

BRITISH RAILWAYS - WESTERN REGION

INSTRUCTIONS AND INFORMATION
FOR CARRIAGE AND
WAGON EXAMINERS

SECTION B

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WAGON EXAMINERS.

SECTION B.

M. & E.E. Training School,
SWINDON.

May 1976.
1st Edition.

This book has been devised to give a Carriage and Wagon examiner as much relevant information as possible to assist him in carrying out his duties in an efficient manner.

The book is a précis of lectures given on the Carriage and Wagon Training course and is for training purposes only.

It must be stressed that this book is only a guide and the examiner must keep himself conversant with any issues, amendments or alterations to Standing Orders, Maintenance Instructions, etc. issued by the C.M. & E.E. Paddington.

SECTION B.

Contents.

Freight Vehicles.

12 Ton Standard Open Goods. Component Parts.

12 Ton Covered Goods. Component Parts.

16 Ton All Steel Component Parts.

Various types of Freight Vehicles.

C.M. & E.E. Panel.

Continental Ladder.

Traffic Load Panel.

Freight Markings.

R.I.V. Containers.

R.I.V. Wagons.

T.O.P.S.

Classification of Repairs.

FREIGHT VEHICLE COMPONENTS.

When an examiner writes defects on a card or report form, it is essential to describe the defective part correctly so that anyone who reads the card or form can identify that particular part.

A good knowledge of the component names is therefore necessary. The more common types of vehicles, together with some alternative constructions are given on the following pages.

Standard 13 Ton, Open Goods, Steel Frame/Wood Top.

Quarters.

- Quarter capping iron (screwed).
- Quarter capping iron clips (bolted).
- Quarter planks (bolted).
- Side stanchions (rivetted).
- Corner plates (bolted).
- Diagonal side brace (bolted).
- Side door pin and chain (bolted).
- Side door stud (on side stanchion).
- Eye (on side door hinge).
- Rope hooks.

Side Doors.

- Side door capping iron (screwed).
- Side door capping iron clips (bolted).
- Side door planks (bolted).
- Side door striking plates (bolted).
- Side door hinges.
- Side door hinge feet.
- Side door suspension angle or side rail.
- Side door sill and sill plate.

End.

- End capping iron (screwed).
- End capping iron clips (bolted).
- End planks.
- Lamp bracket (bolted) (if power brake fitted).
- End stanchions (rivetted).
- Vacuum pipe block and clips.

Floor.

- Floor planks (bolted).

UNDERFRAME.

Number per Vehicle.

2	Headstocks.
2	Drawbar face plates.
2	Solebars.
2	Middle bearers.
2	Centre longitudes.
4	End longitudes.
4	Diagonals.
4	Buffer guides.
4	Buffer rods.
4	Buffer rod cotters and split pins.
4	Buffer spring washers.
4	Buffer rod washers.
4	Buffer rod rebound washers.
4	Buffer springs or nests of I.R. packing and washers.
4	Gusset plates.
2	Drawbars.
2	Instanter couplings.
2	Drawbar springs or I.R. packing and washers.
2	Drawbar washers.
2	Drawbar nuts.
2	Drawbar nut cotter pins.
4	Trimmer brackets.
4	Side door bang springs.
2	Drawbar knees.
4	Solebar/headstock and diagonal knees.
8	Side spring shoes.
4	Side spring stops.
2	Brake guides.
2	Brake guide stays.
2	Brake guide pin and chains.
8	Half axleguards.
4	Axleguard tie plates or 2 long axleguard tie plates if power brake (morton brake) fitted.
2	Vee irons.
4	Horse hooks.
2	Number plates.
2	Label clips and blocks.
2	Trunnion brackets (vacuum cylinder).
2 pairs	Wheels 9" x 4 $\frac{1}{4}$ " journals.
4	Side springs. 5 plate.

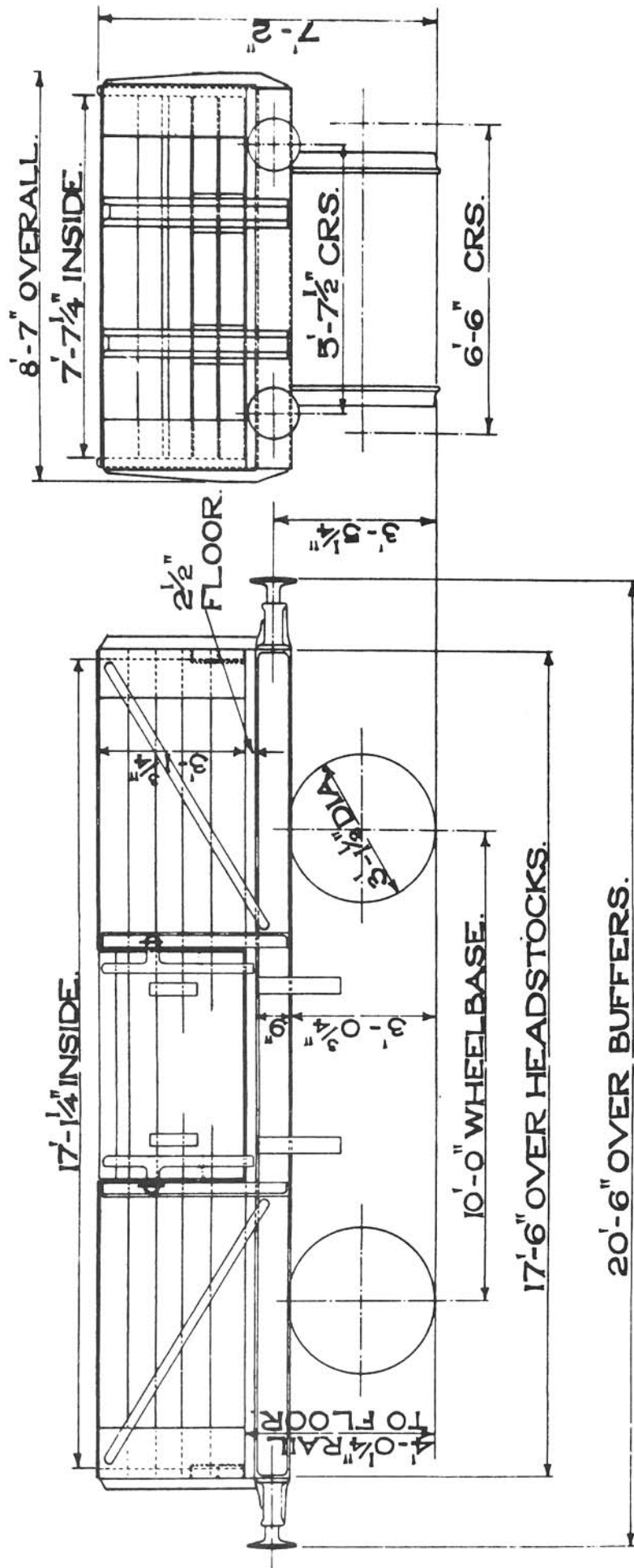


FIG 1 13 TON HIGH GOODS WAGON

TEL CODE SHOCK TARE - 8 TONS 11 CWT
 CUBIC CAPACITY - 368 CU FT 2 SIDE DOORS
 A.V.B. & HAND LEVER BRAKE MIN CURVE - 1 CHAIN

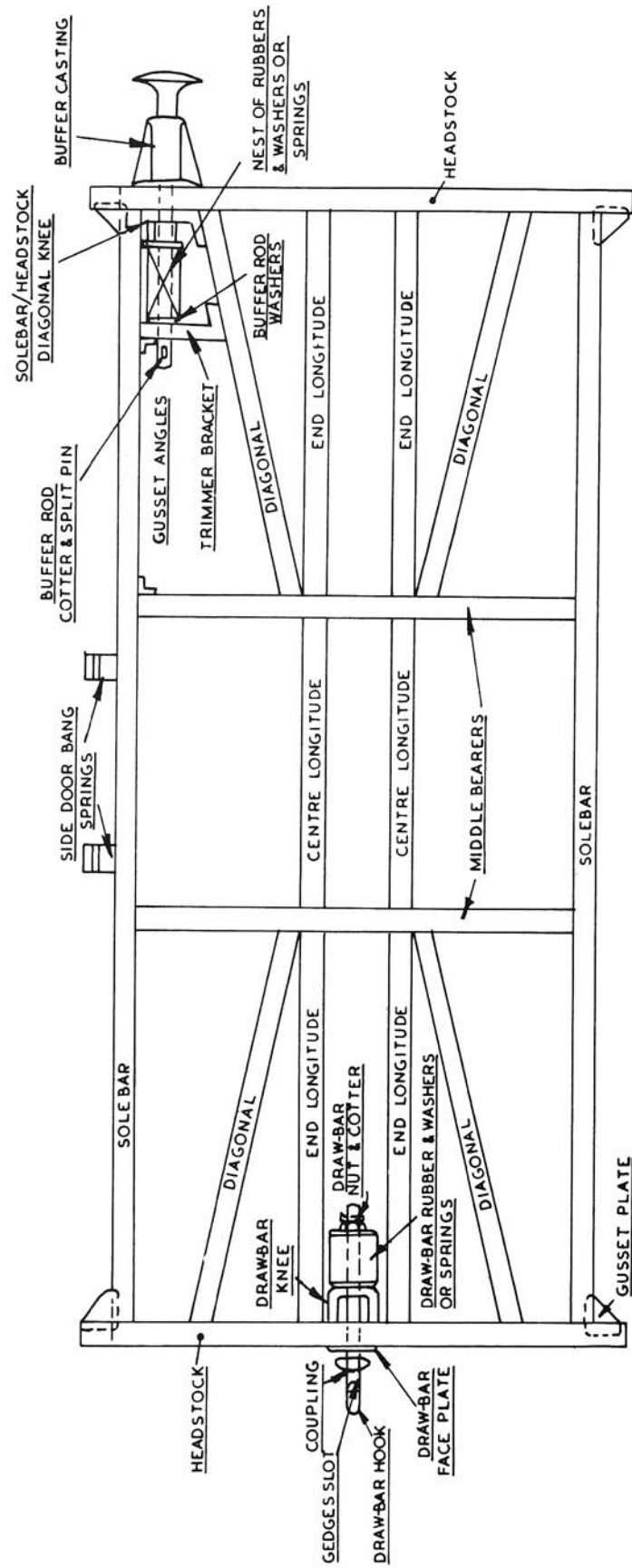


FIG.2. STANDARD WAGON UNDERFRAME

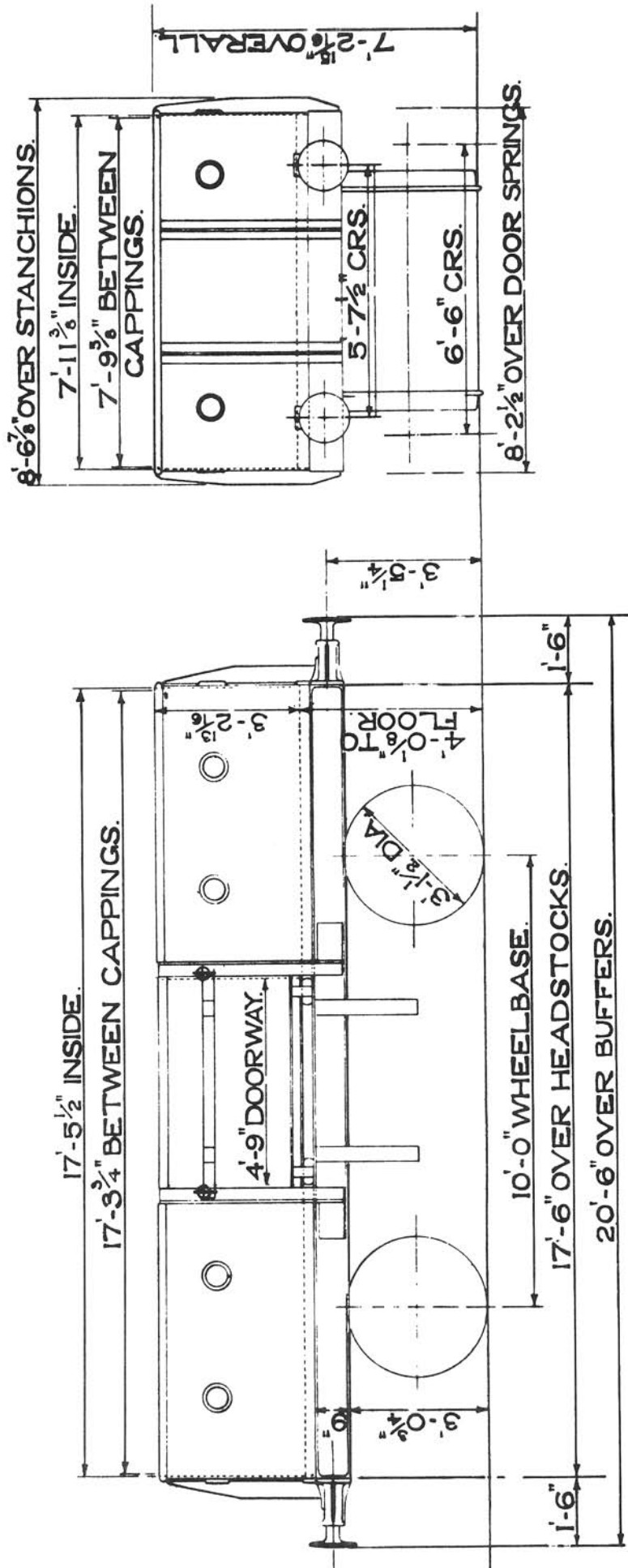


FIG. 3. 13 TON HIGH GOODS WAGON

TARE ~ 7 TONS 5CWT ~ FITTED - TEL CODE ~ HYFIT (INSTANTER COUPLINGS)

TARE ~ 6 TONS 13 CWT ~ UNFITTED - TEL CODE - HIGH

MINIMUM CURVE 1 CHAIN

2 SIDE DOORS

MORTON BRAKE

ALTERNATIVE CONSTRUCTIONS OF OPEN GOODS WAGONS.

