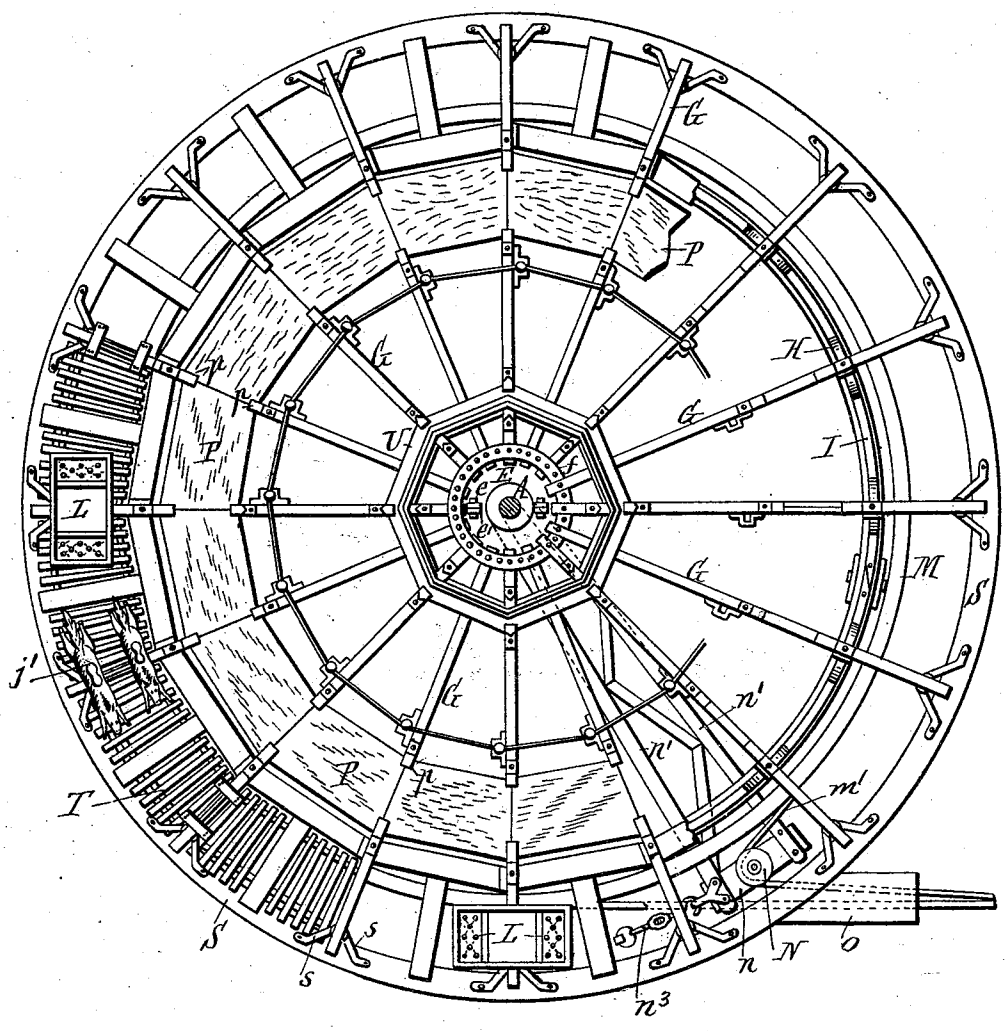
(No Model.) 3 Sheets—Sheet 1.

J. ARMITAGE & A. & G. C. HERSCHELL.

ROUNDABOUT.

No. 531,403. Patented Dec. 25, 1894.

Fig. 1.



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(No Model.) 3 Sheets—Sheet 2.

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Fig. 2.

