

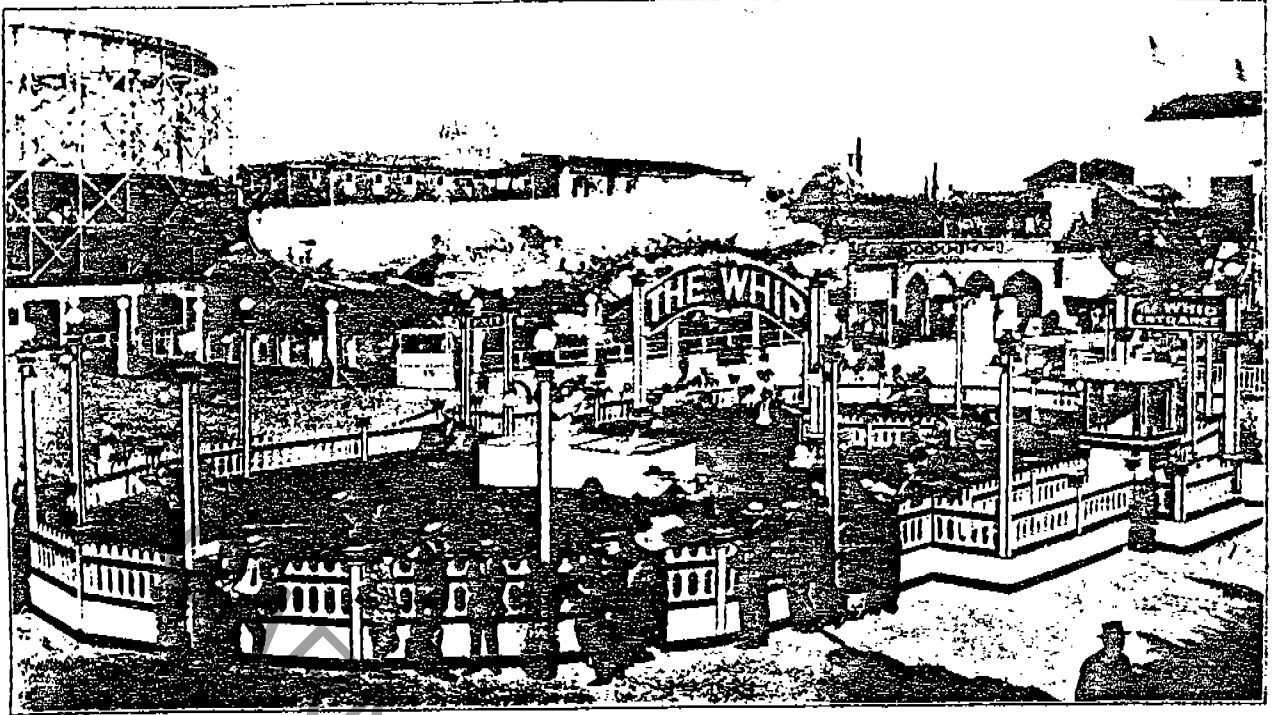
MFG: MANGELS  
RIDE: WHIP

The first "PORTABLE WHIP" built. It was operated by Mr. Joseph Krouse, with the M. & L. Shows, and set up in the Public Square in front of the U. S. Post Office, Utica, N. Y. The week's receipts were \$1,047.

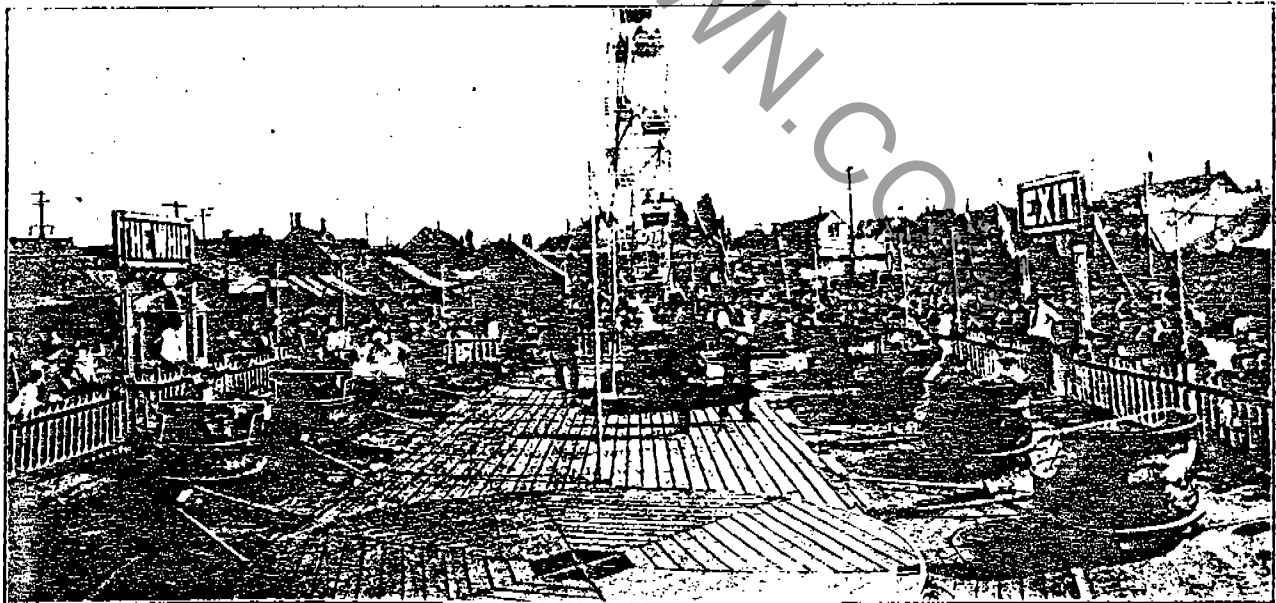
# "THE WHIP"—IT'S A SCREAM!



"THE WHIP"  
LATEST SENSATIONAL  
AMUSEMENT  
RIDE  Patented.

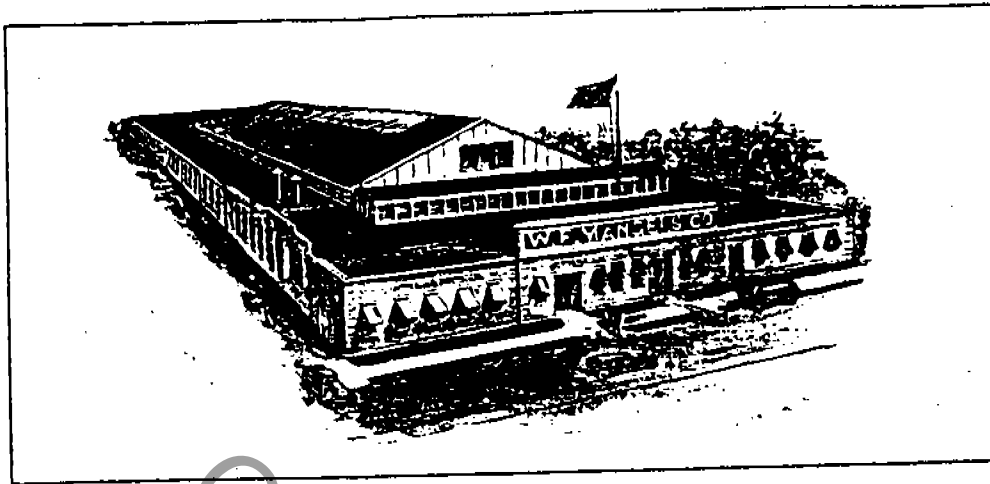


New "STATIONARY WHIP" at Rendevous Park, Atlantic City, New Jersey



"PORTABLE WHIP" of the F. L. Flack Shows; is under the able management of Mr. F. L. Flack.

This "WHIP" is always up and ready Monday, is kept in a first class condition at all times, lubrication is strictly looked after, minor repairs are promptly made, it is cleaned and tidied up at short intervals, it is ready when the money is there—and gets it.



FOUNDED 1890

# W. F. MANGELS COMPANY

CARROUSEL WORKS

2875 WEST 8th STREET  
CONEY ISLAND, BROOKLYN 24

NEW YORK, U. S. A.

REGISTERED CABLE ADDRESS  
"CARROUSEL NEW YORK"

Phone Coney Island 6-0142

*Manufacturers of*

—————  
"THE WHIP"  
WORLD'S FAMOUS RIDE  
—————

MECHANICAL SHOOTING GALLERIES

—————  
KIDDIE RIDES  
—————

NOVELTIES CONSTANTLY ADDED

# **THE WHIP®**

**PRICE LIST OF PARTS  
and  
SETTING UP INSTRUCTIONS**

**MANUFACTURED  
EXCLUSIVELY BY**

**A. G. MANGELS CO.**  
2 CHERRY STREET  
BAY SHORE N.Y. 11706

## OPERATING A "WHIP"

The successful operation of a mechanical amusement device demands the constant attention of the operator, not only in the handling of his patrons in an orderly and courteous manner, but also in keeping his device in a neat and safe condition at all times.

