

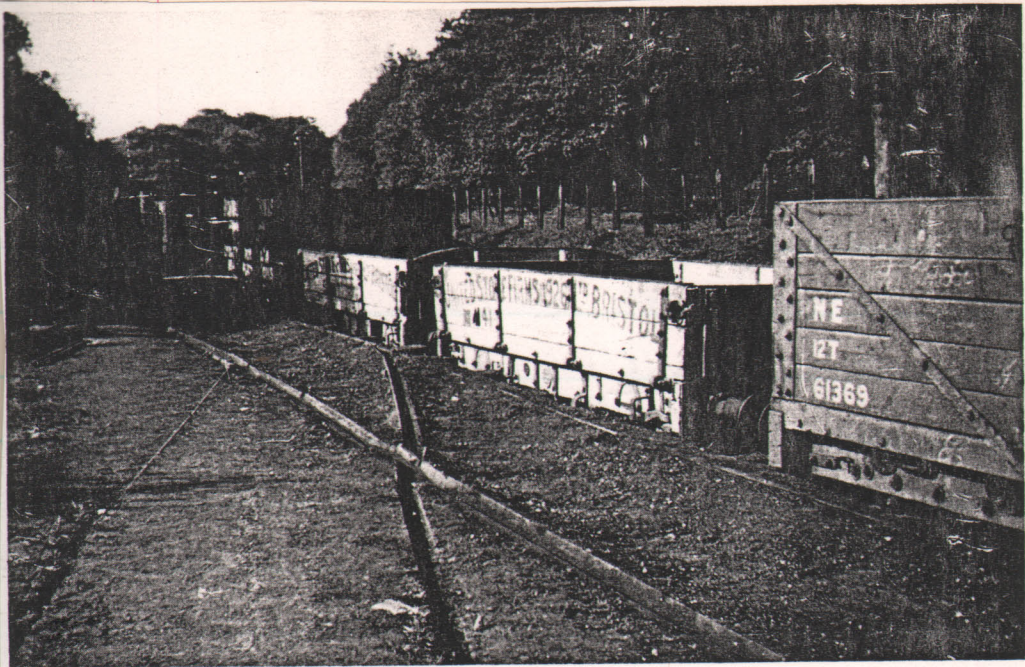


Biclade Wharf, Forest of Dean, 1947
Loading Bank



Biclade Tramway June 1947 - Biclade Wharf

B. Baxter (RCHS)



Top :
Bicstade, June 1939
United Stone Firms
Ateway crossing.
(AK Pope Colln)

Middle :-
1939: Stone block
(approx: 8 1/2 tons)
(AK Pope Colln)

Bottom
2 June 1951
(LRGP)



BIRMINGHAM & GLOUCESTER RAILWAY

Timber ^{boards} (7'6") - ballast 16" - transoms at 5' or 7'6" (Moorson)
~~5'0" or 7'6"~~ rails - 56lb. 15'0" lengths spiked every 5'0" (chairs/saddles.)

Embankments - cross sleepers 2'6" intervals. (replaced later/McConnell)

Cheltenham - Gloucester 2' intervals on longitudinals. 16' and 36' joined
by dowels (strong oaken pins) C.I. chain not less than 2'2" beech
Wedges (Melhuish Report BOT)

GNR (1847) cross sleepers 83lb rail (Cap G Simmons)

B&G cross sleepers replaced by long battens from 1844 (c. 16 miles)

