AAR CLASSIFICATION

AAR stands for Association of American Railroads. AAR classification deals with the classification of locomotives based on wheel arrangement. This chapter will be dealt in two parts

- Classification/ codification of wheels
- Arrangement of wheels in the locomotive

Classification of wheels

WHEELS

Carrying wheels

They are to carry the weight of the locomotive and don't have driving power. They are denoted by numbers

1- One set of carrying wheels
2- Two sets
3- Three sets and so on

Driving wheels

They are for carrying as well as driving the locomotive. They are denoted by letters e.g. A, B, C etc. They are again subdivided into two groups

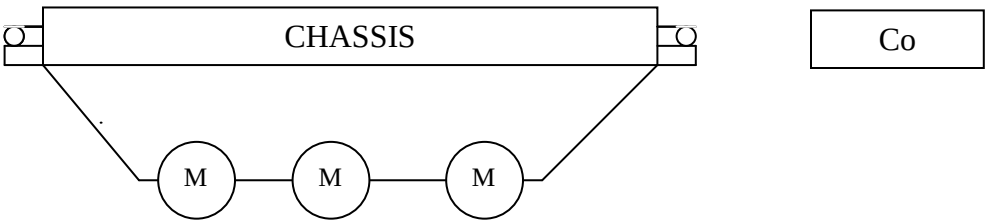
Independently driving wheel. They are denoted by adding suffix O with the denoting letter. e.g.
Ao – One set of driving wheels
Bo – Two sets
Co – Three sets and so on.

Coupled driving wheels. They are denoted by superscribing dash to the denoting letter e.g.

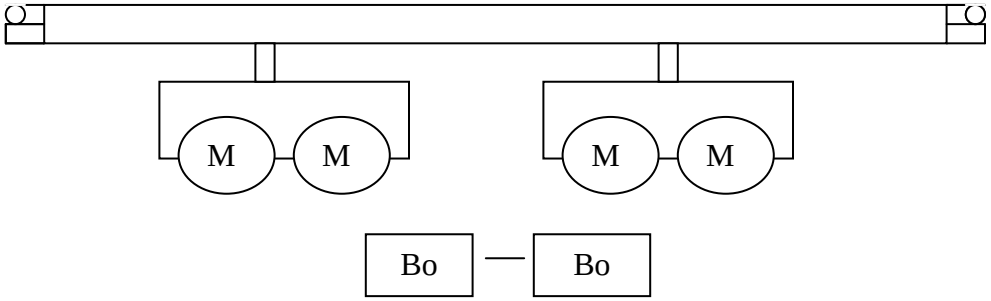
A′ - One set of coupled driving wheel
B′- Two sets of coupled driving wheels
C′- Three sets and so on

