(No Model.)

2 Sheets—Sheet 1.

J. FRUEH.

ROUNDABOUT.

No. 446,182. Patented Feb. 10, 1891.

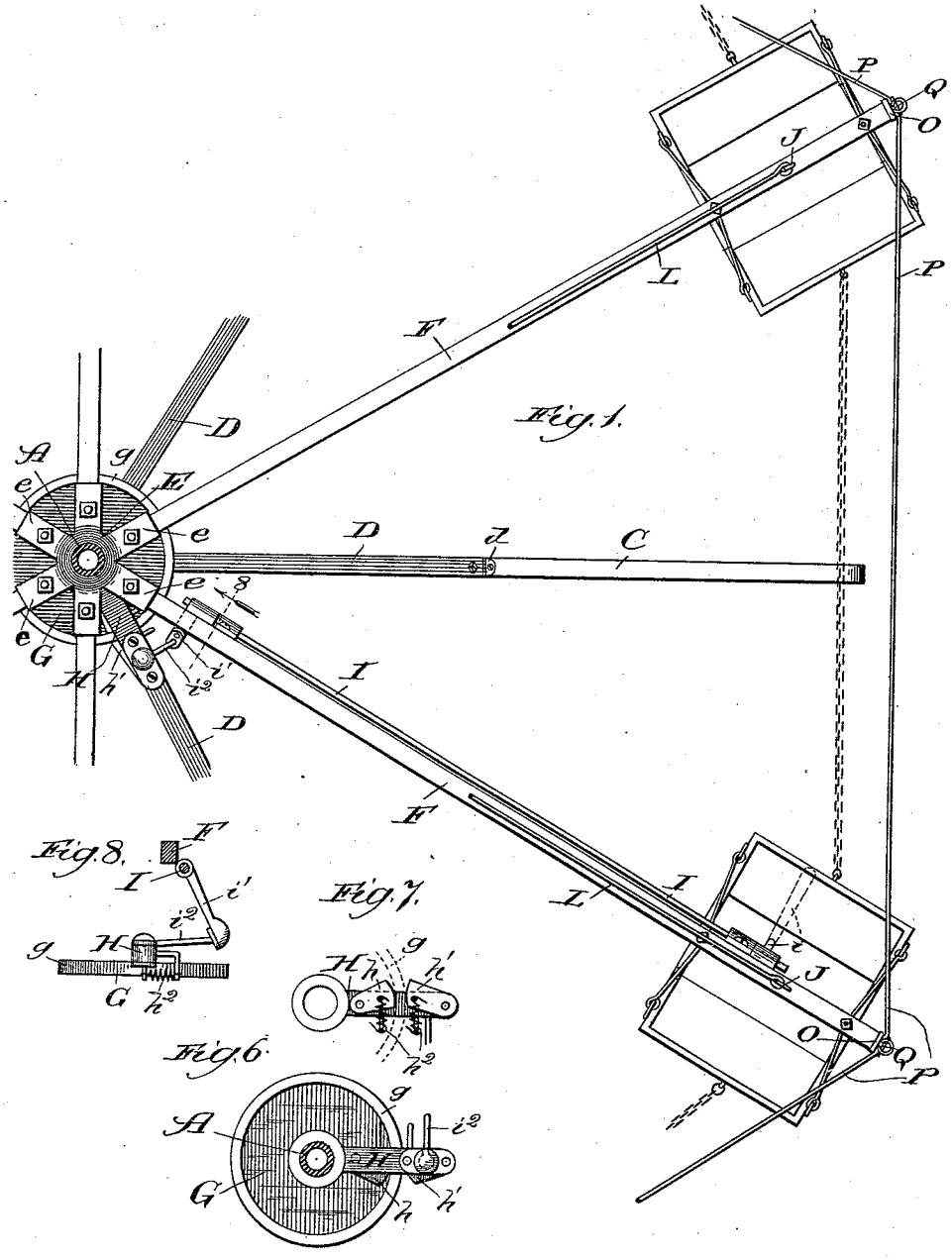


Fig. 1.

Fig. 8.

Fig. 7.

Fig. 6.

Witnesses:
Chas. E. Gaylord,
Clifford G. White.

Inventor:
Jacob Frueh,
By Banning & Banning & Payson,
Attys.