Corrugated ends.

Label board and brackets.

Top rail corrugated end (bolted).

Middle rail.

Bottom rail corrugated end (bolted).

Inside end boards (screwed).

End liner and blocks or solid liner.

Quadrant iron (bolted).

Quadrant iron blocks.

Sheet rail (bolted).

Floor fillets.

Floor retaining plates.

13 Ton Open Goods all Steel Body except floor.

NAMES OF COVERED GOODS COMPONENTS.

Roof.

End cappings.	(Bolted).
Water strips.	(Screwed).
Roof mouldings.	(Screwed).
Canvas (tacked) G.S.18.	(Prepared canvas).
Roof boards.	(Screwed).
Eave rail or chain rail.	(Bolted).
Door bolt socket.	(Screwed).
Hoop stick.	(Bolted).
Hoop stick angle.	(Rivetted).
Roof cornice end.	(Screwed).
Ventilator.	(Roof).
End board liner.	

Ends.

Corrugated end.	
End boards.	(Bolted and screwed).
End panels plywood.	(Bolted).
End diagonals.	(Rivetted or braces).
End stanchions.	(Rivetted).
Vent plate, inside.	(Bolted).
Vent plate, outside.	(Bolted).
Corner pillars.	(Bolted).
Vent strip.	(Nailed).
Vacuum pipe clip.	
Vacuum pipe block.	
Label board and brackets.	

Quarter.

Quarter boards.	(Bolted).
Quarter boards, outside.	
Quarter boards, inside.	(Screwed).
Quarter rail.	(Bolted).
Quarter brace.	(Rivetted).
Quarter board liner.	
Slam hook.	(Bolted).

Doors.

Door boards, inside.	(Screwed).
Door boards, outside.	(Screwed).
Door bolt.	
Door bolt runner.	(Bolted and washer plate).
Door bolt cotter pin.	
Pin and chain flat.	(Bolted on hinge).
Pin and chain round.	(Stapled).
Strap hinges.	
Hinge diagonal.	
Slam plate (old method).	
(Now end of strap hinge is cranked).	
Door pin socket and washer plate.	(Bolted).
Wearing plates.	(Screwed).

Another Type.

Wooden frame and plywood panel.

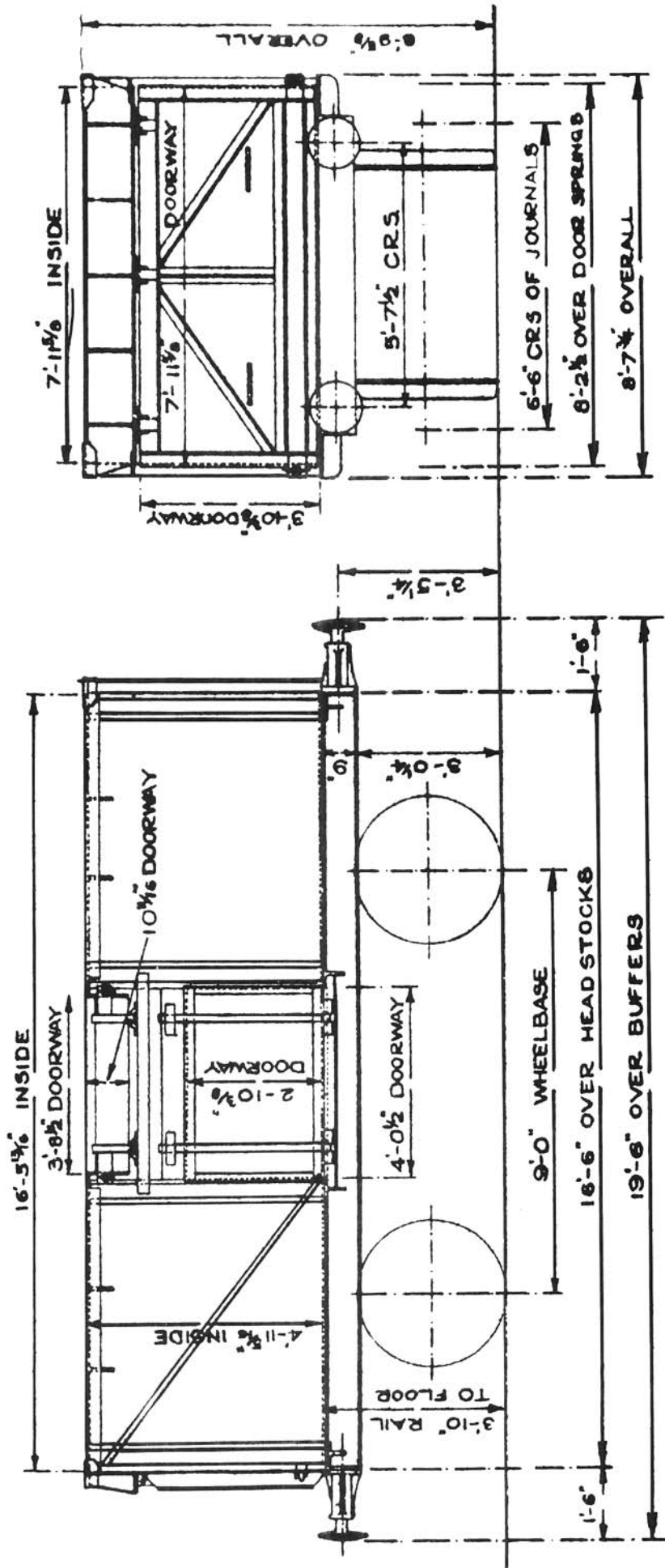


FIG. 5. 16 TON END DOOR WAGON (ALL STEEL WELDED BODY)

TEL. CODE - MIN FLOOR AREA 131 SQ FT CUBIC CAPACITY 649 CU FT
 DOORS - 2 SIDE. 2 FLAP 1 END MINIMUM CURVE - 1 CHAIN MORTON

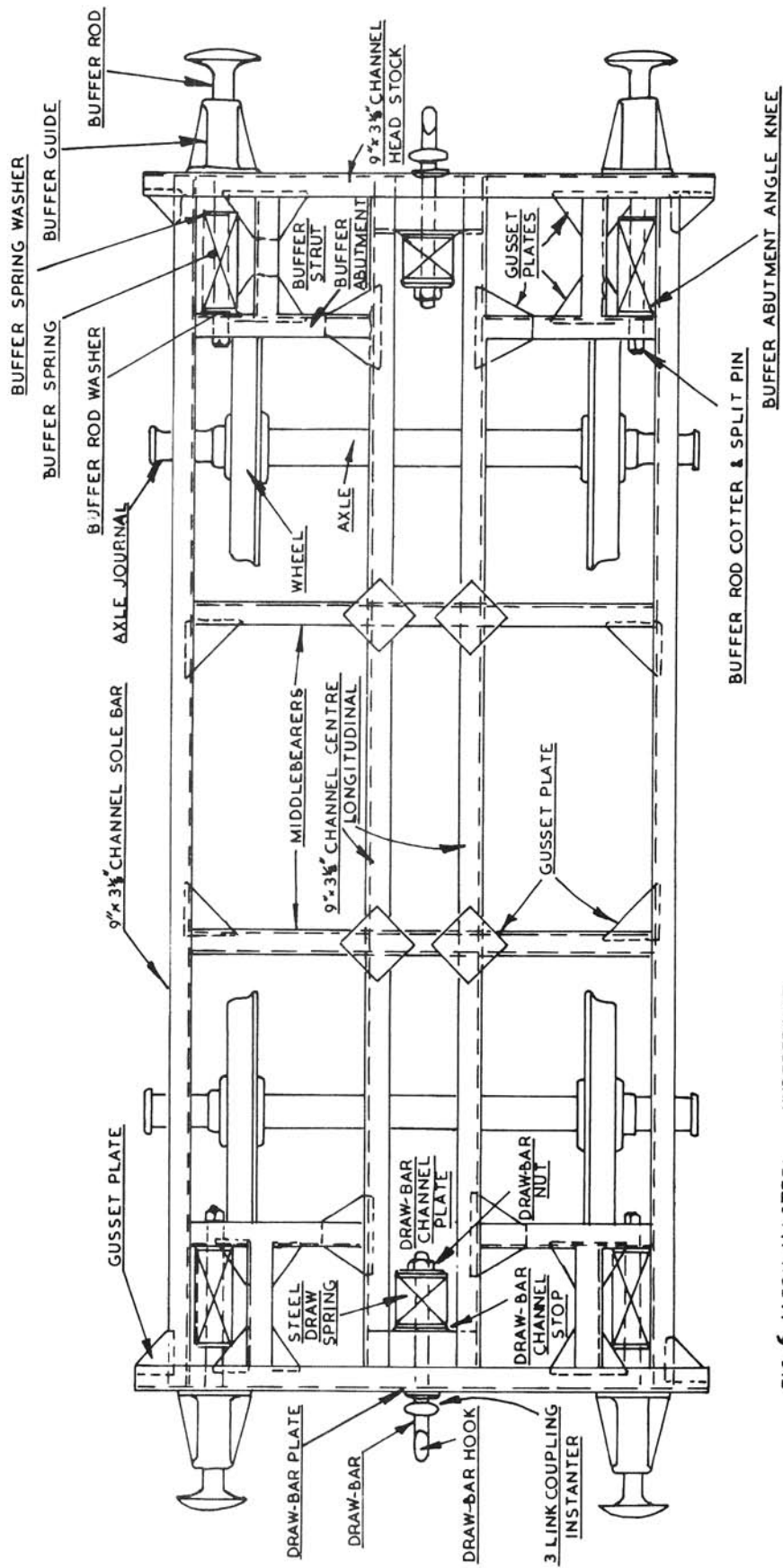


FIG. 6. 16 TON ALL STEEL UNDERFRAME

16 TON ALL STEEL.

Body.

Quarter capping angle.
Quarter plate.
Side stanchions.

Flap door tubular capping.	}	Flap door is not used now.
Flap door plate.		Flap door is weleded up or new
Flap door hinges and feet.		plate welded on in place of
Flap door eyes, studs, keys and chains.		flap door during repairs.
Flap door suspension angle.)	

Overdoor plate.
Cotter boxes and droppers.

Side door plate.
Side door frame.
Side door hinges and feet.
Side door suspension angle.

Fast end capping angle.
Fast end plate.
End stanchions.

End door suspension channel.
End door hinges and pins.
End door plate.
End door frame.
End door locking bar.
End door eyes, studs, keys and chains.
End door commode handles.

Fast end floor plate.
Centre floor plate.
End door end floor plate.
End door end sill plate.
Side door sill plates.

UNDERFRAME.

Number per Vehicle.

2	Headstocks.
2	Drawbar face plates.
2	Solebars.
2	Middle bearers.
4	End longitudes)
2	Centre longitudes) or 2 Full length longitudes.
	6 Middle bearer sections.
4	Buffer struts.
4	Buffer abutments.
4	Buffer abutment angle knees.
2	Drawbar channel stops.
2	Drawbar channel plates.
2	Drawbar steel coil springs or I.R. packing.
2	Drawbar washers.
2	Drawbar nuts.
2	Drawbar nut cotters.
2	Drawbar hooks.
2	Three link instanter couplings.
4	Buffer rods.
4	Buffer guides.
4	Buffer springs or I.R. packing.
4	Buffer spring washers.
4	Buffer rod washers.
4	I.R. rebound washers.
4	Buffer keys and cotters.
2 pairs	Wheels 9" x 4 $\frac{1}{2}$ " journals.
4	Side springs. 6 plate.