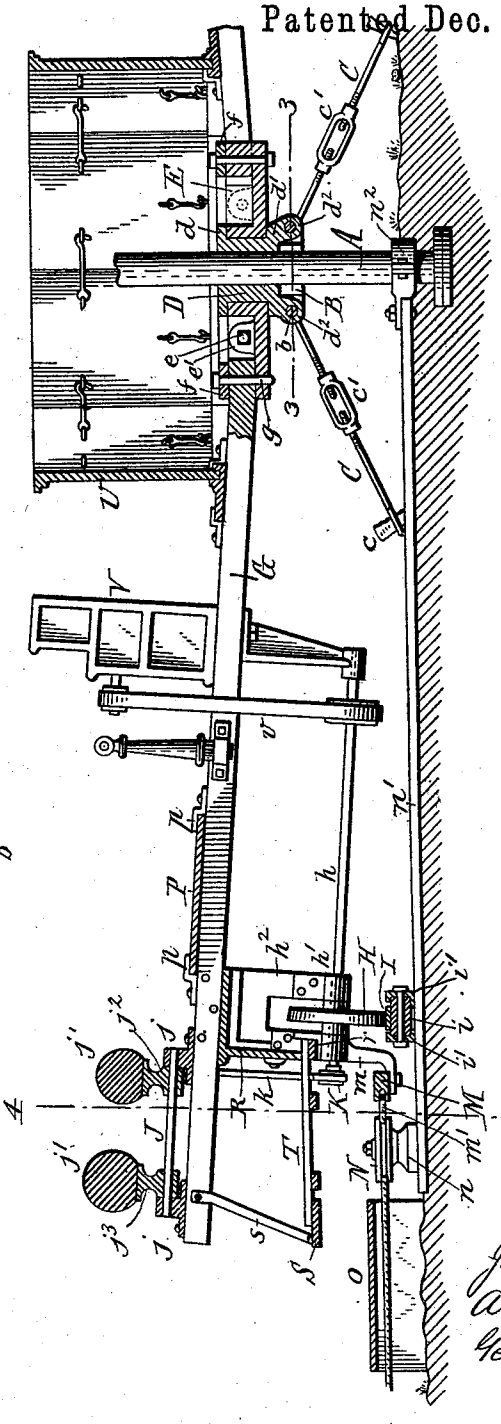
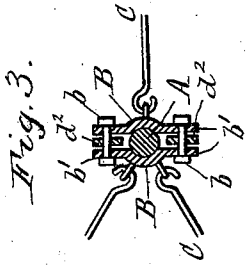


Fig. 3.



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(No Model.) 3 Sheets—Sheet 3.

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Fig. 4.