Some amusement devices revolve on a simple axis and therefore are easily kept in mechanical repair, but lack thrill. Other devices that provide more thrill and speed to their patrons, require closer attention to mechanical details by the operator. This fundamental principle is too often overlooked.

THE WHIP is a thrill ride and is made of excellent material by skilled workmen. This however does not mean that its mechanical parts can be left without attention by the operator for long periods of time without lubrication or cleaning.

All mechanical parts of the WHIP should receive a close inspection at least once a week during the operating season. Lubrication should be applied in a thorough manner, but not to excess, since any lubrication scattered over the various parts does not serve the purpose. One ounce of lubrication in the right spot will do more good than pounds of grease applied indiscriminately. A close watch should be kept on those parts that show excessive wear for some reason, such as lack of lubrication, overloads, or accumulation of grit, dirt or clogged oil and grease channels.

All parts that have worn out after a long period of service should be replaced by new ones. This applies especially to the connecting pins which are subjected to severe service.

One of the important parts of the WHIP is the Steel Cable. Perhaps no other part of the mechanism is subjected to such a variety of strains than the cable. The best cable obtainable is used, and its length of life depends on the amount of business and how it is taken care of. One advantage of this cable is, that when worn out by long service, it does not break suddenly. Instead it gives ample warning by the gradual unraveling of small strands of its wire.

As to the tension of the cable when in operation, it should neither be too tight or too loose. If too loose, the Bull Wheel will slip on the cable in a noisy manner. If the tension is too tight, it will damage the driving mechanism. Great care should be taken to avoid kinking the cable when handling as a short kink will ruin it.

The mechanism of a WHIP may be damaged by improper assembling, especially as to its foundation for the underframe. Proper supports should be provided at points indicated in the set up plan. Broken or decayed timbers should be replaced with sound ones.

A very important item in the operation of a WHIP is the condition of the Cars. These should be kept clean and fresh. The upholstered seats should be frequently cleaned with a vacuum cleaner and the exterior of the cars should be wiped clean with a damp cloth. A periodic application of a good auto wax will greatly help to protect the finish. By doing this, a car will look attractive despite the wear it may show. To invite patrons dressed in their holiday clothes to sit in a dirty car is asking a great deal. It spells failure. This applies not only to the WHIP but to all amusement devices.

The WHIP by reason of the thrill it provides for its patrons, has become a permanent fixture in the outdoor amusement world.

Keep your WHIP clean, neat and in good mechanical condition and it will be a consistent money maker for you.

## INSTRUCTIONS FOR SETTING UP 8 CAR PORTABLE WHIP

First put down sill B, followed by sill 1 and sill A. Next put backbone in place. Next put in place sills 2, 9, 10 and 17. Next put down stringers 1, 7, 8 and 14. Next square up the assembly by attaching the two diagonal squaring braces.

Next put the Drive in place as shown and block up the frame to a level, using substantial pieces of plank for blocking.

Next the rest of the sills and the stringers can be put in place in rapid succession and blocked up level.

Next put down the platform, starting with section No. 1, followed by section No. 2 and so on. Avoid banging the sections into place with a sledge hammer. Use a piece of timber instead and thump them into place. Next put the Bull wheels together.

Next put down the cable guides and center platform. Now you are ready for the cable. First back up the adjustable Bull Wheel all the way. Slip the cable over the wheels and tighten the tension screw until a medium tension on the cable has been obtained. If too tight the hub and king pins will be damaged.

Next secure the brackets to the cable. The cars are then attached to the brackets. Make sure that all connecting pins are secured with cotter pins.

It may be noted that up to this point only the mechanical part of the ride has been assembled and the enclosure is last to go up. For this work, the help should be given an opportunity to clean their hands to permit them handling the decorated enclosure.

First put up the light posts and hook in place the sections of fence to keep the posts in place. Next attach the Entrance and Exit. It should be noted that the Entrance may be put in any desirable section between the light posts, thus the Entrance may be at the end or on the side of the ride, as local conditions may dictate. The side entrance is always to be preferred as it facilitates loading and unloading of the cars.

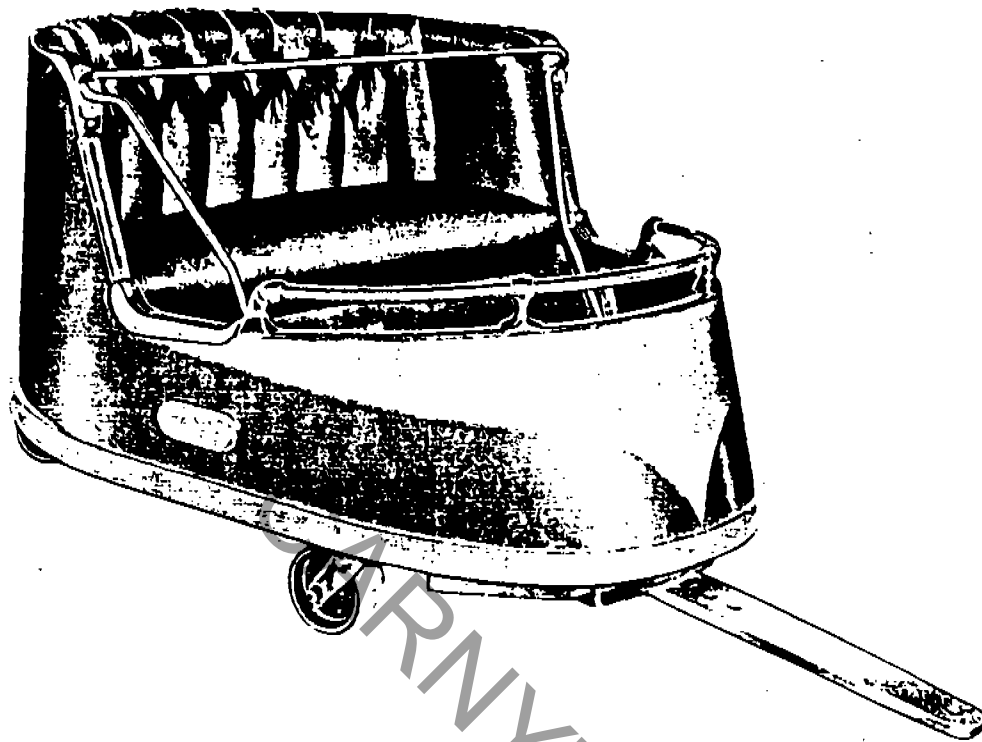
After the Light Ducts have been put in place on top of the posts, the feeder cables may be connected. These are laid loosely on the underframe near the ground, with the control box placed near the power plant for the convenience of the operator.

It should be noted that the electric bulbs may remain in the light ducts when packed in the crates. This saves time and lamps.

After minor details have been finished, a trial run should be made, carefully at first to make sure that there are no obstructions in the way.

Regarding lubrication; this should neither be neglected nor overdone and should be entrusted to a trustworthy intelligent person.

In order to attract business, the cars, in fact the entire device should be kept in a clean attractive condition. In this manner the WHIP will never disappoint you.



### Streamline WHIP CAR

This Car is of the latest design.

The exterior is finished in various color combinations, striped and given several coats of the most durable exterior varnish available.

The upholstery is of simulated leather with tufted back and removable seat.

A dual foot rest is provided.

Handlebar, Front Rail and fittings are highly chromium plated.