16 TON ALL STEEL WAGONS.

COMPONENT PARTS.

SOLEBAR	9" x 3.1/8" x 3.1/8" x 7/16" Channel.
LONGITUDINAL	9" x 3.1/8" x 3.1/8" x 7/16" Channel.
CROSSBAR, SIDE	9" x 3.1/8" x 3.1/8" x 7/16" Channel.
CROSSBAR, CENTRE	9" x 3.1/8" x 3.1/8" x 7/16" Channel.
BUFFER STRUT	9" x 3.1/8" x 3.1/8" x 7/16" Channel.
BUFFER ABUTMENT	9" x 3.1/8" x 3.1/8" x 7/16" Channel.
HEADSTOCK	9" x 3.1/8" x 3.1/8" x 7/16" Channel.
GUSSET PLATE	
BUFFER ABUTMENT KNEE	7" x 3½" x ½" (Angle).
DRAWBAR CHANNEL TOP	
DRAWBAR CHANNEL BOTTOM	
DRAWBAR CHANNEL PLATE	

BODY IRONWORK (ON UNDERFRAME).

SOLEBAR BRACKET TEE.
SOLEBAR BRACKET ANGLE.

FLOOR PLATE ASSEMBLY.

FLOOR PLATE (FIXED END).
FLOOR PLATE (DOOR END).
FLOOR PLATE (DOOR END) FLANGED.
FLOOR PLATE (CENTRE)
FLOOR PLATE (SIDE).

FLOOR DRAIN PIPE ASSEMBLY.

FLOOR DRAIN PIPE.
FLOOR DRAIN PIPE PLATE.

SIDE DOOR ASSEMBLY.

SIDE DOOR PRESSING.
SIDE DOOR HINGE.
SIDE DOOR HINGE KNUCKLE.
SIDE DOOR WEARING PLATE.
SIDE DOOR COTTER WEARING PIECE.
SIDE DOOR DOORWAY ANGLE.

END DOOR ASSEMBLY.

END DOOR PRESSING.
END DOOR BOTTOM PRESSING.
END DOOR BOTTOM CENTRE FLUTE FILLING.
END DOOR BOTTOM INTERMEDIATE FLUTE FILLING.
END DOOR BOTTOM END.
END DOOR HINGE.
END DOOR FASTENER PLATE.
END DOOR COMMODORE HANDLE.
END DOOR BOTTOM STIFFENER PLATE.
END DOOR BOTTOM STIFFENER ANGLE.

BODY SIDE ASSEMBLY.

BODY SIDE PLATE

BODY SIDE PLATE (CENTRE).

BODY SIDE STANCHION ASSEMBLY - DOOR END.

BODY STANCHION SECTION - SIDE AND FIXED END.

BODY SIDE STANCHION.

BODY SIDE STANCHION STIFFENER.

END DOOR FASTENER PIN.

BODY SIDE ANGLE - TOP ASSEMBLY.

BODY SIDE ANGLE - TOP.

BODY SIDE ANGLE - WEB PLATE.

SIDE FASTENER PLATE ASSEMBLY.

SIDE FASTENER PLATE.

SIDE FASTENER BLOCK.

BODY END ASSEMBLY.

BODY END PLATE.

BODY END PLATE ANGLE - TOP.

BODY END PLATE STANCHION.

BODY TOP CHANNEL ASSEMBLY - DOOR END.

BODY TOP CHANNEL SECTION - DOOR END.

BODY TOP CHANNEL DOOR END.

BODY TOP CHANNEL WEB PLATE.

BODY TOP CHANNEL JOINT STRIP.

END DOOR HINGE BRACKET.

END DOOR HINGE BRACKET BOSS.

The following pages show various types of freight vehicles now in use on British Railways.

