

The familiar Biltzezi Sheet No. 1 produces these two models.

concede with the dimensions of the window openings. Wonders can be accomplished by the method of forming sashes with very thin cello tape strips, as I have described earlier, and this tape can be had in so many shades and colours that the worker's taste might be followed in his choice. White or green might be found most suitable, perhaps. The main thing is to cut the strips straight and fine. Perhaps a little alteration of the design might be made by way of eliminating the house front door, which would probably be at the rear rather than the front, and substituting some form of public entry to a ticket office on the ground floor. Where there are steps in the

main approaches of a station, especially in the vicinity of the platform itself, these should if possible be excluded, and a level footway provided. It is again fortunate that the external finish of the inn is exactly in keeping with that of the station building supplied.

This building is now treated as before. There should be two sheets, and they should be erected as a wing on each side of the main house, or, if preferred, one wing only may be used, as in the sketch.

I have given in Fig. 4 a dimensioned drawing for the station which includes the semi-detached houses.

British Railways News.

G.W.R. Loco No. 5017 (St. Donats Castle) was re-named "The Gloucestershire Regiment" at Gloucester Central Station on 24th April—the anniversary of the Imjin River battle.

New British Railways loco No. 71000 recently completed at Crewe has been named "Duke of Gloucester" in commemoration of the Duke's Honorary Presidency of the International Railway Congress held in London 19th-26th May.

Our Cover Picture.

Shows Mr. K. R. Herring's Gauge 1 Station and includes a cab view of an L.N.E.R. Pacific, a G.N.R. Atlantic on the left and "Sir Sam Fay" entering the station on the right. (Photo: K. R. Herring).

"Britain's Railways To-day."

Edited by John St. John. Published by the Naldrett Press Ltd., 91-95, Baker Street, London, W.1, at 15/- nett. 192 pages. 92 photographs.

With an introduction by Mr. D. S. M. Barrie this book contains 14 chapters on locomotives, their design, electric and diesel locos and trains, track, signalling, rolling stock, research, freight traffic, railway architecture and traffic control etc.

Each of these chapters has been contributed by a specialist in that section and the writers are mainly members of British Railways staff. In this respect the book is a welcome change from similar publications where one man has endeavoured to cope with the whole field of railway activity.

A nice touch is the inclusion of seven "Railway Profiles" written by the Editor and delightfully illustrated by Richard Zeigler. These pen pictures describe the work of various members of the railway staffs—Guard, Signalman, Porter and Engine Crew etc.

A very attractive book which we think will appeal to modellers and prototype enthusiasts alike.

A GAUGE 0 STEAM LOCO FOR BEGINNERS

PART 17. BY "1121."

Connecting up the Valve Gear.

Having connected up the piston we must now do the same for the valve and for this we need first of all the valve-spindle fork-end, shown in Fig. 81. The simplest way to make this is from 1/4 in. dia. round mild steel rod, holding it in the 3-jaw chuck to centre, drill and tap 8 B.A. for the valve spindle and turn the 5/32 in. diameter. It is best to drill the 3/32 in. cross-hole before cutting off the bar, so that you can be reasonably sure of holding it true. (See "sequence of operations, Fig. 82.) Saw off the piece to length, saw and file the slot, and file the flat on each side, then file off the sharp edges round the slot. Screw the fitting on to the end of the valve spindle, with an 8 B.A. nut to lock it.

Valve Rod.

This is a plain length of 3/32 in. silver-steel, threaded each end 8 B.A. as shown in Fig. 83—all remarks applying as for the crosshead-pin in the last article. Its end-fitting (Fig. 84) is made exactly as the valve-spindle fork-end, except that it is filed to a tongue, which, of course, has to fit into the slot in the fork. Fit it to the end of the valve rod with a lock-nut, and screw the whole thing into the eccentric-strap, again with a lock-nut. You will appreciate that these two screwed joints provide a fair amount of preliminary adjustment, the final setting to the position of the valve being accomplished by rotating the valve spindle to screw it into or out of its fork-end. At present, however, get the length of the assembled rod right as near as you can judge (Fig. 85), make the connecting-pin, (Fig. 86), and join up with two 8 B.A. nuts exactly as for the crosshead-pin.

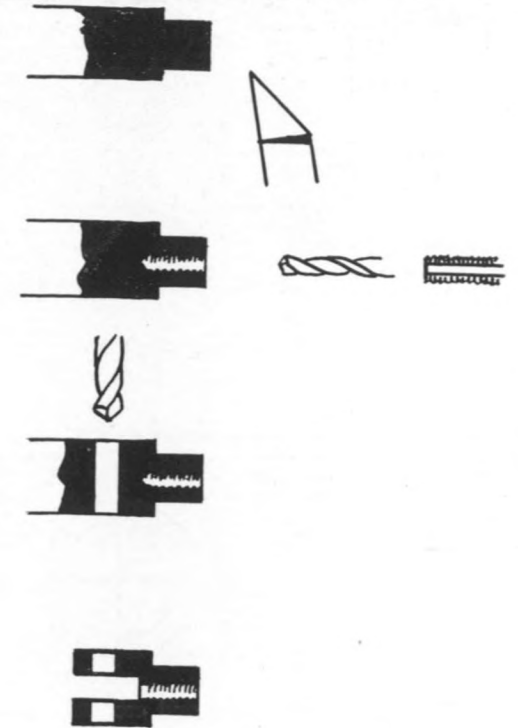


Fig. 82. Sequence of operations for making the Valve spindle fork-end.

