

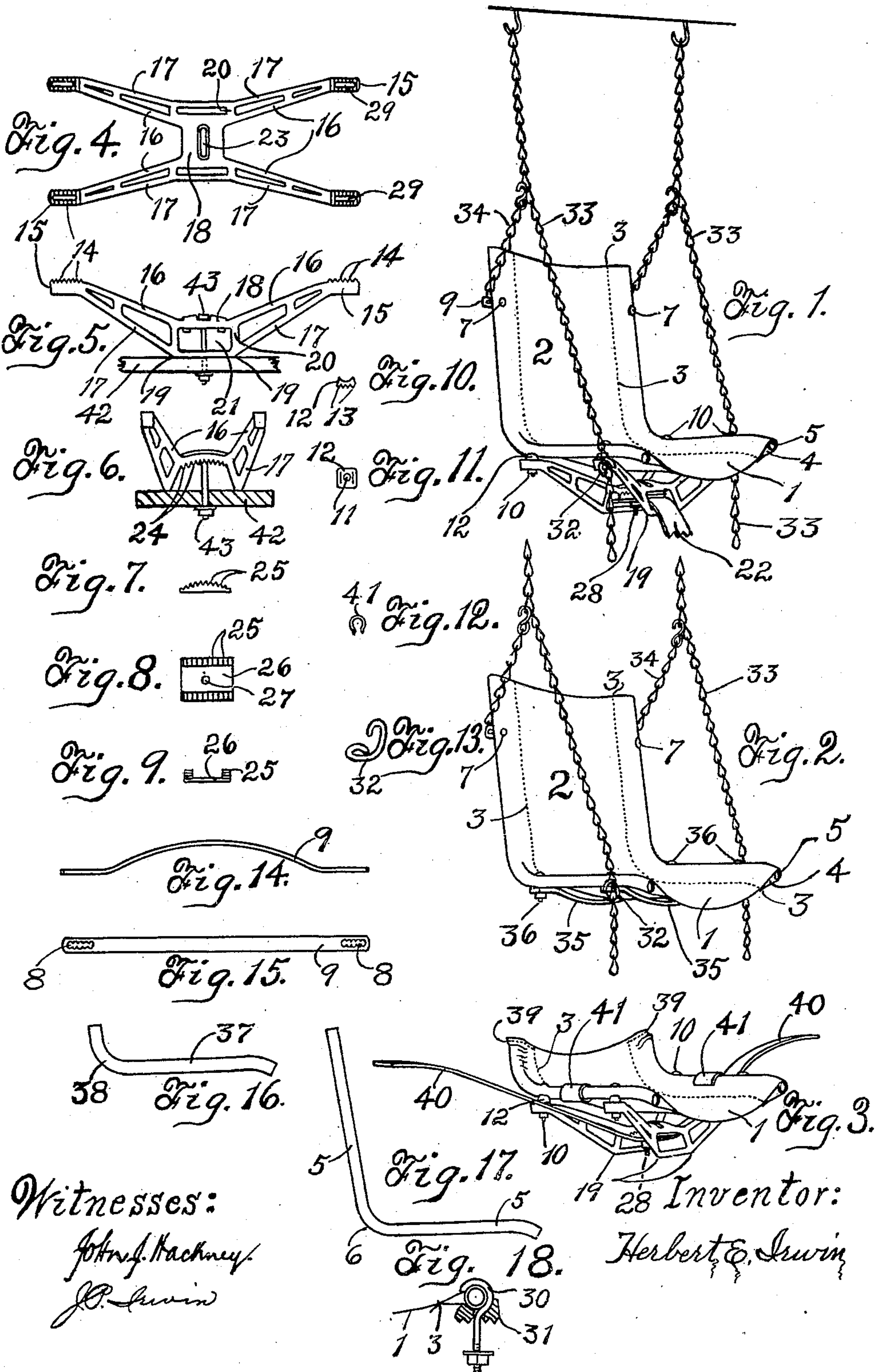
H. E. IRWIN.

SEAT.

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946,225.

Patented Jan. 11, 1910.



UNITED STATES PATENT OFFICE.

HERBERT E. IRWIN, OF GALESBURG, ILLINOIS, ASSIGNOR OF ONE-HALF TO J. PAUL IRWIN, OF GALESBURG, ILLINOIS.

