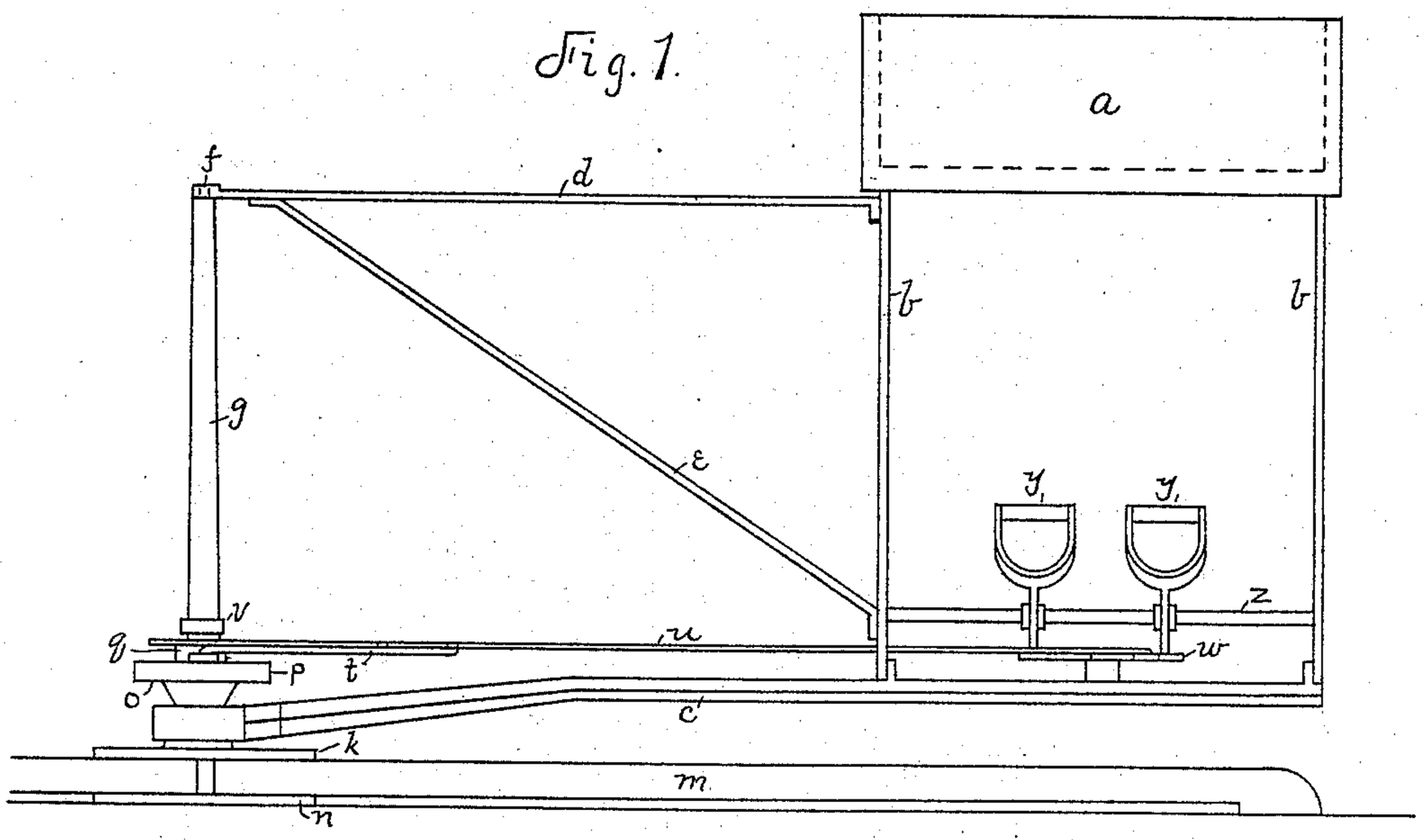
(No Model.) 3 Sheets—Sheet 1.

