No. 693,295.

Patented Feb. 11, 1902.

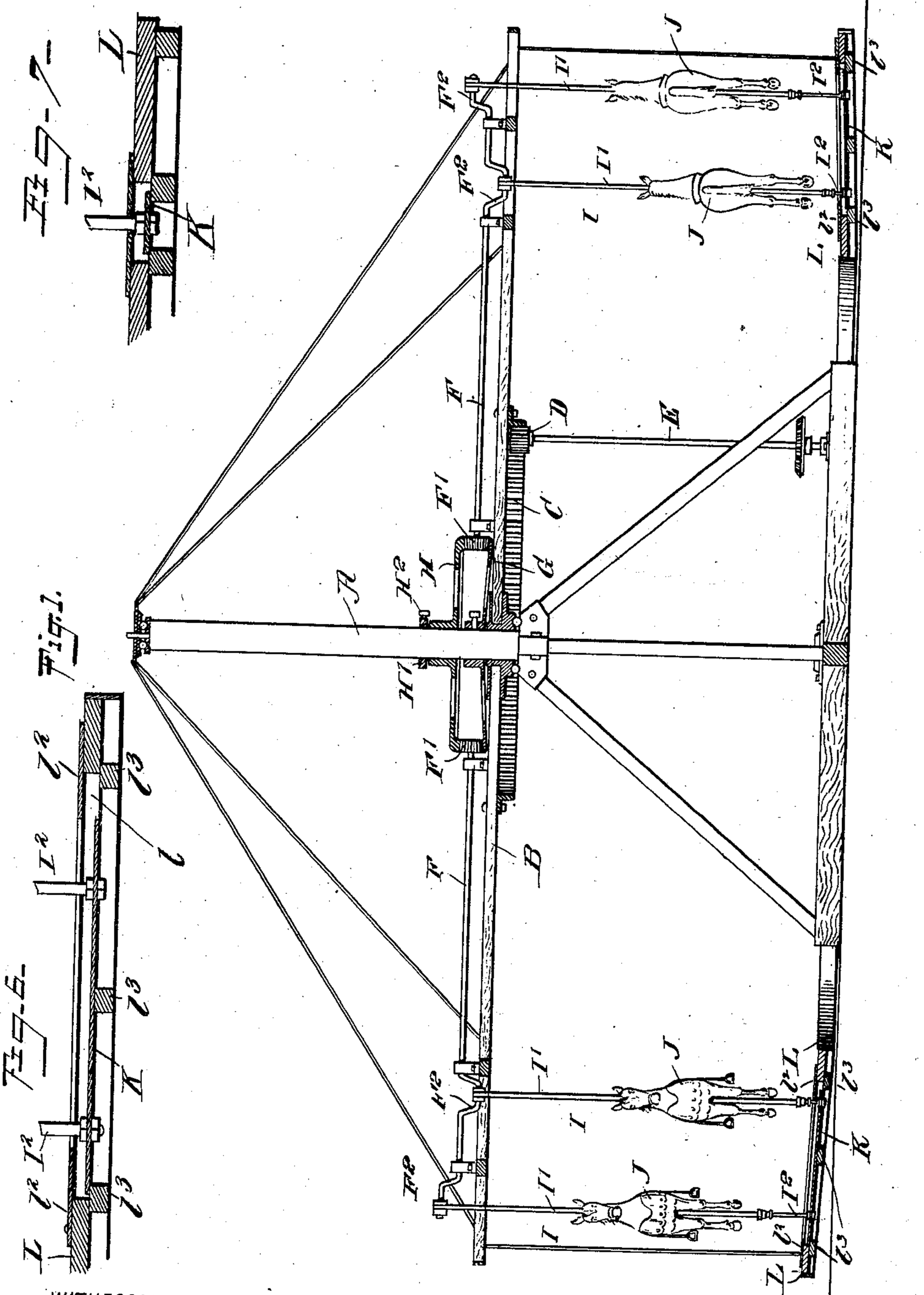
W. F. MANGELS.

MERRY-GO-ROUND.