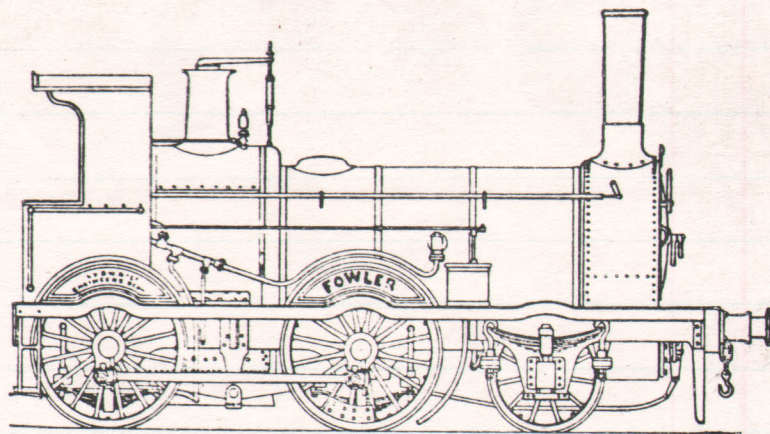


Fig. 81

Engineer's Dept. Fowler

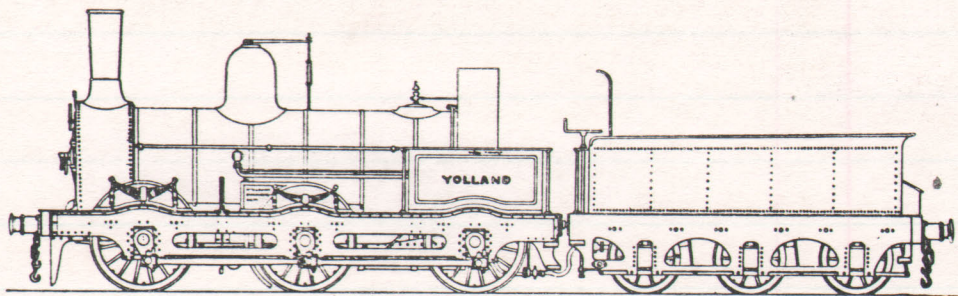