J. N. & H. ROHR.

REVOLVING CHAIR SWING.

No. 570,505. Patented Nov. 3, 1896.

Fig. 1.



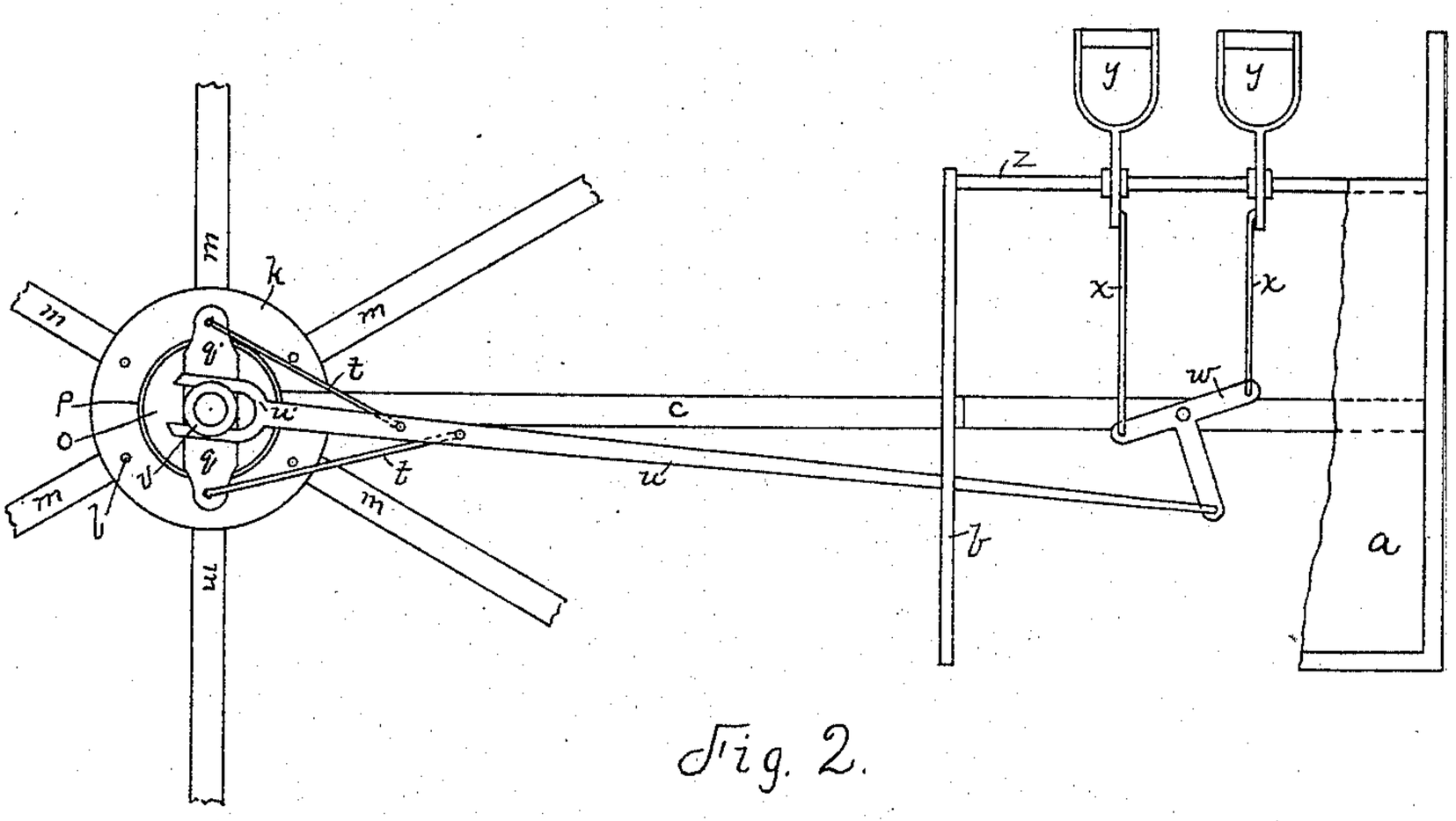


Fig. 2.