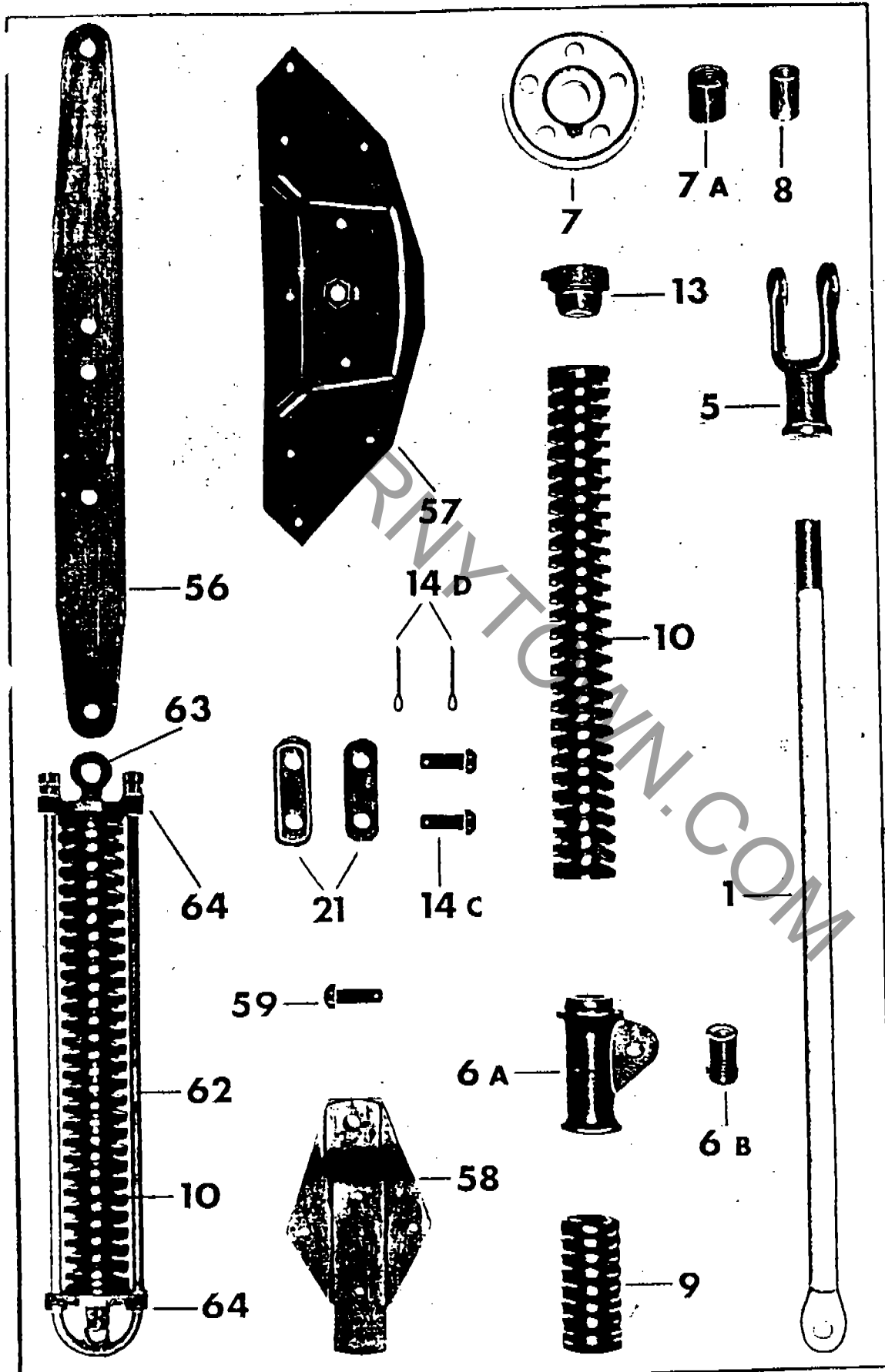
The steel Caster Wheels are equipped with Timken bearings and have alemite fittings for lubrication.

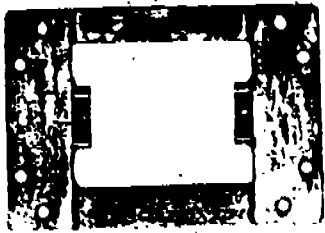
The Tongue Housing and Tongue are of rugged design.

The Car is complete with underneath spring assembly.

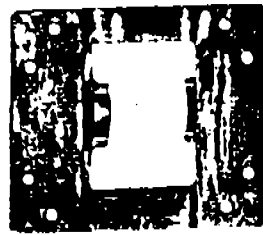
A waterproof canvas cover is included.

**Weight of Car—approximately 450 lbs.**





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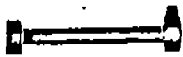
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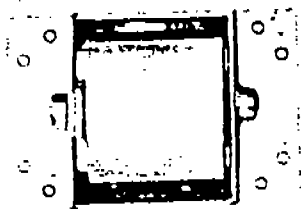
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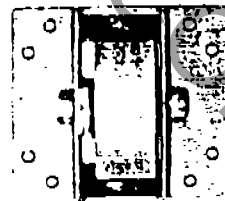
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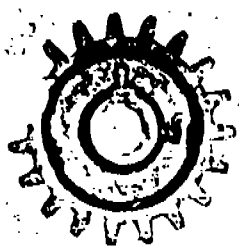
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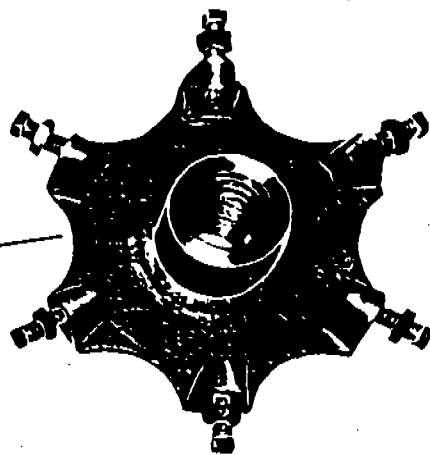
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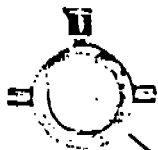
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44 B



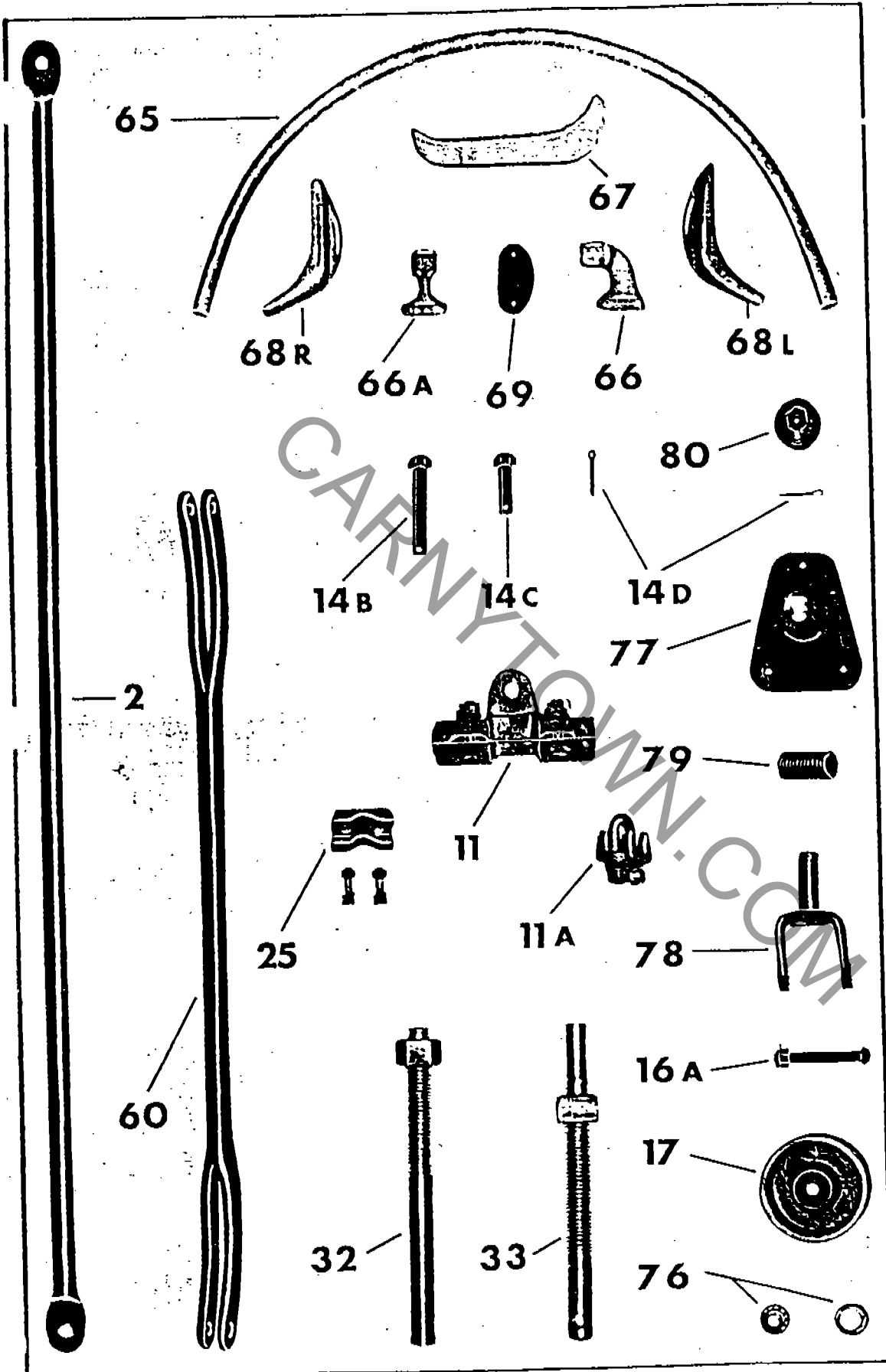
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**"THE WHIP" REPAIR PARTS PRICE LIST No. 202**  
 Effective January 1st 1963