SEAT.

946,225.

Specification of Letters Patent.

Patented Jan. 11, 1910.

Application filed March 15, 1909. Serial No. 483,566.

To all whom it may concern:

Be it known that I, HERBERT E. IRWIN, a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented a new and useful Seat, of which the following is a specification.

My invention relates to improvements in seats, which consist in the arrangement of parts and details of construction, as will be hereinafter fully shown in the drawings and described and pointed out in the specification.

The primary object of my invention is to construct a seat which furnishes a hygienic as well as an easy and comfortable support for the person using it.

A further object of the invention is to construct a seat adapted for use upon agricultural riding implements.

Another object of this invention is to produce a seat which is adjustable both as to width and tilt.

A further object of my invention is to construct a seat which is adapted for use as a swinging seat or chair.

Still another object of the invention is to construct a seat which is adapted to be supported upon a board or flat surface.

These and such other objects as may hereinafter appear are attained by the devices illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the seat in position for use. Fig. 2 is a similar view of a modified construction of the seat, and Fig. 3 a like view of the seat with the larger part of the back removed. Fig. 4 is a plan view of the frame casting; Fig. 5 a front elevation and Fig. 6 a side elevation of the same casting; Fig. 7 a side elevation of adjustable plate 26; Fig. 8 a plan view of the same plate, and Fig. 9 a front elevation of the adjustable plate; Fig. 10 a front elevation of notched washer 12, and Fig. 11 a plan view of the same washer; Fig. 12 an end view of spring clasp 41; Fig. 13 a perspective view of hook 32; Fig. 14 a plan view of connecting member 9, and Fig. 15 a side elevation of same member; Figs. 16 and 17 side elevations of frame members 37 and 5 respectively; and Fig. 18 a view showing a clamping bolt in side elevation with notched washer 31 and frame member 5 in cross section.

Similar figures indicate similar parts throughout the several views.

Flexible fabric or covering 1 and 2 designate the bottom and back respectively of the seat or chair, the outer edges of the fabric or covering being sewed at 3 forming loops 4, the upper openings of which are closed by stitches 39 so that pipes 5 are inserted in the lower openings of the loops until they abut against the stitches which prevent the fabric from slipping down the pipes. Pipes 5 are bent in an L shape at 6 and constitute the side members of the seat, as shown in Figs. 1 and 2. These pipes are provided with holes in their upper portion adjacent to which are perforations in fabric or covering 2, and through these perforations in the fabric and holes in the pipes pass bolts 7, which also pass through serrated slots 8 in connecting member 9, which is adapted to rigidly join the upper portions of pipes 5. Connecting member 9 may have a series of holes in its ends but is preferably constructed with serrated slots, and is curved rearwardly so that the fabric will not come into contact with it when the seat is in use.

In the lower portion of each of pipes 5 are two holes, adjacent to which are perforations in fabric or covering 1, and through these perforations in the fabric and holes in the pipes pass bolts 10, which also pass through holes 11 in washers 12, the upper faces of which are curved and adapted to support the frame pipes 5, and the lower surfaces are provided with notches 13, which rest upon corresponding notches 14 on the upper faces of the outer ends or heads 15, which extend into arms having upper branches 16 and lower branches 17. The upper branches 16 extend downwardly from the heads 15 and join integrally a central member 18, and the lower branches 17 also extend downwardly to 19, and then horizontally from 19 to 19, being continuous from one side to the other. The branches 16 and 17 are connected by supports 20, the inner pair of which with the central member 18 and horizontal portion 19 to 19 form an open space 21 through which passes leaf spring 22, which is common to agricultural riding implements. Central member 18 is formed in a curve with a slot 23 therein and a series of notches 24 on the under surface of each side thereof which engage a series of notches 25 on the upper surface of each side

of adjustable plate 26, which is provided with a flat base adapted to rest upon the upper surface of leaf spring 22. Adjustable plate 26 has a central hole 27 that is arranged to be adjacent to a hole in the leaf spring whereby bolt 28 passing through slot 23 with its head resting upon shoulders formed thereon, hole 27, and the adjacent hole in the leaf spring secures the seat to the leaf spring. Heads 15 are provided with slots 29 therein through which operate bolts 10, which secure pipes 5 to the supporting means of the seat. Bolts 10 may be substituted by clamping bolts 30, which instead of passing through fabric 1 and holes in pipes 5 hook over that portion of fabric 1 which envelops pipes 5 and pass through holes in washers 31, which are adapted to rest upon heads 15 in the same manner as washers 12. Hooks 32 are securely held in position by the forward bolts 10 and they are so arranged as to engage any link of chains 33 which are suspended from ceiling hooks. One end of chains 34 is provided with hooks adapted to engage a link of chains 33 whereas the other end is secured to bolts 7.