Fig. 82

Engineer's Dept. Yolland

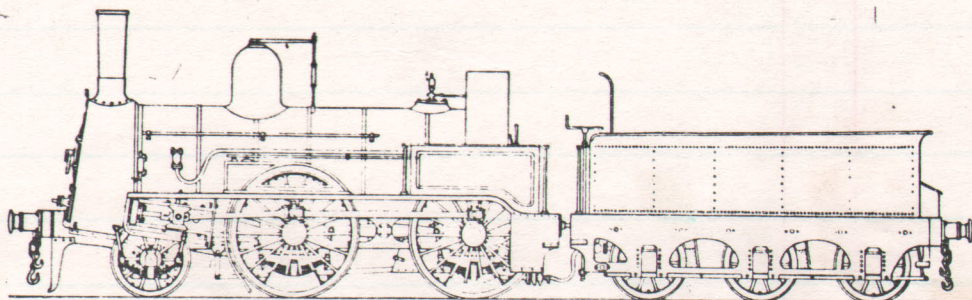
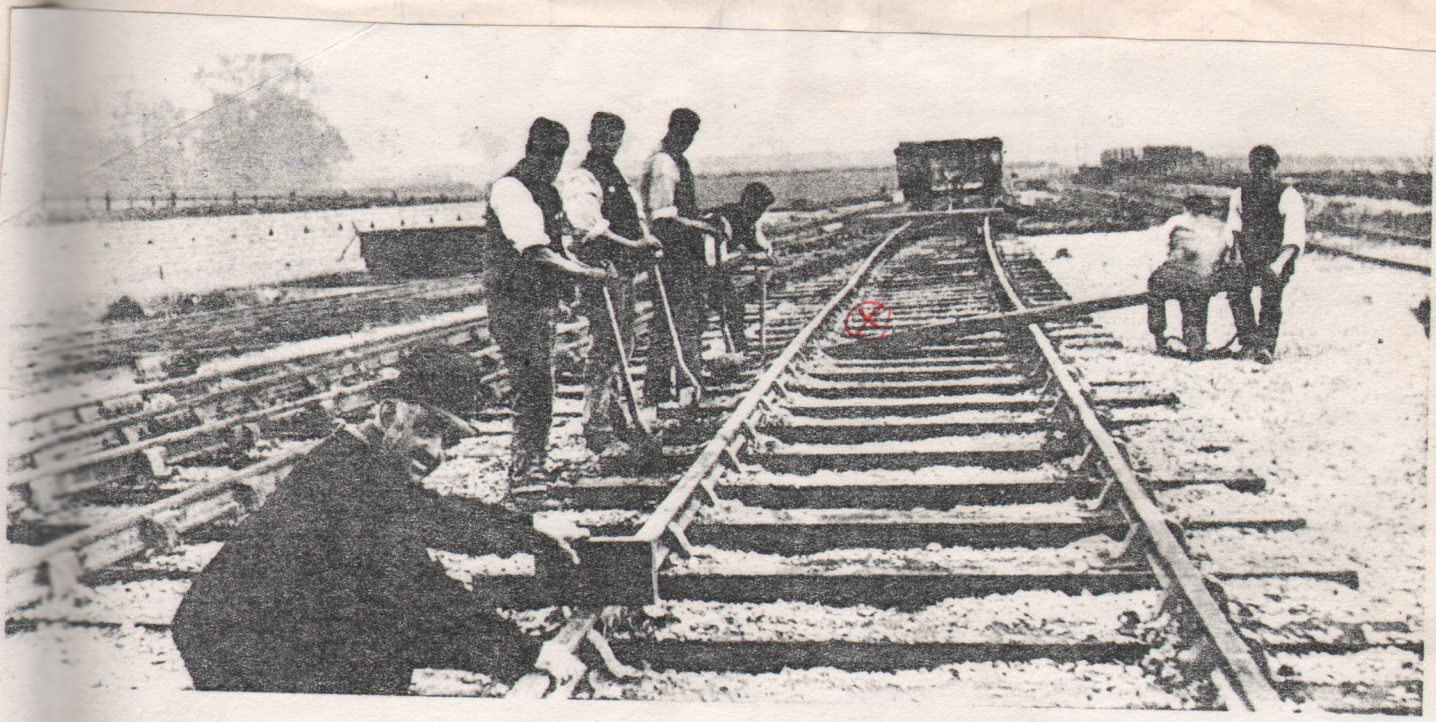