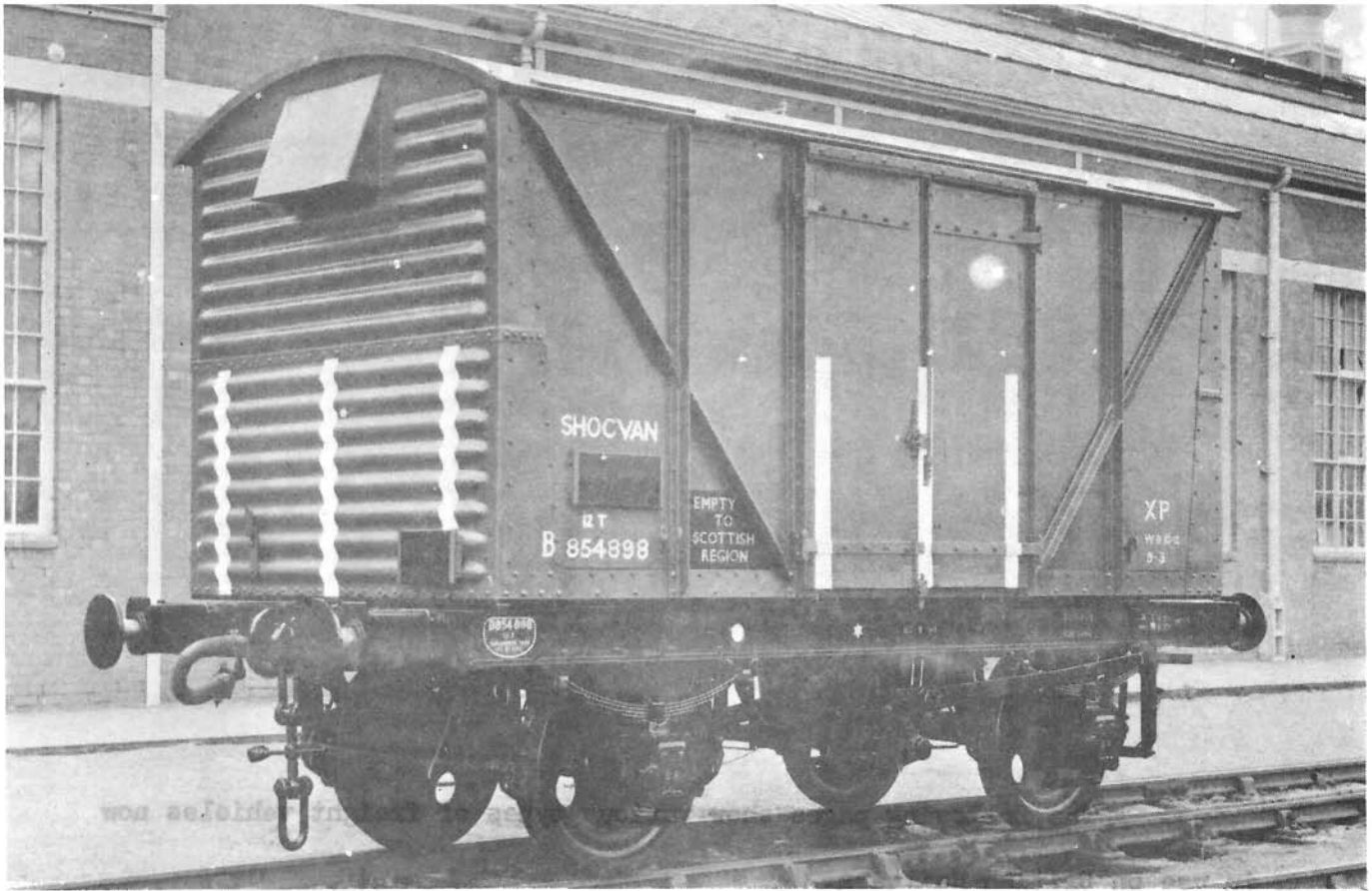


FIG. 7. 12 TON SHOCVAN

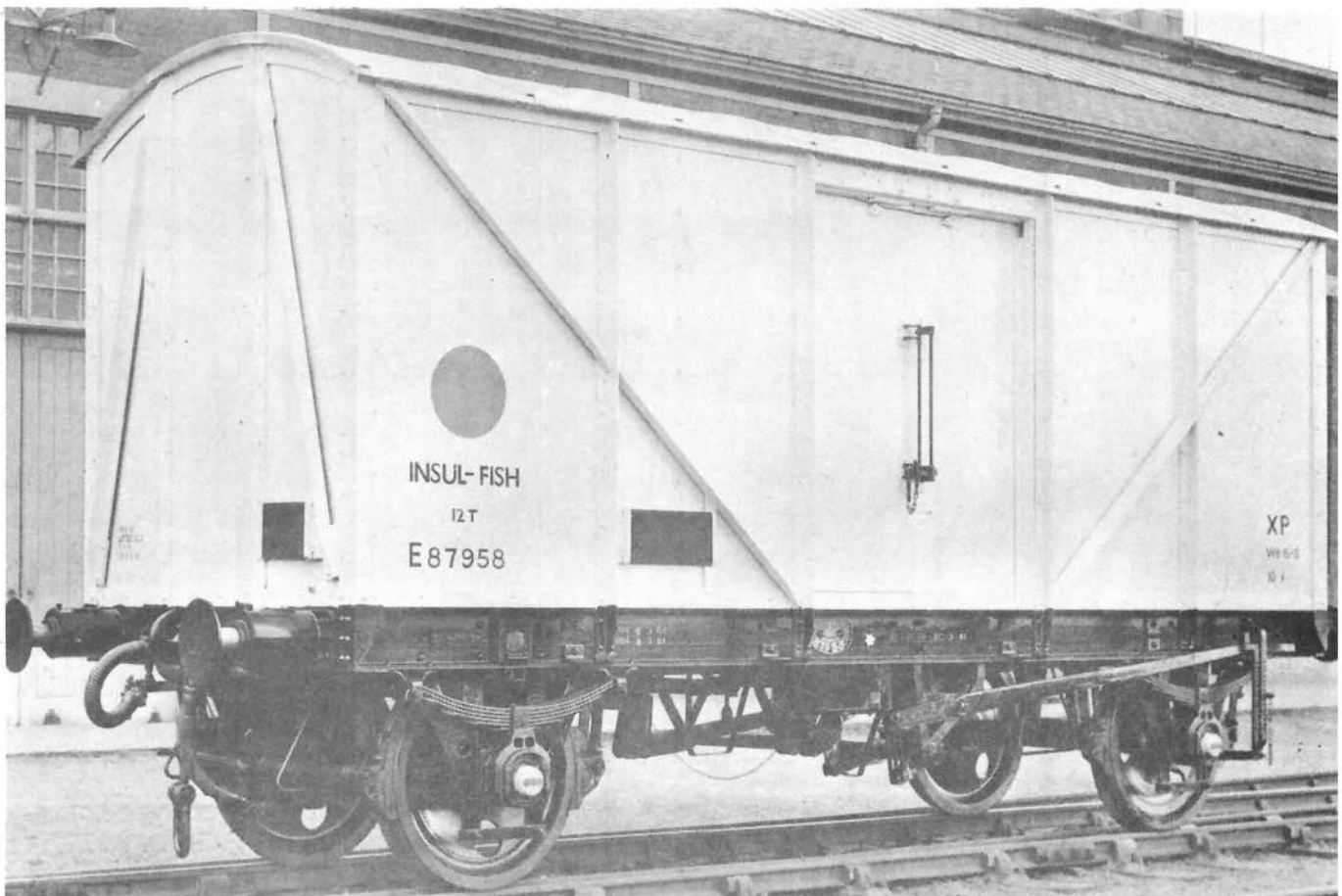


FIG. 8. 12 TON INSUL-FISH

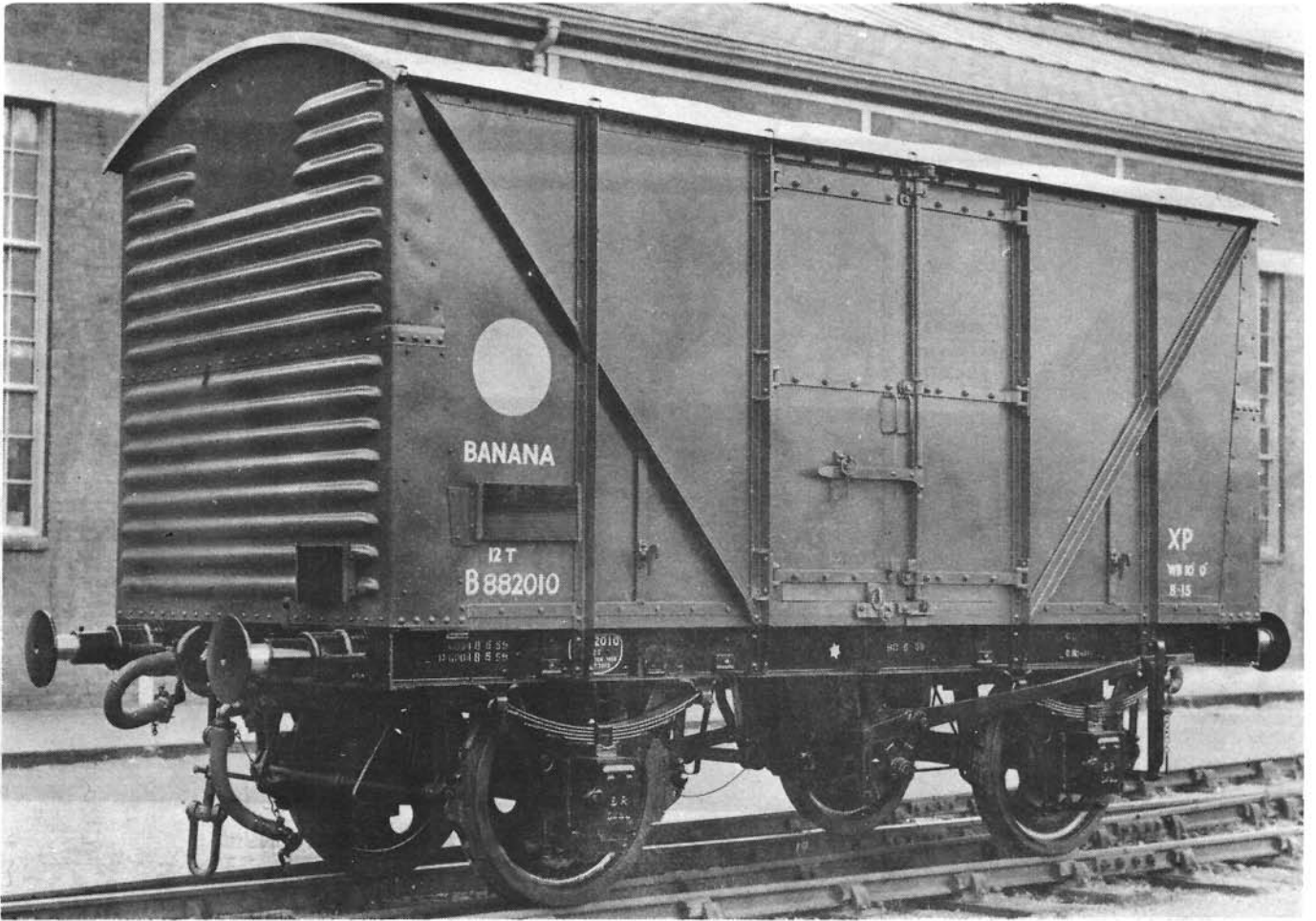


FIG.9. 12 TON BANANA



FIG.10. 32 TON HOP AB

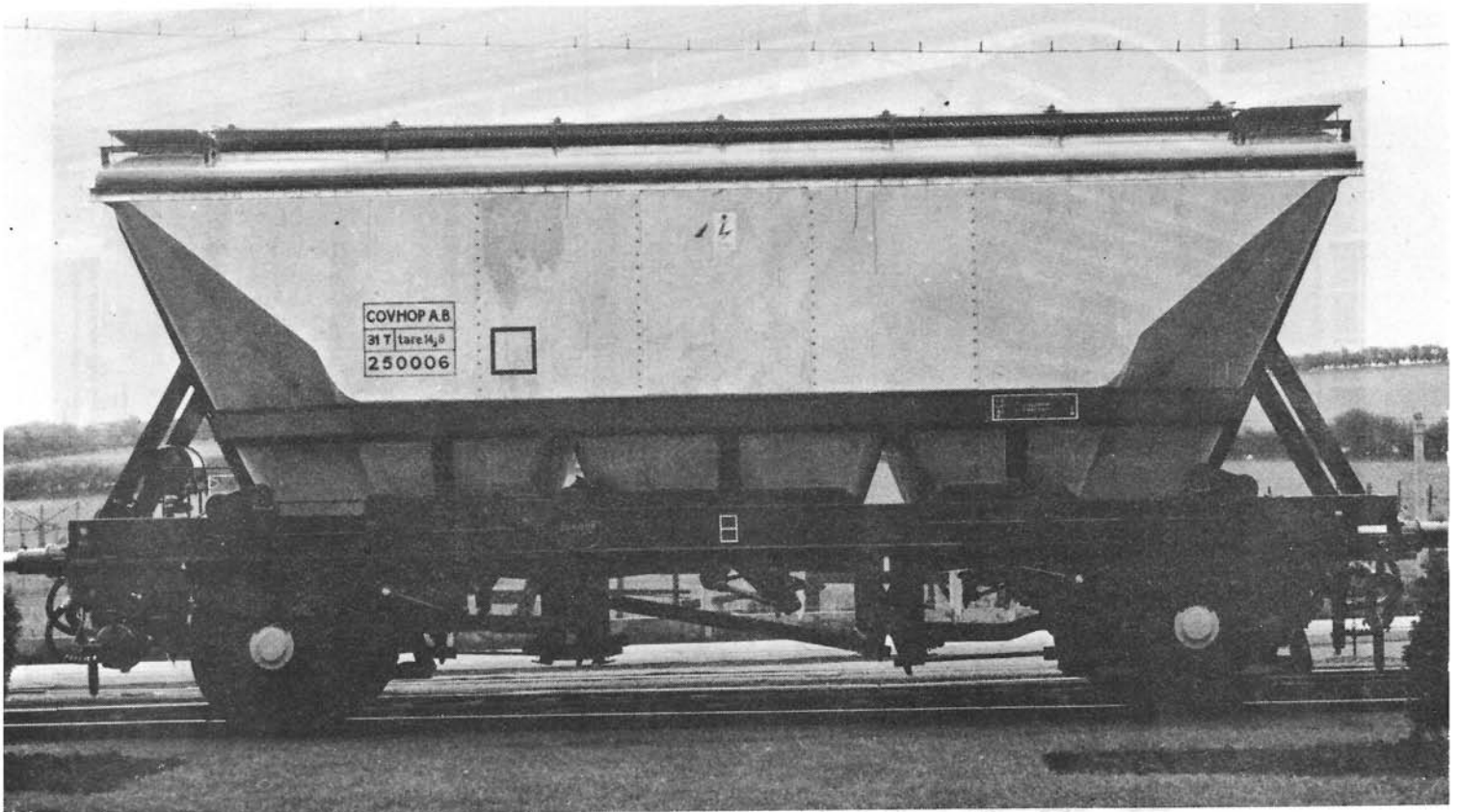


FIG. 11. 31 TON COVERED HOPPER LIME WAGON

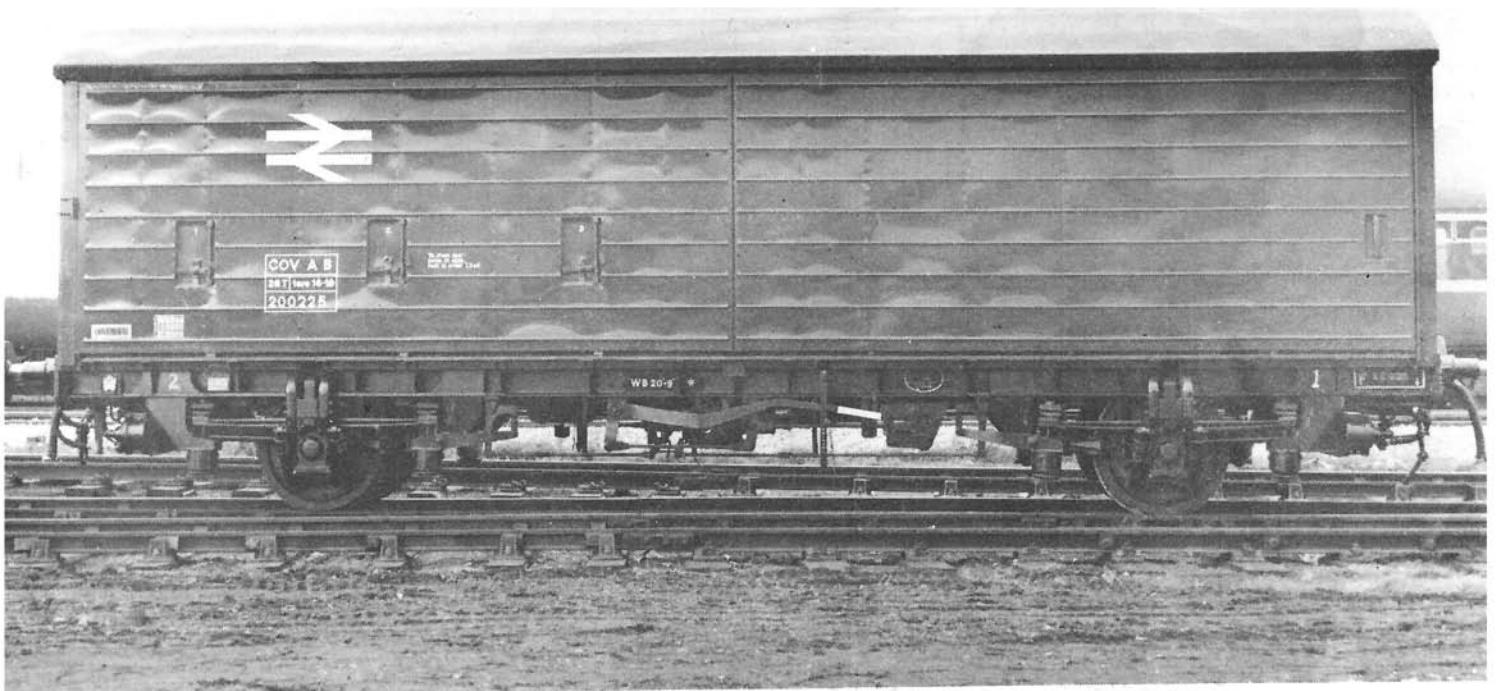


