Cuban Bogie Cane Wagons

Introduction

Cuban sugar mills operated railways operated on a range of gauges, thus had a wide variety of both purchased and homemade equipment.

This Handbook article complements *Handbook 19: Large Scale Cane Wagons* and *Handbook 26: Cuban Sugar Cane Loader* which Jim Petropulos built for his 1:20.3 garden layout (15 mm = 1'), and hopefully adds enough detail for a modeller to build a 'good enough' representation in any scale.

Unpainted 1:20.3 two compartment bogie cane wagon built in brass by Jim Petropulos of Los Angeles. See *Handbook 19* for details.

Various *Car Builders Cyclopedias* provide photos and some dimensions for US-sourced bogie wagons as used in Cuba. Some were unloaded by side or end discharge, others by chain lift. While originally they may have had semi-open sides and manually loaded with wholestick cane laid longitudinally, billet loading requires either solid sides or wire mesh.

Havana Museum Bogie Wagon Dimensions

Gauge	Standard	3' Narrow
Length	~37' 7"	~27" 2"
Width	9'	83.5"
Body height	95"	~93"
Rail top to body bottom	29"	~21"
Wheel dia	~30"	~2'
Bogie wheelbase	62"	51"
Body end to bogie centre	~5'	~5'

Cyclopedia photos of *Gregg* and *Magor* wagons are reproduced in *Handbook 19*, along with both 1:20.3 model and prototype photos; showing how variations exist between builders and rail gauges.

Ruben Martinez Villena Mill, Cuba: sugar cane wagon mesh, February 2003. Claus Kleinhapl photographer

Pepito Tey Mill, Cuba: damaged sugar cane wagon (end view), February 2003. Note solid metal end and side release mechanism. Claus Kleinhapl photographer.

La Zafra On30 side dump cane wagon, construction materials unknown but result is very similar to Cuba Libre wagon below. http://narrow-gauge.org/en/Zafra/

Acknowledgements

Thanks to Chris Hart for his measurements (above) of two bogie cane wagons in a Havana museum c 2004. As he says "Bear in mind of course that not all the wagons in the industry are of the same size. These are just two that were at the museum and which would be pretty typical."

Most railfans concentrate on Cuba's US sourced steam locomotives when taking photographs on the Cuban cane railways. My special thanks to Claus Kleinhapl for his modeller-oriented photos.

Cane wagon on flat car-type underframe, On30 display layout *Cuba Libre* at the 2003 Australian Narrow Gauge Convention, Sydney. Ray Walter and Claus Kleinhapl modellers, Gerry Hopkins photographer.

Gregorio Arlee Manalich Mill, Cuba: 2 ft 6 inch gauge sugar cane wagon, February 2003. Note how much longer this wagon looks than the models immediately above, however a wagon this long might not get around On30 curves. Claus Kleinhapl photographer.

Side dumping cane wagons on La Zafra Cuban On30 modular layout built by French modellers Bernard Junk and Jack Trèves with the help of Detlev Horn, c 2000. http://narrow-gauge.org/en/Zafra/

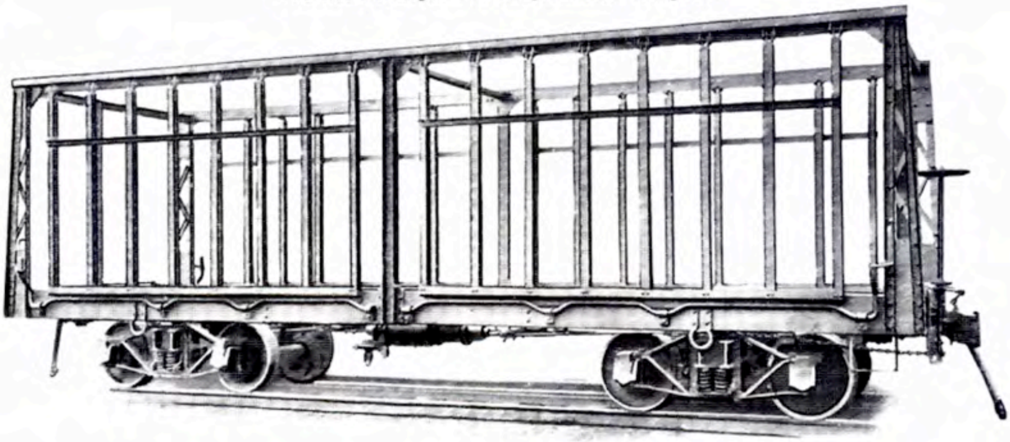
Obdulio Morales Mill, Cuba: sugar cane wagon, February 2003. Claus Kleinhapl photographer.

Pepito Tey Mill, Cuba: end (above) and side detail (below), February 2003. Claus Kleinhapl photographer.

MAGOR | NATIONAL

15-TON CANE CAR

Two-Side Discharge. Two Compartments. Gauge 36".



CODE WORD *ZANUF*

GENERAL

Gauge of track, 3 feet 0 inches. (0.914 Meters)

Length measured over end sills, 25 feet 6 inches. (7.772 M.)

Width measured over side sills, 7 feet 0 inches. (2.134 M.)

Height from top of track rails to center of coupler drawbar, 2 feet ½ inches. (0.623 M.)

Height from top of track rails to top of floor, 3 feet ½ inches. (0.927 M.)

Distance between centers of trucks or bogies, 16 feet 0 inches. (4.877 M.)

DRAFT GEAR

Couplers, automatic, having drawbar shank 4 inches by 4 inches (0.102 M. by 0.102 M.), ¾-inch (0.019 M.) size.