Fig. 83

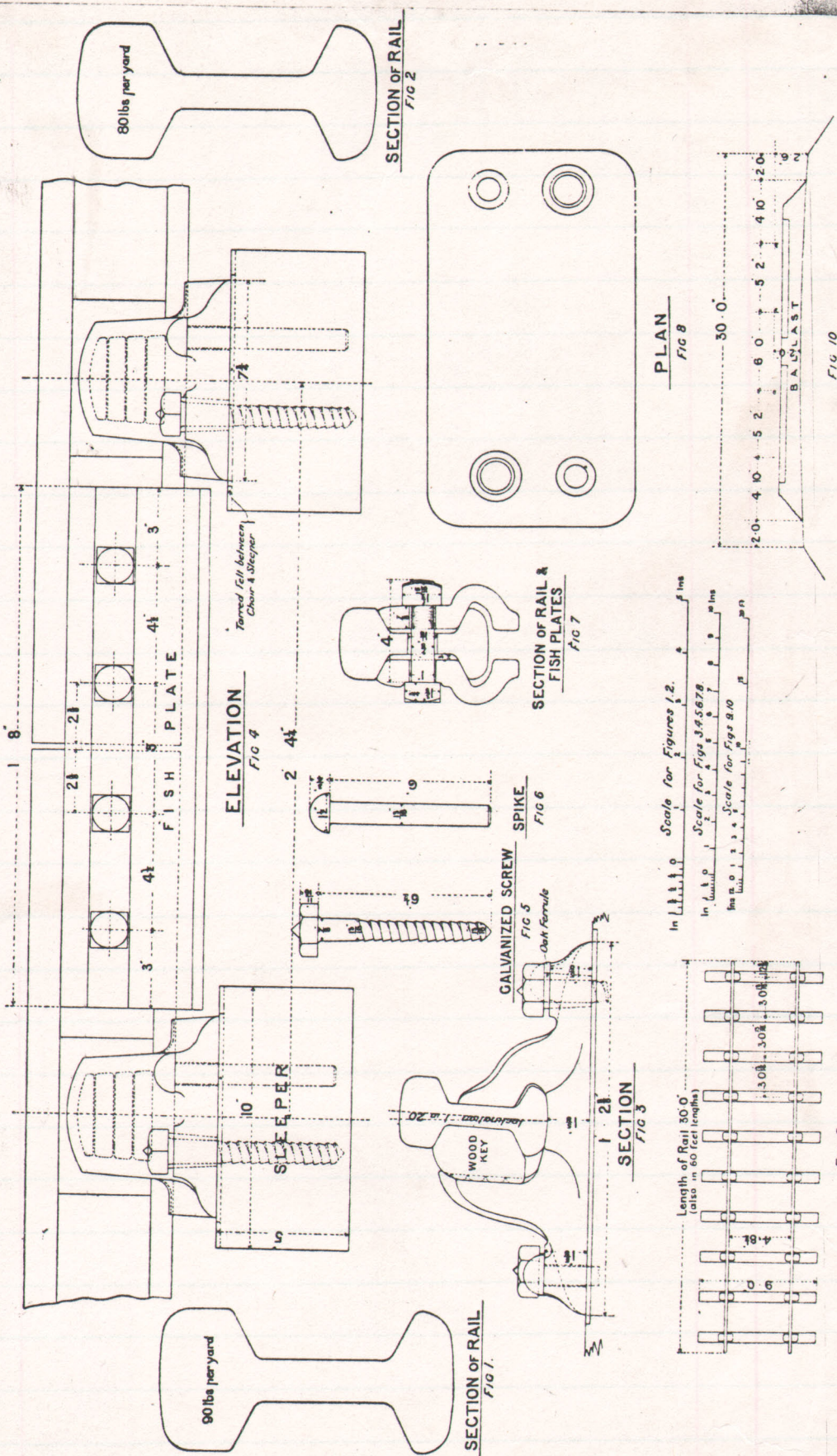
Engineer's Dept. Rich



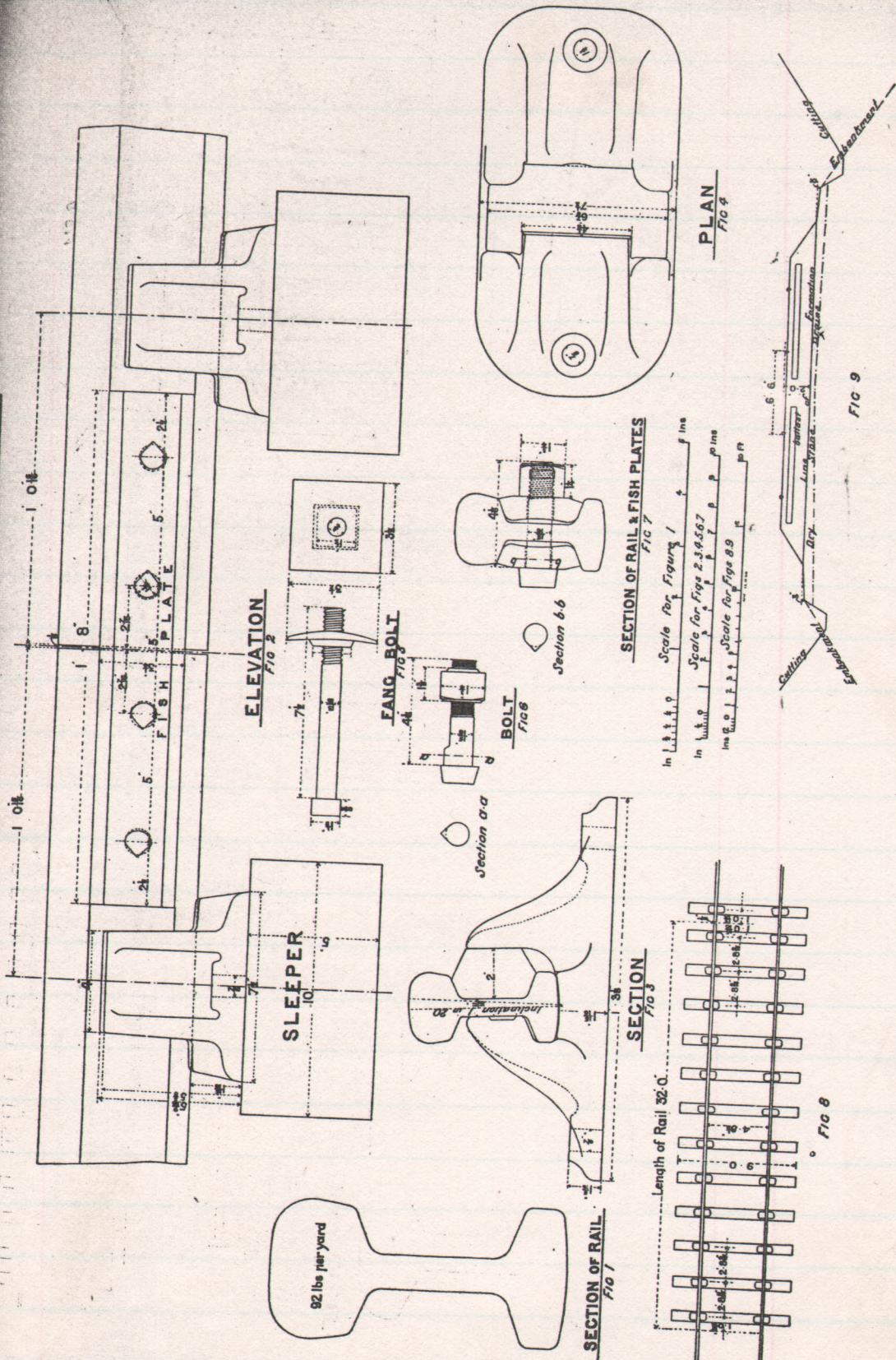
Lifting with Lever (on rail - not on mallets). 'Bible' - but no block -
Great Central Railway: (under constr. 1890s)
LSWR/SR used mallet at ~~Q~~ - under the lever
S.W.A. Newton Collection - Leicester City Museum
(Get Eastly to demonstrate ours!)

LONDON & NORTH WESTERN RAILWAY

Plate 8.