In Fig. 2, 35 represent lower connecting members, which are similar in construction and shape to upper connecting member 9, and they also have a serrated slot therein at the ends thereof and their curved portions extend downwardly. The hooks 32 are secured beneath the ends of the forward connecting members 35 by bolts 36 which pass through the perforations in fabric 1, the holes in pipes 5 and the serrated slots in the ends of the connecting members 35. Fig. 3 shows a modification of the seat with pipes 37 as the side members, which are bent upwardly at 38 and are inserted in loops 4 from below until they abut against stitches 39, which close loops 4 at the top. Supporting strap 40 extends transversely of the seat and is secured beneath plate 26 in like manner to that of leaf spring 22. Spring clasp 41 is adapted to clasp fabric 1 over the side frame member in order to protect the fabric against supporting strap 40. Figs. 5 and 6 show the horizontal portions 19 to 19 of branches 17 resting upon board 42 and secured thereto by means of bolt 43.

At the present time riding implements are equipped with seats of the hard metal pattern affording no back rest whatever. My seat is adaptable to almost any kind of riding implement, and it may also be converted into other uses as well. There is a growing need for a seat that has a general adaptability to riding implements, that is adjustable, sanitary and which at the same time makes riding easy and healthful. To ride all day on a metal seat, and usually over rough ground, not only causes the driver much discomfort and weariness but also is injurious to his health. My seat is

intended to permit the person using it to fully relax and to be supported in a comfortable and hygienic position. To this end I use a fabric or other flexible covering for the seat and back, the edges of which are formed into loops for the reception of side frame members which are L shaped. In the upper portion of the side frame members are holes and adjacent to them are perforations in the fabric or covering for the insertion of bolts, which also pass through serrated slots at the ends of a member which connects the upper portions of the side frame members and rigidly holds them a given distance apart. When it is desired to make the back portion of the seat wider or narrower the bolts are removed from the connecting member and inserted in the serrated slots farther apart or closer together as the case may be. The upper connecting member is preferably constructed with its outer portions flat and its inner portions curving rearwardly. This permits the back of the operator to be supported without coming into contact with the connecting member.

The means I have devised for supporting the seat consist of two pairs of arms extending substantially transversely to the seat. Each arm consists of two parts—an upper branch and a lower branch. The upper and lower branches are connected at intervals by supports which maintain the position and strength of the two branches. The upper branches extend downwardly from the outer heads and join a central member which is slightly convex and which has on its under surface a series of notches on each side thereof parallel to the slot formed therein. The lower branches of each pair of arms also extend downwardly to a given point and then horizontally till they meet. There are two reasons for dividing the supporting arms into two parts or branches, one of which is that it makes a stronger construction and the other that it permits the seat to be nearer to the leaf spring with a minimum amount of material inasmuch as the leaf spring passes below the central member to which the upper branches of the arms are connected and above the horizontal portions of the lower branches of the arms. To build the supporting means entirely above the leaf spring would require considerably more material to give the proper strength thereto or extend the seat higher above the leaf spring. As the metal seats now in use upon such springs have a flat base which rests upon the leaf springs it has been my purpose to construct a seat which will approach the spring as closely as possible in order that the present foot levers may be easily and conveniently operated.

The leaf springs on many implements become sprung in use or differ as to pitch and

in order to readily apply my seat to all such springs I have devised an adjustable means for controlling the tilt of the seat, which consist of a plate adapted to rest upon the leaf spring and having two convex rows of notches on its upper surface arranged to engage similar concave notches on the under side of the central supporting member, which on account of the slot formed therein may be inclined backward or forward to any desired position and then securely locked to the plate by means of a bolt operating through the slot in the central supporting member and a hole in the plate and leaf spring.