FIG. 12. 28 TON COVERED AB

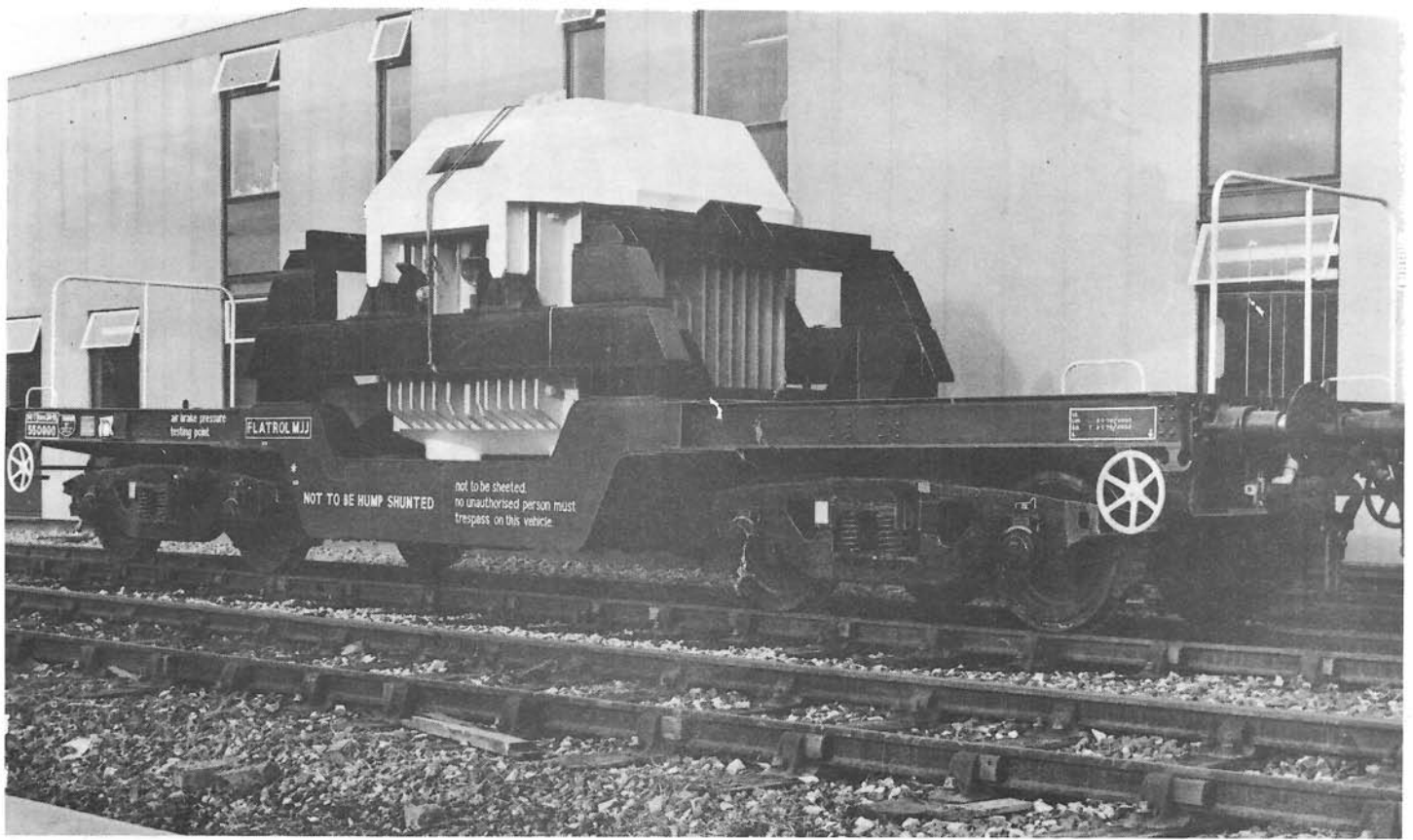


FIG.13. 50 TON FLATROL MJJ FOR ATOMIC FLASK

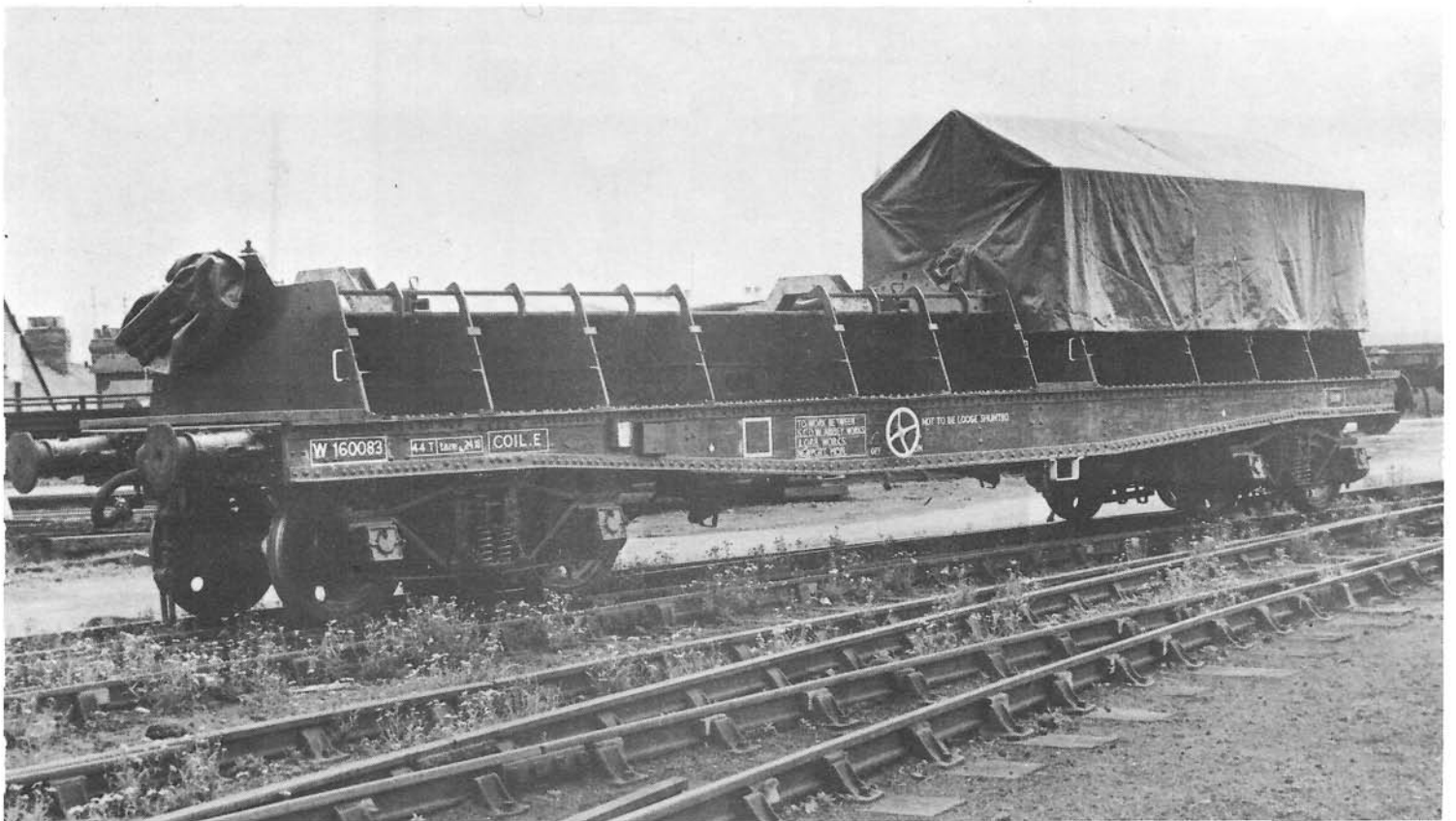


FIG.14. 44 TON COIL E

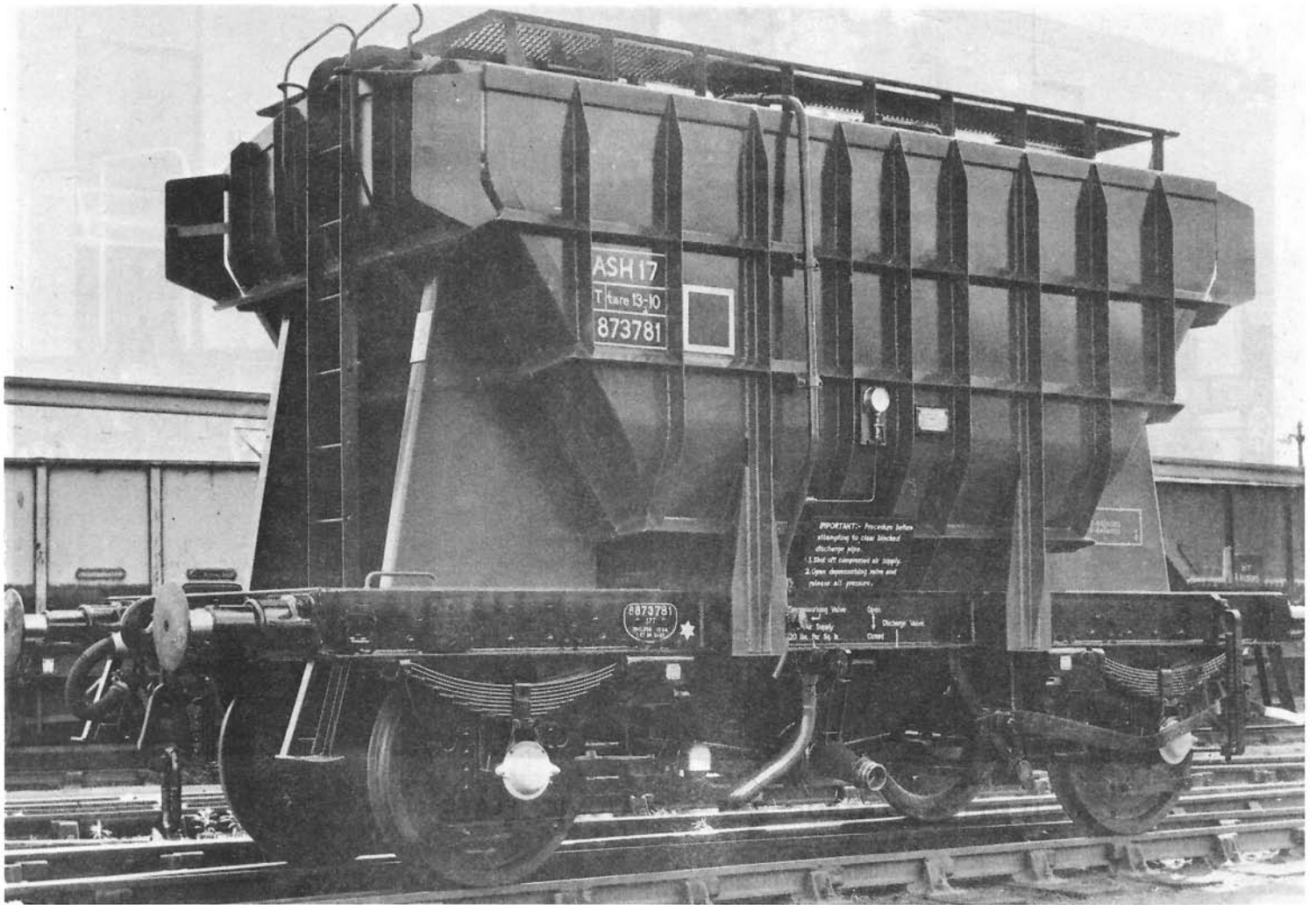


FIG. 15. 17 TON FLYASH

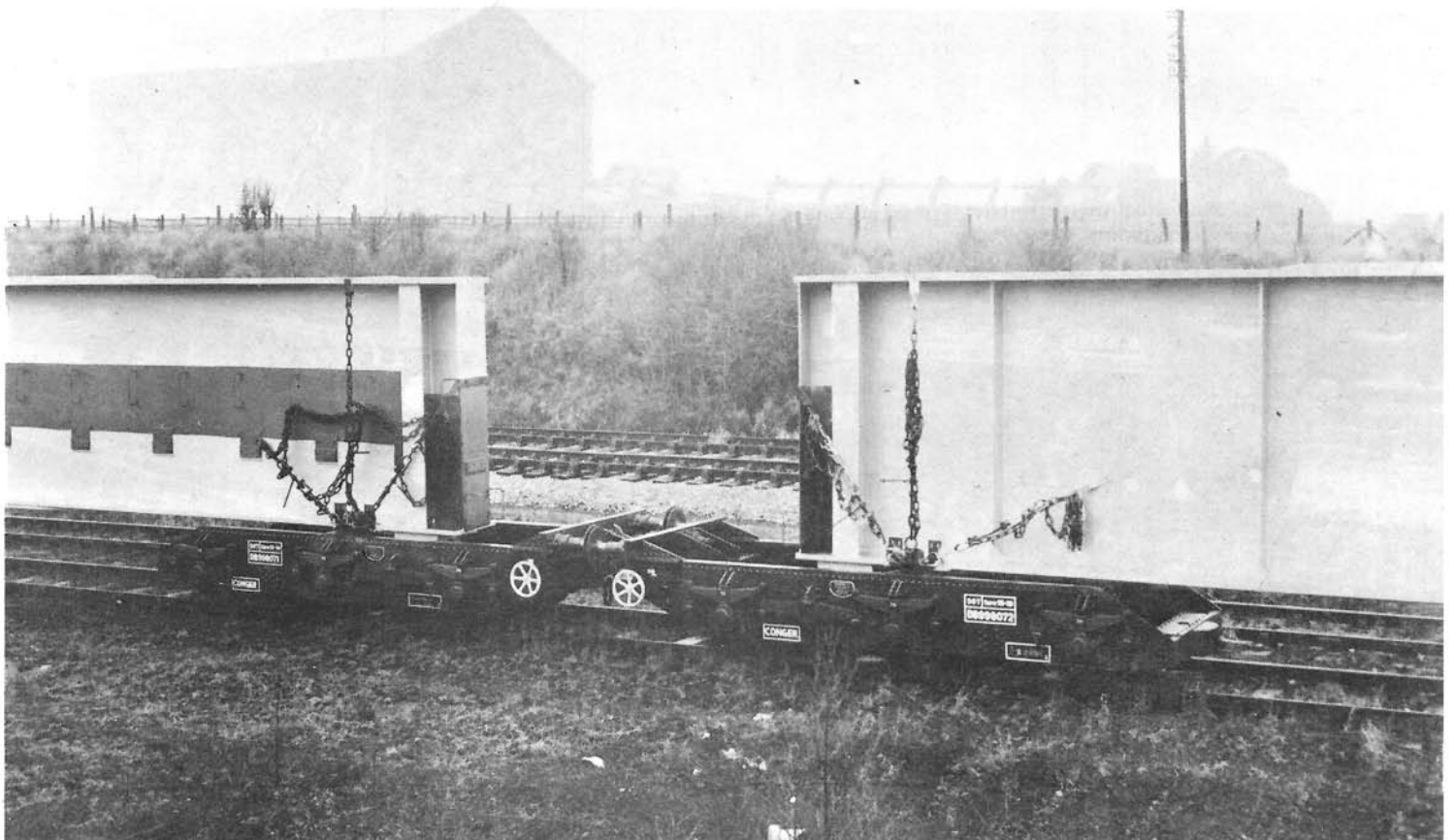


FIG. 16. 100 TON GIRDWAG CONGER (LADEN)