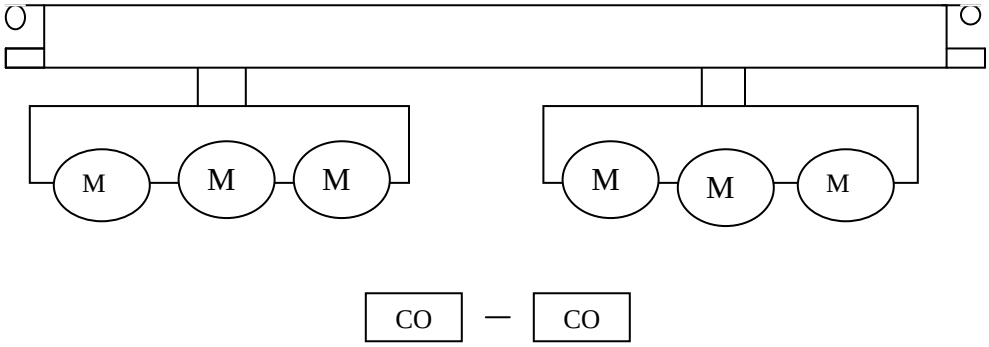
Arrangement of wheels in the locomotive

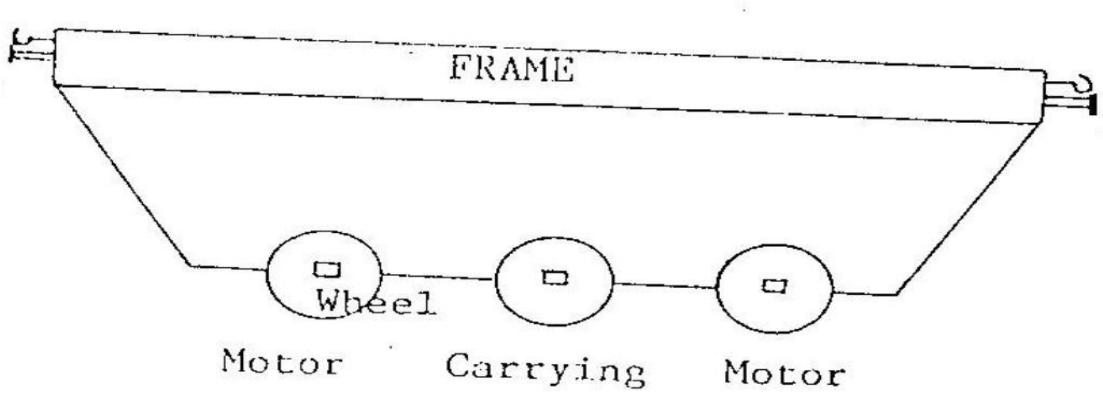
1. Rigid Frame locomotive In rigid frame type of wheel arrangement chassis is directly mounted on wheels. They are represented in single block, as shown in the figure below:



2. Bogie type Locomotive In bogie type wheel arrangement wheels are first arranged into bogies and then chassis is mounted on bogies. It provides greater flexibility than rigid frame arrangement for negotiating curves. They are represented in two blocks separated by (-) sign.

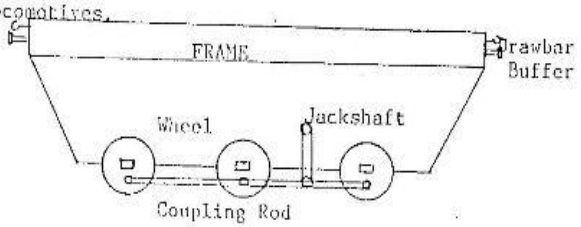




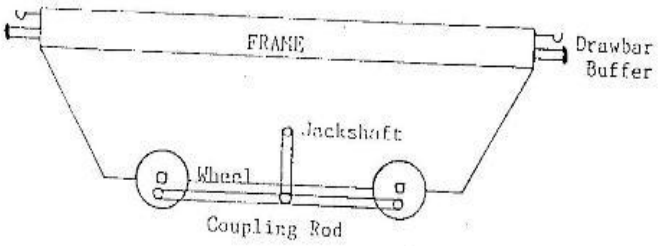


FINAL CLASSIFICATION COMBINING BOTH

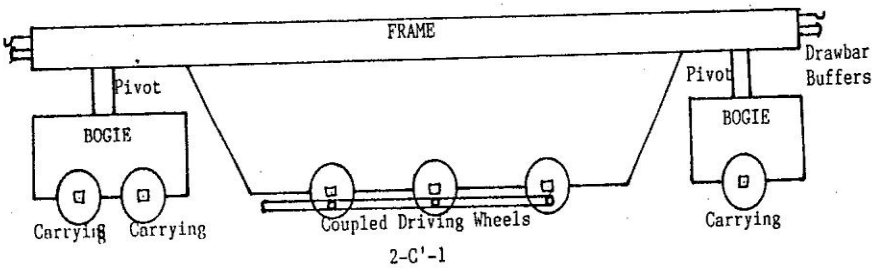
Rigid Frame Locomotives.



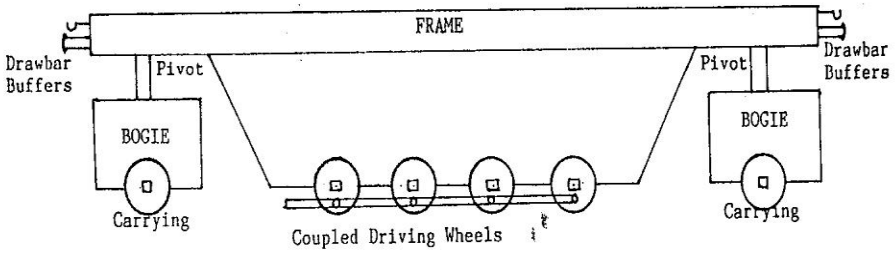
C'



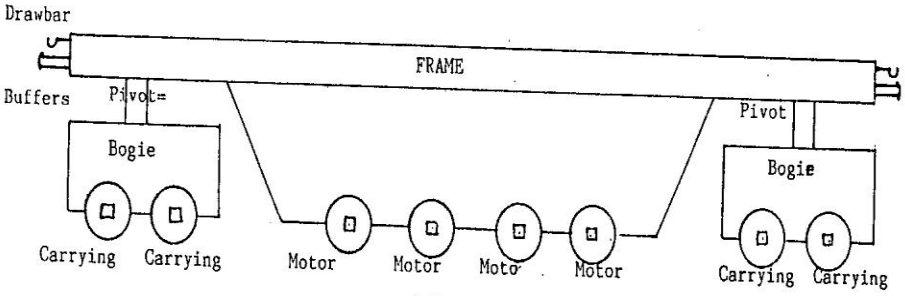
B'