WITNESSES:

Paul Strong.

F. B. Dewsbery.

INVENTORS

John N. Rohr

Henry Rohr

By C. D. Ludgens ATTORNEY.

(No Model.)

3 Sheets—Sheet 2.

J. N. & H. ROHR.

REVOLVING CHAIR SWING.

No. 570,505. Patented Nov. 3, 1896.

Fig. 3.

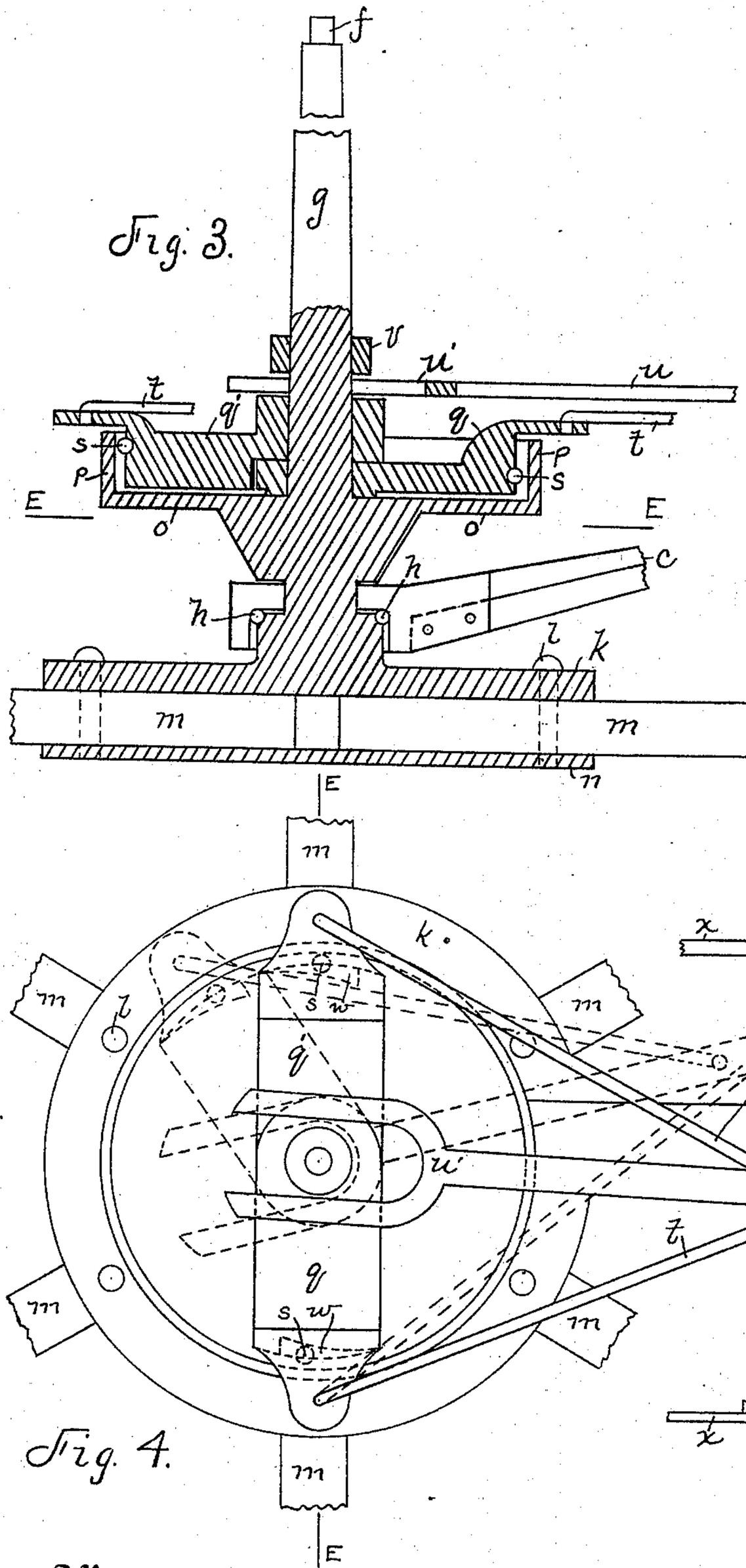


Fig. 4.