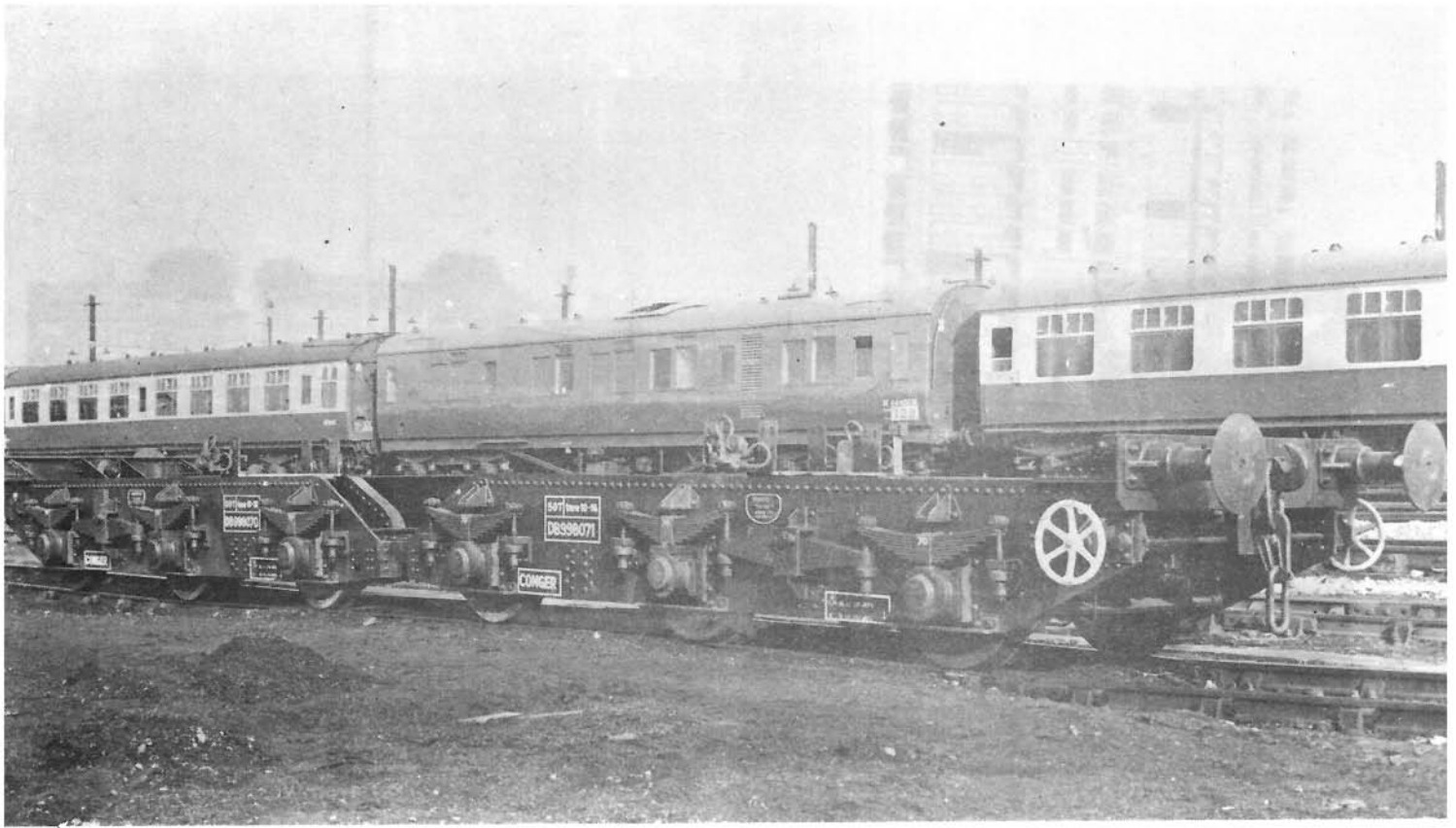


FIG.17. 100 TON CONGER (CLOSE COUPLED)

