2 Sheets--Sheet 1.

C. H. CAIN.

Swing.

No. 160,390. Patented March 2, 1875.

Fig. 1.

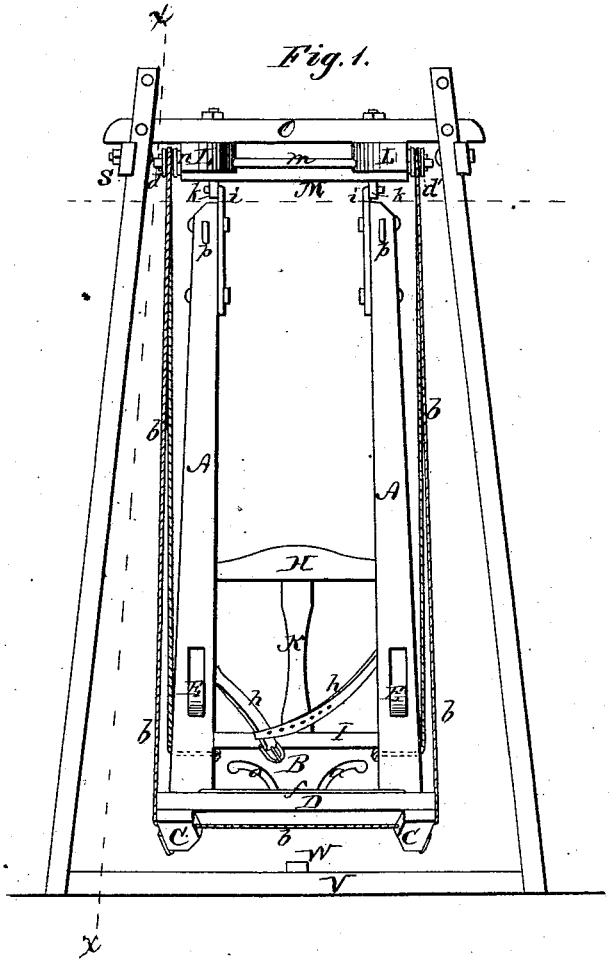
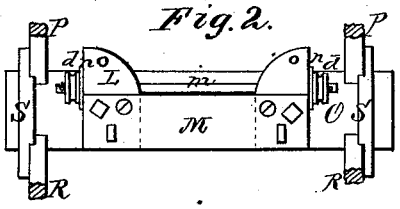


Fig. 2.



WITNESSES

Henry N. Miller

A. L. Ewert.

INVENTOR

Cornelius H. Cain.

per

Alexander Mason

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

2 Sheets--Sheet 2.

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Fig. 3.

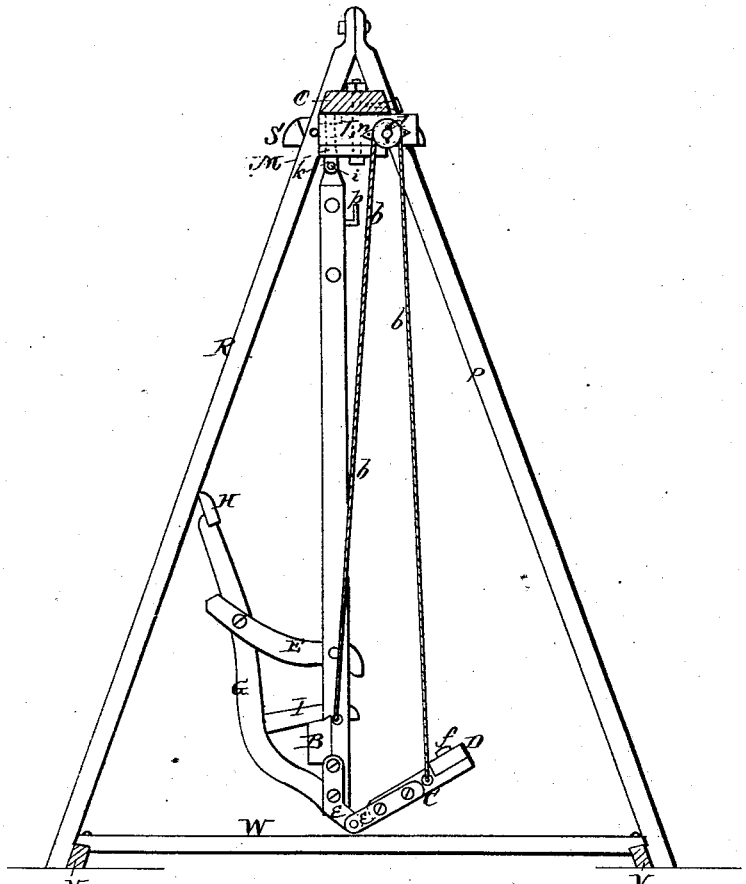


Fig. 4.

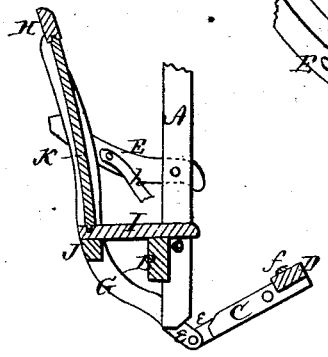
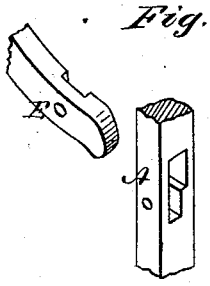


Fig. 5.