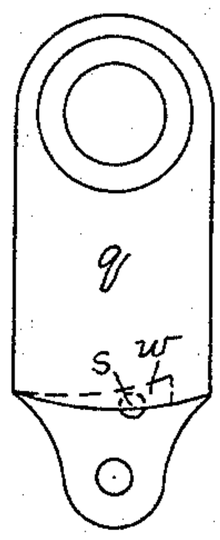


Fig. 5.

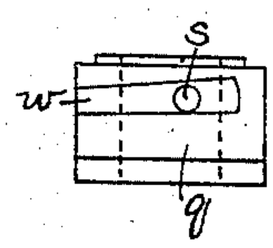


Fig. 6

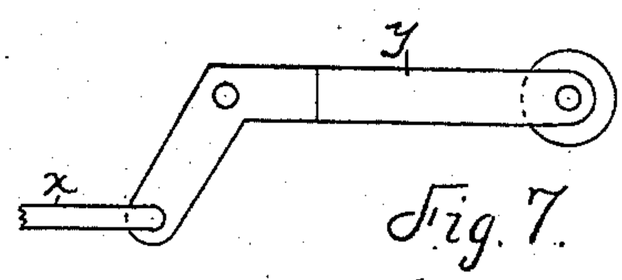


Fig. 7.

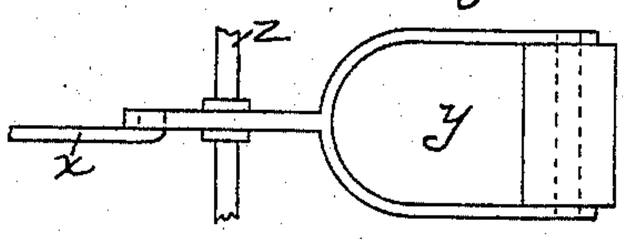


Fig. 8.

Witnesses
Paul Strong
F. B. Dewsbery.

Inventors
John A. Rohr
Henry Rohr
By Attorneys
C. D. Hudgens.