GREAT WESTERN RAILWAY



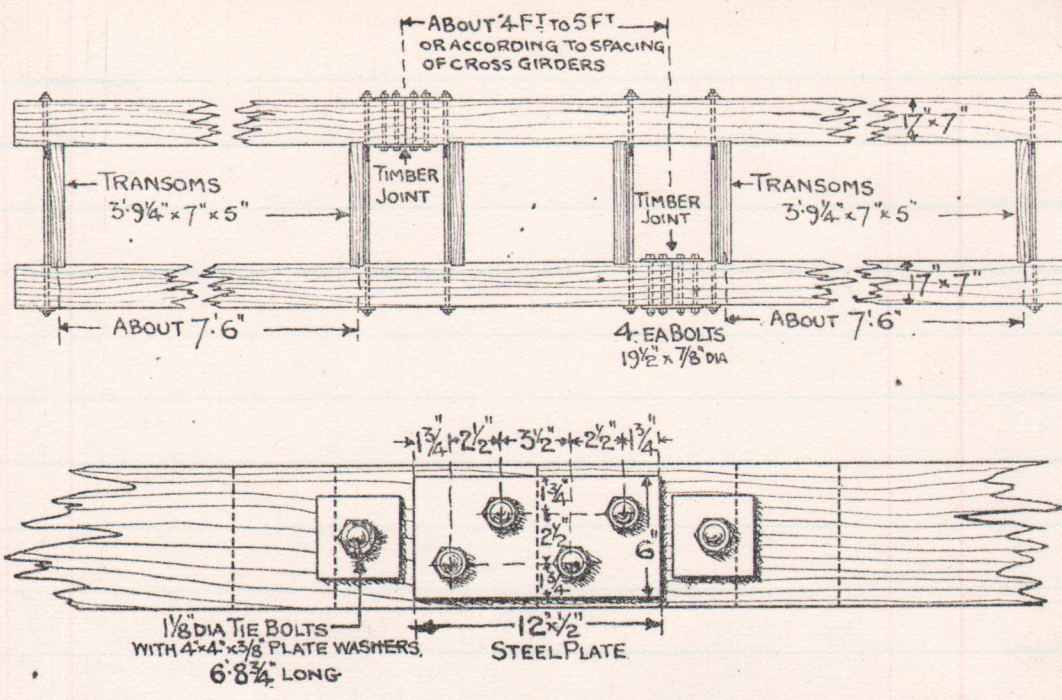


Fig. 2.—Arrangement of Joints on Bridges with Longitudinal Track Timbers.

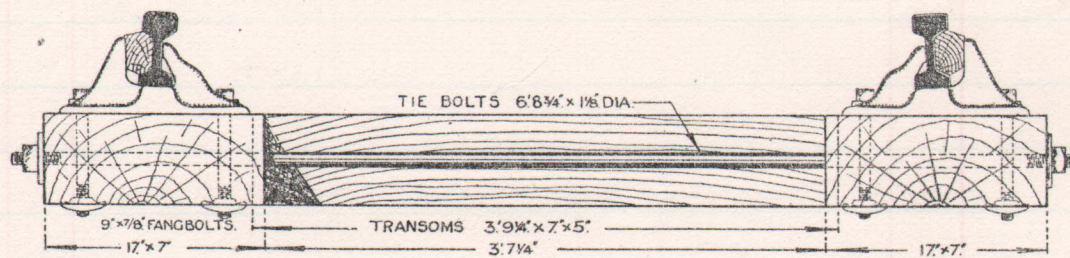


Fig. 3.—Longitudinal track (level) with standard chairs.

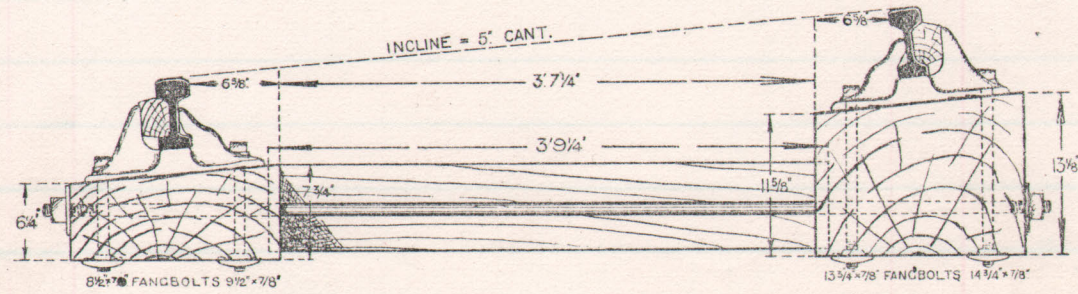


Fig. 4.—Longitudinal track (canted) with standard chairs and bevelled to give the required cant.

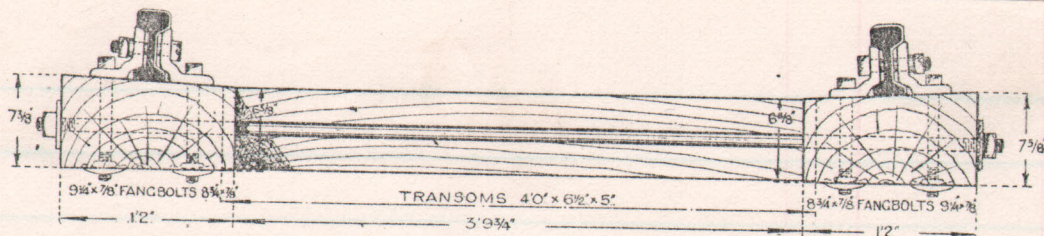


Fig. 5.—Longitudinal track, bevelled to give inclination of 1 in 20, with continuous fishplates.

timbers by the fangbolts, but on light lines coach screws are frequently used.