1	Main Bar.....	\$18.00
2	Tug Bar.....	15.00
	Main Bar Fork.....	15.00
6A	Sliding Dog, with bronze bushing.....	12.00
6B	Bronze Bushing, for 6A replacement (2 needed) each.....	2.50
7	Main Bar Wheel, with bronze bushing.....	15.00
7A	Bronze Bushing, for #7 renewal.....	2.50
8	Steel Bushing for Main Bar Wheel.....	1.00
9	Double Buffer Spring & Washers (no collars required).....	5.00
	Outside only.....	3.00
	Inside only.....	2.00
	Washers, each.....	.35
10	Large Double Spring.....	9.00
	Outside only.....	5.50
	Inside only.....	3.50
11	Cable Shoe, including bolts & lock washers.....	15.00
11A	Cable Clip, including bolts & lock washers.....	2.00
13	Spring Collars, 2 set screws.....	2.00
14B	Connecting Pin, long.....	1.25
14C	Connecting Pin, short.....	1.10
14D	Cotter Pin, 1/4" x 2".....	.05
16A	Caster Wheel Axle.....	1.25
17	Caster Wheel, including two 5/8" Timken Bearings.....	15.00
21	Shackle Links, with pins.....	6.00
22	Bevel Pinion, 19 teeth, 2" bore, 1/2" keyway.....	45.00
	Saddle Wheels, assembly complete, narrow.....	40.00
	Saddle Wheels, assembly complete, wide.....	62.00
24	Cable Grip, including bolts & lock washers.....	.85
25	Friction Wheel & Housing Assembly, complete, narrow.....	25.00
26	Friction Wheel & Housing Assembly, complete, wide.....	36.00
26A	Bronze Bushing for Hub, 3" x 6", renewal.....	20.00
28	Friction Washer for Hub.....	1.20
29	Collar for Hub.....	10.00
30	Tension Screw, for Portable Whip.....	17.50
32	Tension Screw, for Stationary Whip.....	20.00
33	Clutch Spider.....	24.50
42	Clutch Yoke.....	39.50
43	Trunion Ring, bronze.....	22.00
44	Friction Washer.....	2.60
44A	Yoke Collar.....	8.50
44B	Clutch Adjuster.....	11.00
45	Clutch Shoe, with lining.....	23.00
46	Tongue Bar.....	12.75
56	Tongue Housing.....	15.00
57	Spring Clip, State whether cars have slanting or straight backs.....	17.50
58	Clip Connecting Pin.....	1.10
59	Limit Bar.....	20.00
60	Spring Guide U Bar.....	7.50
62	Spring Hook.....	8.50
63	Spring Guide Collar.....	2.25
64	Front Rail for Whip Car, chromium plated.....	15.00
65	Socket for Front Rail, chromium plated, closed.....	10.00
66	Socket for Front Rail, chromium plated, open.....	9.00
66A	Step Plate, aluminum.....	6.50
67		

68	Corner Pieces, chromium plated, Right hand or Left hand	9.50
69	Leather Pads, pair	.85
70	Hub for Bull Wheel, including bronze bushing	82.00
71	Hub Blocking Collar	12.00
A	Hub Blocking Collar	12.00
72	Friction Wheel Housing only, wide	14.00
73	Friction Wheel Housing only, narrow	12.50
74	Friction Wheel, including two 3/4" Timken bearings, wide	22.00
74A	Friction Wheel, including two 3/4" Timken bearings, narrow	15.00
75	Friction Wheel Axle, long	4.25
75A	Friction Wheel Axle, short	4.00
76	Timken Bearings, 3/4" or 5/8", complete	3.00
77	Caster Wheel Housing, with bronze bushing	10.25
78	Caster Wheel Fork	8.50
79	Caster Wheel Housing Bronze Bushing, renewal	3.00
80	Caster Wheel Housing Cap	2.50
83	Clutch Yoke	46.80
84	Clutch Adjusting Link	5.25
85	Clutch Connecting Link	.85
86	Clutch Link Pin	.35

### PARTS NOT ILLUSTRATED

Hard Steel Floor Plate (taper) for 12 Car Whip	\$46.80
Hard Steel Floor Plate (rectangular) for 12 Car Whip	46.80
Hard Steel Floor Plate (taper) for 8 Car Whip	46.80
Hard Steel Floor Plate (rectangular) for 8 Car Whip	46.80
Bull Wheel, with rack gear, 6 sections, less wood deck and hub	
8 Car Whip	700.00
12 Car Whip	760.00
Bull Wheel, plain, 6 sections, less wood deck and hub	
8 Car Whip	475.00
12 Car Whip	525.00
Steel Whip Cable, 1" diameter, including 5 clips, for 12 Car Whip	102.00
Steel Whip Cable, 1" diameter, including 5 clips, for 8 Car Whip	87.00
Canvas Cover for Whip Car with slanting front and slanting back	14.00
Canvas Cover for Whip Car with slanting front and straight back	14.00
Whip Car.....Streamline design, complete with Tongue and bottom Tension Spring. Upholstered in simulated leather. Rail, Handle Bar and fittings are chromium plated. This Car can be operated on any Whip with a few small changes.	
Each	\$550.00

All Prices are Net Cash, F.O.B. Factory, Subject to change without notice.

W. F. Mangels Co.  
2875 West 8th Street  
Coney Island  
Brooklyn 24 New York

Telephone  
CO 6-0142  
AREA CODE 212  
Cable Address  
"Carrousel New York"

Form 163

# "THE WHIP"

LATEST SENSATIONAL  
AMUSEMENT



RIDE

Patented.

Manufactured by  
**W. F. MANGELS CO.**  
CONEY ISLAND, NEW YORK  
U.S.A.

# W. F. MANGELS CO., Caroussell Works

ESTABLISHED 1890

INCORPORATED 1908

CAPITAL STOCK \$250,000

THIS establishment, engaged exclusively in the manufacture of Mechanical Amusement Devices, was founded in 1890, on a modest scale, has grown to a position and scope not equaled by any similar enterprise in this or any other country; it stands as a monument, and is dedicated to the Outdoor Amusement World.

This plant consists of a group of buildings of unusual proportion, of steel, brick, concrete and glass. The Assembling Hall is some 400 ft. in length, with steel trusses of 80 ft. clear span, permitting simultaneously the assembling and testing of a number of large devices under roof.

The manufacture of a first class amusement device embraces a number of trades with their skilled mechanics and appliances. The number of shops grouped around the large erecting floor have a floor space of 86,000 sq. ft. The numerous electric motors aggregate over 200 horse power.

The various shops grouped around the central Assembly Hall are, Woodworking Shop, Machine Shop, Blacksmith Shop, Wood Carving Shop, Paint

Shop, Upholstery Shop, Electric Shop, Pattern Shop, Music Shop, Offices and Drafting Rooms, as well as Store Room, Garage, Private Railroad Siding, leading directly into the Plant, and many other conveniences.

Excellent Banking, Postal, Telegraph and Express facilities are at hand. A station (W. 8th St.) on the great New York and Brooklyn Subway System is at our doors, permitting visitors to come to our offices from the heart of New York City, Times Square, in less than 30 minutes.

This great establishment is fortunate in its location, being in close touch at all times with the latest developments in outdoor amusements at the greatest pleasure resort known to the world, Coney Island. "The rule of the region is supreme."

And yet the largest and most valuable asset this firm possesses is the great number of satisfied customers and thousands of friends and well-wishers scattered throughout the world, and which is sincerely appreciated.

W. F. MANGELS

President and General Manager

W. F. MANGELS CO.

CHAS. N. BREWSTER

Secretary-Treasurer

**IT'S A SCREAM!**

*The New Amusement Ride*

☞ **“THE WHIP”**

Trade Mark Registered—Patented in U. S. A. and Foreign Countries

Office and Works:  
WEST 8th STREET  
CONEY ISLAND  
NEW YORK, U.S.A.

MANUFACTURED AND  
SOLD EXCLUSIVELY BY

**W. F. MANGELS CO.**

CAROUSELL WORKS

Cable Address  
“CAROUSELL, NEW YORK”

# "THE WHIP"

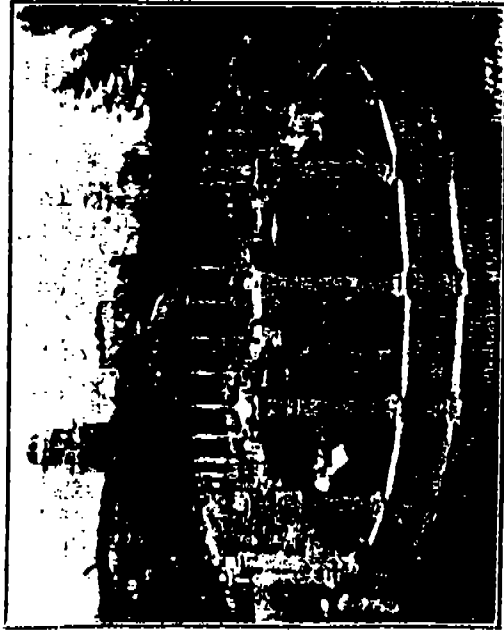
## LATEST SENSATIONAL AMUSEMENT RIDE



THIS new and novel Amusement Device consists of a large oblong floor, on which are operated twelve pretty little cars in such a manner as to afford a great amount of fun and pleasure to the riders.

