

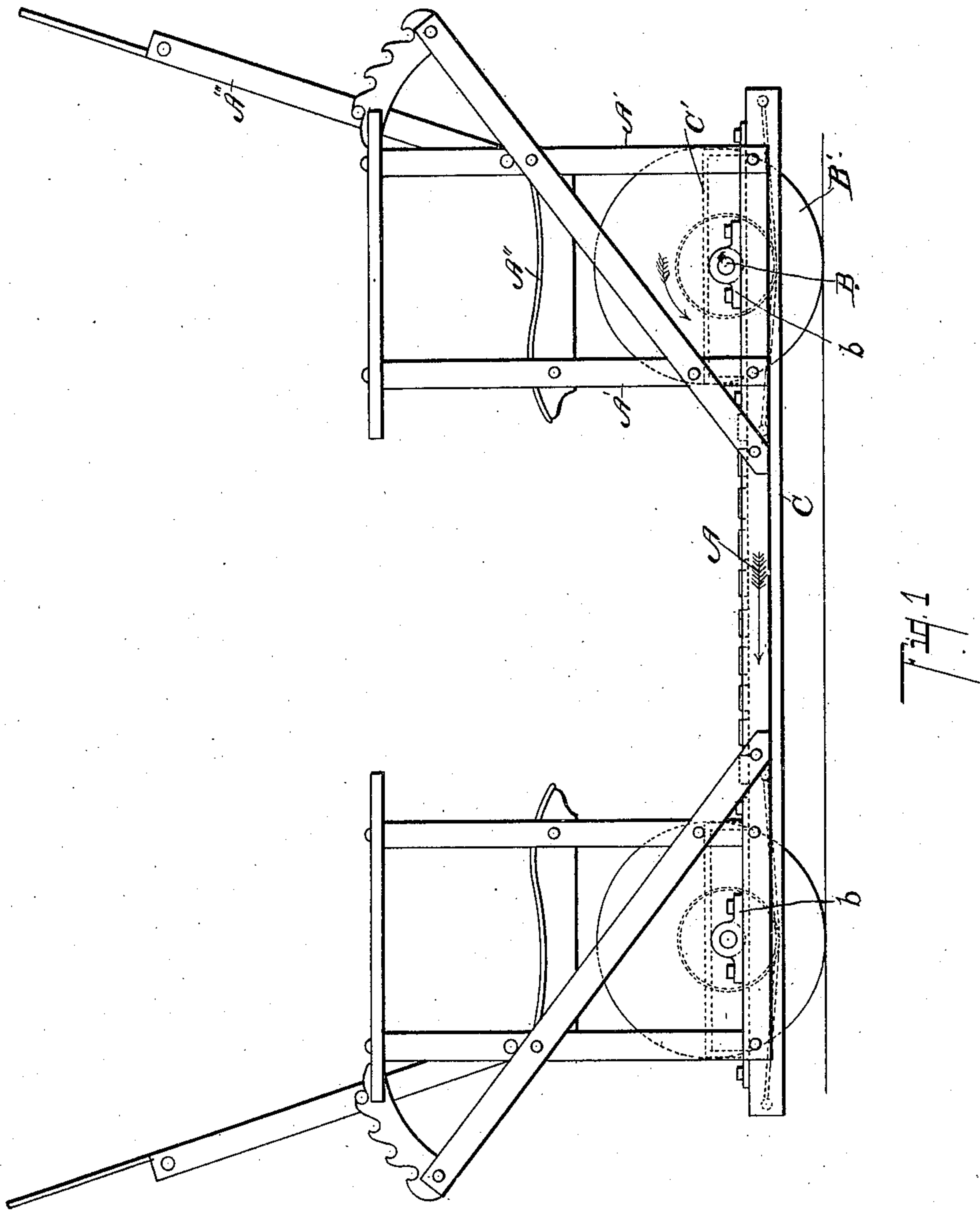
No. 876,934.

PATENTED JAN. 21, 1908.

A. P. BOYER.
SWING.

APPLICATION FILED MAY 21, 1906.