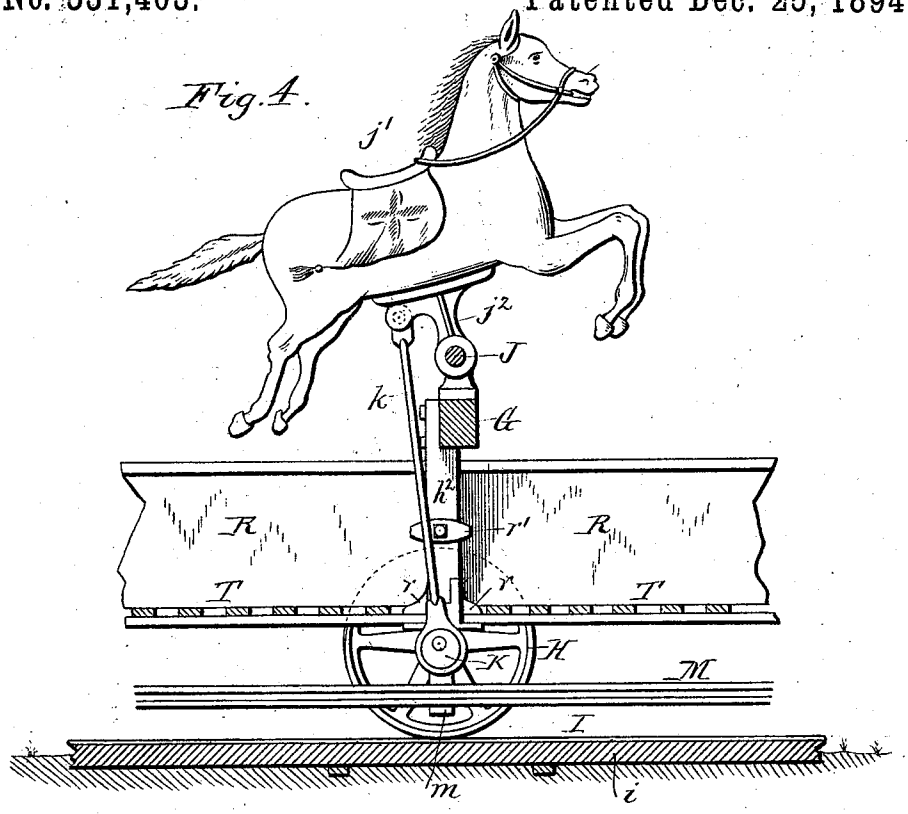
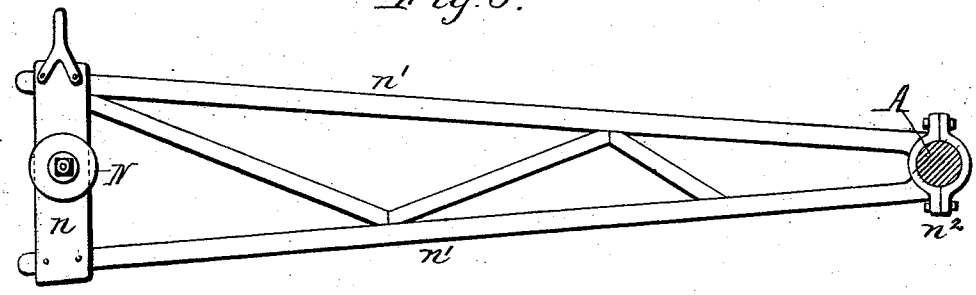


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES ARMITAGE, ALLAN HERSCHELL, AND GEORGE C. HERSCHELL, OF NORTH TONAWANDA, NEW YORK.

ROUNDABOUT.

SPECIFICATION forming part of Letters Patent No. 531,403, dated December 25, 1894.

Application filed July 18, 1894. Serial No. 517,911. (No model.) Patented in Canada August 8, 1894, No. 46,790.

To all whom it may concern:

Be it known that we, JAMES ARMITAGE, ALLAN HERSCHELL, and GEORGE C. HERSCHELL, citizens of the United States, residing at North Tonawanda, in the county of Niagara and State of New York, have invented new and useful Improvements in Roundabouts, (for which we have obtained a patent in Canada, No. 46,790, bearing date August 8, 1894,) of which the following is a specification.

This invention relates to certain improvements in that class of machines commonly known as roundabouts or merry-go-rounds and which consists essentially of a horizontally revolving frame or platform provided with wooden horses or seats on which persons are seated and whirled around for amusement.

The object of our invention is to improve the construction of these machines whereby they are rendered much stronger and safer in use.

In the accompanying drawings consisting of three sheets: Figure 1 is a fragmentary top plan view of our improved machine. Fig. 2 is a fragmentary sectional elevation of the machine on an enlarged scale. Fig. 3 is a horizontal section, in line 3—3, Fig. 2. Fig. 4 is a vertical section, on an enlarged scale in line 4—4, Fig. 2. Fig. 5 is a top plan view of the steadying or guide frame which carries the cable guide roller.

Like letters of reference refer to like parts in the several figures.

A represents a vertical post secured with its lower end in the ground and forming a pivot or center support for the machine.

B represents two semi-circular clamping plates or bands which are clamped against opposite sides of the post by bolts *b* passing through perforated lugs or ears *b'* formed on the ends of the bands.