Draft gear, tail strap type with twin spring.

UNDERFRAME

Center sill (one) of 12-inch (0.305 M.) rolled steel I-beam, weighing 31.8 pounds per foot.

Side sills (two) of 10-inch (0.254 M.) rolled steel channel, weighing 20.0 pounds per foot.

End sills (two) of 10-inch (0.254 M.) rolled steel channel, weighing 20.0 pounds per foot.

FLOOR

Floor of 1½-inch (0.038 M.) yellow pine lumber.

SUPERSTRUCTURE

Type: Discharging two sides, two compartments. Steel frame, *no* lining. Corner posts of steel lattice. Top belt rail "Z" bar. Side stakes and door members I-beams. Door fastenings, individual locking bars.

Size of compartments, 11 feet 8 inches (3.556 M.) long, height of sides, 5 feet 11½ inches. (1.816 M.)

TRUCKS

Type: Standard diamond arch bar.

Wheel base, 4 feet 2 inches. (1.270 M.)

Wheels, Standard North American type of cast gray iron with chill hardened treads. Double plate type.

Diameter of wheels, 24 inches. (0.610 M.)

Axles, 3¾-inch (0.095 M.) round steel.

Journal size, 3 inches by 6 inches. (0.076 M. by 0.152 M.)

Journal boxes, complete with torsion spring lids.

Arch bars, 3 inches by ⅞ inches (0.076 M. by 0.022 M.), top.
3 inches by ⅞ inches (0.076 M. by 0.022 M.), bottom.
3 inches by ⅜ inches (0.076 M. by 0.009 M.), tie bar.

Bolsters, steel, 7-inch (0.178 M.) I-beams, 15.3 pound section.

Spring plank, steel, 10-inch (0.254 M.) channel, 15.3 pound section.

BRAKES

American Westinghouse automatic air and hand brakes applying to all wheels.

General specifications of a 15-ton, 2-compartment, two-side-discharge steel cane car built to 3-foot gauge in 1920 on Lot #P-4457. (Magor graphics, photos, E.S. Kaminski collection)

From Kaminski, Edward S (2000). The Magor Car Corporation; Signature Press, p 60.

The Magor Car Corporation was a major exporter of American-built cane railway equipment to countries such as Cuba. While this particular wagon may not have gone to Cuba, others like it would have done so. Incidentally Kaminski's book is a valuable resource for both cane railway and more general railway equipment as used in Mexico, Central America, etc.

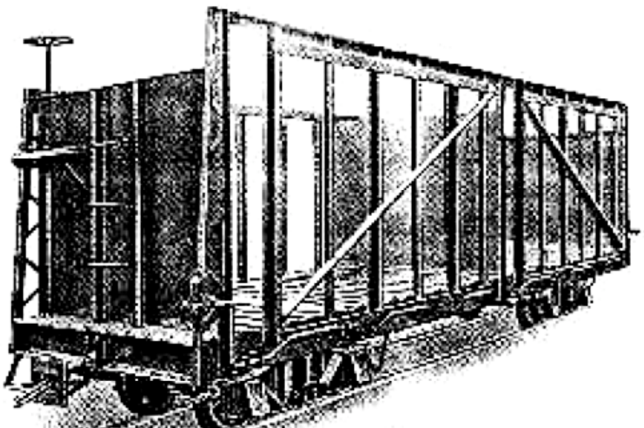


Fig. 4242

Wagon pour canne à sucre à quatre essieux

avec parois basculantes d'un côté et 2—3 compartiments pour déchargement sur ponts-déchargeurs.

Trains de roues: Roues pleines en acier moulé, essieux en acier S.M. avec boîtes à coussinet et couvercles à ressort.

Bogies: Balanciers transversaux et paliers porte-coussinets en acier profilé avec ressorts hélicoïdes en fil d'acier rond.

Plate-forme: Longerons et poutrelles de face en fer U, poutrelles transversales en acier pressé, couverture soit en tôles d'acier soit en fers plats ou en cornières.

Construction supérieure: Parois de face et médianes en tôles d'acier, ranchers fixes en cornières et ranchers à charnières.

Dispositif de traction et de choc: Tampons à cloche à ressorts pour service de 100 C.V.

Frein: Frein à main à [illegible] ou [illegible] pour commande depuis une extrémité du wagon.

Sur demande: Roues avec surfaces de roulement et boudins [illegible], ranchers à griffes automatiques, attelages de sûreté ou freins à air comprimé.

Mesures principales

Capacité kg.	Largeur de voie	Roues Ø	Essieux Ø	Fusées Diamètre	Fusées Longueur	Empattement	Ecartement des centres de bogie	Nombre des compartiments	Compartiments Longueur utile	Compartiments Largeur utile	Compartiments Hauteur utile	Longueur mesurée de tampon à tampon	[illegible]
10 000	600	450	75	60	105	1050	3400	2	2740	1820	1820	6400	740
12 000	750	500	85	65	125	1050	4700	2	3350	1820	1820	7960	780
15 000	1000	600	95	75	150	1350	5500	2	3800	2000	1900	8900	830
18 000	1000	600	105	80	150	1350	6000	3	2740	2140	1900	9300	850
20 000	1000	600	120	95	178	1400	7000	3	3050	2140	1900	10250	900

Similar German manufactured export 2-3 compartment cane wagon from Ferrostaal AG, Industrie und Feldbahnen 1930 catalogue (Ferrostaal.pdf, 'Materials for portable lines and railways', downloaded from http://www.bahnindianers-bilderbuecher.de/.