The mechanical construction is as follows: On the oblong floor are mounted two large grooved discs on which runs a stout endless cable (steel rope); one of the discs is fitted with a rack gear by which it may be rotated through the medium of a motor or engine; to the cable are attached twelve cars by steel brackets which are designed to allow the cars to swing out on the curves, thereby greatly increasing the speed of the cars.

As may be noted from the illustrations, the course of the cars is oblong. While the cars are on the straight or long part of the journey they only have a moderate speed, but just as soon as the ends are reached the speed is greatly increased by reason of the greater radius and centrifugal force of the cars as they "SNAP THE CURVE" in one grand sweep, creating a vast amount of amusement.



"THE WHIP" is built in the open; no building is required; it is surrounded by a fence and a large crowd can assemble to watch the fun as the cars snap the curve. From the photographs it can be seen that the onlookers are also greatly enjoying the sport—not a suggestive feature anywhere, nothing but clean-cut fun and merriment for old and young—everybody rides.

It must not be presumed that "THE WHIP" is a rough ride; far from it. It is one of the happiest combinations ever put together and a ride that can be enjoyed by respectable people without loss of dignity or respect. One of the features in operating this ride has been that all classes of people will patronize it.

"THE WHIP" is an attraction of the first order—there are no tunnels or dark spots, nothing to scare timid people; all can stand and see the fun, a sure inducement for them to patronize the device.

Since the first installation in Luna Park "THE WHIP" has been a big success; it proved to be easily the best and most novel ride and is very liberally patronized.

"THE WHIP" is manufactured in two styles, "STATIONARY WHIP" and "PORTABLE WHIP."

"THE WHIP" is the invention of Mr. W. F. Mangels, to whom U. S. and Foreign Patents were issued in 1914 and 1915. Specializing in Amusement Devices he has a long list of successful and widely known devices to his credit, such as the Galloping Horse Carousel with the famous overhead transmission, The Tickler, The Teaser, Rocky Road to Dublin, Ben Hur Race, Rough Riders, Red Devil, Auto Race, third rail Scenic Railway, and many others. More than thirty patents are registered to his credit.

The designing and construction of a successful and popular amusement device is no small task. The prime factors are Novelty, Simplicity, Safety, Capacity, Moderate Cost and, last but not least, Thrill.

Multiplying parts is no invention; new basic ideas are essential.

The above enumerated devices are patronized season after season by millions of people throughout the country, seeking healthy and innocent outdoor amusement.

## “PORTABLE WHIP”

CONSISTS of a complete device ready to operate, including a gasoline power plant as shown on page 31. It is made in convenient sections adapted to be assembled in a short space of time, usually from 4 to 5 hours.

This device is a superb attraction for Fairs, Carnivals and other outdoor celebrations.

The “PORTABLE WHIP” has a floor 40 x 80 feet, made in sections and laid on a simple frame which rests on small blocks laid on the ground; no foundation or stakes are required; the fence is in interchangeable sections, light, strong and easily attached; main entrance and exit have artistic signs carried on fancy posts; all parts are arranged to be easily assembled; printed instructions are furnished.

Data of “PORTABLE WHIP” for domestic shipment:

Total weight, 36,000 lbs. approximately, 3,200 cubic feet. Is shipped from the factory in two 36 ft. box cars. For wagons see page 26.

Packed for export, partly dismantled—122 parcels, 11 boxes, 15 crates, 9 bundles, 87 pieces, total weight, 41,000 lbs.; 2,300 cubic feet.

## "STATIONARY WHIP"

12 Cars. Standard size Platform, 44 x 84 ft.

THIS device is for permanent locations and not adapted to be moved from place to place. Once installed in a Park or Resort it forms a permanent attraction for a number of years.

For a Stationary Whip we sell the mechanical equipment, such as Cars, Cable, Steel Plates, Transmission Machinery and other essential parts; also a set of blue prints for the construction of the foundation, floor, fence, entrance, signs, etc. This work is done by the purchaser, who usually contracts the job to a local carpenter or contractor, the work being of a simple character.

Usually an order for a Stationary Whip is placed some time ahead. We then immediately forward the plans for the woodwork, which can proceed with leisure. After arrival of the shipment from the factory it is installed, requiring only a few days.

Delivery can be made on short notice if required.

The Standard size "STATIONARY WHIP" has 12 cars. We are prepared to furnish 14 car and 16 car outfits for leading locations, where extra large capacity is wanted.

The 12 car "WHIP" requires a motor of 12 to 15 H. P., not over 1,000 R.P.M. and of constant speed. No controlling devices are required, since the starting and stopping of "THE WHIP" is effected by a large friction clutch furnished by us.

In case a motor of higher speed is at hand it may be used for "THE WHIP" by mounting a jack-shaft, reducing the speed; either A.C. or D.C. motor may be used.

## Gasoline Power Plant for the "PORTABLE WHIP"

THE 15 H. P. Cushman double cylinder vertical Engine is of excellent modern design, of medium weight and equipped with high tension BOSCH MAGNETO, dual set of plugs, as well as Timer and Battery for starting and emergency. The Shebler Carburetor is controlled by a sensitive built-in governor, thus controlling the speed of the engine regardless of load; lubrication is automatic.

The cooling tank is strongly made with riveted and soldered joints. On top is mounted the gas tank of 12 gallon capacity. The cooling water is circulated by pump.

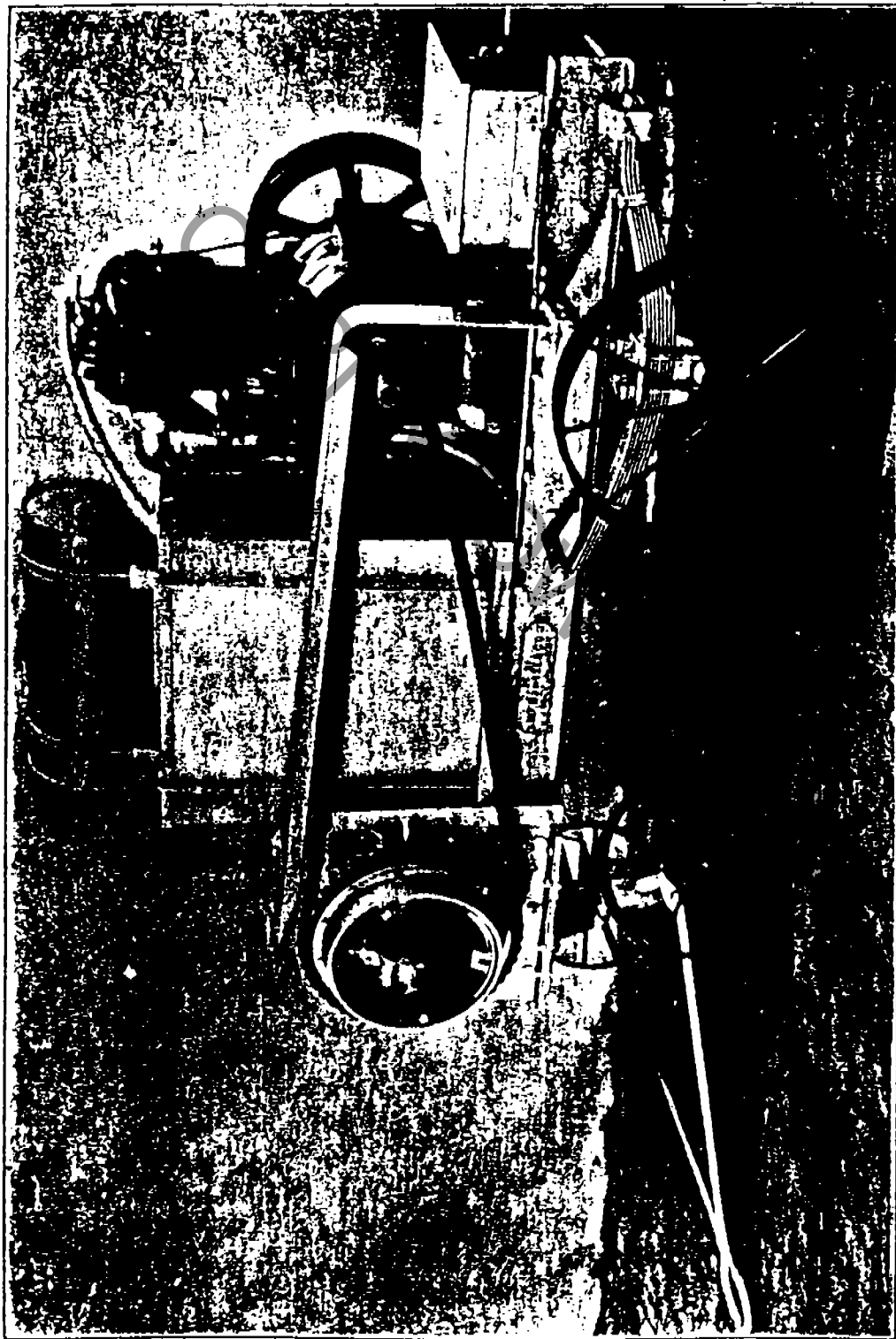
The engine and equipment is mounted on a small steel truck, which also carries on the forward end the "WHIP" drive shaft and clutch. The transmission from engine to clutch consists of first class SILENT CHAIN DRIVE of latest pattern, eliminating all trouble formerly experienced with belts. The Tractor Clutch employed in this transmission is of simple design, very efficient and has given excellent satisfaction for several years. The friction shoes are lined with auto brake lining and can be renewed by anyone in a short time. The clutch may be adjusted to wear while the engine is running.

