

E. V. LEWIS.
SWING.

APPLICATION FILED JULY 6, 1909.

Patented Nov. 23, 1909.

2 SHEETS—SHEET 1.

941,081.

Fig. 2.

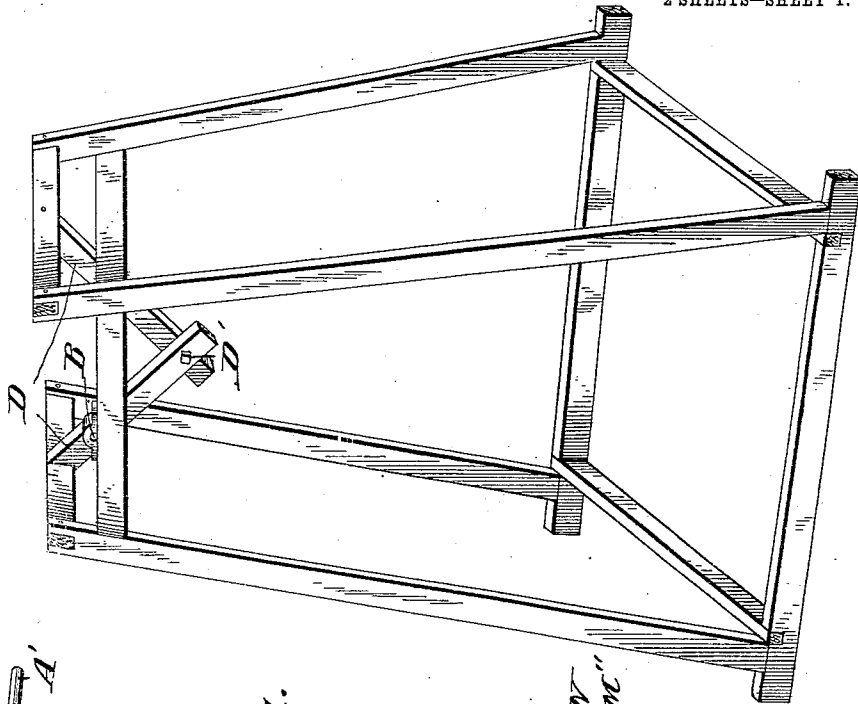
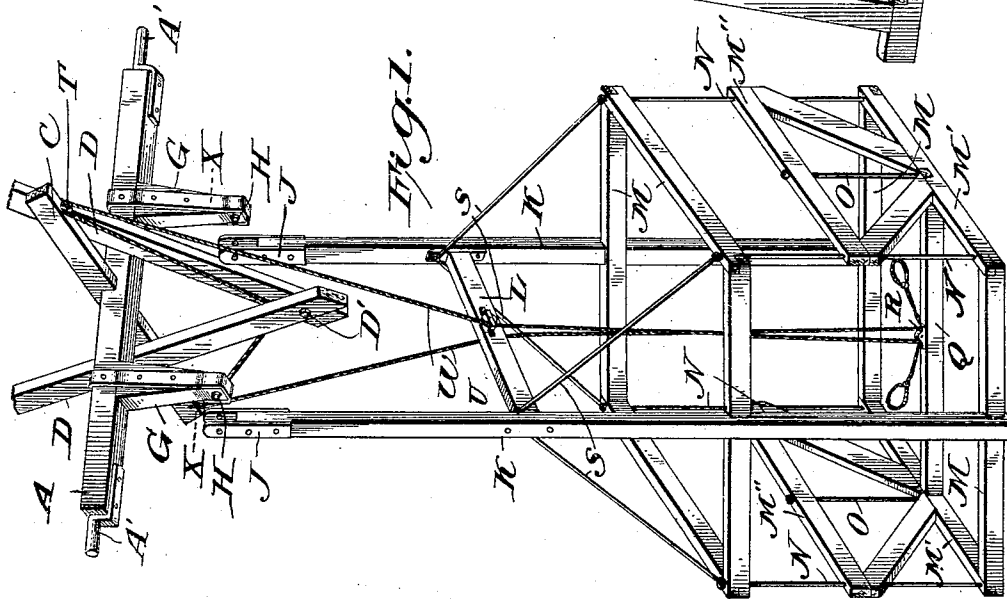


Fig. 1.



