

# THE J. G. BRILL COMPANY

## PHILADELPHIA

Cable Address: "Brill," Philadelphia London Office: 150 Southampton Row, W.C.I.

Cable Address: "Arles," London

G. C. Kuhlman Car Co.  
CLEVELAND

Compagnie J. G. Brill  
49 Rue des Mathurins, PARIS, FRANCE

Canadian Brill Co., Ltd.  
PRESTON, ONT.

American Car Company  
ST. LOUIS

Cable Address: "Bogibril," Paris

Wason Manfg. Company  
SPRINGFIELD, MASS.

### AGENCIES

Argentina, Paraguay and Uruguay—P. B. Goldsworthy, Chacabuco, 271, Buenos Aires.  
Australasia—Noyes Brothers, Melbourne, Sydney, Brisbane, J. R. W. Gardam, Perth.  
Belgium and Holland—C. Dubbleman, 19 Rue du Parnasse, Brussels.  
Bolivia—W. R. Grace & Co., Calle Diez de Medina, La Paz.  
Chile—W. R. Grace & Co., Calle Morande, No. 530, Sanitago.  
China—Anderson, Meyer & Co., Ltd., 4 and 5 Yuen Ming, Yuen Road, Shanghai.  
Colombia and Venezuela—Wesselhoett & Poor, Bogota, Barranquilla and Medellin, Colombia and Caracas, Venezuela.

Ecuador—W. R. Grace & Co., Carlow Cordovez, Apartado 186, Guayaquil.  
Finland—Finnish Electric O/Y, Boulevagatan No. 3, Helsingfors.  
Italy—Giovanni Chechetti, Piazza Sicilia 1, Milan.  
Natal, Transvaal and Orange River Colony—Thomas Barlow & Sons (S.A.) Ltd., Durban, Natal.  
Norway—Energi H Elektrisk Aktieselskap, 9 Skippergaten, Kristiania.  
Peru—W. R. Grace & Co., Merced 620, Lima.