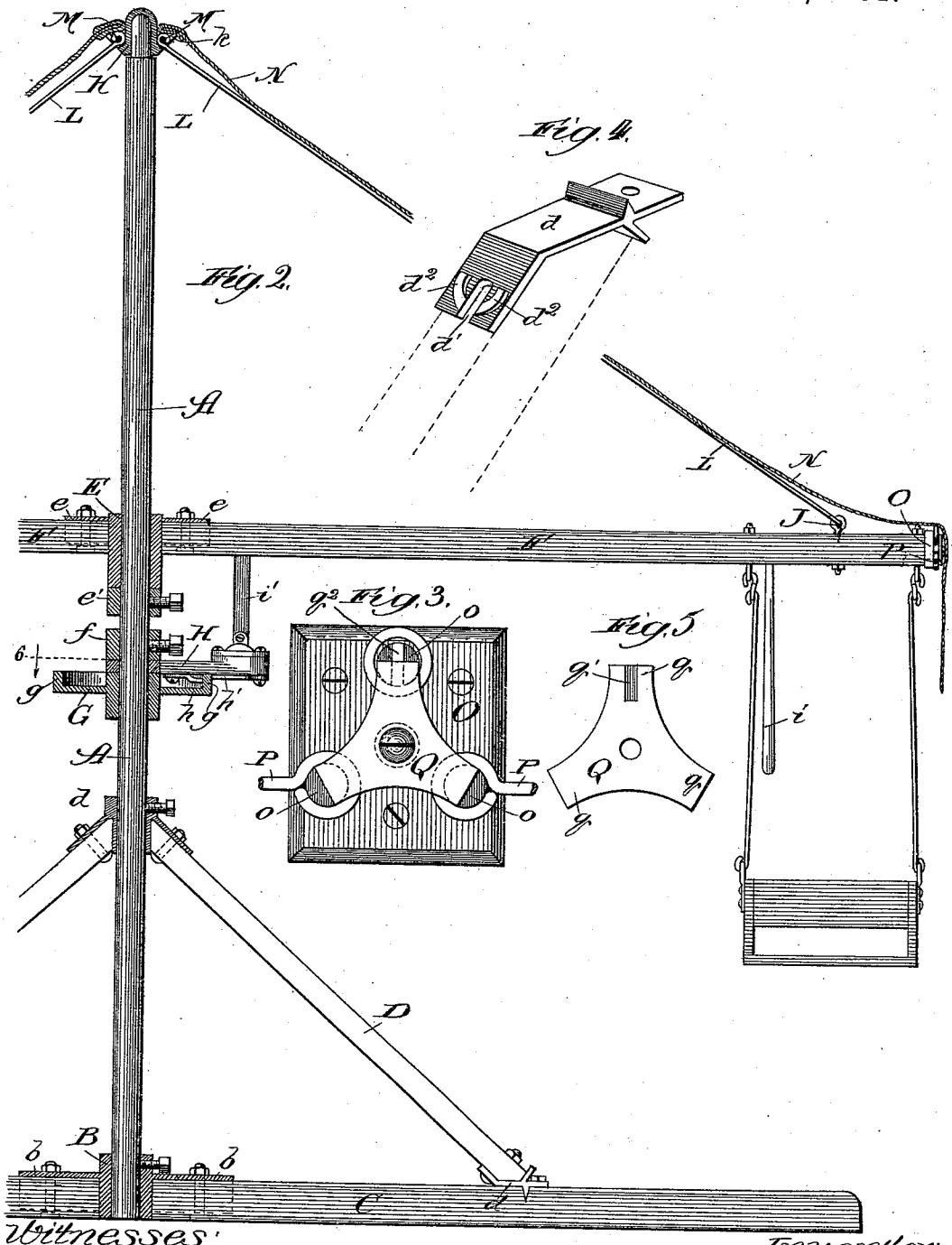
(No Model.)

2 Sheets—Sheet 2.

J FRUEH.

ROUNDABOUT.

No. 446,182. Patented Feb. 10, 1891.



Witnesses:
Chas. E. Gaylord.
Clifford W. Brito.

Inventor:
Jacob Frueh,
By Banning & Banning & Payson,
Attys.

UNITED STATES PATENT OFFICE.

JACOB FRUEH, OF CHICAGO, ILLINOIS.

ROUNDABOUT.

SPECIFICATION forming part of Letters Patent No. 446,182, dated February 10, 1891.

Application filed May 1, 1890. Serial No. 350,146. (No model.)

To all whom it may concern:

Be it known that I, JACOB FRUEH, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Merry-Go-Rounds, of which the following is a specification.

The object of my invention is to make a merry-go-round which may be operated by the occupant of the seat; and my invention consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of a portion of my improved merry-go-round. Fig. 2 is a transverse section of the same. Fig. 3 is an end elevation of one of the supporting-arms. Fig. 4 is a perspective view of the casting for one of the braces for the center post, viewed from the bottom. Fig. 5 is a view of the fastening-piece on the end of the supporting-arms, viewed from the inside. Fig. 6 is a plan view of a section of the center post, taken in the line 6 of Fig. 2; and Figs. 7 and 8 are details showing the propelling mechanism.