(Application filed Feb. 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

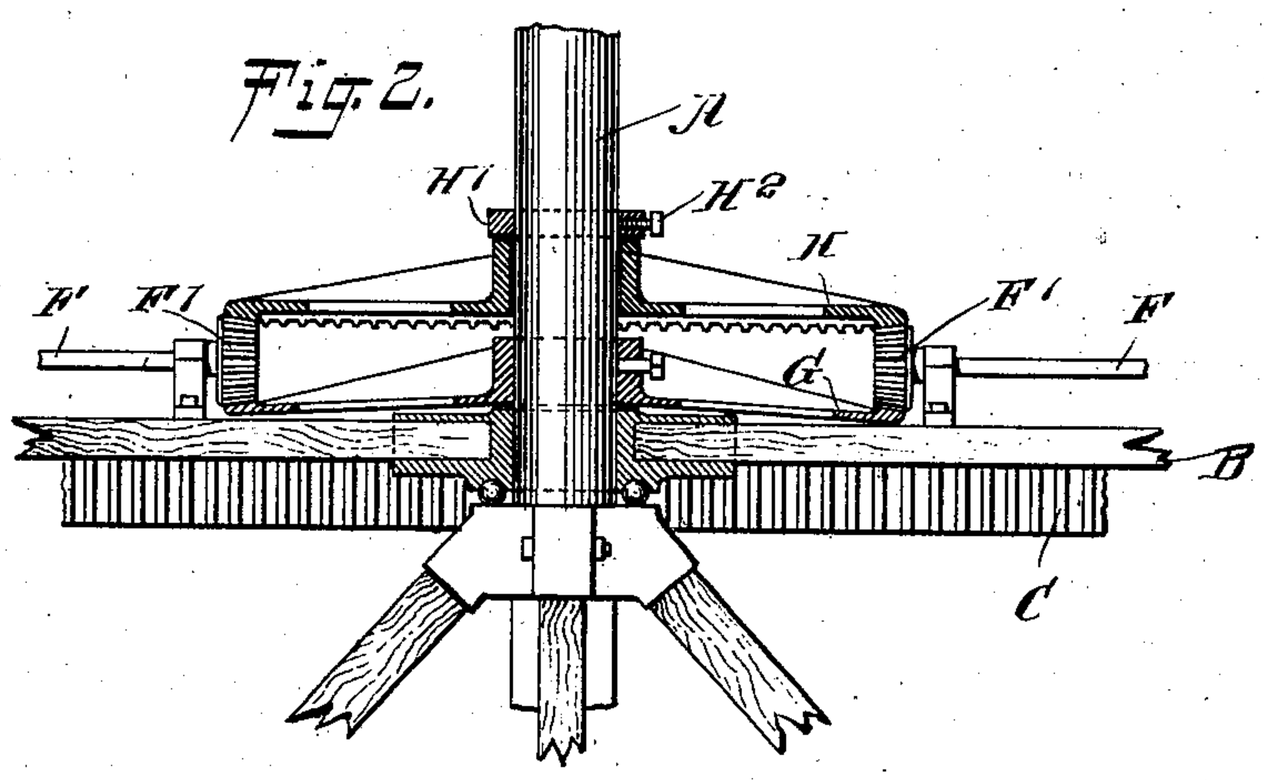


Fig. 3.

Fig. 4.

