic fabric material, it is evident that the weight of the occupant, resting mainly upon the rear edge of the seat, will cause the tension of the cloth to raise the front edge of said seat, and it is the function of the before mentioned loops or stirrups 27 attached to the seat 28, to limit the upward movement of the said seat to the level of

the roller bar 25, so that there may be no offset to annoy the occupant. When the seat is turned over so that it rests upon the cloth between the foot supports, as when the swing is in a horizontal position, and when it may be used as a hammock, bed, or couch, the tension of the cloth raises the reverse side of the seat to a level with the roller bar, and there is no offset on the other side of said bar. The bottom of the loop or stirrup 27 engages under the roller 25, and the top of the loop projects above the bar in either case. The lower ends of the levers 20 are connected by an integral cross bar 33, and a foot plate 34 is connected to the levers just above the cross bar.

A plate 35 is secured to each end of the foot plate, and each of the said plates is provided with a longitudinally extending pin 36 near its rear end, the said pin engaging an opening in the lower end of the adjacent lever 20, to hinge the plate and the foot plate to the said lever. Each plate 35 is provided with an upward and rearward extension 37 at its rear end, and each of the said extensions has a lateral lug 38 for engaging behind the adjacent lever 20, to normally hold the foot plate at right angles to the levers 20.

The cross bar 31, before mentioned, is held in slots 39 in plates 40 which are secured to the inner faces of the levers 20 just above the foot plate. Said bar is made detachable and may be removed from said slots at will, when by turning the same and wrapping the fabric material by one or more turns around said bar and replacing the same, the tension of the cloth may be regulated to any desired degree. The foot plate 34 may be swung upwardly into the plane of the levers 20, or at right angles thereto, as shown in Figs. 1, 3, 7 and 8. Each of the supporting bars or plates 1 is provided in its lower edge, and on opposite sides of the adjacent lever 12, with notches or recesses 41 and 42 respectively, the said notches or recesses being adapted for engagement by the pin 14 of the adjacent lever 12, to limit the swinging movement of the said lever with respect to the supporting bar or plate. When the pin engages the front notch 41, the movement of the seat and back into reclining position is checked, while the forward movement of the upper end of the back is checked by the engagement of the pin with the notch or recess 42.

The washers 24 perform the same function as the pin 14 and the notches 41 and 42, namely, the function of limiting the swinging movement of the levers 12. Each of the arm rests 9 has a plate 44 secured to the side edge thereof at its rear end, and each plate is provided with a lug 45 extending rearwardly beyond the arm rest.

The lug is adapted for engagement by a flat lock spring 46, hinged to the adjacent bar 1 or 2, in such manner as to be laterally movable under the rivet head, as indicated at 47. An angular stop 48 extends outwardly from the adjacent supporting bar for limiting the outward movement of the spring 46, and with it, the outward movement of the sector 16 to the point of disengagement of the openings 15 of said sector, or the angular sector plate 17 as the case may be, from the locking pin 14 on the lever 12. When the arm rest 9 is swung downwardly into normal position, and the spring 46 is shifted into engagement over the lug 45, the mechanism by action of the spring 46 will be securely locked whenever the pin 14 is in engagement with either opening of the sector 16 or with the recess behind the angular plate 17 at notch 41 or 42.

In use, the occupant may swing the seat proper, constituted by the back, the foot support and the seat, into any desired position, as shown in dotted lines in Fig. 3, merely by swinging the arm rests 9 slightly upward to the limit allowed by the angular stop 48, as indicated in dotted lines in Fig. 6. This movement of the arm rest releases the pin 14 from the opening of the sector with which it is engaged, to permit the seat proper to swing into another position; as soon as the arms are released and another opening of the sector engages with the pin 14, the parts will be locked in adjusted position. But when the swing is opened to the extreme limit of extension, and the three planes formed by the back, the foot support and the seat lie in approximately the same horizontal plane, the washer 24 performs the same function as the locking pin 14 by engaging under the supporting arm 1 or 2, while at the same moment said pin 14 engages in the recess behind the angular sector plate at the front notch 41, and the action of the spring 46, locks the parts in this extended position.

It is evident that the pin 14 in engagement with the sector openings limits the swinging movement of the seat with respect to the supporting bars 1 and 2, as regulated by the sector openings, and that in the further backward or opening movement of the swing the washer 24, in engagement under the supporting arm and the pin 14 in engagement at the notch 41, check further movement in that direction. The forward movement of the upper end of the back is finally checked by engagement of the pin 14 in the recess behind the angular sector plate at the rear notch 42. When the above mentioned planes lie in an adjoining and approximately parallel and horizontal position and the several parts are folded in the smallest compass. On grasping the straps or handles

3 adapted for that purpose, the entire device in the folded and locked position just mentioned, may be raised into the vertical plane, and the movable links 50, provided for the purpose and attached to the rear supporting chains, may be adjusted over the ends of the supporting bars and the pivoted ends of said straps, and when the foot plate or step 34 is swung upward into the plane of the levers 20, the swing is secured in the vertical position, as shown in Fig. 10.

It will be evident from a consideration of the description and the drawing, that the improved swing dispenses with braces of all characters, set screws, ropes, pulleys, and like devices ordinarily employed in swings of the character in question. The improved swing is so arranged that it may be locked and held automatically in any desired position. In addition, it may be folded up, as for instance at night, or on the approach of a storm, and hung upon the wall out of the way. The improved swing is especially adapted for use in bed rooms or winter sitting rooms, and the adjustment throughout is automatic.

I claim:

1. A swing of the character specified, comprising a pair of laterally spaced approximately parallel supporting bars, a back support, and a foot support pivoted between the bars, a connection between said back and foot supports for constraining them to swing in parallel planes, arm rests hinged to the respective bars at the outer sides thereof and mounted for swinging movement upwardly with respect to the bars, a sector depending from the inner side edge of each arm rest, said sector having spaced openings, and the back supports having a lateral pin adjacent each sector for engaging the openings.

2. In a swing of the character specified, the combination with the supporting bars, of a back support pivoted between the bars near their rear ends, a foot support depending from the bars near their front end, a connection between the said supports for constraining them to swing in parallel planes, and releasable latch mechanism for holding the said supports in adjusted position with respect to the bars, said mechanism comprising an arm rest hinged to each supporting bar at the outer side thereof for swinging movement with respect to the bar, a sector having spaced openings depending from the inner edge of the rest and adapted to swing toward and from the adjacent side edge of the back support, said support having a pin adjacent to each sector for engaging one of the openings.

3. In a swing of the character described, the combination with the supporting bars, of a back support pivoted between the bars near their rear ends, a foot support pivoted

to and depending from the bars near their front ends, a connection between the said back and foot supports for constraining them to swing in parallel planes, and an
5 arm rest adjacent each supporting bar, said back support and said arm rests having relatively engaging means whereby to lock the said supports in adjusted position, and

said arms being hinged to the supporting bars and movable to connect and disconnect 10 said engaging means.

EUGENE O. M. HABERACKER.

Witnesses:

DAVID J. DAVIS,
JOHN S. MINSTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."