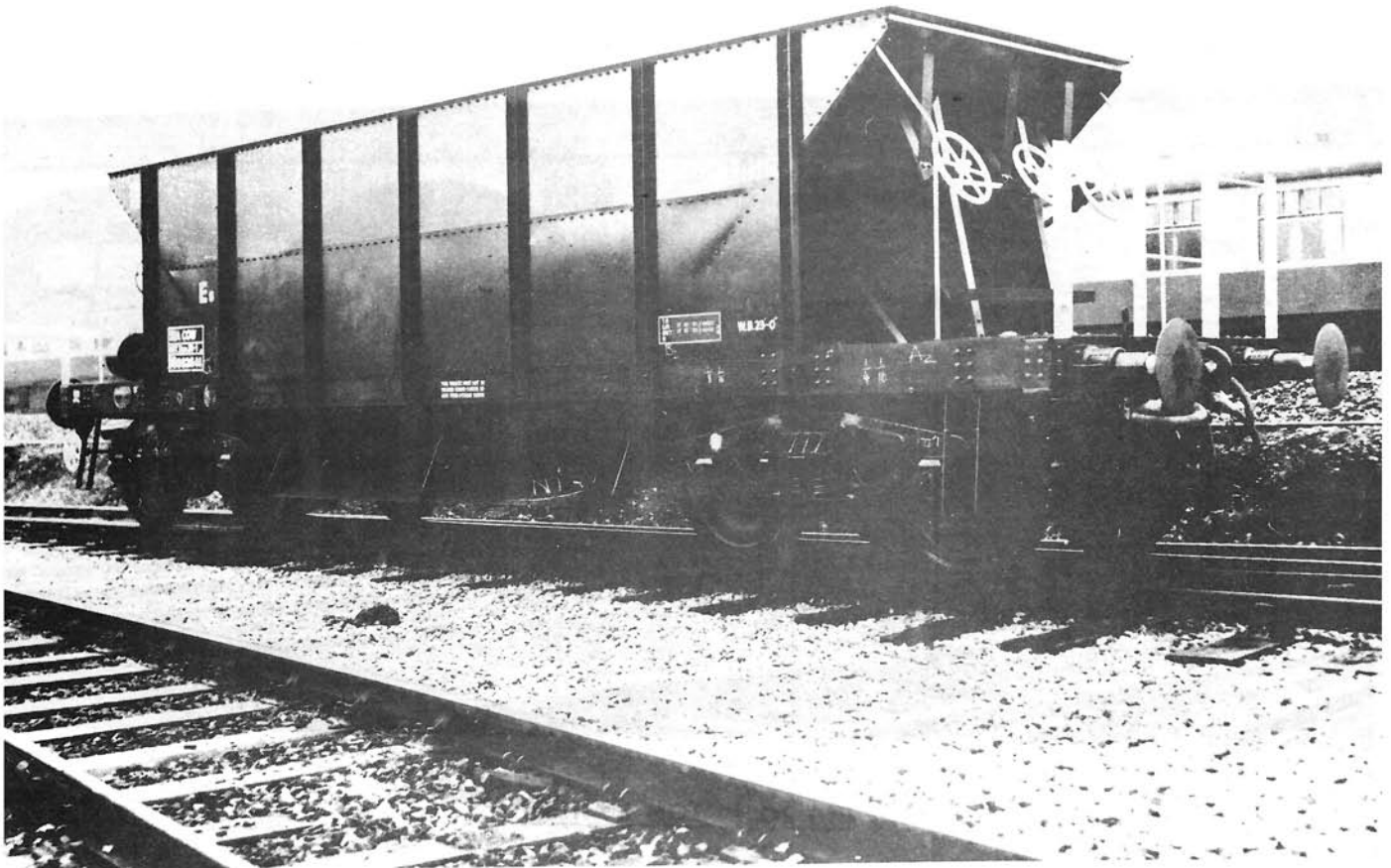


FIG.18. 40 TON BALLAST HOPPER WAGON

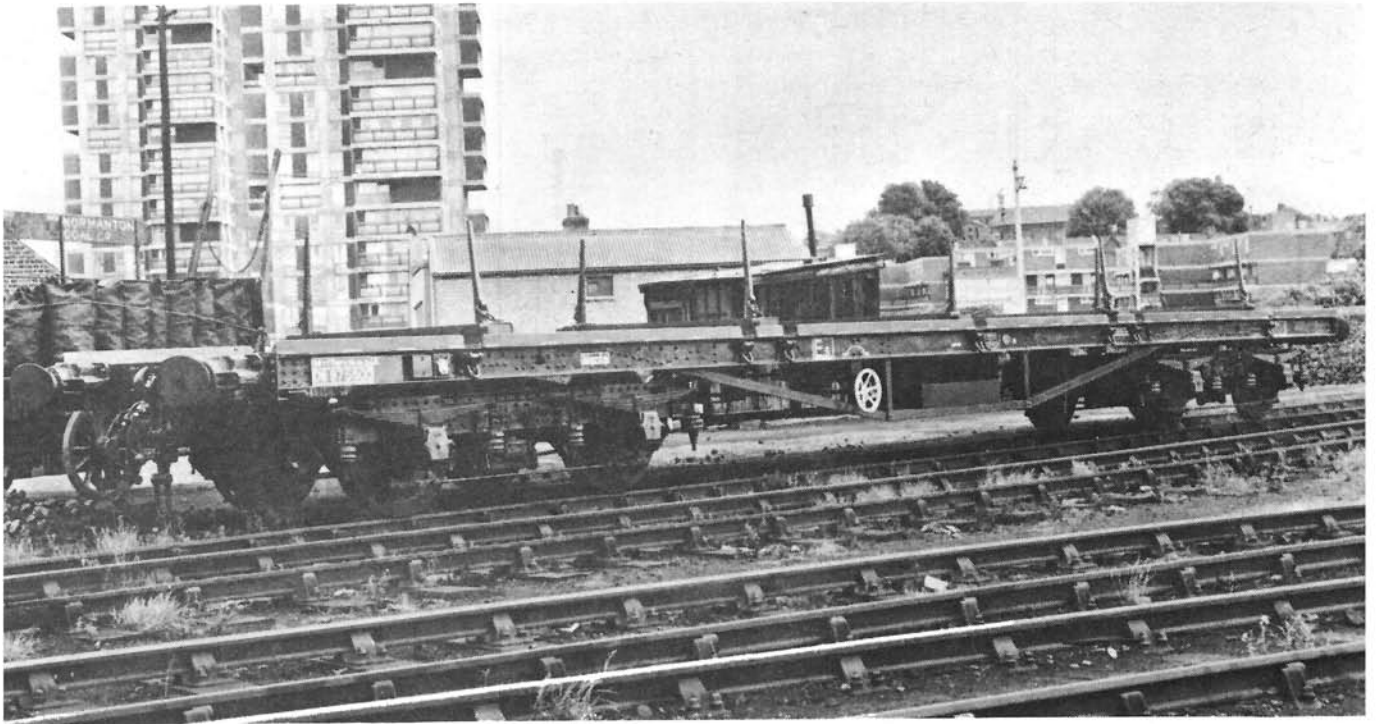


FIG 19 14 TON MANTA

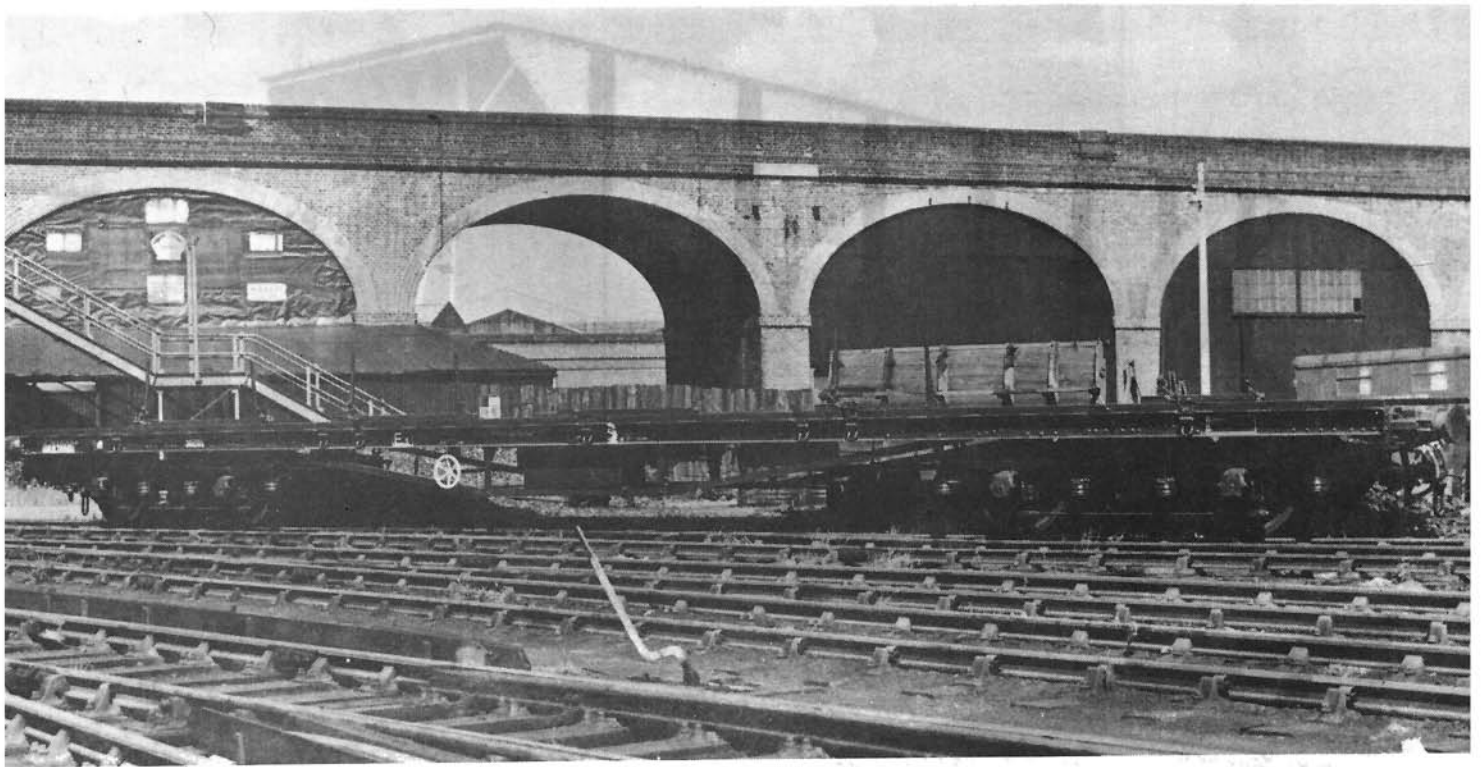


FIG 20 14 TON MARLIN

THE CONTINENTAL LADDER.

Since the introduction of preventative maintenance, which calls for certain vehicles to be examined regularly in shops, the C.M. & E.E. panel was not suitable for these vehicles and the "Continental Ladder" was introduced. It covers a period of three years. At the end of this period the vehicle must go to a main works for a detailed examination.

The examiner can see the date on the ladder when the vehicle is due for next preventive maintenance and can card the vehicle accordingly with "Due for Maintenance" cards B.R.11225, to the appropriate repair shop.

If the vehicle receives preventive maintenance every three months the ladder has twelve columns. If six months, it has six columns dependent upon the type of vehicle.

The maintenance period is put in the top left hand corner of the ladder, i.e. 3M = 3 months.

e.g.

COV. AB.

3 M.	1	2	3	4	5	6	7	8	9	10	11	12
Due		3/10/75	3/1/76	8/4/76								
Maintained	3/7/75	3/10/75	8/1/76	18/4/76								
Depot, Shop or Works No.	5000	3422	3422	3422								

GRAMPUS.

6 M.	1	2	3	4	5	6
Due		21/11/74	26/5/75	28/11/75		
Maintained	21/11/74	26/11/74	28/5/75			
Depot, Shop or Works No.	354	840	840			

SPECIMEN TRAFFIC PANEL.
22 TON CONFLAT/COIL/PLATE.

	Heavy	Medium	Light	Empty.
Excess Length 5	H	M	L	E
Tons	30	24	15	10
V.B. Braked Tonnage.	6	6	6	6
R.A. Route Availability.	3	1	1	1
Max. Speed.	50	60	60	60

Situated adjacent to the label clip.
Colours:- Black letters, Yellow background.

C.M. & E.E. PANEL "A" CLASS VEHICLE.

I.R.L.				
G.R.				
T.B.O.				
D.O.				
P.E.	Day	Month	Year	Shop Code
R.	12	4	74	3422
				↓

Situated at bottom of right hand quarter
of vehicle, near Tare Weight.

Arrow denotes
Corner No. 1.

C.M. & E.E. PANEL "B" CLASS VEHICLE.

I.R.				
LIFT				
B.O.				
D.O.				
P.E.	Day	Month	Year	Shop Code
R.	12	7	74	3422
				↓

Situated at bottom of right hand quarter
of vehicle, near Tare Weight.

Arrow denotes
Corner No. 1.

R.I.V. CONTAINERS. NOTES AND MARKING.

Ordinary Containers - Constructed to standards laid down by U.I.C.
(International Union of Railways).

Special Containers.

Open, Covered or Tank.

"pa"	Fixed wheels and carried on specially fitted wagon (both count as one unit).	
"Universal"	Specially designed for carriage by every form of surface transport and which can be handled by any appropriate type of equipment in the case of carriage by rail. Dealt with as used, i.e. ordinary or "pa" containers.	
<u>GENERAL MARKINGS AND SIGNS.</u>		
Large		Small
Inside volume greater than 3 cu. metres.		Inside volume not less than 1 cu. metre or more than 3 cu. metres.
"pa" "a"	On both sides. Both ends (if possible within upper third part).	At front (facing drawbar) as high as possible.
Mark of owning administration (and country of origin if not recognised by mark).		
Serial No. made up with first figures same as indicating category, placed in same order.		Serial No. to indicate category.
<u>TARE IN KILOGRAMMES.</u>		
<u>LOADING CAPACITY IN KILOGRAMMES (MAX. LOAD).</u>		
M	...kg.	Sea Neither sea nor "pa". "pa"
N	...kg.	
P	...kg.	
In special place below tare.		

If the load capacity is not shown in this manner 5% tolerance of inscribed load is allowed.

MAINTENANCE OVERHAULS R.I.V.

S.S. Not more than 1 year.
4 R.E.V. " " " 4 years.
All others " " " 3 years.

Three months grace is shown on wagon.

e.g.

4	R.E.V.	L	0 00000	+ 3M
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If this time is exceeded must be labelled with Model M labels.

The following can be accepted after expiry of overhaul date:-

1. Loaded wagons left loading point within 14 days of expiry date or 3 months + 14 days.
2. Wagons loaded for return journey in transit home or returning empty.
3. Minimum or Maximum Dimensions.

Minimum Tare 9 tons.

<u>Wheels</u> Back to back	Min. 1357 mm.	Max. 1363 mm.
Tyre width	" 130 mm.	" 136 mm
Tyre thickness (detachable)	" S or SS	30 mm.
	Others	25 mm.
" " (solid)	Groove Mark	

Flange height beyond tread circle.

Diameter at least 840 mm., Min. 25 mm., Max. 36 mm.

Flange thickness 10 mm. below tread circle Max. 20 mm.

Flats not more than 85 mm. in length.

Buffer heights Maximum (empty) 1065 mm (3 ft. 5.93")

Minimum (loaded) 940 mm (3 ft. 1")













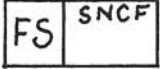
4. Handing Over and Acceptance for Exchange.

Wagon must be examined to ensure suitable for exchange.

Must bear R.I.V.

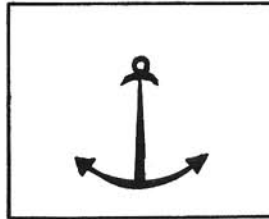
Must have U.B. and Tare in English units.

MUST NOT reward staff to find hidden damage to enable wagon to be refused.

5. Inside volume in cu. metres.
6. Number and description of removeable accessories.
7.  Complies with conditions for use in international traffic.
8.  Also complies with conditions covering acceptance for carriage under customs seal. By rail only.
9. 12^A Example of removeable accessories sign.
 12 = No. of stanchions. A = Removeable accessory.
 1 = Stanchions.
10.  Hump shunting prohibited.
11. st Standard wagon.
12. sp Special steel.
13.  Different gauge. U.S.S.R.
14. E Spain, Portugal and U.S.S.R.
15.  Parts interchangeable between railways.
16.  Privately owned.
17.  Suitable for running over standard gauge continental railways.
18. () = Maximum () (= Minimum dimensions.
19.  Specially designed for carriage by sea.
20.  Specially designed for carriage by sea (universal).
 Place these last two signs after  or 
21. sp^r (Refrigeration). spi (insulated).
22.  Built before 1949. Continental railway use only.
23.  Not marked R.I.V. but accepted by certain countries.

Pipes etc. must be raised or suspended to not less than 140 m.m. above rail level.

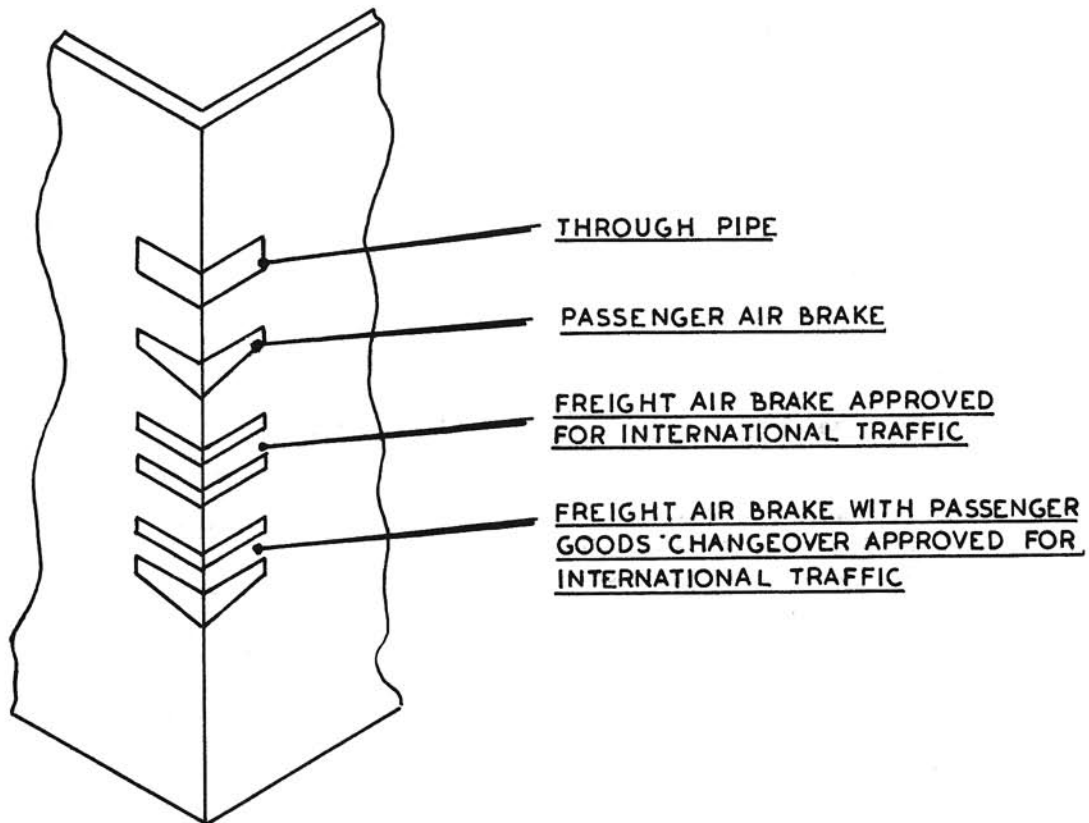
Wagons for B.R. must bear following signs:-



Tare in English units 00 - 00.

Wheel base in English units 00 - 00.

Air brake signs on corner of vehicle.



R.I.V. REGULATIONS. WAGONS.

	S	SS																
1 AIR BRAKE	Must have "Passenger" and "Goods" position (lever with knob).																	
		Braking system must vary automatically and progressively in relation to load.																
2 WHEEL BASE	Must not be less than:-																	
2 Axle Wagons	4500 mm.	2 axle and 3 axle single suspension 6000 mm.																
3 Axle Wagons	6000 mm.	2 axle with double suspension 5700 mm.																
Bogied Wagons.	2000 mm.	Bogied wagons 2000 mm.																
3 RATIO.	$\frac{W}{L} = \frac{\text{Overall wheel base}}{\text{Total length of wagon (including uncompressed buffers)}}$ Must be at least 0.45.																	
4 TARE.	(Weight of empty wagon in running order). Not less than:-																	
2 Axle Wagon	9 tons	10 tons																
3 Axle Wagon	14 "	14 "																
Bogied Wagons.	16 "	16 "																
5 LOAD LIMITS.	When wagon is used. Shown under A.B.C.																	
	Left side of S If maximum load is same for all categories. Only one figure need be shown.	Left side of S.S. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td></td> <td>20,5t</td> <td>24,5t</td> <td>28,5t</td> </tr> <tr> <td>S</td> <td>20,5t</td> <td colspan="2">24,5t</td> </tr> <tr> <td>SS</td> <td colspan="3">15,5t</td> </tr> </tbody> </table>		A	B	C		20,5t	24,5t	28,5t	S	20,5t	24,5t		SS	15,5t		
	A	B	C															
	20,5t	24,5t	28,5t															
S	20,5t	24,5t																
SS	15,5t																	
6 SPEED.	Capable of running normally and in satisfactory conditions at:-																	
	100 km/h.	120 km/h.																

