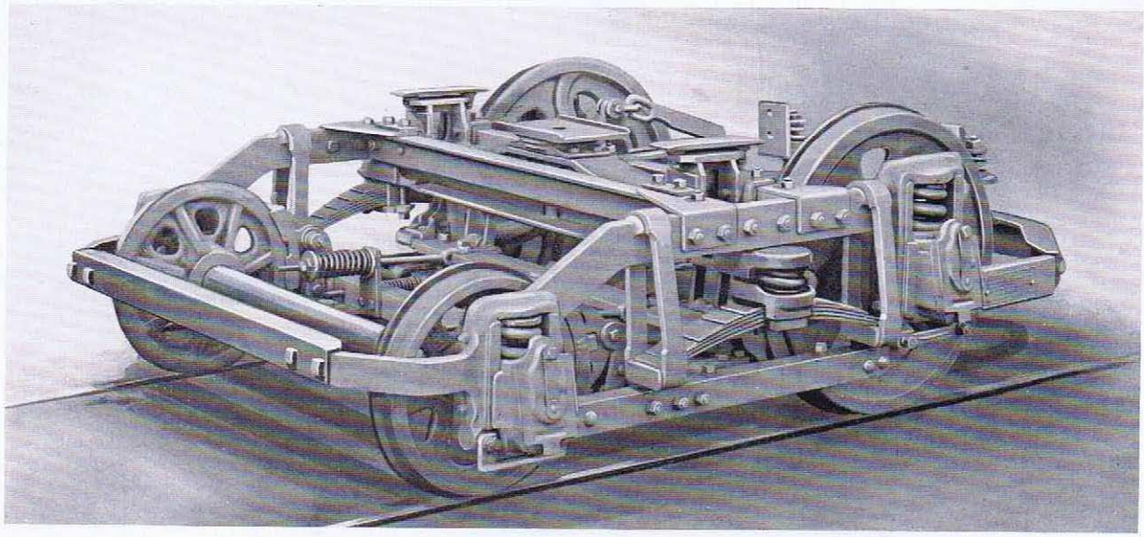


BRILL No. 39-E TRUCK

THE No. 39-E is the Brill standard single-motor truck and is suited to all-round city service. It carries the car body low and works in limited space because the pivotal point is near the driving axle. This reduces the swing of the driving wheels and motor on curves. The low pony-wheel end of the truck takes most of the swing. The larger part of the load is therefore on the driving wheels, increasing adhesion to an amount which enables the truck to take grades easily, start and accelerate rapidly. The right proportion of the load is placed on the pony wheels to keep them safely on the rails under all conditions.

When the pony wheels are toward the center of the car, the brake rigging is changed to permit the upright lever to be placed on the pony wheel side of the bolster; with this arrangement the truck is known as the No. 62-E type.