In making my improved merry-go-round I make a center post A of the requisite height and strength, and which is intended to be held firmly and securely in an upright position. The lower end of the center post rests in a suitable step B, which is preferably formed of a casting with extensions or branches *b* radiating therefrom. These branches are preferably formed with a top and sides, so as to afford a socket in which ground supports or pieces C may be inserted, and in which they may be securely fastened by bolts or other convenient means. To still further hold and support the center post in an upright position, I prefer to employ braces D. These braces are intended to be connected to the ground-supports and to the center post by means of castings *d*. These castings are preferably made, as shown in Fig. 4, with a slot *d'* extending out to the edge. They are fastened to the ground-pieces or to the center post in the position in which they are required to be when in use, and the braces D shaped at their ends to fit them. Bolts pass through the braces and through the inner ends of the slots *d'* and are fastened securely in place by nuts.

To prevent the bolts from slipping out of the slots *d'*, I prefer to cast on them a ridge or lug *d''* of a circular form, so that the head of the bolt will fit in behind them when it is drawn in by the screwing down of the nut. When it is desired, however, to take the parts to pieces for the purpose of shipment or other reason, the braces D can be readily detached by loosening the nut on the bolt enough to permit the head of the bolt to slip over the lug or shoulder *d''* and the bolt to be slid out of the slot *d'*. In this way the braces connecting the ground-supports and the center post may be readily removed.

At a convenient distance above the braces D, I arrange a collar E. This collar is intended to fit loosely over the center post, so that it may be rotated around the same. To support it in its proper position, a collar *e'*, provided with a screw-bolt to fasten it securely to the center post, may be employed. This collar *e'* is intended to be held in a stationary and non-rotatable position. The collar E is also preferably provided with branches or extensions *e*, similar to the branches *b* on the supporting-step above described, and supporting-arms F are secured in these branches.

Below the collar *e'* on the center post is arranged another stationary and non-rotatable collar *f*, and below it with a space intervening is arranged a non-rotatable friction or clutch wheel G, provided with an upturned rim *g*. This rim is intended to be circular in form and to extend entirely around the center post. The clutch-wheel G may be made of any desired size; but I prefer to make it somewhat small in diameter, so that a complete revolution of the clutch may the more quickly and easily be made.

Between the stationary collar *f* and the clutch-wheel G is arranged a clutch bar or lever H. This bar is provided with a hole at its inner end to encircle the center post and to be turned or rotated thereon. On its side next to the clutch-wheel two pawls *h* and *h'* are arranged on the opposite sides of the rim *g* of the clutch-wheel. They are made with their free ends slightly eccentric, and are held against the opposite sides of the rim of the clutch-wheel by springs *h''*, as shown in Fig. 7. This arrangement will permit the clutch-bar to slide around the rim of the clutch-wheel in one direction, but will clasp and

hold it, so that it cannot be moved in the opposite direction. This will enable the clutch to take a fresh hold of the rim of the clutch-wheel whenever force is applied in the direction which causes the clutches to press more tightly against the rim. A rock-shaft I is preferably journaled on one or more of the supporting-arms, and a handle or lever *i* arranged at its end to extend down within reach of the occupant of the seat, so that he can rock the shaft by moving the lever or handle forward. A crank or arm *i* extends down from the inner end of the rock-shaft, and is connected by a link *i''* with the clutch-bar. This link should be connected at its ends to the crank *i'* and to the clutch-bar by means of ball-and-socket joints, or joints that will permit the free movement required by the changes in the angle, which in operation will constantly take place between the rock-shaft and the clutch-bar. As the occupant moves the handle or lever *i* forward the rock-shaft will be turned and the crank *i'* thrown forward at its lower end. As he pulls the lever *i* back toward himself the rock-shaft will be held from turning by means of the crank *i'* and its connection through the link *i''* with the clutch-bar. This will cause the seat to move forward until it is once more under the handle or lever *i*. The handle or lever is again thrown forward and the clutch-bar again moved forward on the rim of the clutch-wheel. This causes the seat to be moved around the center post. In this operation, however, it is not necessary to throw the handle or lever forward every time the seat is advanced under it, as the impulse given to it by one movement forward and pull on the handle to advance the seat will cause the seat to move forward with such an impulse as may be sufficient to carry it several times around the center post, and, as above explained, the clutch does not hold against its forward movement. By occasionally, therefore, throwing the handle or lever forward and pulling on it to advance the seat the occupant may propel himself around the center post with great ease and rapidity.