With the second type of longitudinal track using continuous angle fishplates, the timbers have to be bevelled, although the track is without cant, to give the 1 in 20 tilt to the rails. Usually 14-in. x 7-in. timbers are employed, though this width may, if required, be reduced, but the outside edge of the fishplates should not be brought nearer than one inch to the edge of the timber (see Figs. 3, 4 and 5).

Steel Sleepers.

Important departures from Standard Practice. The principal variation from the standard practice which has already been described, is the extensive use of steel sleepers, of which more than 400,000 have been laid in running lines during the past five years. Of these, one type predominates, namely, the "G. K. N.," manufactured by Messrs. Guest, Keen & Nettlefold at their Cwmbran works. The cost is practically the same as that of a creosoted timber chaired sleeper, but the scrap value is slightly greater than the firewood, so that if they give at least an equal life (sufficient time has not yet elapsed to determine this) their substitution for timber is an economical proposition. Besides, there is the carriage on the raw materials, amounting to about six tons per ton of sleepers manufactured.

Another point in their favour is that they are a home production, whereas all the timber used

for the track is imported either from the Baltic ports or British Columbia.

This type of sleeper consists of a steel bar pressed into a "pea pod" or trough form, upon which the two chairs of modified profile are cast, and intimately attached by the cast metal passing through elongated holes in the sleepers and forming heads on the underside, which are called "snugs." In addition, the sleeper at one side of the holes is "lipped," or pressed up, to prevent lateral movement of the chair.

The sleeper is manufactured from a specially rolled sleeper plate section of an inverted "U" form, with beaded edges 14 1/2-ins. wide overall, which are sheared at the sleeper plant to the required length of 8-ft. 7 1/2-ins., to make a

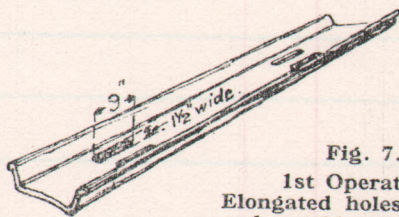


Fig. 7.
1st Operation:
Elongated holes punched
and outside ends lipped.

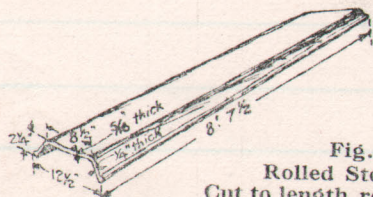


Fig. 6.
Rolled Steel Bar:
Cut to length ready for con-
version into trough sleeper.

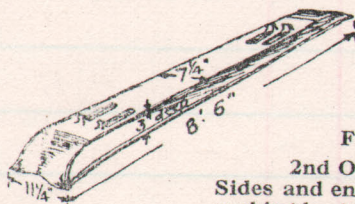


Fig. 8.
2nd Operation:
Sides and ends turned down
making length 8-ft. 6-ins. and
depth 3-ins.

"RICH"

Robert Stephenson & Co. 1866

No. 227 2-4-0 £2,900 cost.

transferred to Engineer's Department June 1876 as No. 13 'RICH' (also sister No. 14 HUTCHINSON). Two engines housed in a shed to west side of Salisbury station; worked on ballast trains toward Exeter and then thought to have worked on Bournemouth Direct Line (1886-8). Sheded at Guildford, after working in London area 1889/90, to work coaling crane.

*All ED engines were return to C.M.E's (Adams) control from 31 May 1888, after settlement of Drivers wages to be paid. ED drivers kept their 7/- day (cf 6/-) on a personal basis. No. 227 (ex 13) withdrawn Jan 1891 and broken up Nov. 1891. Capt, later Colonel, RICH was an Inspecting Officer of the R.I.