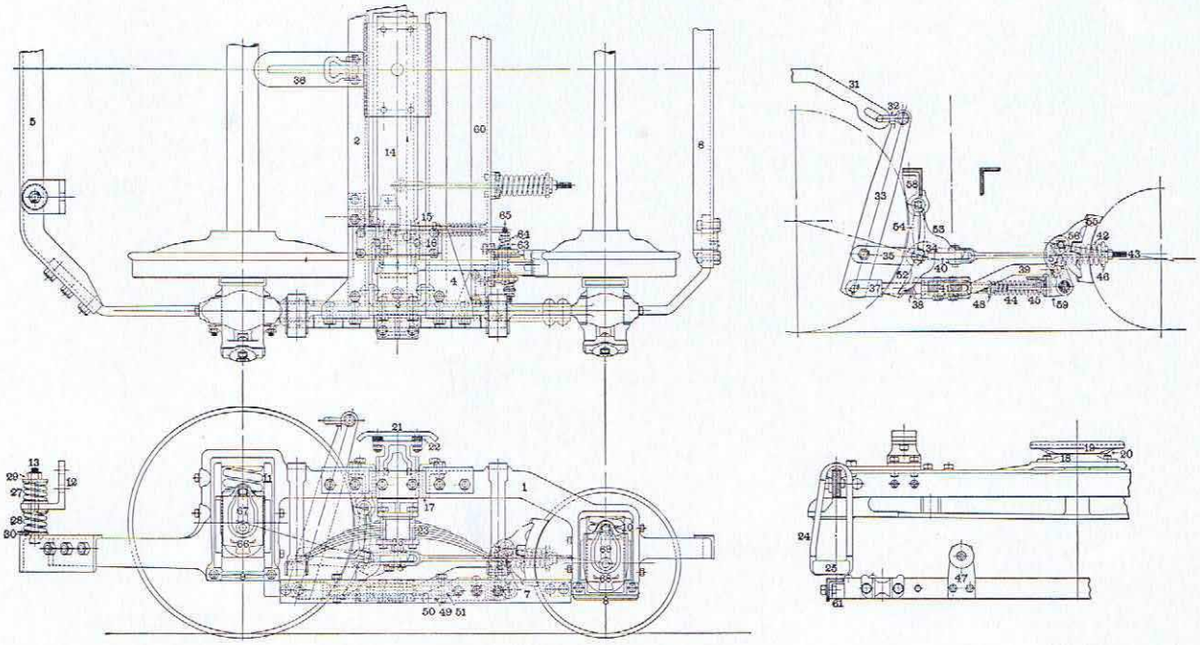
Under certain conditions it is desirable to reduce still further the distance between the pivotal center of the truck and the center of the driving axle. This is accomplished by means of two triangular castings placed horizontally one above the other; the base of the lower is attached to the truck bolster and the base of the upper is attached to the body bolster. Both castings are pivoted together at the apex of the triangle and the weight is taken on a radial center bearing.

With the pivotal castings and the pony wheels toward the end of the car, the truck is known as the No. 43-E type. With the pivotal castings, the pony wheels toward the center of the car and the brake rigging arranged for the upright lever on the pony wheel side of the bolster, the truck is known as the No. 61-E type.

With the exceptions of these minor changes the types 62-E, 43-E and 61-E are identical with the Brill standard single-motor truck No. 39-E.

The coil spring interposed between the bolster and the semi-elliptic spring shown in the above engraving has been recently adopted to still further increase the easy riding qualities of the truck.