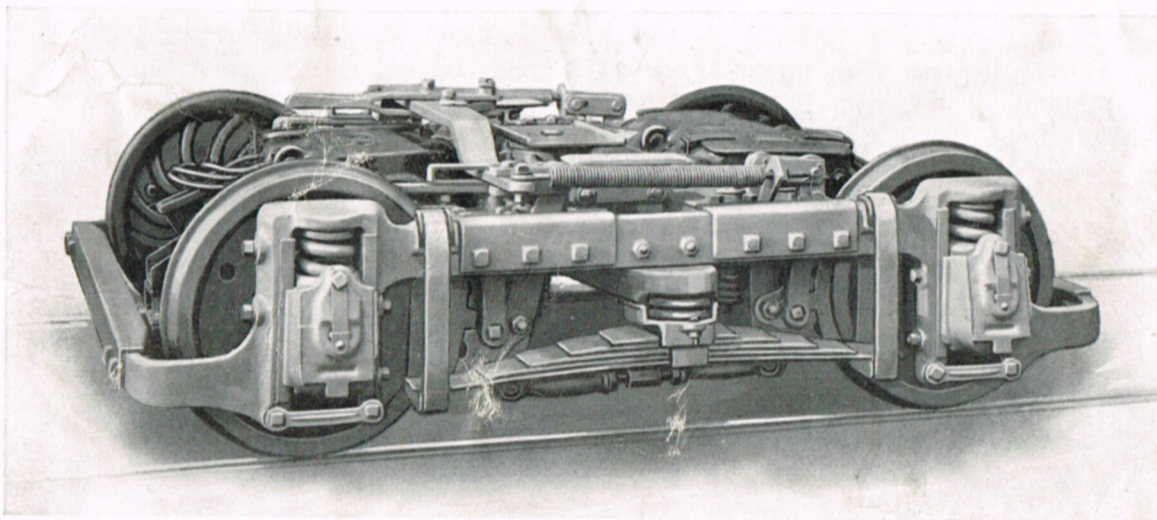


## THE BRILL 77-E TRUCK

BRILL BOLSTER GUIDE; INSIDE-HUNG MOTOR;  
SOLID-FORGED SIDEFAMES; GRADUATED SPRINGS

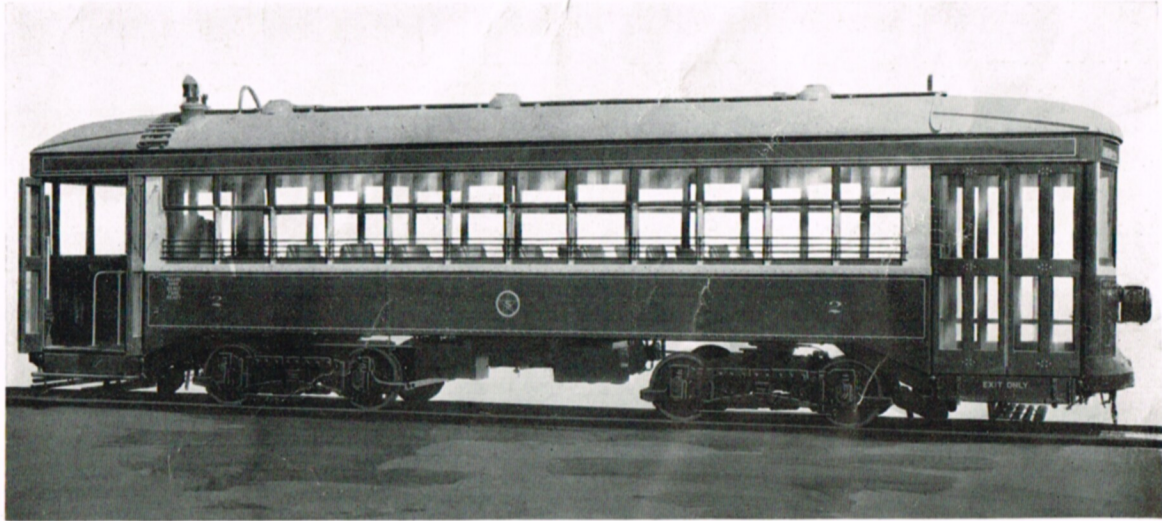
**T**HE Brill 77-E Truck is identical in construction with the Brill 76-E Truck (described in Bulletin No. 225) except that its motors are inside-hung, whereas the motors in the latter truck are hung outside. Both trucks are very similar in type

to the popular Brill 39-E, which has scored such a success for city service. The spring arrangement is the same in the 39-E, the 76-E, and the 77-E, the chief point of difference between the 39-E and the 76-E and 77-E being that the former is a single-motor



This truck differs from the Brill 76-E only in that it has inside-hung motors, whereas the motors of the 76-E are hung outside. Both the 76-E and the 77-E are very similar in design to the 39-E, the chief point of difference being that the latter is a single-motor truck with pony wheels, while the 76-E and 77-E have two motors and wheels of the same diameter. Exclusive Brill features, such as Brill Graduated Spring System, Brill Bolster Guide, "Half-ball" Brake Hanger, and Solid-forged Sideframes, are incorporated in all three trucks





This car, with a seating capacity of 48 persons, which may be supplemented by folding seats on the platforms, measures 44 ft. 2 in. over the bumpers, 30 ft. 8 in. over the body, 3 ft. 0 $\frac{1}{4}$  in. from track to underside of side sills, and 8 ft. 9 $\frac{3}{4}$  in. from underside of side sills over trolley boards. The trucks weigh 12,750 lb., the motors 7,600 lb. and the carbody 21,450 lb. including air and electrical equipment and heater

truck with pony wheels and the latter two are designed for two motors each with all wheels the same diameter.

The Brill Graduated Spring System plays an important part in the design of the truck, providing an easy spring action when the car is lightly loaded and furnishing superior riding qualities at all times, which is a very great advantage over the old construction, in which all the springs were arranged to take care of the car when heavily loaded. The system consists of a spiral spring placed between the bolster and the semi-elliptic spring. This spiral spring is so designed that the spring cap and seat come into contact when the spring is compressed beyond a certain point, the spring being designed so that this contact takes place when the car has a seated load. Beyond this point the semi-elliptic spring takes care of the load. The amount of compression of the spiral springs necessary to bring about contact of seat and cap is on the average three-eighths of an inch.

The Brill Bolster Guide is another very important—and new—feature of

the truck. This device, acting in combination with the Graduated Spring System, corrects the vertical motion of the truck and furnishes a smoothness of riding which is decidedly apparent. The guide consists of a link between transom and bolster which is designed so that it will absorb all vibrations and jolts set up at any point in the truck, the bolster end of the link merely turning on its pin. The friction-producing and friction-transmitting chafing plates of the old trucks are done away with altogether through the use of the Bolster Guide.

