Street Railway Cars: Trucks and Roofs

Notes by E. Harper Charlton

STEEL SHAPES, (stock cross sections) in truck frames:

1. Flat bar section
2. "I" section
3. "L" section
4. "T" section
5. "U" section

These are the common names applied mostly, although one may run across variations in terminology.

6. Tubular stock. One company (American Car Co.) fabricated truck frames of tubular stock. The inside of the tube had shaped wood plugs inserted by pressure, to reduce noise. These trucks, both single and double, were the designs of Wm. Sutton, Pres. of the company, circa 1891.

Laminated springs (plate or leaf) vs. steel stock sections:

<table>
<thead>
<tr>
<th>A: Flat Stock</th>
<th>B: Round or Rilled Edge</th>
<th>C: Bevel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Grooved and parabolic elevations:

<table>
<thead>
<tr>
<th>4</th>
<th>Butt end plate, paraffin for cars.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>End molded plate, not usual.</td>
</tr>
</tbody>
</table>

Most common in order:

- Shrimp spring, not common.

Coil springs vs. helical sections:

<table>
<thead>
<tr>
<th>0</th>
<th>Parallel helical</th>
<th>Tapered or cone spring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mostly round stock</td>
<td>Mostly round stock</td>
</tr>
</tbody>
</table>

22's, mostly round stock, commonly called "coil springs." A, B, C, and D of plate springs are common.

The helical is almost always of the parallel type, as noted, Brill used a slightly tapered "cone" spring. Used on freight car trucks (see Holland Co.).

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Steel shapes (stock)  Common sections.

I - Flat bar, square edge
II - Beam section
L - Section
T - Section
I - Channel (or U section)

These are the common names applied mostly. Also one may run across variations in terminology.

Plate frame fabrications as the name implies are cut to shape from rolled plate sheets. Whether, pressed, forged, etc. All from sheet steel. Some shapes in cast steel. Cast steel trucks are common today.

One company (American Car Co.) fabricated truck frames of tubular stock. There were the designs of Wm. Sutton, Circa 1891.

The inside of tube was filled by pressure insertion of wood.

"Trunks" in letter file "T"
Railway Car Trucks. Coilsprings. (Helical, Tapered Or Cone, And Volute) E.H.C.

A. Parallel Helical - in Full Compression. (Elevation)
   Usually Round Stock, Some Square Stock Used.

B. Tapered Or Cone. (Section)
   (Elevation)

C. Volute. (Section) "Edge Bend" (Formed On Edge)
   "Coil" Springs. (Sometimes Termed "Spirals")

All Of These Are Commonly Called "Coil" Springs. (Sometimes Termed "Spirals")

B. Tapered Or Cone. Special Uses. Brill Used Cone Springs On The 22-E Trucks.
C. Volute Springs. Heavy Duty Locomotives, Buffers, Brake Gear.
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TRUE ARCH BAR TRUCK

Top member arches, booster brace to exist, frames spherical, either coil, bottom the bar is straight or plate.

Any modification is Arch Bar Type (leading into the CANTILEVER Type) "ABC" (Arch Bar CANTILEVER)

The above truck is a close resemblance to Pickles No. 25 for B.R.T. Which became known as the Brooklyn Rapid Transit "Standard Double Trucks"

THE ARCH BAR WAS "PUBLIC DOMAIN" AS FAR AS RIGHTS TO FABRICATE EVERYBODY MADE THEM.
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