Rear end of truck is mounted on springs, a canvas cover is furnished.

The speed of the engine is 725 R. P. M., which can be reduced or increased by a simple tension device.

Total length of truck,	6 ft. 6 in.
Width,	4 ft. 6 in.
Height,	5 ft. 0 in.

Total weight of truck,	2,000 lbs.
Horse Power,	15
Speed,	725 R.P.M.
Speed of drive shaft,	180 R.P.M.



Gasoline Power Plant for the "PORTABLE WHIP"

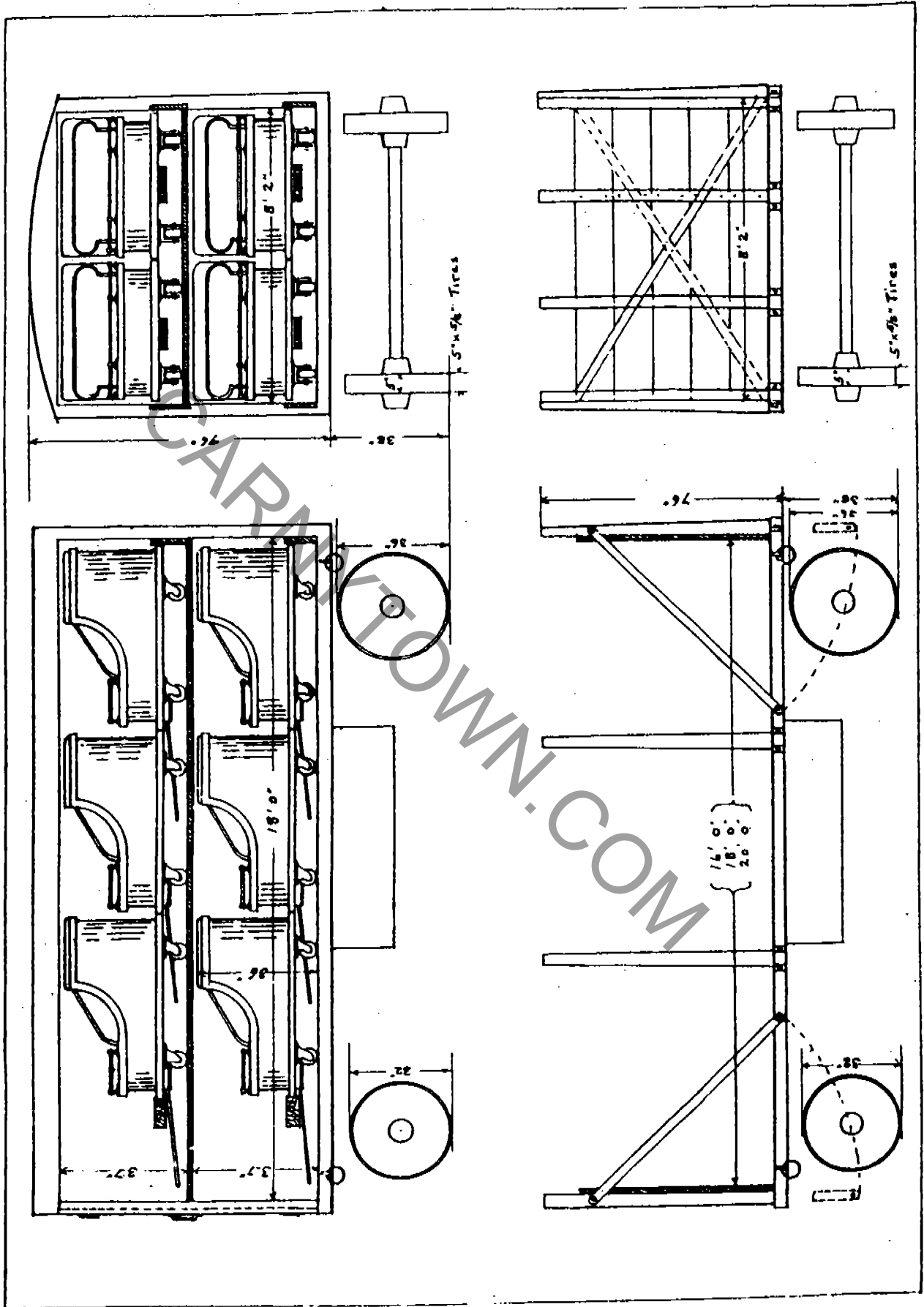
The roller chain shown has been replaced by a SILENT CHAIN, which has a much longer life, and works silently.

MANY "WHIP" owners include in their equipment the necessary wagons on which to transport same; these wagons are of such size and design as to accommodate all the parts of "THE WHIP" when dismantled.

When the wagons are loaded they are hauled on the railroad flat cars, together with other wagons which may carry the equipment of a carnival company, thus a 20 car show or carnival company has 20 railroad cars, consisting of baggage, flat, coaches and privilege cars; these show trains are owned privately and for which the railroad company provides "special movements."

This method of transporting "THE WHIP" is of course to be preferred, since it involves a minimum amount of labor. To transport the "PORTABLE WHIP" four or five wagons are required; if four they must be of very substantial construction as each will carry a load of about 4½ tons, if five wagons are used they may be of lighter pattern and permit of more ready handling, especially on soft or sandy roads and lots.

The size and make up of wagons we can recommend is shown on page 27.



"WHIP" WAGONS

**IT'S A SCREAM!**

*The New Amusement Ride*

© **“THE WHIP”**

Trade Mark Registered—Patented in U. S. A. and Foreign Countries

Office and Works:  
WEST 8th STREET  
CONEY ISLAND  
NEW YORK, U.S.A.

Cable Address  
“CAROUSELL, NEW YORK”

MANUFACTURED AND  
SOLD EXCLUSIVELY BY

**W. F. MANGELS CO.**

**CAROUSELL WORKS**

INFORMATION FURNISHED

BY: CARL DILLS

606/824-4915

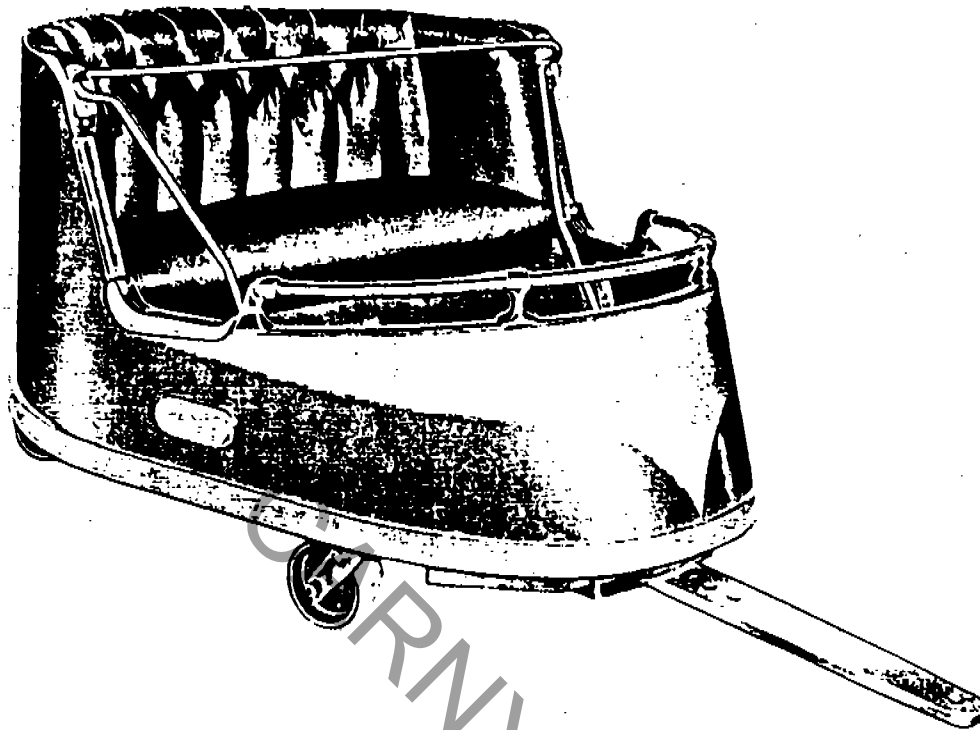
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NY DEPT OF AGRICULTURE

Division of Weights & Measures

Amusement Rides & Attraction Inspection Sec.