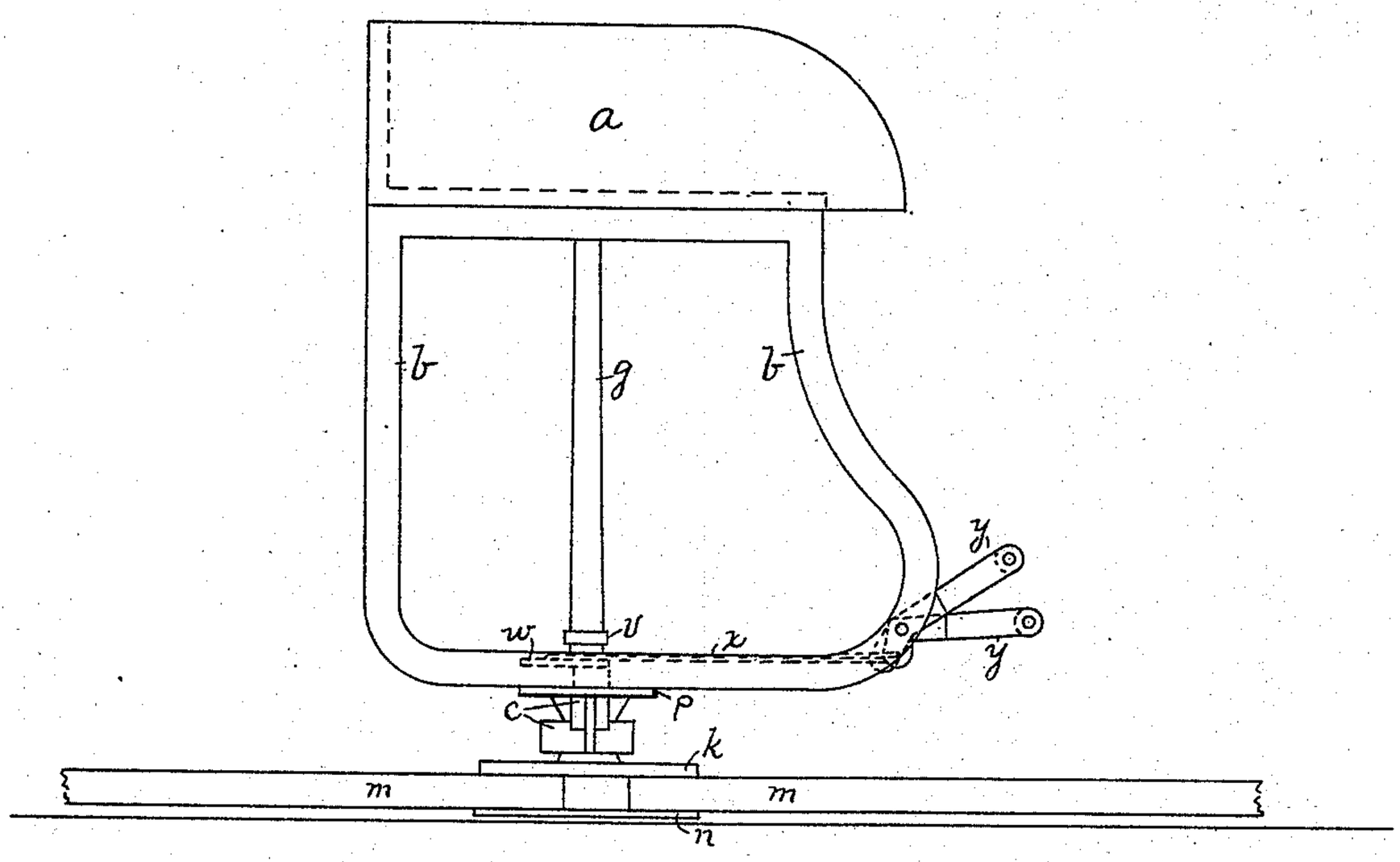
(No Model.) 3 Sheets—Sheet 3.

J. N. & H. ROHR.

REVOLVING CHAIR SWING.

No. 570,505. Patented Nov. 3, 1896.

Fig. 9.



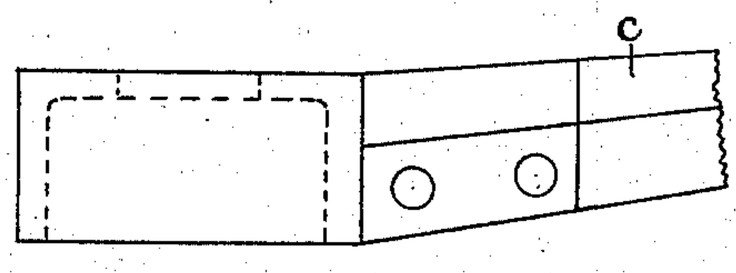


Fig. 10.