C represents brace rods whereby the lower portion of the post is steadied. Each of these rods is connected at its inner end to an eye formed on the bands B and its outer end is secured to a stake *c* driven into the ground. Each brace rod is preferably composed of two sections connected by a turn buckle *c'*.

D represents a sleeve which surrounds the post and rests upon the clamping bands B. The sleeve D is provided with annular flanges or collars *d d'* at its upper and lower ends, respectively. The lower flange of the sleeve is provided on diametrically opposite sides with depending eyes d^2 which are arranged between the ends of the clamping bands and receive the same bolts which connect the lugs of the clamping bands thereby preventing the sleeve from turning or moving lengthwise on the post.

E represents a hub which turns on the sleeve D between the flanges of the latter, and composed of two like sections which are placed on opposite sides of the sleeve and secured together by bolts *e* passing through lugs *e'* formed on the adjacent portions of the hub sections. The marginal portions of the hub sections are provided with an annular row of upwardly projecting lugs forming a row of radial sockets between the lugs. The upper ends of these sockets are closed by two semi-circular plates *f* secured to the top of the lugs.

G represents radial arms or sweeps arranged with their inner ends in the sockets of th ehub and secured therein by pins *g* passing through the plates, sweeps and the hub sections. As the machine rotates the centrifugal force has a tendency to throw the passengers out of balance, and in order to avoid this the sweeps are inclined upwardly from their inner to their outer ends, which causes the effect of the contrifugal action upon the passengers to be counteracted.

H represents wheels running on a circular horizontal track I and supporting the sweeps near their outer ends, each wheel being mounted on a radial axle *h* which is journaled in bearings *h'* arranged upon the lower end of a leg h^2 depending from one of the sweeps.

The track consists of metallic sections secured upon a sectional wooden bed *i*. The joint between the sections of the track are oblique so that the wheels in rolling over the track will bear partly upon the succeeding section before entirely leaving the preceding section thereby preventing jarring of the machine. The opposing ends of two bed sections overlap each other and are connected

by two channel shaped fish plates i' arranged on opposite sides of the joint and connected by a bolt which passes through the joint.

J represents a horizontal rock shaft arranged lengthwise of the sweeps and journaled with its ends in bearings j secured to one of the sweeps. The inner bearing of each rock shaft completely incloses the shaft, while the outer bearing is U-shaped and only embraces the lower portion of the shaft which enables the shaft to be removed without removing the bearings.

j' represents wooden horses or other figures supported upon the rock shaft J by brackets j^2 j^3 secured to the under sides of the figures and rigidly secured to the shaft.

K is an eccentric disk secured to the outer end of each axle of the supporting wheels H, and k is an eccentric rod which is connected at its lower end with an eccentric strap on the eccentric disk K and at its upper end to the bracket j^2 whereby a rocking movement is given to the figures j' as the wheels H revolve on the track I.

Each of the sweeps G may be provided with a rock shaft J upon which a pair of wocden horses are mounted and which are operated by an eccentric rod k connecting each pair of horses with the axle of the wheels below the sweep.

L represents seats secured to the sweeps which are not provided with horses or figures. The seats L are preferably secured rigidly to the sweeps, but if desired the seats L may be attached to the rock shaft J and a rocking movement may be given to the seats in the same manner in which the wooden horses are set in motion.