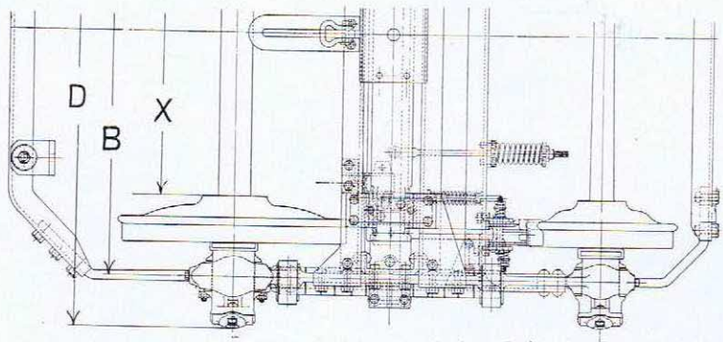
NAMES OF PARTS OF
BRILL No. 39-E TRUCK

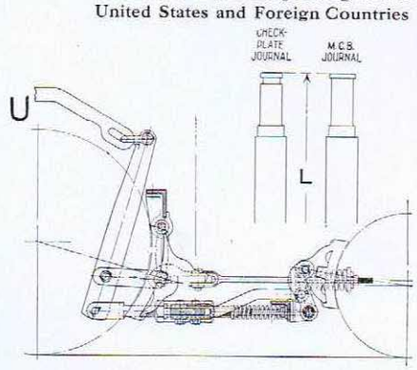


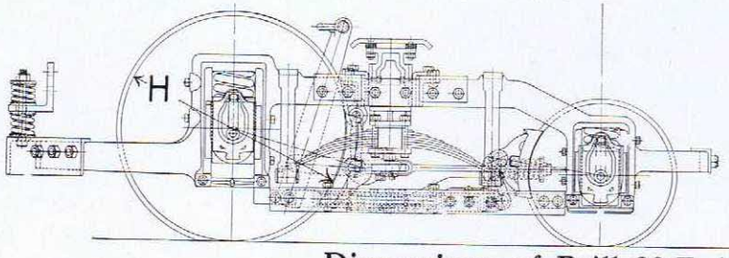
1. Side Frame
2. Transom
3. Double Corner Bracket
4. Transom Gusset Plate
5. Motor End Crossing
6. Trail End Crossing
7. Tie Bar
8. Small Pedestal Tie Bar
9. Large Pedestal Tie Bar
10. Small Pedestal Gib
11. Large Pedestal Gib
12. Motor Support
13. Motor Bolt
14. Bolster (cast in a single piece including side bearings)
15. Side Bearing Chafing Plate
16. Transom Chafing Plate
17. Chafing Plate Filling Block
18. Truck Bolster Pivot Plate
19. Body Bolster Pivot Plate
20. Truck Bolster Pivot Plate Ring
21. Side Bearing Rub Plate
22. Side Bearing Adjusting Plate
23. Semi-Elliptic Spring
24. Semi-Elliptic Spring Link
25. Semi-Elliptic Spring Rocker Seat
26. Semi-Elliptic Spring Seat
27. Motor Support Coil Spring, Upper
28. Motor Support Coil Spring, Lower
29. Motor Support Coil Spring Cap (same for upper and lower springs)
30. Motor Support Coil Spring Seat (same for upper and lower springs)
31. Brake Rod Stub
32. Clevis
33. Upright Lever
34. Upright Lever Holder
35. Upright Lever Fulcrum
36. Upright Lever Guide
37. Bottom Brake Rod
38. Bottom Brake Rod Adjusting Nut
39. Brake Connecting Rod
40. Driving Wheel Brake Beam
41. Trail Wheel Brake Beam
42. Driving Wheel Brake Beam Release Spring
43. Driving Wheel Brake Beam Release Spring Bolt
44. Trail Wheel Brake Beam Release Spring
45. Trail Wheel Brake Beam Release Spring Bolt
46. Driving Wheel Brake Beam Release Spring Caps
47. Driving Wheel Brake Beam Release Spring Bracket
48. Trail Wheel Brake Beam Release Spring Caps
49. Brake Beam Slide
50. Brake Beam Slide Wear Plate
51. Brake Beam Slide Filler
52. Driving Wheel Brake Shoe
53. Driving Wheel Brake Shoe Holder
54. Driving Wheel Brake Half-Ball Hanger
55. Trail Wheel Brake Shoe
56. Trail Wheel Brake Shoe Holder
57. Trail Wheel Brake Half-Ball Hanger
58. Driving Wheel Brake Shoe Hanger Holder
59. Trail Wheel Brake Shoe Hanger Holder
60. Lever Support
61. Lever Support Bracket
63. Brake Hanger Spring
64. Brake Hanger Spring Cap
65. Brake Hanger Spring Bolt
66. Driving Wheel Journal Box
67. Driving Wheel Journal Box Lid
68. Trail Wheel Journal Box
69. Trail Wheel Journal Box Lid