I have described the operation above as though but one seat were employed. As a matter of fact, however, it is intended to use a number of supporting-arms each carrying a seat, so that a number of persons may ride at the same time. The seats may be supported from the supporting-arms in any convenient way. To support the arms more securely from the center post, I prefer to provide each of them with an eyebolt J and to provide the top of the center post with a rotatable casting K, with a rim or flange *k* around its bottom. By placing a ring over the top of the casting, so that it rests in the channel formed by the flange *k*, a number of rods L may be run from the eyebolts J in the several supporting-arms to the ring over the top of the casting. Of course it will be understood that the flange *k* is slotted to permit the rods L to pass therethrough when connected with the ring and in position. This will be understood from an inspection of Fig. 2 of the drawings. To provide an awning for the whole, I also prefer to make a rubber or leather ring M that will fit over the casting K at the top of the center post. An awning N may be carried from this rubber or leather ring down over the rods L and permitted to hang over the ends of the supporting-arms, as shown in Fig. 2. In this way the occupants of the seats will be protected from the sun or rain.

To fasten the ends of the different supporting-arms together, so as to add to the strength and solidity of the structure, I prefer to employ a casting O, which is provided with three studs *o* extending out therefrom. Rods P, provided with eyes on their ends, may be hooked over the two lower studs *o* on each casting and extended to the end of the next supporting-bar, where the other ends of the rods will be hooked over other studs *o*. The upper of the three studs shown in Fig. 3 may be used to receive a ring, to which the awning may be fastened and supported in place. To prevent the rings or eyes on the ends of the connecting-rods P from slipping off from the studs *o*, I prefer to make a casting Q, like that shown in Fig. 5, with extensions *q*, each of which rests over or partially over one of the studs *o*. This plate may be held in position by a screw, as shown in Fig. 3, and when in position its extensions bear against the studs, so as to prevent the rings or eyes from being slipped from them.

To prevent the fastening-plate from turning around, I prefer to provide it with a small slot or channel *q'* and to provide one of the studs with a corresponding lug *q''*, fitting into the groove when it is screwed fully into place. This will prevent the plate from turning; but when it is desired to remove the ends of the connecting-rods from the studs all that is necessary to be done is to loosen the screw holding the plate in position enough to allow the groove *q'* to slide over the lug *q''*. The ends or extensions *q* of the plate may then be turned around until they no longer rest upon the ends of the studs, when the ends of the connecting-rods may be easily and readily removed. In this way I am able to detach the ends of the supporting-arms from each other without trouble or loss of time.

What I regard as new, and desire to secure by Letters Patent, is—

1. In a merry-go-round, the combination of a vertical center post, supporting-arms rotatably mounted thereon, seats arranged on the supporting-arms, a clutch-wheel non-rotatably mounted on the center post and provided with a smooth or untoothed rim, a clutch-bar rotatably mounted on the center post, a clutch comprising two opposing members arranged on the clutch-bar on opposite sides of the clutch-wheel rim and engaging the clutch-wheel on the opposite sides of its smooth and

untoothed rim and permitting the clutch-bar to move in one direction and preventing it from moving in the other, a rock-shaft journaled on one of the supporting-arms, a crank and link on the inner end of the shaft connected together by a joint permitting free movement and connecting the shaft to the clutch-bar by a joint permitting free movement, and a handle on the outer end of the shaft extending within reach of the occupant of the seat, substantially as described.

2. In a merry-go-round, the combination of a vertical center post, a removable cap thereon, supporting-arms arranged on a removable collar, ground-pieces radiating from the center post, braces connecting the ground-pieces and the center post, slotted connecting-pieces interposed between the ends of the braces and the point of connection between the braces and the ground-pieces and center post and provided with ridges to retain bolt-heads, and bolts passing through the slots of the connecting-pieces and the braces with their heads behind the ridges and permitting them to be detached upon loosening, but without removing the bolts, substantially as described.

3. In a merry-go-round, the combination of a vertical center post, supporting-arms rotatably mounted thereon, seats arranged on the supporting-arms, end pieces on the supporting-arms, provided with outwardly-extending studs, rods extending from the studs of one end piece to the studs of another, and a fastening-plate preventing the rods from slipping over the ends of the studs, substantially as described.

4. In a merry-go-round, the combination of a vertical center post, supporting-arms rotatably mounted thereon, seats arranged on the supporting-arms, a rotatable cap on the top of the center post provided with a slotted rim, a ring supported on the cap above the rim, and rods extending from the ring through the slots in the rim of the cap to or near the outer ends of the supporting-arms, strengthening them and preventing sagging, substantially as described.

JACOB FRUEH.

Witnesses:
THOMAS A. BANNING,
GEORGE S. PAYSON.