TOTAL OPERATIONS PROCESSING SYSTEM (T.O.P.S.).

T.O.P.S. was bought in its entirety from the Southern Pacific Railway U.S.A., at a cost of £13 million.

It is estimated that this cost, worked out over five years, would be a cost of 0.07p per wagon but would be the means of great savings in money to the railways, also making the railway a much more efficient organisation.

In time the system will cover the whole British Railways network and will embrace freight vehicles, passenger and non-passenger carrying vehicles and locomotives.

The system is basically a computer punch card prepared for each vehicle and fed into a main computer.

The whole network is linked to the computer and information can be obtained in seconds regarding individual vehicles, yards, Works etc.

A great deal of information can be entered on a punch card, i.e. vehicle number, type, type of brake, braking force, measurements, loaded or empty, if carded for defects, how long stopped, and much more.

The main computer is called Central Processing Unit (C.P.U.) and is located at B.R.B. London.

Linked to the C.P.U. are local areas called T.O.P.S. Responsibility Areas (T.R.A.).

When punch cards are prepared, as mentioned earlier, they are fed into the computer and any changes in locality, loading, stopped etc. are passed to C.P.U. and the card amended accordingly.

Each complex is given a number from one to eighty-nine. The complex then being sub-divided, giving extra numbers for each division, every individual siding or Repair Shop comes into this system, for example:-

Bristol is 81.
Bristol Malago Vale becomes 81432 and
Bristol Shops (Barton Hill) becomes 81815.

Information required regarding any vehicle or vehicles, and the same regarding yard details, i.e. numbers, stopped for repairs over 10 days etc., or complete list of vehicles in that yard can be obtained in seconds.

If, for example, a train of 21 ton hopper (fitted) is required for loading, T.O.P.S. can supply information in seconds regarding 21 ton hoppers in that particular siding and if more are required T.O.P.S. can give nearest locality that these vehicles can be found, and vehicles sent speedily to required point.

When the train has been formed the shunter informs T.O.P.S. the numbers etc., and the particular cards are entered and a concise list of the train is produced for guard checker etc.

In big yards the checker examines train information and is in contact with T.O.P.S. by walkie talkie.

In small yards the information is phoned to T.O.P.S.

When the train is loaded and despatched the destination point will receive all information of the train formation, arrival time etc.

Special Points to Observe.

If a shunter accidentally puts a vehicle in train which has been carded by an examiner, the card for that vehicle will be sent back.

The prefix must always be quoted with number or the computer will reject the vehicle as having no record.

If an examiner stops a vehicle en route, he must report the stoppage giving details of vehicle and location number where stopped.

Privately owned vehicles will be given new numbers. A yellow plastic plate will be affixed on solebar in place of registration plate.

Ferry Wagons. Omit first two numbers which is country of origin.

Always quote number on solebar plate in case of error in painted number.

Wagons entered on card as stopped for repairs will be graded, i.e. G.R., I.R. etc.

When wagons are put in traffic sidings for repairs, or released, the necessary information must be passed to T.O.P.S. Light repairs in situ need not be reported.

At the moment only certain areas are in the scheme. Non-passenger carrying vehicles will soon be in the scheme.

Passenger carrying vehicles and locomotives will be dealt with at a later date.

To enable the system to function correctly, every change in the cripple status of a wagon, and every movement of a cripple wagon, must be reported to T.O.P.S. as soon as possible.

Changes in cripple status could refer to a change of label, an endorsement on existing label, a change in the grade of repair or the release to traffic of a wagon after repair.

It is the responsibility of C. & W. examiner who affixes the label to report to T.O.P.S. initially.

A cripple code has been formulated which is allied to the wagon label and examiners must use these codes when reporting to T.O.P.S. Service vehicles (coaching type) must be reported.

Cripple wagons are usually found by examiner:-

- (a) On examination of vehicles in yards, sidings etc.
- (b) Enroute in a train.
- (c) In derailment or mishap.

(d) Damaged in Private Sidings or Works.

Each vehicle found defective by the examiner is carded with appropriate cards, normally Red for 'Not to Go' or Green for repairs.

The cripple codes for wagons stopped under red cards are from 00 - 10, each one for a specific cause. Green for repair cards, or Red and Green (yard to yard) cards are used as follows:-

- (a) To enable a traffic destined wagon, loaded or empty, to travel to its destination.
- (b) General movement of cripples to repair points.
- (c) Movement to focal points within catchment area.
- (d) Movement of cripples between yards (yard to yard cards).

These cripple codes are 20, 21 and 23 according to type of label used.

Wagons received at catchment areas are examined and graded into repair classification. This grading is reported to T.O.P.S. as soon as possible using codes 30 - 35 as appropriate, even without disposal instructions for wagon. When disposal instructions are received, wagons are labelled and reported to T.O.P.S.

Cripples held or proposed for condemnation are in Cripple Code 40 and 41. Disposal of condemned vehicles come under Code 42 and 43. Cripples released after repair are reported under Cripple Codes 50 - 56. Wagons for preventive maintenance are under Codes 60 and 61.

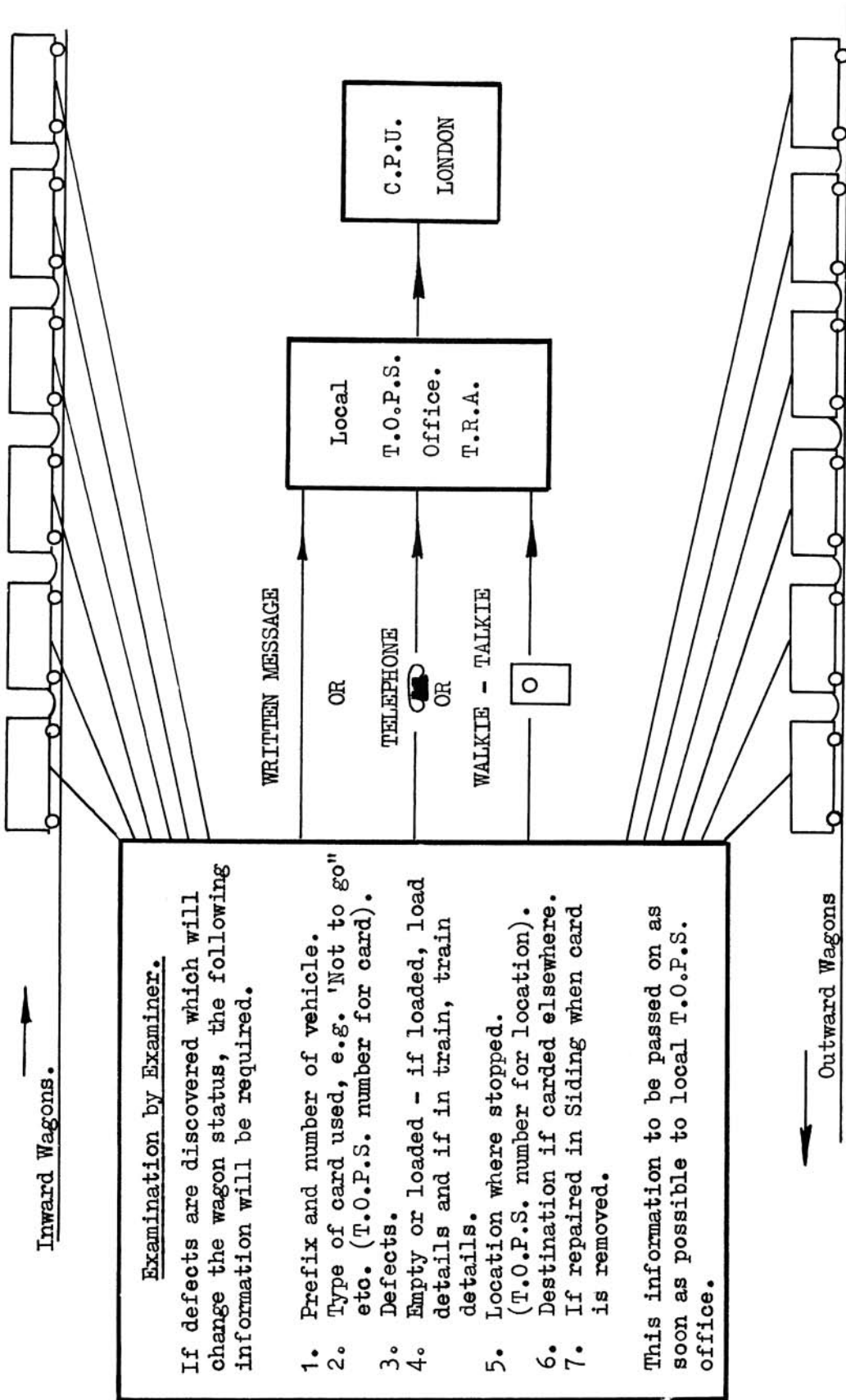
This system has many advantages as stated previously.

- (a) Information can be obtained quickly and accurately.
- (b) Yard tallies cripple counts, censuses etc. are virtually eliminated.
- (c) Cripple control and movement can be speeded up.
- (d) Eliminates unauthorised movement of cripples.
- (e) Wagons can be used to their full extent.
- (f) Information regarding wagons stopped for repair and awaiting material.
- (g) An extension of preventive maintenance.
- (h) Information on wagons awaiting repair and length of time awaiting repair.

To allow T.O.P.S. to function efficiently it is the responsibility of each examiner to familiarise himself with his part in the scheme so that he will carry out his part of the operation in a correct manner.

<u>Code.</u>	<u>Description.</u>	<u>Label No.</u>
CH	Not to go Hot Box.	11222,
/		11222/1.
CS	Not to go Bearing Springs/ Suspension.	11222.
CB	Not to go Defective Brake.	11222.
CF	Not to go Buffing/Drawgear.	11222.
CR	Not to go Roof/Roof Tank.	11222.
CW	Not to go Wheels.	11222.
CA	Not to go Mishap/Derailment.	11222.
CK	Not to go Shifted or Leaking Load.	11222.
CT	Not to go Requires Transshipment.	11222.
CU	Not to go Unspecified.	11222.
CY	For repairs Red/Green Card.	11223.
CG	For repairs Green Card.	11224.
CQ	For repairs Defective Brake.	21352/1, 2, 3 & 4.
C0	Awaiting repairs General repair - 'GR'.	11269/11.
C1	Awaiting repairs Rebody.	11269/11.
C2	Awaiting repairs Rebody and Vacuum Brake.	11269/11.
C3	Awaiting repairs Heavy Body Repair.	11269/11.
C4	Awaiting repairs Intermediate and Lift 'IRL'.	11269/11, 12.
C5	Awaiting repairs Intermediate and Wheels 'IW'.	11269/11.
C6	Awaiting repairs Intermediate 'IR'.	11269/11, 12.
C7	Awaiting repairs Light 'L'.	11269/12.
CM	Not to go over monetary limits (awaiting decision).	11269/9.
CC	Not to go Condemned.	11269/9.
CI	One Journey only, for Internal Use.	11227.
CJ	One Journey only, for Breaking Up.	11226/10.
50	Repaired 'GR'.	
51	Repaired Rebody.	
52	Repaired Rebody and Vacuum brake.	
53	Repaired Heavy Body repair.	
54	Repaired 'IRL'.	
55	Repaired 'IW'.	
56	Repaired 'IR'.	
57	Repaired Light.	
59	Repaired Traffic Siding repair, 'TS'.	
CP	Due Preventive Maintenance, do not reload.	11225.
70	Completed Preventive Maintenance.	

C. & W. EXAMINERS INVOLVEMENT IN T.O.P.S.



Examination by Examiner.

If defects are discovered which will change the wagon status, the following information will be required.

1. Prefix and number of vehicle.
2. Type of card used, e.g. 'Not to go' etc. (T.O.P.S. number for card).
3. Defects.
4. Empty or loaded - if loaded, load details and if in train, train details.
5. Location where stopped. (T.O.P.S. number for location).
6. Destination if carded elsewhere.
7. If repaired in Siding when card is removed.

This information to be passed on as soon as possible to local T.O.P.S. office.