* 1. Hawkshaw	5(2) Smeaton	13 Rich
2 Brunel	7 Fowler	14 Hutchinson
3 Hesketh	8 Miner	2 Brunel (2nd)
4 Locke	9 Harrison.	7 Stephenson (2nd)
5 Stephenson	10 Bidder	[13 at hand over]
6 Telford	11 Yolland	
	12 Tyler	

LONDON & SOUTH WESTERN RAILWAY

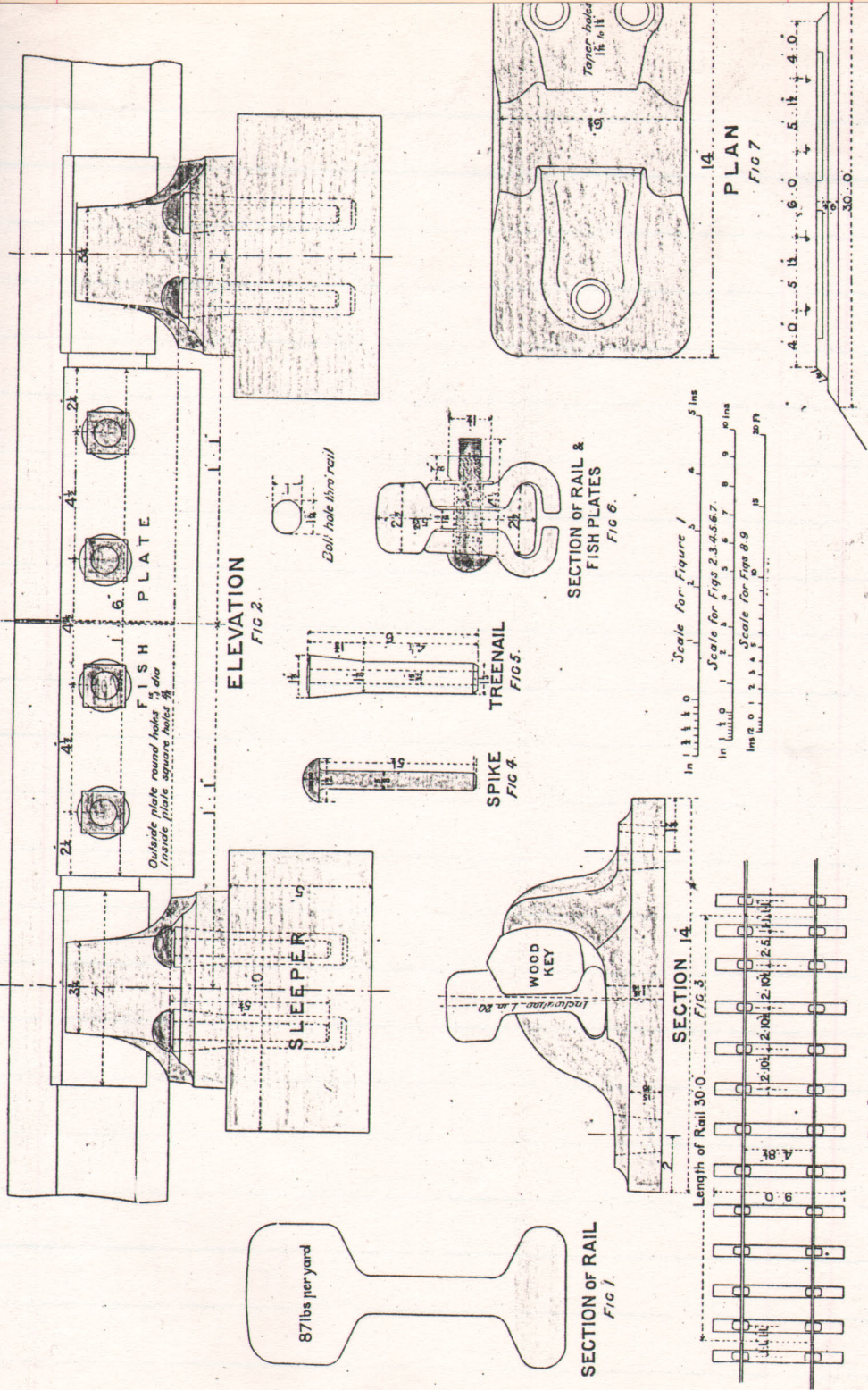


FIG 9

FIG 8