3 SHEETS—SHEET 1.



Witnesses:

Lulu G. Greenfield
Clara E. Braden

Inventor,

Allen Philip Boyer
By *Chappell & Co.*
Att'ys

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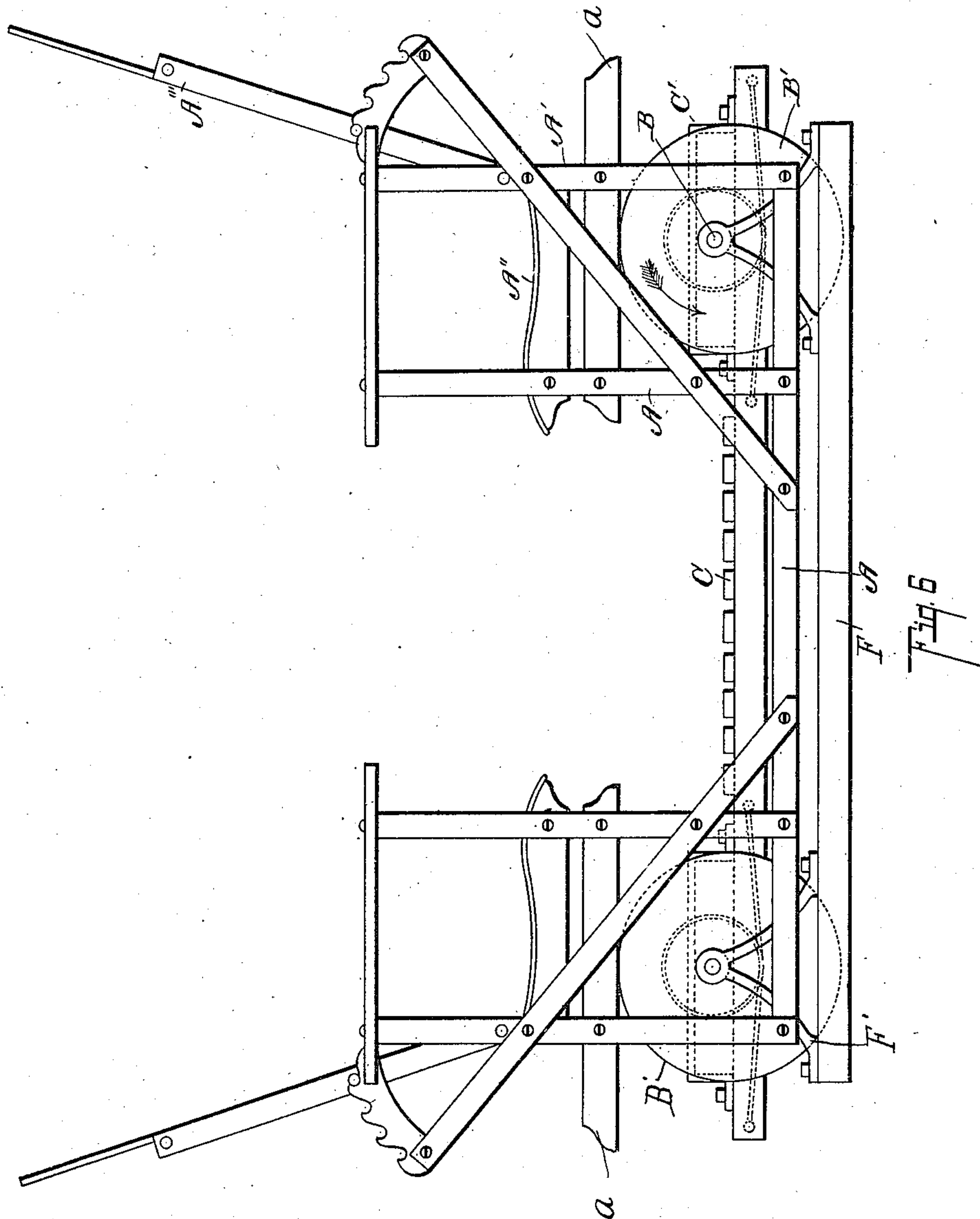
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UNITED STATES PATENT OFFICE.

ALLEN PHILIP BOYER, OF GOSHEN, INDIANA.

SWING.

No. 876,934.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed May 21, 1906. Serial No. 317,954.

To all whom it may concern:

Be it known that I, ALLEN PHILIP BOYER, a citizen of the United States, residing at Goshen, county of Elkhart, State of Indiana, have invented certain new and useful Improvements in Swings, of which the following is a specification.

This invention relates to improvements in swings.

10 It relates particularly to improvements in swings which in operation move back and forth without being suspended, such as is illustrated and described in the United States Letters Patent No. 769,298 issued to me on 15 the 6th day of September 1904.

The objects of this invention are: First, to provide an improved swing, which is very easy to operate, the same being capable of operation by means of the foot rest. Second, to provide in a swing of the class described an improved arrangement and connection for the foot rest to the carrying wheels whereby the same may be driven thereby. Third, to provide an improved 25 swing which is very simple and economical in structure and light in weight and at the same time durable and not likely to get out of repair.