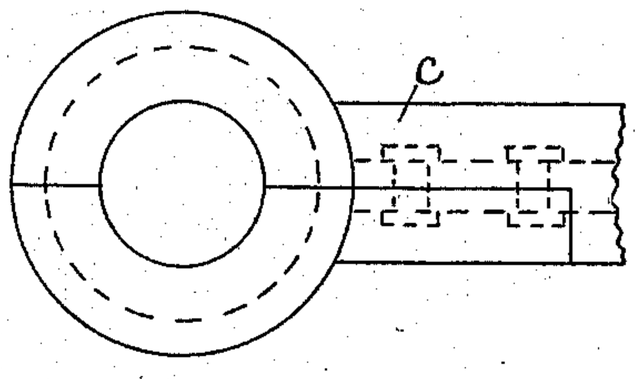


Fig. 11.

Witnesses
Paul Strong
H. B. Brewster.

Inventors
John N Rohr
Henry Rohr
By Attorneys
C. D. Hudgens

UNITED STATES PATENT OFFICE.

JOHN N. ROHR AND HENRY ROHR, OF KENTON, OHIO.

REVOLVING-CHAIR SWING.

SPECIFICATION forming part of Letters Patent No. 570,505, dated November 3, 1896.

Application filed August 6, 1896. Serial No. 601,866. (No model.)

To all whom it may concern:

Be it known that we, JOHN N. ROHR and HENRY ROHR, citizens of the United States, and residents of Kenton, in the county of Hardin and State of Ohio, have invented a new and useful Improvement in Revolving-Chair Swings, of which the following is a specification.

The subject of our invention is a revolving-chair swing for the amusement of children, and is so constructed that it may be conveniently set up in the house or in any small room and occupy but small space.

The essential parts of our device are a mast mounted vertically on horizontal radial supporting-legs. To the mast horizontal arms are pivoted, which support a chair on their outer ends. To the frame of the chair pedals are attached, which connect by means of rods to clutches which operate on a flanged disk at the base of the mast in such a manner as to produce a revolving motion when the pedals are operated by the feet of the occupant of the chair.

All essential and minor parts of our device and their respective operations are described in the following technical sections of this specification, and are illustrated in the accompanying drawings, in which—

Figure 1 is an elevation; Fig. 2, a plan view; Fig. 3, a sectional detail of the base of mast, with other parts assembling at that point. Fig. 4 is a detail plan of the parts shown in Fig. 3. Fig. 5 is a detail bottom plan view of a clutch. Fig. 6 is a detail end view of a clutch. Fig. 7 is a detail side view of a pedal. Fig. 8 is a plan view of a pedal. Fig. 9 is an elevation of the side of the chair. Fig. 10 is a detail elevation of the lower horizontal arm, showing the end which connects to the mast; and Fig. 11 is a plan view of the same.

Similar letters refer to similar parts throughout the several views.

The seat *a* is mounted on the frames *b*, which are connected to the outer ends of the horizontal arms *c* and *d* and braced by the braces *e*. A hole in the end of the arm *d* engages with and rotates on the pin *f* in the end of the mast *g*. One end of the arm *c* is of the form shown in Figs. 3, 10, and 11 and engages with and rotates on the base of the mast *g*, which is enlarged, as shown in section in Fig. 3, and provided with an annular groove in which a series of balls *h* travel, making the contact of the arm *c* with the mast *g* a ball-bearing. The base of the mast *g* enlarges into the flange *k*, which rests upon and is attached by the bolts *l* to the legs *m* and the circular plate *n*. Above the connection of the arm *c* to the mast *g* is a circular disk *o* with an annular flange *p*, within which and rotating on the mast *g* are the clutches *q* and *q'*, provided on their outer end face with the inclined groove *r*, which is deeper at one end than at the other and in which the friction-ball *s* travels. The outer ends of the clutches *q* are connected by means of the rods *t* to the bar *u*, having the bifurcated end *u'*, sliding freely on the mast *g* and below the collar *v*. The reverse end of the bar *u* is connected with one arm of the oscillating crank *w*, which is pivoted on the arm *c* and is connected from its other two arms by means of the rods *x* to the pedals *y*, which oscillate on the bar *z*, connected to the frames *b*.