FRAME
Drawbar
Buffers
Pivot
Pivot
BOGIE
BOGIE
Carrying
Carrying
Coupled Driving Wheels
Carrying

2-C'-1

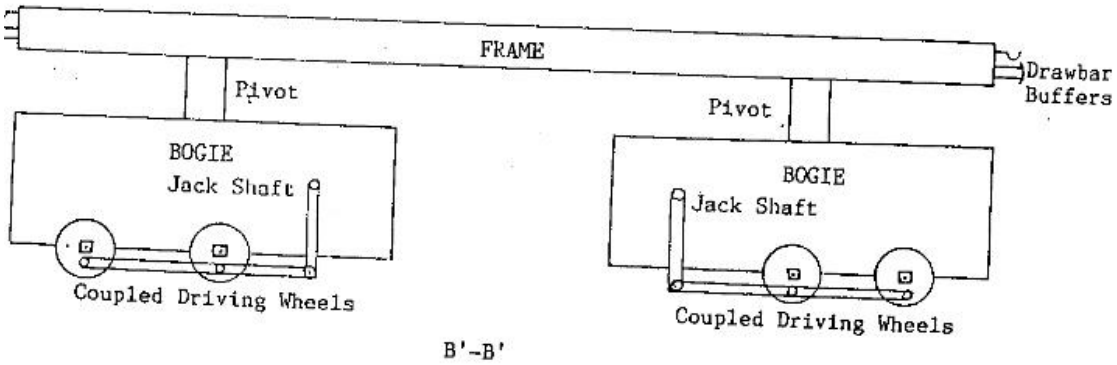

FRAME
Drawbar
Buffers
Pivot
Pivot
Drawbar
Buffers
BOGIE
BOGIE
Carrying
Coupled Driving Wheels
Carrying

1-D'-1

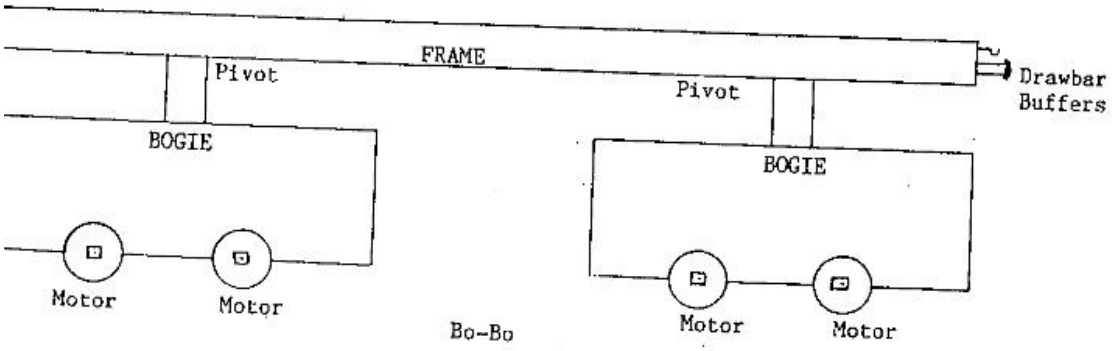

Drawbar
FRAME
Buffers
Pivot
Pivot
Bogie
Bogie
Carrying
Carrying
Motor
Motor
Moto
Motor
Carrying
Carrying

2-Do-2

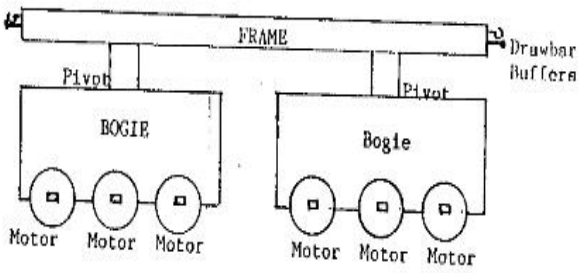
BOGIE TYPE LOCOMOTIVE



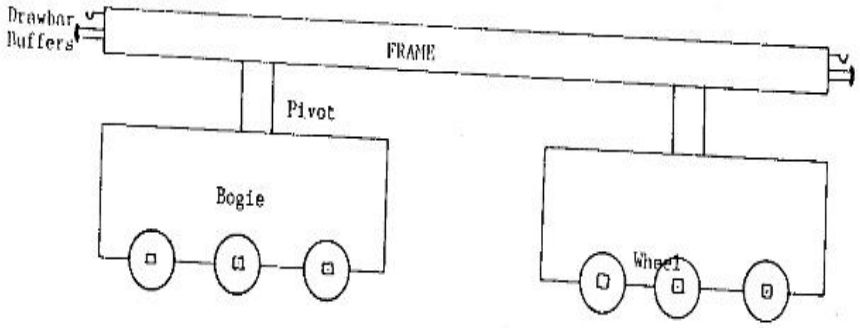
B'-B'