Witnesses:

Frank Hauke.
A. A. Huebner

Inventor:

Edwin V. Lewis
per
Francis C. Huebner
Attorney.

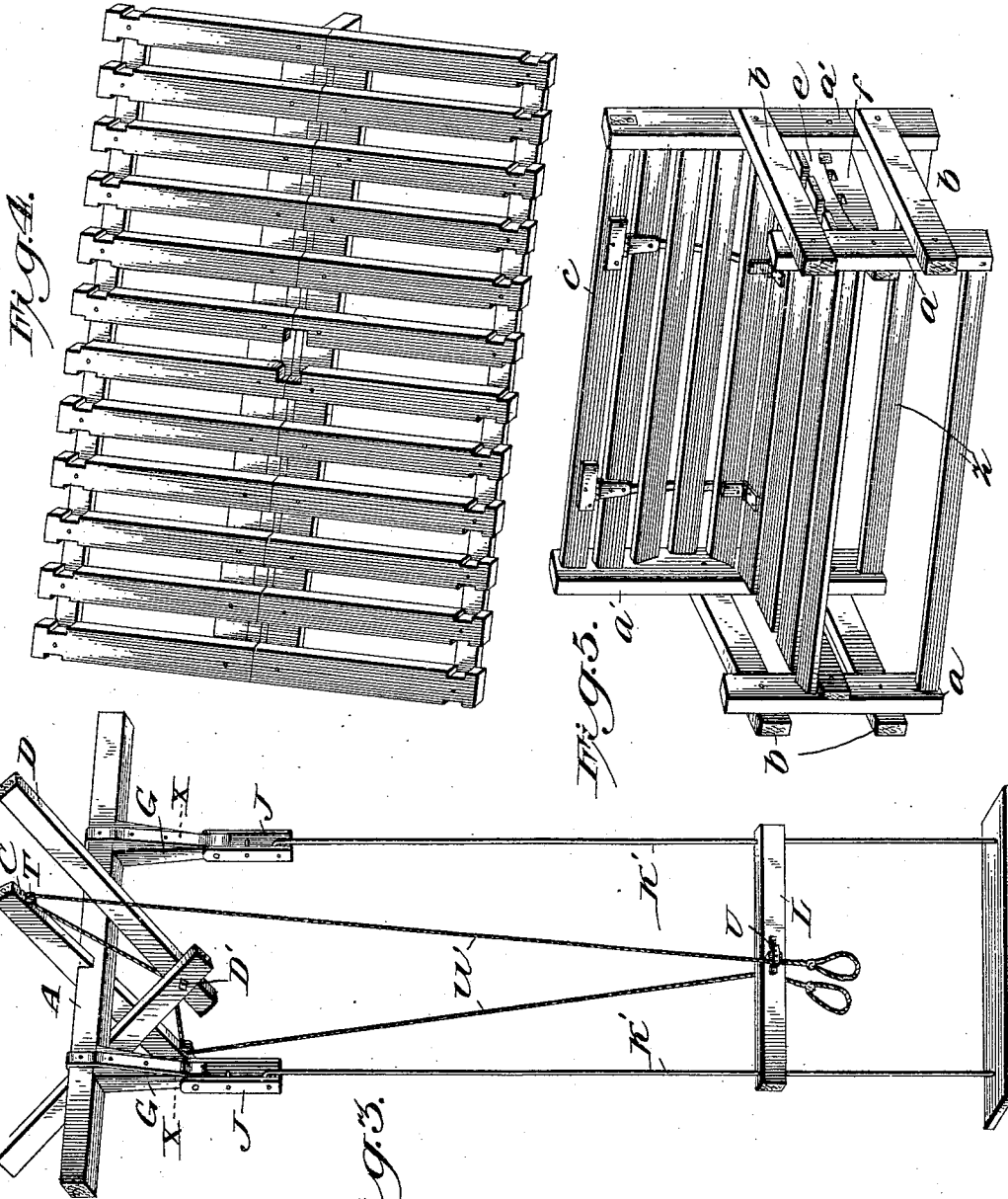
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Witnesses:

Frank Hauke,
a. a. Schubert

Fig. 3.