The arms *c d* and the seat *a* are made to revolve about the mast *g* by the occupant of the seat applying pressure of the feet alternately on the two pedals *y*, thus imparting a reciprocating movement to the rod *u* through the rods *x* and crank *w*. The instant the bar *u* moves toward the mast *g* the clutch *q* is moved slightly backward by the rod *t* until the ball *s* is pinched between the thin end of the groove *r* and the flange *p*, permitting no further movement of the clutch *q* in a backward direction. The continued pressure of the bar *u* toward the mast *g* causes the rod *t* to react against the clutch *q* and throw the bar *u* into the position indicated by the dotted lines, in which the clutch *q'* is shown to have moved forward, which is made possible by the tapering groove *w* being reversed, allowing the ball *s* to move toward the wide and closed end of the groove *w*, in which position it is free from contact with the flange *p*.

A reverse movement of the bar *u* by the action of the pedals *y* causes the clutch *q'* to pull backward and bind the ball *s* between the shallow end of the groove *r* and the flange *p*, thus holding it stationary while the clutch *q* is drawn forward. It is apparent

that the continuous reciprocating movement of the bar u, by the action of the pedals y, will cause the clutches q and q' to alternately move forward and alternately clutch the flange p, thus causing a continuous revolution of the seat a around the central mast g. When any degree of momentum is acquired by the operation of the pedals y, the rider may cease operating the pedals and the clutches q and q' will travel idly on the mast g, as it will be observed, while the pedals y are not acting, no backward pull is transmitted to either clutch to cause them to clutch the flange p, and the balls s are free to work toward the deep end of the groove r and avoid frictional contact with the flange p.

It is our object to attach two seats, if desirable, which may be done by extending the parts d, c, and u in the opposite direction from the mast g and attaching a separate set of bars t to the clutches q and q' and the opposite extension of the bar u. By the use of four clutches instead of two it is possible to attach four seats to one central mast.

As illustrated and described, we claim as our invention and pray secured by Letters Patent—

1. In a revolving-chair swing the combination of a central mast mounted on radial supporting-legs, a horizontal arm pivoted at the top of the mast another pivoted with ball-bearings at the bottom of the mast, said arms supporting a seat and frame provided with foot-pedals and means for connecting to and operating an oscillating crank, a reciprocating bar with bifurcated end extending from said crank to central mast, rods connecting said reciprocating bar to revolving clutches having tapering grooves in their outer ends, balls traveling in said grooves and alternately engaging with a flanged disk near the base of the mast substantially as shown and described for purposes stated.

2. In a revolving-chair swing the combination of a central mast g having the flanged base k attached to and mounted on the horizontal supporting-legs m, the revolving horizontal arm d pivoted at the top of the mast g, the revolving horizontal arm c attached near the base of the mast g by the ball-bearings h, the seat a and frame b attached to, and supported by the arms c and d, the pedals y attached thereto and operating the crank w by the rod x, the bar u having the bifurcated end u' connecting from the crank w to the mast g, the rods t connecting the bar u to the ends of the clutches q and q', the disk o attached to and forming a part of the mast g and having the annular flange p, the clutches q and q' rotating on the mast g and having tapering grooves r in their ends and the friction-balls s, substantially as shown and described for purposes stated.

3. In a revolving-chair swing the combination of a central mast g mounted upon and supported by horizontal radial legs m, horizontal arms c and d attached to, and revolving on said mast g, a seat mounted on said arms, means for operating the bar u having the bifurcated end u' the rods t connecting the bar u to clutches q and q' which revolve on the mast g and having the tapering grooves r in their outer ends, the balls s traveling in said grooves r and alternately engaging with the flange p of the disk o attached to the mast g substantially as shown and described for purposes stated.

JOHN N. ROHR.
HENRY ROHR.

Witnesses:
CHARLES BRUMM,
JOHN GERLACH.