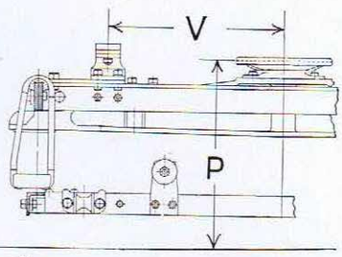
BRILL No. 39-E TRUCK

Patented and patents pending in the United States and Foreign Countries









Dimensions of Brill 39-E 1 Trucks

			Metre					
	Gage	3′0″	3′3⅜″	3′6″	4′0″	4′8½″	5′0″	5′2½″	5′3″
B	Centers of Side Frames	4′10″	4′10⅝″	5′2″	5′8⅛″	5′9¼″*	6′0¾″*	6′2⅝″*	6′3¼″*
V	Radius of Rub Plates	1′3¾″	1′5 7/16″	1′6¾″	1′9¾″	2′2″	2′3¾″	2′4¾″	2′4¾″
L	Length of Motor Axle—M. C. B. Journal	5′6¼″	5′6⅞″	5′10¼″	6′4⅜″	6′5½″*	6′9″*	6′10⅞″*	7′0″*
	Length of Pony Axle—M. C. B. Journal	5′5″	5′5⅜″	5′9″	6′3⅛″	6′4¼″*	6′7¾″*	6′9⅜″*	6′10¾″*
	Length of Both Axles—Check Plate Journals	5′5⅜″	5′6¼″	5′9⅜″	6′3¾″	6′5″*	6′8⅜″*	6′10¼″*	6′11⅛″*
	Length of Both Axles—Check Plate Journals—Restricted Width	5′5⅜″	5′6½″	5′9⅜″	6′3¾″	6′4⅞″*	6′8⅜″*	6′10¼″*	6′11⅜″*
D	Width Over All—M. C. B. Journals	6′0¾″	6′1⅜″	6′4¾″	6′10⅞″	7′0″*	7′3½″*	7′5⅜″*	7′6½″*
	" " " —Check Plate Journals	6′0¾″	6′1⅜″	6′4¾″	6′10⅞″	7′0″*	7′3½″*	7′5⅜″*	7′6½″*
	" " " —Check Plate Journals—Restricted Width	5′7½″	5′8⅛″	5′11½″	6′5⅜″	6′6¾″*	6′10¼″*	7′0⅛″*	7′1¾″*

Dimensions of Brill 39-E 2 Trucks

			Metre					
	Gage	3′0″	3′3⅜″	3′6″	4′0″	4′8½″	5′0″	5′2½″	5′3″
B	Centers of Side Frames	4′10″	4′10⅝″	5′2″	5′8⅛″	5′9¼″*	6′0¾″*	6′3″*	6′3¼″*
V	Radius of Rub Plates	1′3¾″	1′5 7/16″	1′6¾″	1′9¾″	2′2″	2′3¾″	2′4¾″	2′4¾″
L	Length of Motor Axle—M. C. B. Journal	5′7¼″	5′7⅞″	5′11¼″	6′5⅜″	6′6½″*	6′10″*	7′0¼″*	7′1″*
	Length of Pony Axle—M. C. B. Journal	5′5″	5′5⅜″	5′9″	6′3⅛″	6′4¼″*	6′7¾″*	6′11¼″*	6′10¾″*
	Length of Motor Axle—Check Plate Journal	5′8¾″	5′9⅜″	6′0¾″	6′6⅞″	6′8″*	6′11½″*	7′1¾″*	7′2½″*
	Length of Pony Axle—Check Plate Journal	5′5⅜″	5′6¼″	5′9⅜″	6′3¾″	6′5″*	6′8⅜″*	6′10⅝″*	6′11⅜″*
D	Width Over All—M. C. B. Journals	6′2″	6′2⅝″	6′6″	7′0⅛″	7′1¼″*	7′4¾″*	7′7″*	7′7¾″*
	" " " —Check Plate Journals	6′0½″	6′1⅛″	6′4½″	6′10⅝″	6′11¾″*	7′3¼″*	7′5½″*	7′6¼″*

H	Diameter of Driving Wheel	30″	33″	34″
P	Distance from Track to Underside of Body Bolster—Car Empty	2′2⅜″	2′3⅞″	2′4⅜″

* It is necessary to use a longer axle with wheels over 2½″ width of tread. These dimensions require to be increased proportionately.

X Distance between hubs. This is variable.

H Trucks built to suit driving wheels from 30″ to 34″ diameter. Pony wheels from 19″ to 23″ diameter.

U Truck brakes furnished complete to this point only.

Driving wheel brake shoes can be hung outside the wheel base if desired to give clearance for magnetic brakes.

King bolt not furnished by truck builder. Allow 11″ for distance between car body bolster and bottom of truck bolster.

If desired, brake rigging can be arranged to allow for placing trucks under car with the driving wheels toward the ends.

The Following Limitations are Recommended

	39-E 1	39-E 2
Maximum Diameter of Motor Axle Journal	3¾″	4¼″
Maximum Diameter of Pony Axle Journal	3″	3¾″
Weight of Car Body with Equipment and Passenger Load—Not to Exceed	40,000 Lbs.	50,000 Lbs.
Speed—Not to Exceed	30 M. P. H.	30 M. P. H.
Motors—Not to Exceed	50 H.-P.	65 H. P.

	39-E 1	39-E 2
Wheel Base	4′6″	4′11″
Center of Motor Axle to Center of Bolster	23″	25″