Inventor:

Edwin V. Lewis
per
Francis C. Schubert,
Attorney.

UNITED STATES PATENT OFFICE

EDWIN V. LEWIS, OF FRESNO, CALIFORNIA.

SWING.

941,081.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed July 6, 1909. Serial No. 506,334.

To all whom it may concern:

Be it known that I, EDWIN V. LEWIS, a citizen of the United States, residing in the city of Fresno, county of Fresno, and State of California, have invented a new and useful Swing, of which the following is a specification.

The said invention has for its object an easy method for the occupant to propel the same, a light and strong cage in which to place the seats, adjustable seats which can be easily removed, and which when placed into position are firmly fixed to the floor of the swing.

With these and other objects in view I have constructed my swing as follows:

In the accompanying drawing, Figure 1 shows the shaft supporting the swing, together with the swing cage detached; Fig. 2 is a view of the supporting framework; Fig. 3 is the shaft with a rope swing substituted for the cage; Fig. 4 is the floor of the swing cage, and Fig. 5 is an adjustable seat for the swing.

I have constructed a supporting frame as shown in Fig. 2 of sufficient strength to bear any weight which the swing is intended to carry, having shaft A (shown in Fig. 1) which works at either end in bearing B. (Fig. 2.) In my construction I prefer to have shaft A of strong light wood, terminating at the ends with metal axles as shown in A' in Fig. 1. At, or near the middle of said shaft A lever C is securely attached at right angles to, and extending equidistant on either side of shaft A. Strips of wood or metal D are fastened securely to the cross-pieces on the upper part of the frame as shown in Fig. 2, the other ends of which are fastened together to form a V the angle of which may vary in different constructions, and the vortex of which is in the center of the frame a short distance below shaft A. In my construction I prefer to have these pieces of wood mortised into the cross pieces of the frame a short distance on either side of the middle of such cross pieces, and to have the juncture where bolt D' passes through a few inches apart by bolting the two pieces D together with D' with a thick

washer between strips D. The object of this construction is to permit a rope to drop perpendicularly from either end of lever C so it will not touch or interfere with strips D. At the juncture of said strips D two ropes are fastened which are passed up to either end of lever C and through pulley T at or near the end of said lever C, thence through pulleys U, one of which is attached at the middle and on each side of cross-piece L and from thence through pulleys R fastened to the center of Q at the bottom of the cage. Cross piece L is firmly attached at the ends to the arms of the swing.

Short arms G are securely fastened at right angles to shaft A, equidistant from the ends of said shaft and a distance apart the width of the swing. To G, extensions of any desired length are attached with suitable hinges, forming the pendulum portion of the swing, at the lower end of which extensions is placed the cage or the swing seat. It will thus be seen that if the occupant of the cage or seat pulls the rope so as to depress either end of lever C, and then releases it, shaft A will be given a rocking motion, which if continued will be transmitted by degrees to the pendulum portion of the swing, thus effecting the swaying motion, which is accelerated or retarded by the degree of power applied to the rope. In my construction the short ends of the arms of the swing referred to consist of a piece of wood mortised in shaft A and further held securely by a clamp X which also holds a metal bearing H firmly against the lower end of G, said clamp being fastened to G and A with screws or bolts. Fig. 1 shows the long arms, or extensions of the swing detached from G, and in Fig. 3 the said extensions K' are shown hinged to G by strap of iron J bolted to said arms K'. I construct cross-piece L with iron straps bolted on each edge at the ends, and bolted to K K, when such extensions are of wood or metal, sufficiently above the bottom of the cage or seat so as not to interfere with the heads of the occupants of the swing.

The side pieces comprising the wooden frame of the cage are designated M. The

side pieces are slightly notched as well as arms K, K, and are held in place with bolts. These pieces are halved at the corners and are held in position with long iron rods N, with nuts on upper ends.

O is an iron rod that holds frame in place back of seat as shown in the drawings, said O passing from M' to M''.

Q is a cross piece in bottom of frame with ends mortised into bottom pieces M'.

R R are two pulleys in center of cross piece Q.