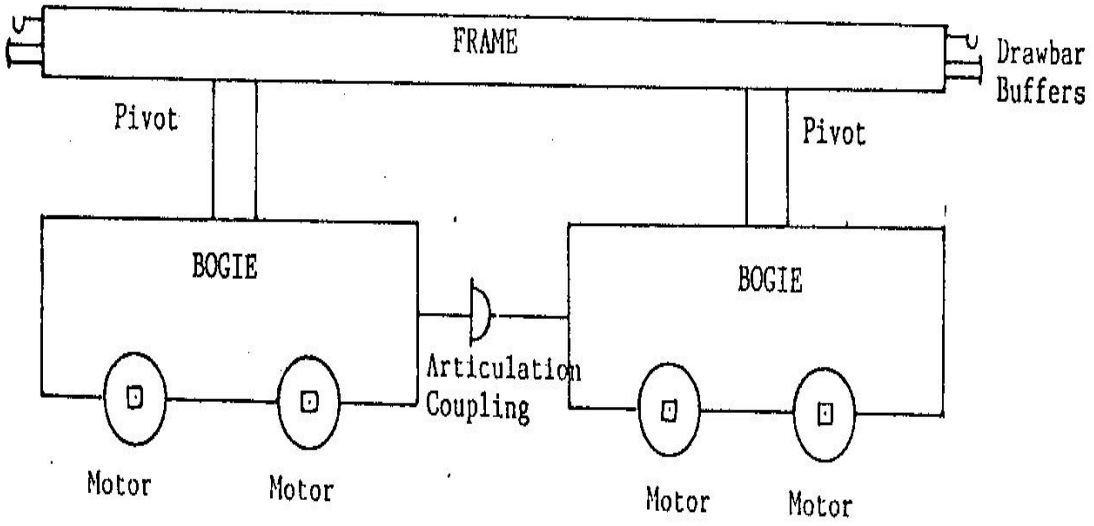


Bo-Bo

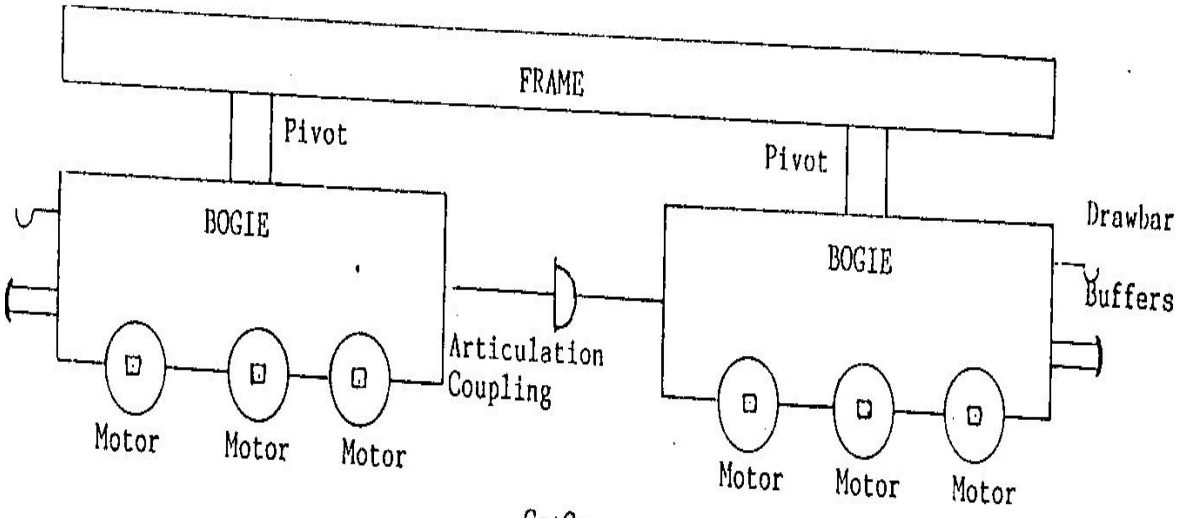


Motor Carrying Motor	Motor Carrying Motor	AolAo-AolAo
Carrying Motor Motor	Motor Motor Carrying	1Bo-Bol
Motor Motor Carrying	Carrying Mtor Motor	Bol-1Bo




FRAME
Drawbar
Buffers
Pivot
Pivot
BOGIE
BOGIE
Articulation
Coupling
Motor
Motor
Motor
Motor

Bo+Bo


FRAME
Pivot
Pivot
BOGIE
BOGIE
Drawbar
Buffers
Articulation
Coupling
Motor
Motor
Motor
Motor
Motor
Motor

Co+Co