M represents an annular cable rim arranged below the outer portions of the sweeps adjacent to the outer sides of the supporting wheels and secured to hangers m formed on the outer bearings of the wheel axles. This rim is provided in its outer edge with a groove which receives an endless driving cable m', connected with the driving pulley of an engine whereby motion is imparted to the rotary frame of the machine. One portion of the cable extending from the cable rim to the engine passes around a guide pulley N arranged underneath the outer portion of the sweeps. This pulley is mounted on a vertical spindle supported at its lower end on a base board n.

n' represents a stay or guide frame whereby the guide pulley N is retained in its proper position with reference to the cable rim. This stay consists of two radial bars resting on the ground and secured at their outer ends to the base board of the guide pulley N, while their inner ends are secured to a divided collar n^2 which embraces the center post. The center post is in time liable to become displaced or drawn toward the side of the machine from which it is driven. When the post is thus displaced and the supporting base of the guide pulley N has no connection with the post, the cable rim comes in contact with the guide pulley and interferes with its action, rendering it necessary to shift the guide pulley away from the rim. By providing a connection between the guide pulley and the center post, the pulley is compelled to move with the post, in case the latter is displaced, thus maintaining the guide pulley in the proper position relatively to the cable rim and preventing interference of the rim with the pulley.

n^3 represents a stay or brace rod whereby the guide pulley is restrained against movement in the direction in which the cable tends to pull it. This stay is secured at its ends to the base board of the pulley and a stake driven into the ground and is preferably composed of two sections connected by a turn buckle to permit of taking up slack in the cable. The collar at the inner end of the stay frame n' is preferably capable of rotating on the center post, to permit the frame to turn or yield on the post, in case the brace rod n^3 should become slack, thereby preventing breakage of said frame.

The cable rim is secured to the hangers m of all of the supporting legs or brackets h^2 and the rim thus serves not only as a means of driving the machine, but also as a tie ring or annular stay whereby the various supporting legs are connected together and firmly braced against lateral as well as inward and outward deflection.

It has been found that when the roundabout is heavily loaded, the supporting legs are liable to become bent, in which case the wheels run off the track. By tying the brackets together by means of the cable rim, this is not only prevented, but the use of separate connections for this purpose is dispensed with, thus accomplishing the desired result without increasing the cost of the machine.

By arranging the cable rim below the outer portions of the sweeps and inside of the edge of the rotary frame or platform, the overhanging portion of the platform forms a guard which prevents passengers or mischievous persons from coming in contact with the cable, and becoming injured. The cable rim also forms a guard for the lower portions of the supporting wheels, whereby mischievous persons are prevented from throwing stones or other obstructions under the supporting wheels.

P represents a circular platform arranged on the inner sides of the seats and figures and composed of sections which rest with their ends upon the sweeps and are held in place theron by clips p.

R represents angle braces arranged between the sweeps and resting upon cleats r secured to opposite sides of the legs h^2. The braces are removably held in place against the cleats by turn buttons r' pivoted on the outer sides of the legs.

S represents a guard rim arranged below the outer ends of the sweeps and suspended therefrom by hangers s.

T represents a sectional platform arranged

below the seats and figures and supported by the guard rim S and brackets formed on the legs h^2.

U is a sectional drum arranged upon the inner portions of the sweeps around the center post, the sections being provided on their outer sides with pictures or other attractions, and V represents an organ or other musical instrument supported on the sweeps and provided with a crank shaft which is operated by a pulley mounted on the crank shaft and connected with a pulley on the axle of one of the supporting wheels by an endless belt v as shown in Fig. 2.

We claim as our invention—

1. The combination with the rotary frame or platform and the track arranged underneath the same, of supporting legs depending from the under side of said platform, wheels journaled in said legs and running upon said track and an annular cable rim arranged on the outer side of said wheels and secured to the lower portions of said supporting legs whereby the cable rim forms a tie ring or stay connecting the various legs, substantially as set forth.

2. In a roundabout, the combination with the center post and the rotary platform or frame surrounding said post and provided with a cable rim, of a stay or guide frame attached at its inner portion to said post and extending outwardly therefrom, a guide pulley mounted on said frame, and a driving cable passing around said rim and said guide pulley, substantially as set forth.

Witness our hands this 16th day of July, 1894.

JAMES ARMITAGE.
ALLAN HERSCHELL.
GEORGE C. HERSCHELL.

Witnesses:
CHAS. S. ORTON,
JNO. J. BONNER.