WITNESSES

Henry N. Miller

C. L. Emerson.

INVENTOR

Cornelius H. Cain.

per

Alexander Mason

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

CORNELIUS H. CAIN, OF JEFFERSONVILLE, INDIANA.

IMPROVEMENT IN SWINGS.

Specification forming part of Letters Patent No. **160,390**, dated March 2, 1875; application filed January 19, 1875.

To all whom it may concern:

Be it known that I, CORNELIUS H. CAIN, of Jeffersonville, in the county of Clark and in the State of Indiana, have invented certain new and useful Improvements in Self-Acting Swings; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a self-acting swing, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a front elevation of the swing, suspended from a folding rack. Fig. 2 is a bottom view of the top of the rack. Fig. 3 is a section through the line *x x*, Fig. 1. Figs. 4 and 5 are detached views of the seat.

A A represent the hangers of my swing, which are made wide at the bottom, tapering to the top narrower, and are put together edgewise by a tie, B, which forms the front seat-rest. This tie is slotted or scrolled out at *a a* from the bottom, as shown in Fig. 1, for the purpose of raising and lowering the treadle by the rope *b*. The ends of this rope are passed through the hangers A A, under the seat-board in front, so that the knots on the ends can be slipped through the scrolls or slots of the seat-rest or tie B. The rope extends from one hanger up around a pulley, *d*, and down through the treadle-arms C C; thence up around the other pulley, *d'*, on the other side, and down through the hanger opposite. The rope being all in one piece, and running through the treadle, leaves equal balance on both sides of the swing. The treadle-arms are hinged to the lower ends of the hangers A A by iron hinges *e e*, and on their outer ends is secured the foot-board D, which is on its upper side provided with a cleat, *f*, to set the heel against to keep from slipping the foot. The hangers A are provided with slots for the seat-arms E to pass through, so that the draw will be on the center of the hangers. These slots are larger at the top than at the bottom, as shown in Fig. 5. The upper larger part of the slot is to admit the full thickness of the seat-arm, and then the arms are gained out to slip down in the smaller parts of the slots, and then fastened by a screw or nail. The rear ends of the seat-arms are fastened to the seat-back stays G G, the lower ends of which are fastened to the hangers A A, and the upper ends connected by the head-board H. The tie or front seat-rest B is beveled on top to give the seat I a back pitch, the rear edge of the seat being supported upon a tie or bar, J, tenoned in the stays G G. K is the back board connecting the seat and head board. To the seat-arms are fastened straps *h*, which are to be used for securing children in the swing. L L are pulley-blocks, fastened together by a tie-board, M, at a certain distance apart, to admit the hanger-hooks *i i* into eyebolts *k k*, passing through the pulley-blocks, and fastened by nuts let into the upper sides of the pulley-blocks, as shown in Fig. 2. These blocks can be made long, so as to receive two joists in case the swing is fastened to ceilings.

The pulley-blocks and tie-board are fastened by bolts to the head-piece O of the rack, or to the ceiling, as desired. The blocks L have holes bored through them edgewise to admit the axle *m*, upon the outer ends of which the pulleys *d d* are placed and held by keys or pins passed through the ends of the axle. The pulleys are prevented from rubbing against the blocks by washers *n*, of diamond or other suitable shape, slipped over the axle and fastened to the blocks. The eyebolts *k* on the pulley-blocks are set closer together than the hanger-hooks *i*, so that the spring of the hangers will prevent the hooks from slipping out of the eyebolts when the swing is in motion. By pressing the upper ends of the hooks inward the swing is unhooked, ready to be set aside, the head part remaining fast to the ceiling or rack. In the top of the hangers are small hooks *p*, to hang the rope on when the swing is unhooked. The head-board O is gained out on both sides, near the ends, to receive the four legs P P and R R. The legs P P are fastened to the head-board O and to

rests S S under its ends, while the legs R R are pivoted to said rests, so that the rack can be folded together and put away when desired. The upper ends of the legs P R and P R meet above the head-block O, and, when the rack is in use, are fastened together by bolts, as shown. The legs, when thrown out, stand bracing both ways, and each set of legs are connected at their lower ends by a cross-bar, V, and these cross-bars are connected by a center-bar, W, which is made of such length as to put the rack on a strain, thereby stiffening the same. On small swings the bar W may be fastened to the floor by one or more screws.

When the person is seated in the swing, with the feet resting on the treadle, and gives the treadle a downward push, it throws the swing forward, and as the swing takes the back motion the treadle rises, ready for operation again in a forward direction.

The swing may be fastened to ceilings of porches, rooms, or halls, or under door-heads, or to the described rack in any place where wanted. On the side of a building it only requires one-half of the rack, one end of the head-blank being fastened to the building. It may be fastened in the same manner to the side of a tree.

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

1. The combination of the slotted tapering hangers A A, with inclined tie B, seat I, stays G, back H K, and arms E, all constructed substantially as and for the purposes herein set forth.

2. The combination of the hangers A A, with seat attached thereto, tie B, having slots *a a*, treadle C D, rope *b*, and pulleys *d d*, all constructed and arranged substantially as and for the purposes herein set forth.

3. The combination, with the hangers A A, having hooks *i*, of the blocks L, tie-board M, axle *m*, washers *n*, pulleys *d*, and eyebolts *k*, all as and for the purposes set forth.

4. The combination of the head-block O, rests S, stationary blocks V, bar W, with a self-acting swing hung therein, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of December, 1874.

CORNELIUS H. CAIN.

Witnesses:
WILLIAM K. COOPER,
WILLIAM H. LAWRENCE.