108 W Second Street



### Streamline WHIP CAR

This Car is of the latest design.

The exterior is finished in various color combinations, striped and given several coats of the most durable exterior varnish available.

The upholstery is of simulated leather with tufted back and removable seat.

A dual foot rest is provided.

Handlebar, Front Rail and fittings are highly chromium plated.

The steel Caster Wheels are equipped with Timken bearings and have alemite fittings for lubrication.

The Tongue Housing and Tongue are of rugged design.

The Car is complete with underneath spring assembly.

A waterproof canvas cover is included.

**Weight of Car—approximately 450 lbs.**

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## OPERATING A "WHIP"

The successful operation of a mechanical amusement device demands the constant attention of the operator, not only in the handling of his patrons in an orderly and courteous manner, but also in keeping his device in a neat and safe condition at all times.

Some amusement devices revolve on a simple axis and therefore are easily kept in mechanical repair, but lack thrill. Other devices that provide more thrill and speed to their patrons, require closer attention to mechanical details by the operator. This fundamental principle is too often overlooked.

THE WHIP is a thrill ride and is made of excellent material by skilled workmen. This however does not mean that its mechanical parts can be left without attention by the operator for long periods of time without lubrication or cleaning.

All mechanical parts of the WHIP should receive a close inspection at least once a week during the operating season. Lubrication should be applied in a thorough manner, but not to excess, since any lubrication scattered over the various parts does not serve the purpose. One ounce of lubrication in the right spot will do more good than pounds of grease applied indiscriminately. A close watch should be kept on those parts that show excessive wear for some reason, such as lack of lubrication, overloads, or accumulation of grit, dirt or clogged oil and grease channels.

All parts that have worn out after a long period of service should be replaced by new ones. This applies especially to the connecting pins which are subjected to severe service.

One of the important parts of the WHIP is the Steel Cable. Perhaps no other part of the mechanism is subjected to such a variety of strains than the cable. The best cable obtainable is used, and its length of life depends on the amount of business and how it is taken care of. One advantage of this cable is, that when worn out by long service, it does not break suddenly. Instead it gives ample warning by the gradual unraveling of small strands of its wire.

As to the tension of the cable when in operation, it should neither be too tight or too loose. If too loose, the Bull Wheel will slip on the cable in a noisy manner. If the tension is too tight, it will damage the driving mechanism. Great care should be taken to avoid kinking the cable when handling as a short kink will ruin it.

The mechanism of a WHIP may be damaged by improper assembling, especially as to its foundation for the underframe. Proper supports should be provided at points indicated in the set up plan. Broken or decayed timbers should be replaced with sound ones.

A very important item in the operation of a WHIP is the condition of the Cars. These should be kept clean and fresh. The upholstered seats should be frequently cleaned with a vacuum cleaner and the exterior of the cars should be wiped clean with a damp cloth. A periodic application of a good auto wax will greatly help to protect the finish. By doing this, a car will look attractive despite the wear it may show. To invite patrons dressed in their holiday clothes to sit in a dirty car is asking a great deal. It spells failure. This applies not only to the WHIP but to all amusement devices.

The WHIP by reason of the thrill it provides for its patrons, has become a permanent fixture in the outdoor amusement world.

Keep your WHIP clean, neat and in good mechanical condition and it will be a consistent money maker for you.

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## INSTRUCTIONS FOR SETTING UP 8 CAR PORTABLE WHIP

First put down sill B, followed by sill 1 and sill A. Next put backbone in place. Next put in place sills 2, 9, 10 and 17. Next put down stringers 1, 7, 8 and 14. Next square up the assembly by attaching the two diagonal squaring braces.

Next put the Drive in place as shown and block up the frame to a level, using substantial pieces of plank for blocking.

Next the rest of the sills and the stringers can be put in place in rapid succession and blocked up level.

Next put down the platform, starting with section No. 1, followed by section No. 2 and so on. Avoid banging the sections into place with a sledge hammer. Use a piece of timber instead and thump them into place. Next put the Bull Wheels together.

Next put down the cable guides and center platform. Now you are ready for the cable. First back up the adjustable Bull Wheel all the way. Slip the cable over the wheels and tighten the tension screw until a medium tension on the cable has been obtained. If too tight the hub and king pins will be damaged.

Next secure the brackets to the cable. The cars are then attached to the brackets. Make sure that all connecting pins are secured with cotter pins.

It may be noted that up to this point only the mechanical part of the ride has been assembled and the enclosure is last to go up. For this work, the help should be given an opportunity to clean their hands to permit them handling the decorated enclosure.

First put up the light posts and hook in place the sections of fence to keep the posts in place. Next attach the Entrance and Exit. It should be noted that the Entrance may be put in any desirable section between the light posts, thus the Entrance may be at the end or on the side of the ride, as local conditions may dictate. The side entrance is always to be preferred as it facilitates loading and unloading of the cars.

After the Light Ducts have been put in place on top of the posts, the feeder cables may be connected. These are laid loosely on the underframe near the ground, with the control box placed near the power plant for the convenience of the operator.

It should be noted that the electric bulbs may remain in the light ducts when packed in the crates. This saves time and lamps.

After minor details have been finished, a trial run should be made, carefully at first to make sure that there are no obstructions in the way.

Regarding lubrication; this should neither be neglected nor overdone and should be entrusted to a trustworthy intelligent person.

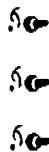
In order to attract business, the cars, in fact the entire device should be kept in a clean attractive condition. In this manner the WHIP will never disappoint you.

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# "THE WHIP"

## LATEST SENSATIONAL AMUSEMENT RIDE



THIS new and novel Amusement Device consists of a large oblong floor, on which are operated twelve pretty little cars in such a manner as to afford a great amount of fun and pleasure to the riders.

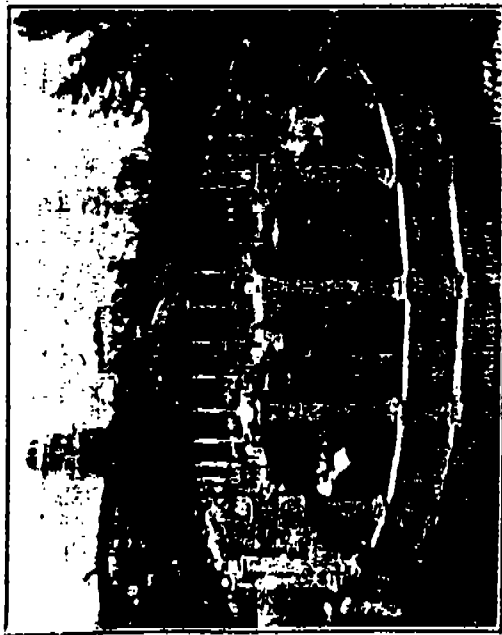
The mechanical construction is as follows: On the oblong floor are mounted two large grooved discs on which runs a stout endless cable (steel rope); one of the discs is fitted with a rack gear by which it may be rotated through the medium of a motor or engine; to the cable are attached twelve cars by steel brackets which are designed to allow the cars to swing out on the curves, thereby greatly increasing the speed of the cars.

As may be noted from the illustrations, the course of the cars is oblong. While the cars are on the straight or long part of the journey they only have a moderate speed, but just as soon as the ends are reached the speed is greatly increased by reason of the greater radius and centrifugal force of the cars as they "SNAP THE CURVE" in one grand sweep, creating a vast amount of amusement.

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"THE WHIP" is built in the open; no building is required; it is surrounded by a fence and a large crowd can assemble to watch the fun as the cars snap the curve. From the photographs it can be seen that the onlookers are also greatly enjoying the sport—not a suggestive feature anywhere, nothing but clean-cut fun and merriment for old and young—everybody rides.



It must not be presumed that "THE WHIP" is a rough ride; far from it. It is one of the happiest combinations ever put together and a ride that can be enjoyed by respectable people without loss of dignity or respect. One of the features in operating this ride has been that all classes of people will patronize it.

"THE WHIP" is an attraction of the first order—there are no tunnels or dark spots, nothing to scare timid people; all can stand and see the fun, a sure inducement for them to patronize the device.

Since the first installation in Luna Park "THE WHIP" has been a big success; it proved to be easily the best and most novel ride and is very liberally patronized.

"THE WHIP" is manufactured in two styles, "STATIONARY WHIP" and "PORTABLE WHIP."

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"THE WHIP" is the invention of Mr. W. F. Mangels, to whom U. S. and Foreign Patents were issued in 1914 and 1915. Specializing in Amusement Devices he has a long list of successful and widely known devices to his credit, such as the Galloping Horse Carousel with the famous overhead transmission, The Ticker, The Teaser, Rocky Road to Dublin, Ben Hur Race, Rough Riders, Red Devil, Auto Race, third rail Scenic Railway, and many others. More than thirty patents are registered to his credit.