It is highly desirable to have the seat adjustable in regard to width inasmuch as the fabrics or coverings constituting the back and bottom of the seat may vary slightly in width, and furthermore all textile fabrics stretch more or less so that it is essential that this sag in the fabric should be taken up. At the outer ends of the supporting arms I provide slots, on each side of which are notched surfaces as shown in Fig. 5. The notched surfaces on the under sides of washers 12 engage the notches 14 and when the nuts on bolts 10 are loosened the washers may be pushed outward or inward and the distance between the side frame members thereby increased or diminished. The same results are attained in the lower connecting members 35 by means of series of holes or serrated slots at their ends. In this case bolts 36 may engage any one of the holes or serrations in the series and thereby determine the distance between the side frame members. The seat is also provided with hooks which are secured to the bolts which operate through the forward holes in the base of the side frame members. The links of two short chains having hooks on their outer ends are secured to the bolts that operate through the holes in the upper portion of the side frame members, so that by engaging suspending chains with the hooks secured to the bolts operating through the forward holes in the base of the side frame members and with the hooks on the ends of the shorter chains the seat may be converted into a swinging seat or chair, and the height from the floor and the tilt of the seat easily and quickly determined.

On account of the flexibility of the transverse supporting strap 40 it is desirable to use protectors, which are preferably in the form of spring clasps, so that the fabric that surrounds the side frame members will not be chafed when the seat is in use. Also owing to the flexibility of strap 40 the larger portion of the back part of the seat cannot be used to advantage and I have, therefore, cut off the side frame members as shown in Fig. 16. In order to hold the upper portion of the fabric, as shown in Fig.

3, in place I have closed the upper ends of the loops 4 by means of stitches 39. The fabric is therefore prevented from slipping down the side frame members.

The horizontal portions 19 to 19 of the lower branches of the supporting arms are arranged to rest upon a board or the like, as shown in Figs. 5 and 6, and by boring a hole through the board bolt 43 maintains the seat in position thereon.

My invention is in the nature of an improvement upon that set forth in the patent granted jointly to myself and J. Paul Irwin May 4, 1909, No. 920,873; and I do not claim as new the side frame members of the seat or swing with the textile fabric or covering secured thereto, excepting insofar as other elements are used in connection therewith, which have been hereinbefore fully set forth and described.

It is obvious that the seat is capable of adaptation to many uses and it will be understood that said seat is susceptible of changes in the form, proportion, and minor details of construction which may be accordingly resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. A seat or swing consisting of side frame members, a flexible fabric or covering 1 secured thereto, connecting means located beneath said flexible fabric or covering 1, joining means adapted to slidably secure said connecting means to said side frame members whereby the said side frame members may have a lateral movement toward or away from the ends of said connecting means, substantially as described.

2. A seat or swing consisting of side frame members, a flexible fabric or covering 1 secured thereto, connecting means located beneath said flexible fabric or covering 1 adapted to join said side frame members, the said connecting means being provided with a slot or series of holes extending transversely to the said side frame members, and means adapted to operate in said slot or series of holes whereby the width of the seat or swing may be changed, substantially as described.

3. A seat or swing consisting of side frame members, a flexible fabric or covering secured thereto, connecting means located beneath said seat having slots or a series of holes extending transversely to the said side frame members, and means adapted to operate in said slots or series of holes and secure said connecting means to the said side frame members, whereby the width of the seat may be changed, substantially as described.

4. A seat or swing consisting of side frame members, a flexible fabric or covering secured thereto, a connecting member having

slots or a series of holes at the ends thereof formed transversely to the said side frame members, and means adapted to operate through said slots or series of holes and connect the said connecting member with the side frame members, whereby the width of the seat or swing may be differed, substantially as described.

5. A seat or swing consisting of side frame members substantially round in cross section, a flexible fabric or covering 1 having loops formed on the sides thereof adapted to receive the said side frame members, and connecting means located beneath said flexible fabric or covering 1 and provided with concave surfaces on the outer ends thereof, the said concave surfaces being adapted to support said side frame members, the said flexible fabric or covering 1 being intermediate of said side frame members and said concave surfaces, substantially as described.

6. A seat or swing consisting of side frame members substantially round in cross section, a flexible fabric or covering 1 having loops formed on the sides thereof adapted to receive said side frame members, connecting means located beneath said flexible fabric or covering 1, and members having concave surfaces on the upper sides thereof adapted to support said side frame members, said members being intermediate of said flexible fabric or covering 1 and said connecting means, substantially as described.