Further objects, and objects relating to structural details will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

35 The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawings forming a part of this 40 specification, in which,

Figure 1 is a side elevation of my improved swing. Fig. 2 is an end elevation thereof. Fig. 3 is a detail side elevation, the swing being shown at one end of its movement. 45 Fig. 4 is an enlarged detail section taken on a line corresponding to line 4—4 of Fig. 2, showing the means of supporting the foot rest. Fig. 5 is an enlarged detail section taken on a line corresponding to line 5—5 of 50 Fig. 2, showing the connection of the foot rest C to the wheels D. Fig. 6 is a side elevation of a modified construction, the carrying wheels B' being mounted upon the base. In the drawing, similar letters of reference

refer to similar parts throughout the several 55 views, and sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, I provide a seat carrying frame preferably consisting of the 60 side rails A having uprights or standards A' thereon by which the seats A'' are carried. The seats A'' are provided with suitable backs as A''', which are preferably adjustably supported as is illustrated. At each 65 end of the seat carrying frame are axles B arranged in suitable bearings b on the side rails A. On the axles B are carrying wheels B'. These carrying wheels are preferably eccentrics so that they tend to return to the 70 central or initial position. These eccentric carrying wheels also give a slight up and down movement to the seats.

The foot rest C is arranged between the side rails A of the seat carrying frame, and 75 is carried by the rollers B''' on the shafts B. These rollers are idlers, i. e. they are loosely mounted on the axles. The foot rest is preferably suspended from the rollers B''' by means of hangers C'. The hangers C' serve 80 as tracks which travel back and forth on the rollers B'''. On the axles B are wheels or pulleys. The wheels E are fixed to the axles.

Straps b' arranged in pairs are secured to the foot rest or platform C preferably by 85 means of suitable pins b'' which project inwardly therefrom and to the wheels E about which they are wrapped in opposite directions. These straps are wrapped around the pulleys from the under side so that when the 90 foot rest is moved in one direction the axles B will be revolved in an opposite direction, thereby driving the carrying wheels and moving the seat carrying frame in a direction opposite to that of the foot rest. The straps 95 b' also serve to limit the movement of the seat carrying frame and hold it and the foot rest in proper relation to each other. The eccentric wheels give a slight upward movement toward the end of the movement of 100 the swing, and the load on account of this eccentricity of the carrying wheels assists in the return movement. The structure is, however, practicable when wheels of a true circle are used. 105

By arranging the parts as I have illustrated and described I secure a swing which is very simple in structure and economical to pro-

duce and one which is at the same time attractive in appearance and very easy to operate.

The swing is, as will be observed, quite close to the floor or ground, which is a very desirable feature. If preferred a platform or track may be provided and this may be necessary when the structure is to be used on soft or uneven ground. It is not necessary, however, when this structure is used on the floor or on ground which is compact and comparatively smooth.

In the modified construction illustrated in Fig. 6 the axles B are supported on bearings F' carried by a base F. In this construction the seat carrying frame is provided with tracks or ways a which rest upon the carrying wheels B'. The remaining parts are arranged as in the preferred construction described. The same movement is secured in this construction as is obtained in the construction shown in Figs. 1-5 inclusively, and it possesses the advantages of being complete in itself for use in any relation, i. e. no platform or track is required for the same. It is, however, somewhat more expensive to produce and is also heavier.

I have illustrated and described my improved swing in detail in the form preferred by me on account of the structural simplicity and economy. I am aware, however, that it is capable of considerable variation in structure without departing from my invention.

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

1. The combination of a seat carrying frame; a pair of axles journaled thereon; eccentric carrying wheels for the seat carrying frame secured to said axles; rollers revolubly mounted on said axles; a foot rest; hangers for said foot rest, adapted to travel on said rollers; wheels secured to said axles; and straps arranged in pairs connected to said foot rest and to said wheels, said straps being passed around said wheels from opposite directions, and from the under sides thereof, whereby said seat carrying frame is caused to travel in a direction opposite to that of said foot rest, for the purpose specified.

2. The combination of a seat carrying frame; a pair of axles journaled thereon; eccentric carrying wheels for the seat carrying frame secured to said axles; rollers revolubly mounted on said axles; a foot rest; hangers for said foot rest, adapted to travel on said rollers; wheels secured to said axles; and straps arranged in pairs connected to said foot rest and to said wheels, for the purpose specified.

3. The combination of a seat carrying frame; a pair of axles journaled thereon; carrying wheels for the seat carrying frame secured to said axles; rollers revolubly mount-

ed on said axles; a foot rest; hangers for said foot rest, adapted to travel on said rollers; wheels secured to said axles; and straps arranged in pairs connected to said foot rest and to said wheels, said straps being passed around said wheels from opposite directions and from the under sides thereof, whereby said seat carrying frame is caused to travel in a direction opposite to that of said foot rest, for the purpose specified.