The designing and construction of a successful and popular amusement device is no small task. The prime factors are Novelty, Simplicity, Safety, Capacity, Moderate Cost and, last but not least, Thrill.

Multiplying parts is no invention; new basic ideas are essential.

The above enumerated devices are patronized season after season by millions of people throughout the country, seeking healthy and innocent outdoor amusement.

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## "PORTABLE WHIP"

CONSISTS of a complete device ready to operate, including a gasoline power plant as shown on page 31. It is made in convenient sections adapted to be assembled in a short space of time, usually from 4 to 5 hours.

This device is a superb attraction for Fairs, Carnivals and other outdoor celebrations.

The "PORTABLE WHIP" has a floor 40 x 80 feet, made in sections and laid on a simple frame which rests on small blocks laid on the ground; no foundation or stakes are required; the fence is in interchangeable sections, light, strong and easily attached; main entrance and exit have artistic signs carried on fancy posts; all parts are arranged to be easily assembled; printed instructions are furnished.

Data of "PORTABLE WHIP" for domestic shipment:

Total weight, 36,000 lbs. approximately, 3,200 cubic feet. Is shipped from the factory in two 36 ft. box cars. For wagons see page 26.

Packed for export, partly dismantled—122 parcels, 11 boxes, 15 crates, 9 bundles, 87 pieces, total weight, 41,000 lbs.; 2,300 cubic feet.

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## "STATIONARY WHIP"

12 Cars. Standard size Platform, 44 x 84 ft.

THIS device is for permanent locations and not adapted to be moved from place to place. Once installed in a Park or Resort it forms a permanent attraction for a number of years.

For a Stationary Whip we sell the mechanical equipment, such as Cars, Cable, Steel Plates, Transmission Machinery and other essential parts; also a set of blue prints for the construction of the foundation, floor, fence, entrance, signs, etc. This work is done by the purchaser, who usually contracts the job to a local carpenter or contractor, the work being of a simple character.

Usually an order for a Stationary Whip is placed some time ahead. We then immediately forward the plans for the woodwork, which can proceed with leisure. After arrival of the shipment from the factory it is installed, requiring only a few days.

Delivery can be made on short notice if required.

The Standard size "STATIONARY WHIP" has 12 cars. We are prepared to furnish 14 car and 16 car outfits for leading locations, where extra large capacity is wanted.

The 12 car "WHIP" requires a motor of 12 to 15 H. P., not over 1,000 R.P.M. and of constant speed. No controlling devices are required, since the starting and stopping of "THE WHIP" is effected by a large friction clutch furnished by us.

In case a motor of higher speed is at hand it may be used for "THE WHIP" by mounting a jack-shaft, reducing the speed; either A.C. or D.C. motor may be used.

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## Gasoline Power Plant for the "PORTABLE WHIP"

THE 15 H. P. Cushman double cylinder vertical Engine is of excellent modern design, of medium weight and equipped with high tension BOSCH MAGNETO, dual set of plugs, as well as Timer and Battery for starting and emergency. The Shebler Carburetor is controlled by a sensitive built-in governor, thus controlling the speed of the engine regardless of load; lubrication is automatic.

The cooling tank is strongly made with riveted and soldered joints. On top is mounted the gas tank of 12 gallon capacity. The cooling water is circulated by pump.

The engine and equipment is mounted on a small steel truck, which also carries on the forward end the "WHIP" drive shaft and clutch. The transmission from engine to clutch consists of first class SILENT CHAIN DRIVE of latest pattern, eliminating all trouble formerly experienced with belts. The Tractor Clutch employed in this transmission is of simple design, very efficient and has given excellent satisfaction for several years. The friction shoes are lined with auto brake lining and can be renewed by anyone in a short time. The clutch may be adjusted to wear while the engine is running.

Rear end of truck is mounted on springs, a canvas cover is furnished.

The speed of the engine is 725 R. P. M., which can be reduced or increased by a simple tension device.

Total length of truck,	6 ft. 6 in.	Total weight of truck,	2,000 lbs.
Width,	4 ft. 6 in.	Horse Power,	15
Height,	5 ft. 0 in.	Speed,	725 R.P.M.
		Speed of drive shaft,	180 R.P.M.

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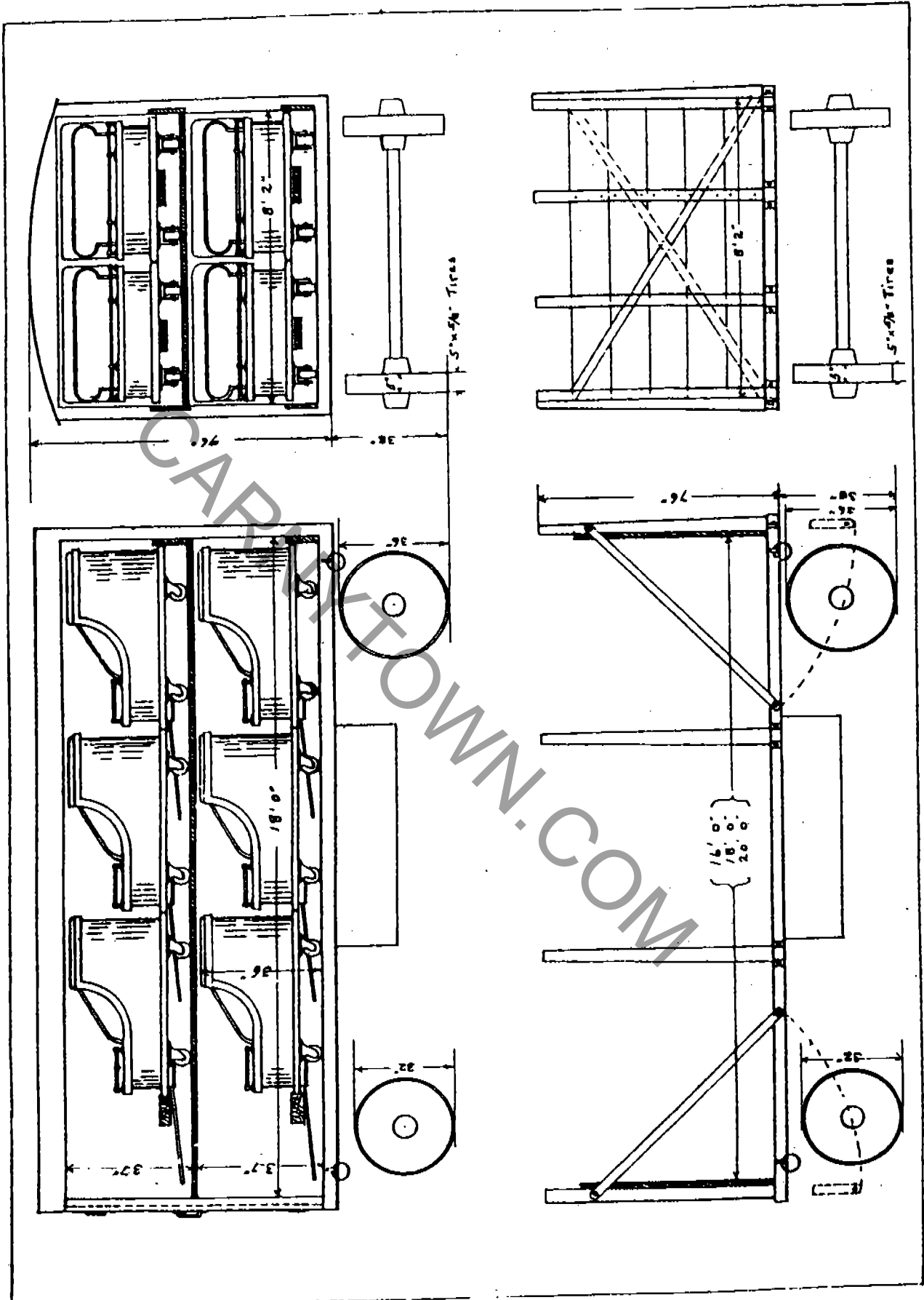
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MANY "WHIP" owners include in their equipment the necessary wagons on which to transport same; these wagons are of such size and design as to accommodate all the parts of "THE WHIP" when dismantled.

When the wagons are loaded they are hauled on the railroad flat cars, together with other wagons which may carry the equipment of a carnival company, thus a 20 car show or carnival company has 20 railroad cars, consisting of baggage, flat, coaches and privilege cars; these show trains are owned privately and for which the railroad company provides "special movements."

This method of transporting "THE WHIP" is of course to be preferred, since it involves a minimum amount of labor. To transport the "PORTABLE WHIP" four or five wagons are required; if four they must be of very substantial construction as each will carry a load of about 4½ tons, if five wagons are used they may be of lighter pattern and permit of more ready handling, especially on soft or sandy roads and lots.

The size and make up of wagons we can recommend is shown on page 27.



"WHIP" WAGONS

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