7. A seat or swing consisting of side frame members, a flexible fabric or covering 1 secured thereto, connecting means located beneath said flexible fabric or covering 1 and adapted to be slidably attached to intermediate members, said intermediate members being secured to said side frame members by means of bolts or the like, substantially as described.

8. A seat or swing consisting of side frame members, a flexible fabric or covering 1 secured thereto, connecting means located beneath said flexible fabric or covering 1, said connecting means being secured to said side frame members by bolts or the like, and members intermediate of said connecting means and the said side frame members, said members being provided with means for changing the width of the seat or swing, substantially as described.

9. A seat or swing consisting of side frame members, a flexible fabric or covering secured thereto, connecting means located beneath said flexible fabric or covering 1 and notches thereon at the outer ends thereof, washers having holes in the center and notches on the under side thereof, said notches on the under side of said washers being adapted to engage said notches on the upper surfaces of the said outer ends, and

means engaging said side frame members adapted to operate in the holes in said washers and in the said slots, substantially as described.

10. A seat or swing consisting of side frame members, a flexible fabric or covering 1 secured thereto, connecting means located beneath said seat having slots or holes at the outer ends thereof adjacent to the side frame members, and clamping bolts adapted to overhang said fabric 1 and the side frame members, and engage the said connecting means by passing through said slots or holes adjacent to said side frame members, substantially as described.

11. A seat or swing consisting of substantially L shaped frame members, a flexible fabric or covering 2 secured thereto, connecting means located back of said flexible fabric or covering 2, joining means adapted to slidably secure said connecting means to said substantially L shaped frame members whereby the substantially L shaped frame members may have a lateral movement toward or away from the ends of said connecting means, substantially as described.

12. A seat or swing consisting of substantially L shaped frame members, a flexible fabric or covering 2 secured thereto, rigid connecting means located back of said flexible fabric or covering 2, said rigid connecting means being provided with adjustable means for differing the width of the top of the seat or swing, and means for supporting said seat or swing, substantially as described.

13. A seat or swing consisting of substantially L shaped frame members, a flexible fabric or covering 2 secured thereto, rigid connecting means located back of said flexible fabric or covering 2 and having therein slots or a series of holes extending transversely to the said substantially L shaped frame members, means adapted to operate in said slots or series of holes and secure said rigid connecting means to the said substantially L shaped frame members, and means for supporting the said seat or swing, substantially as described.

14. A seat or swing consisting of substantially L shaped side frame members, a flexible fabric or covering 2 secured thereto, rigid connecting means located back of said flexible fabric or covering 2, said connecting means being curved rearwardly and having serrated slots or a series of holes in the ends thereof formed transversely to the said substantially L shaped side frame members, means for engaging said serrated slots or series of holes and securing said connecting means to the said substantially L shaped side frame members, and means for supporting the said seat or swing, substantially as described.

15. A seat or swing consisting of side

frame members, a flexible fabric or covering secured thereto, supporting means having arms thereon extending substantially transversely to the said side frame members, 5 each of said arms having an upper and lower branch, the said upper and lower branch of each of said arms being connected with supports 20, and means for connecting the said arms with the said frame mem- 10 bers, substantially as described.

16. A seat or swing consisting of side frame members, a flexible fabric or covering secured thereto, supporting means having 15 four arms thereon extending substantially transversely to the said side frame members, each of said arms having an upper and lower branch, the said upper branches converging in a central member 18 and the two forward and two rearward said lower branches join- 20 ing and forming horizontal planes 19 19 midway thereof, and means for connecting

said arms with the side frame members, substantially as described.

17. A seat or swing consisting of side frame members, a flexible fabric or covering 25 secured thereto, supporting means consisting of arms extending substantially transversely to the said side frame members and being secured thereto at the outer ends thereof, said arms joining or converging in a central 30 member 18 having a slot 23 therein extending substantially at right angles to the said arms, and means adapted to operate in said slot whereby the seat is adjustably main- 35 tained in position, substantially as de- scribed.

In testimony whereof I affix my signature in presence of two witnesses.

HERBERT E. IRWIN.

Witnesses:

IRA E. FRITZ,

C. H. BROWN.