4. The combination of a seat carrying frame; a pair of axles journaled thereon; carrying wheels for the carrying frame secured to said axles; rollers revolubly mounted on said axles; a foot rest; hangers for said foot rest, adapted to travel on said rollers; wheels secured to said axles; and straps arranged in pairs connected to said foot rest and to said wheels, for the purpose specified.

5. The combination of a seat carrying frame; a pair of axles; eccentric carrying wheels for the seat carrying frame secured to said axles; rollers revolubly mounted on said axles; a foot rest carried by said rollers; wheels secured to said axles; and straps arranged in pairs connected to said foot rest and to said wheels, said straps being passed around said wheels from opposite directions and from the under sides thereof, whereby said seat carrying frame is caused to travel in a direction opposite to that of said foot rest, for the purpose specified.

6. The combination of a seat carrying frame; a pair of axles; eccentric carrying wheels for the seat carrying frame secured to said axles; rollers revolubly mounted on said axles; a foot rest carried by said rollers; wheels secured to said axles; and straps arranged in pairs connected to said foot rest and to said wheels, for the purpose specified.

7. The combination of a seat carrying frame; a pair of axles; carrying wheels for the seat carrying frame secured to said axles; rollers revolubly mounted on said axles; a foot rest carried by said rollers; wheels secured to said axles; and straps arranged in pairs connected to said foot rest and to said wheels, said straps being passed around said wheels from opposite directions and from the under sides thereof whereby said seat carrying frame is caused to travel in a direction opposite to that of said foot rest, for the purpose specified.

8. The combination of a seat carrying frame; a pair of axles; carrying wheels for the seat carrying frame secured to said axles; rollers revolubly mounted on said axles; a foot rest carried by said rollers; wheels secured to said axles; and straps arranged in pairs connected to said foot rest and to said wheels, for the purpose specified.

9. The combination of a suitable base; a seat carrying frame; shafts or axles; carrying wheels for said seat carrying frame secured to said axles; a foot rest; rollers by

which said foot rest is carried on revolubly mounted shafts or axles, and driving connections from said foot rest to said axles, for the purpose specified.

5 10. The combination of a seat carrying frame; a pair of axles; eccentric carrying wheels for the seat carrying frame secured to said axles; a reciprocatingly mounted foot rest; wheels secured to said axles; and straps
10 arranged in pairs connected to said foot rest and to said wheels, said straps being passed around said wheels from opposite directions and from the under sides thereof, whereby said seat carrying frame is caused to travel
15 in a direction opposite to that of said foot rest, for the purpose specified.

11. The combination of a seat carrying frame; a pair of axles; eccentric carrying wheels for the seat carrying frame secured to
20 said axles; a reciprocatingly mounted foot rest; wheels secured to said axles; and straps arranged in pairs connected to said foot rest and to said wheels, for the purpose specified.

12. The combination of a seat carrying
25 frame; a pair of axles; carrying wheels for the seat carrying frame secured to said axles; a reciprocatingly mounted foot rest; wheels secured to said axles; and straps arranged in pairs connected to said foot rest and to said
30 wheels, said straps being passed around said wheels from opposite directions and from the under sides thereof, whereby said seat carrying frame is caused to travel in a direction opposite to that of said foot rest, for the
35 purpose specified.

13. The combination of a seat carrying frame; a pair of axles; carrying wheels for the seat carrying frame secured to said axles; a reciprocatingly mounted foot rest; wheels

secured to said axles; and straps arranged in 40 pairs connected to said foot rest and to said wheels, for the purpose specified.

14. The combination of a seat carrying frame; eccentric carrying wheels therefor; a foot rest; rollers on which said foot rest is 45 reciprocatingly mounted; driving connections from said foot rest to said carrying wheels, for the purpose specified.

15. The combination of a seat carrying frame; carrying wheels therefor; a foot rest; 50 rollers on which said foot rest is reciprocatingly mounted; and driving connections from said foot rest to said carrying wheels, for the purpose specified.

16. The combination of a seat carrying 55 frame; carrying wheels for said frame; a reciprocatingly mounted foot-rest; carrying rollers therefor; and strap connections from said foot-rest to said carrying wheels for said seat-carrying frame arranged in oppo- 60 site pairs whereby said wheels are rotated by the reciprocation of the said foot-rest.

17. The combination of a seat carrying frame; carrying wheels for said frame; a mov- 65 ably mounted foot-rest; and strap connections from said foot rest to said carrying wheels for said seat carrying frame arranged in opposite pairs whereby said wheels are rotated by the reciprocation of the said foot-rest. 70

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

ALLEN PHILIP BOYER. [L. S.]

Witnesses:

E. E. MUMMERT,
GEO. M. RICHARDSON.