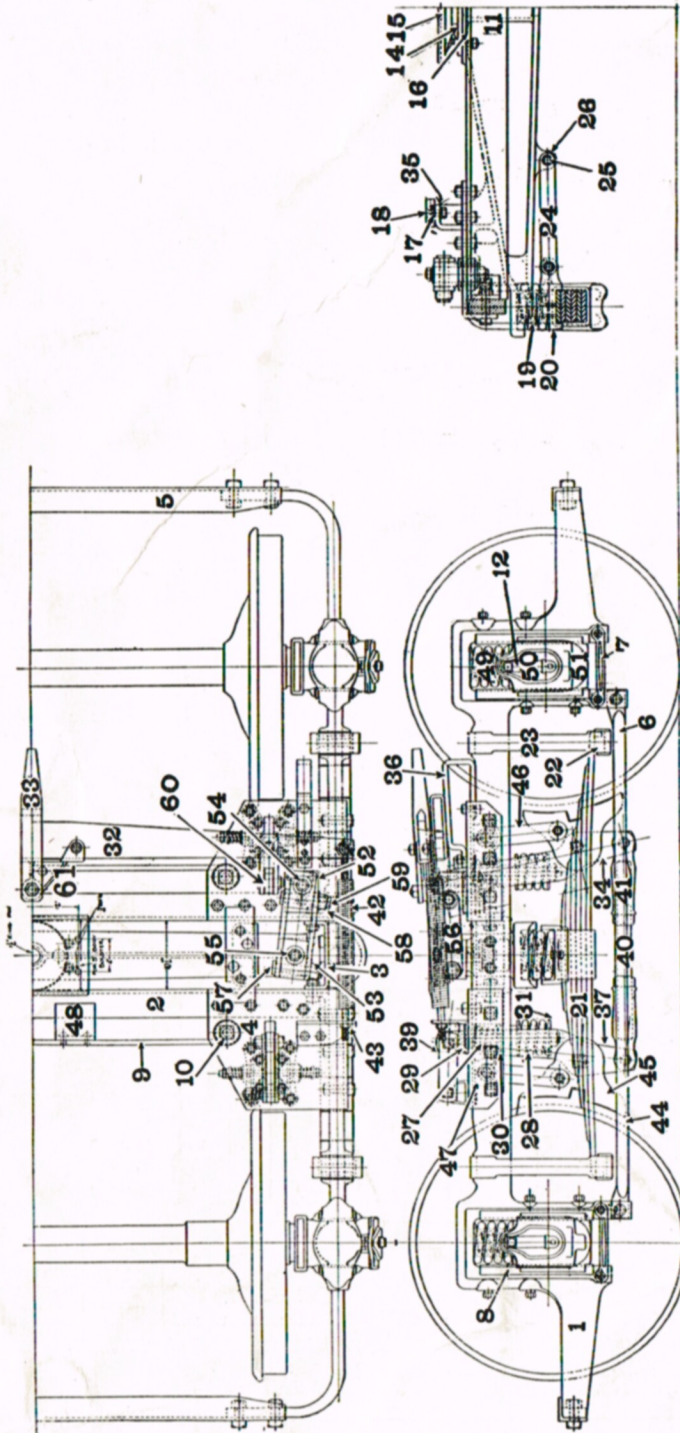
The 77-E is equipped with Brill solid-forged sideframes, which fact speaks eloquently for its ruggedness and stamina. Brill "Half-ball" Brake Hangers constitute another very important feature.

This truck has been used extensively for low-level cars, being equipped in such cases with 24-in. wheels. The efficiency of the truck for such service is convincingly demonstrated by the number of such orders that have been received.









### NAMES OF PARTS OF BRILL 77-E TRUCK

1	Side Frame	31	Motor Support Spring Seat (Bottom)	46	Brake Hanger Carrier
2	Transom	32	Horizontal Lever	47	Brake Support Bracket
3	Transom Corner Bracket	33	Top Brake Rod Stub	48	Motor Support Spring
4	Transom Gusset Plate	34	Upright Live Lever	49	Journal Box Spring
5	End Frame Angle	35	Side Bearing (Integral part of cast steel bolster)	50	Journal Box Lid
6	Tie Bar	36	Horizontal Lever Slide	51	Journal Box
7	Pedestal Tie Bar	37	Dead Lever Guide	52	Bolster Guide Block (Transom)
8	Pedestal Gib or Wear Plate	38	Dead Lever Guide	53	Bolster Guide Block (Bolster)
9	Motor Support	39	Bottom Brake Rod	54	Bolster Guide Trunnion (Transom)
10	Motor Support Bolt	40	Bottom Brake Rod Jaw	55	Bolster Guide Trunnion (Bolster)
11	Bolster	41	Brake Release Spring Nut	56	Bolster Guide Tie Rod
12	Journal Box Bearing (location indicated)	42	Brake Release Spring	57	Bolster Guide Pin
14	Truck Center Plate Ring (location indicated)	43	Brake Release Spring Nut	58	Bolster Guide Spring
15	Body Center Plate	44	Brake Shoe	59	Bolster Guide Spring Cap
		45	Brake Head	60	Horizontal Lever Clevis
				61	Brake Rod Fulcrum

When ordering spare parts give type of truck, order number (see plate on truck side frame), and name of part. Where possible give casting number shown on part. When part with same name is on both sides of truck, specify whether "right" or "left" hand. Use motorman's position nearest part in determining right and left hand parts.