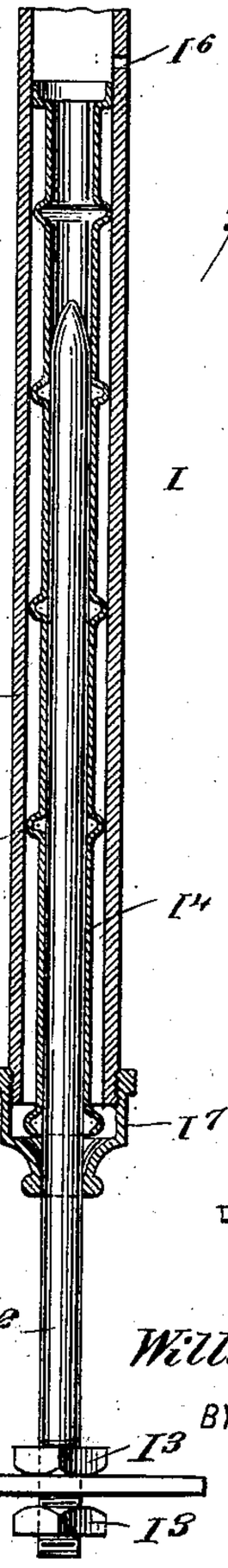
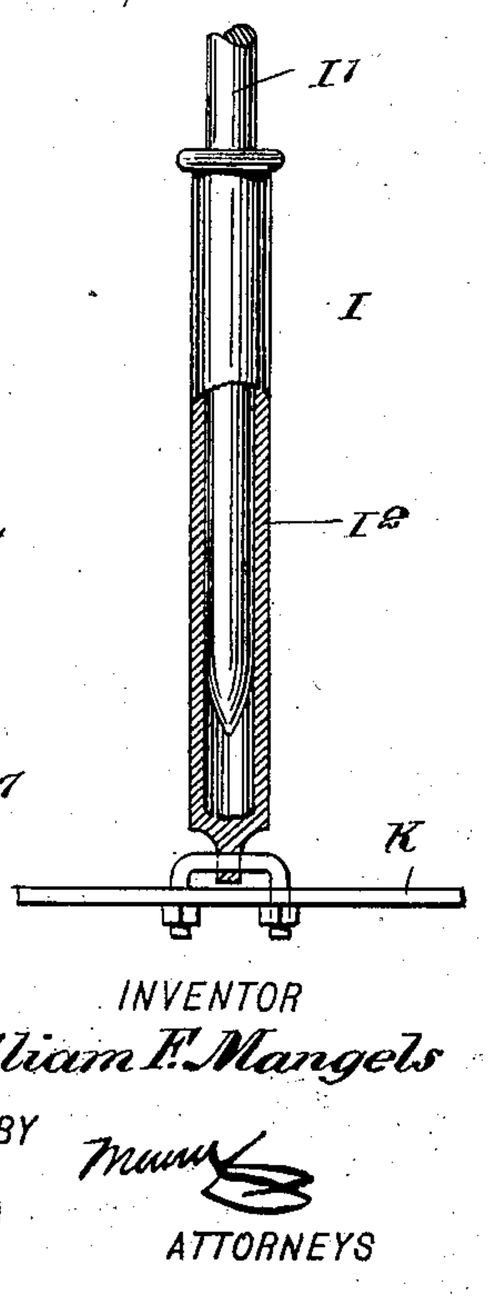


Fig. 5.



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UNITED STATES PATENT OFFICE.

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MERRY-GO-ROUND.

SPECIFICATION forming part of Letters Patent No. 693,295, dated February 11, 1902.

Application filed February 25, 1901. Serial No. 48,695. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. MANGELS, a citizen of the United States, and a resident of the city of New York, (Coney Island, borough of Brooklyn,) in the county of Kings and State of New York, have invented a new and Improved Merry-Go-Round, of which the following is a full, clear, and exact description.

The invention relates to merry-go-rounds having crank-shafts for imparting movement to the seats; and the object of the invention is to provide certain new and useful improvements in merry-go-rounds, whereby the desired movement is given to the seats without the use of a pit or unduly raising the platform and seats above the ground, thus making access to the seats difficult.

A further object of the invention is to insure easy running of the machine by giving a smooth uniform movement to the several parts of the driving-gear for the crank-shafts to avoid undesirable jerks and strain on the revoluble frame and seats.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is an enlarged sectional side elevation of the driving-gear. Fig. 3 is an enlarged side elevation of one of the seat-supports. Fig. 4 is a sectional side elevation of the same. Fig. 5 is a side elevation of a modified form of the seat-support. Fig. 6 is a longitudinal section of a portion of the platform on an enlarged scale, and Fig. 7 is a transverse section of the same.

On the central post A of the merry-go-round is mounted to turn a frame B, provided with an annular rack C, in mesh with a pinion D, secured on the upper end of a vertically-disposed shaft E, connected with suitable machinery for imparting a rotary motion to said shaft E and a revolving movement to the frame B. On the top of the latter are journaled the radially-disposed crank-shafts F, each carrying at its inner end a bevel-pinion F′, in mesh with a bevel gear-wheel G, secured to the central post A, and each pinion F′ is also in mesh with a bevel gear-wheel H, mounted loosely on the central post A and held against upward movement thereon by a collar H′, secured by a set-screw H^2 to the central post A. The bevel gear-wheels G and H are in mesh with the pinions F′ at opposite sides, and when the frame B is rotated then the pinions F′ in rolling over the fixed gear-wheel G are rotated, and consequently a revolving motion is given to the crank-shafts F. The rotary motion of the pinions F′ causes a revolving of the bevel gear-wheel H, and as the latter engages the said pinions at the top and is held against upward sliding on the central post A it is evident that the pinions F′ are all rotated uniformly and smoothly, and consequently undue jerks and strain on the frame B are completely avoided.

