

(No Model.)

W. J. HALL.
SWING.

No. 565,165.

Patented Aug. 4, 1896.

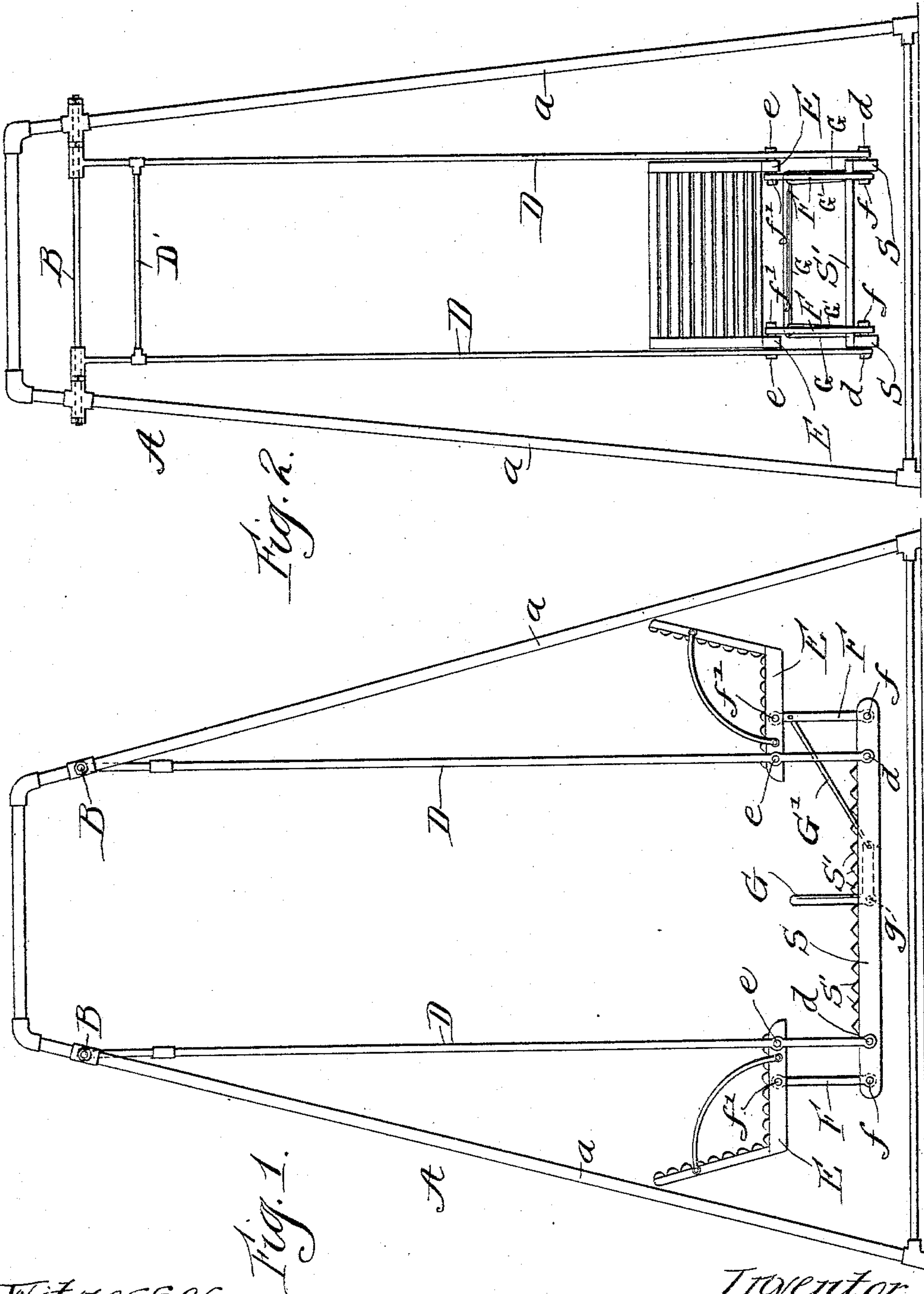


Fig. 1.

Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM JOHN HALL, OF CHICAGO, ILLINOIS.

SWING.

SPECIFICATION forming part of Letters Patent No. 565,165, dated August 4, 1896.

Application filed August 17, 1895. Serial No. 559,610. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOHN HALL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Swings, of which the following is a specification.

My invention relates to swings adapted to be put in motion by their occupants.

10 In the accompanying drawings, Figure 1 is a side view of the novel swing. Fig. 2 shows the swing as seen in looking from the right in Fig. 1.

15 In the views, A is a pyramidal frame, preferably formed of metal pipes connected by ordinary couplings. Near the upper ends of the two opposite pairs of inclined members of the frame are T-couplings carrying parallel rods B upon opposite sides of the frame. 20 From each of these rods depend two parallel rods D, which swing freely upon the rod B, which supports them, and which are held at the proper distance apart and against said T-couplings by a rod D'. The rods D are of 25 equal length and are pivotally attached at their lower ends to a horizontal platform, which may consist of parallel bars S, connected by triangular cross-bars S', affording upon each side a hold for the feet of occupants of the swing. Above the platform are 30 two facing seats E, pivoted to the rods D to rock, respectively, upon axes e, parallel to the rods B above. Each seat is further supported, at some distance from the rods D, by 35 short rods F, parallel to the latter and having their lower and upper ends connected to the platform and seat, respectively, by pivots at f f' .

40 The apparatus thus far described enables occupants of the swing to slowly put the same in motion by leaning and thus changing the position of the center of gravity, and also by pushing against the cross-bars with the feet; but the force due to displacement of the center of gravity is trivial, and that due to pushing with the feet, besides being in itself very 45 limited, is exerted at such great disadvantage that its effective swinging action is slight. To greatly increase the effective force, other 50 devices are added.

A lever-arm G rises vertically from the platform between the facing seats, and is so

formed that it may be conveniently pushed by the feet of the occupants of either seat. It is pivoted to the platform to rock upon an axis at g , and it may be advantageously made 55 of bell-crank form, as shown. Links G' connect this lever with the rods F at some distance above the platform, and hence when it is pushed in either direction the latter rods 60 must swing and change the angle which they make with the platform; but this they can do only when the latter swings about the rods B, and hence pushing the lever-arm G puts the swing in motion. The force exerted de- 65 pends upon the relative length of the two arms of the lever, and since the whole distance passed through by the point of attachment to each rod F is very short the difference between these lengths may be very con- 70 siderable, and it is owing to this short distance to be passed through that the bell-crank arranged to form a toggle-joint with the links G', as shown, becomes available and serves to exert a very great swinging force. 75

It is evident that occupants of the two seats may alternately push the lever-arm G and thus accelerate both phases of each vibration and quickly obtain any desired amplitude of 80 movement.

What I claim is—

The combination with the frame and the normally vertical, pendent rods pivotally supported thereby, of the platform pivotally 85 attached to each of said rods, the facing seats pivotally attached to the pendent rods above the platform, the normally vertical, short rods having their ends pivotally attached, respectively, to the platform and the seat at 90 some distance from the points of attachment of the pendent rods, a lever pivoted to the platform and having one arm projecting above the same between said seats, and a link connecting the other arm of the lever to one 95 of said normally vertical members.

In witness whereof I have hereunto subscribed my name, in the presence of two subscribing witnesses, on this 10th day of August, A. D. 1895.

WILLIAM JOHN HALL.

Witnesses:

W. H. MADDEN,
LOUI A. CORNELIUS.