S S are metal rods used for braces and are looped around rods N, and held with nuts at the upper ends of N. Braces S are bolted to K K as shown in the drawings. At or near the end of lever C pulleys T are bolted on. In the center of cross piece L two pulleys are bolted on as shown. Two ropes W W are used to operate the swing, one end of each is secured to bolt D' in strips D. The rope is brought around pulleys T on operating lever C, through pulleys U on cross piece L, and around pulley R at bottom of cage. The swing can be operated by pulling up on loops in end of rope W, when passed around pulley R, or by pulling down on rope W above pulley R. This swing can be made any size or height desired, or a rope swing can be had by detaching the arms K, K from the iron straps J, fastening the ends of the rope to the short arms of the swing, or to J, J, and clamping cross piece I, to the ropes above the head of the person using such swing, as shown in Fig. 3.

The platform of the swing is shown in Fig. 4. It is made in two sections of strips of wood. The strips in each section are nailed to strips near each end, leaving a small space between them, and are notched to admit the seat posts to enter and rest on cross pieces. The hole in center of platform is where pulleys R are located. The notch in center of sides fit around uprights K in cage.

The seat is shown in Fig. 5. It has four posts, the front ones of which are designated a, and the back ones a'. To these are bolted four strips b, on the outside of the posts, the upper ones serving as an arm for the seat. Strip c is mortised into the back near the tops. The bottoms of posts a and a' and also a' and a' have a strip z mortised in that fits between the slats in platform. The lower strip b bolted to posts rests on top of slats in platform. This seat can be knocked down flat by removing support f. This will permit the seat to drop down between the posts, and posts a will fold up against posts a'. The platform and seats are so constructed that the seats can be placed together and used as a couch, or they can be set any distance apart in the cage so that the weights of persons in swing can be balanced. One

seat can be removed and one person can balance the swing by moving seat near center of platform.

The entire swing is held together with bolts and rods except the seat and platform hereinbefore described, and thus the swing can be quickly and easily set up or knocked down flat for shipping.

I am aware that some of the features of the swing described above have been used heretofore.

What I do claim as my invention is as follows, to-wit:

1. The combination of an upright frame for a swing supporting on its top a shaft A, which works in a bearing at either end thereof, such shaft having short rock arms G G extending downward to which rock arms the long arms of the swing are hinged, said shaft having attached at right angles a lever C extending equidistant on either side of shaft A said upright frame having a V shaped support D fastened to the top thereof on a perpendicular plane to lever C with the vertex downward, with propelling ropes fastened to the vertex of said V and passing through pulleys at ends of lever C, and to the floor of the cage of the swing, all substantially as described.

2. A floor of a swing cage consisting of slats cut with uniform notches near the ends thereof, having a cross strip directly under such notches, said slats being put a uniform distance apart, in combination with a seat having four posts the bottom ends of which fit snugly into such notches, said posts being braced by strips running between the front posts and between the rear posts at the bottom thereof, said strips cut to fit snugly between the slats comprising the floor, and by strips running from the front posts to the rear posts, fastened sufficiently above the bottoms of such posts so when said posts stand on the cross-strip under the floor slats, said strips will rest on the top of the slats, all substantially as described.

3. In a swing, a cage constructed with the upright arms of the swing K K, to the bottom of which is notched a rectangular frame to support the floor, being a plane at right angles with said arms K K, and on a parallel plane with said floor and a short distance above it a frame of similar outside dimensions to said floor frame being notched to said arms K K, said cage being further strengthened by two V shaped braces having the vertex resting on the center of the upper side of the outside floor beams which are not contiguous to arms K K, the upper end of such V braces extending to a perpendicular line connecting the corners of such cage the upper end of such V braces being capped with a strip of the same length as the floor beam on which such V braces rest, the whole

being fastened together with long bolts running perpendicularly from each corner of the floor frame through the upper extensions of said V shaped braces, and through an end
5 of the strip capping said V braces, thence through a corresponding corner of the top frame and through an eye in a rod, which rod runs from them obliquely to an arm of the swing where a cross piece L is attached,
10 and, further by a bolt running through the

middle of the strip capping the V brace, thence through the vortex of said V brace and through the floor beam on which such V brace rests.

In testimony of which I hereto affix my 15 signature in the presence of two witnesses.

EDWIN V. LEWIS.

Witnesses:

THOMAS W. FORTUNE,
DORA M. LEWIS.