The outer ends of the crank-shafts F are provided with one, two, or more crank-arms F^2, each of which is engaged by a support I for a seat J, the lower ends of the supports being attached to bars K, held to slide radially in the usual platform L, made ring shape and supported from the revoluble frame B. As shown in the drawings, the bars K are arranged in radial openings *l* in the platform, and upon the upper surface of the platform over the said openings are secured slotted plates l^2, through which the seat-supports extend. These plates l^2 limit the upward movement of the bars K, and the downward movement of said bars is limited by the timber frames l^3 of the platform. Each of the supports I is made in two parts I′ I^2, telescoping one into the other, the part I′ being made tubular and connected to the crank-arm F^2 and the part I^2 being preferably in the shape of a rod connected by nuts I^3 to the bar K. (See Figs. 3 and 4.) The part I^2 is mounted to slide in a tubular bearing I^4, held in the part I′ at the lower end thereof, said bearing I^4 being open at the top and bottom and formed at its inside with annular recesses I^5 for receiving a lubricant, the walls of the recesses forming annular external ridges engaging the inner wall of the part I′ to hold the bearing in proper position in said part I′, as will be readily understood by reference to Fig. 4. The lubricant may be readily introduced into the part I′ above the bearing I^4 through a suitable oil-hole I^6, the lubricant flowing from the upper end of the bearing down inside of the same to lubricate the part I^2. The lower end of the part I′ is pro-

vided with a suitable cap I^7 for preventing dust and other impurities from passing into the bearing I^4.

It is understood that when the shaft F is rotated the crank-arm F^2 imparts an up-and-down movement to the part I′ and the seat J, secured thereon, the lower end of said part being guided on the part I^2, loosely connected with the bar K to permit a slight rocking of the part I^2 on the bar K incident to the movement of the crank-arm F^2 on the support I.

I do not limit myself to the particular construction of the support I described, as the same may be varied, inasmuch as the part connected to the bar K may be tubular to receive the part I′, connected with the crank-arm F^2, as shown in Fig. 5. Other suitable means for connecting the part I^2 with the bar K may also be employed.

From the foregoing it is evident that the platform L may be arranged pretty close to the ground without the use of a pit underneath the platform for the lower ends of the seat-supports, as heretofore constructed, the arrangement also avoiding raising the platform above the ground to allow the lower ends of the seat-supports movement below the platform, as heretofore constructed, it being understood that in the last-mentioned case it is necessary to use steps leading from the ground to the platform to enable the users of the merry-go-round to mount or dismount from the platform and the seats.

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

1. A merry-go-round having a support for seats and made in parts telescoping one another, a bearing in one of the parts, for slidably receiving the other part, said bearing having internal recesses for a lubricant, and external ridges for engaging the inner surface of the part containing the bearing, as set forth.

2. A merry-go-round having a support for seats made in parts telescoping one another, and a bearing in one of the parts, for slidably receiving the other part, said bearing being formed with internal recesses for a lubricant and open at the top and bottom, the lower end receiving the sliding part and the upper end being arranged to receive the lubricant, as set forth.

3. In a merry-go-round, the combination with a platform, a revoluble frame above the platform, a crank-shaft mounted in the frame, and means for operating the crank-shaft, of a seat-support formed of telescoping sections, one section being secured to the crank-shaft and the other having radially-sliding movement on the platform, as set forth.

4. In a merry-go-round, the combination with a platform having radial openings, a revoluble frame above the platform, shafts mounted in the frame and each provided with a plurality of cranks, and means for operating the said shafts, of seat-supports formed of telescoping sections, the upper sections of which are secured to the cranks of the shafts, and a bar connecting the lower sections of the supports and fitted to slide in the openings of the platform, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM F. MANGELS.

Witnesses:
THEO. G. HOSTER,
EVERARD BOLTON MARSHALL.