1. Turn 5/32 in. diam.
2. Centre, drill No. 51 and tap 8 B.A.
3. Drill 3/32 in. cross hole.
4. Cut off to length, form slot and clean up.

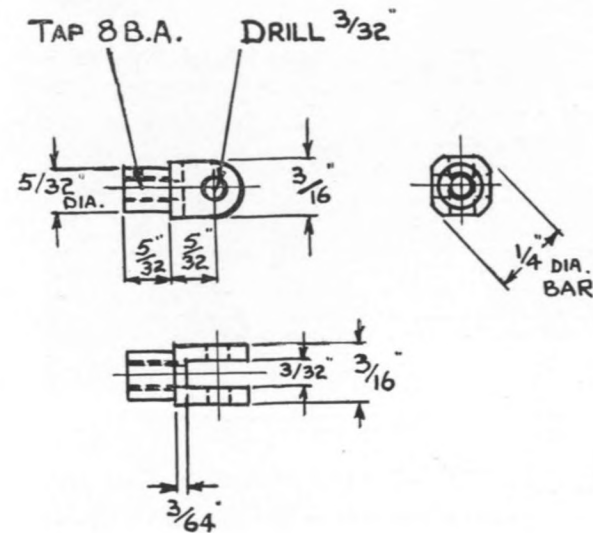


Fig. 81. Valve spindle fork-end.

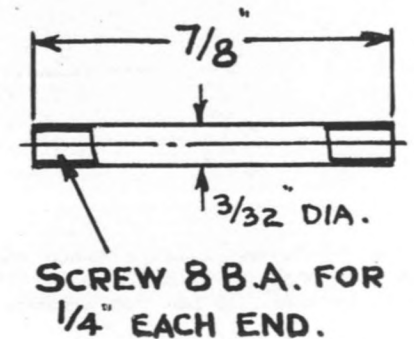


Fig. 83. The Valve Rod.

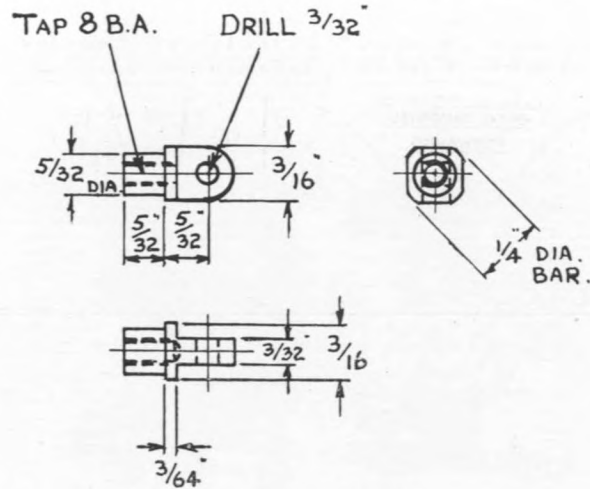


Fig. 84. Valve Rod end.

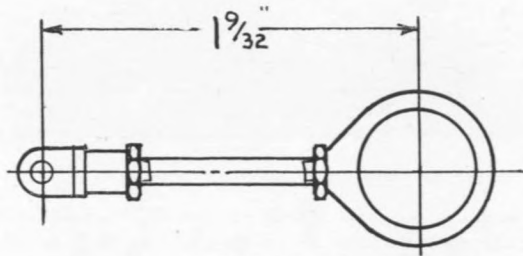


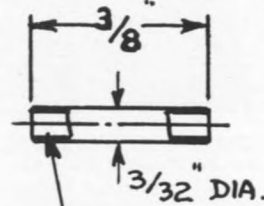
Fig. 85. Assembly of valve rod and eccentric strap.

Setting the Valve.

In order to make this job a little easier, we suggest that the steam-chest should now be assembled to the cylinder-block, complete with valve and spindle, but without the steam-chest cover, the long screws merely holding the steam-chest in the right position. If the block is now replaced in the frames, and held in position by the two screws into the cylinder-block through the left-hand frame only, the movements of the valve as the spindle is pushed in and out can be seen through the two screw-holes in the right-hand frame, if a strong light is shone into the space between the steam-chest and the frame. Alternatively, you may find it easier to do your squinting through this gap, with the light shone into the holes.

Fig. 87 gives a complete picture of the motion, as viewed from the right-hand or steam-chest side, so that all the bits can be seen clearly. In Fig. 88 is the same thing in diagrammatic form. It will be observed that the crank is shown in the back dead-centre position.

It is unfortunately common practice when setting valves merely to guess this position of the crank; we would point out, however, that clearly the eccentric, when the



SCREW 8 B.A. FOR $\frac{3}{32}$ " EACH END.

Fig. 86. Valve rod joint pin.

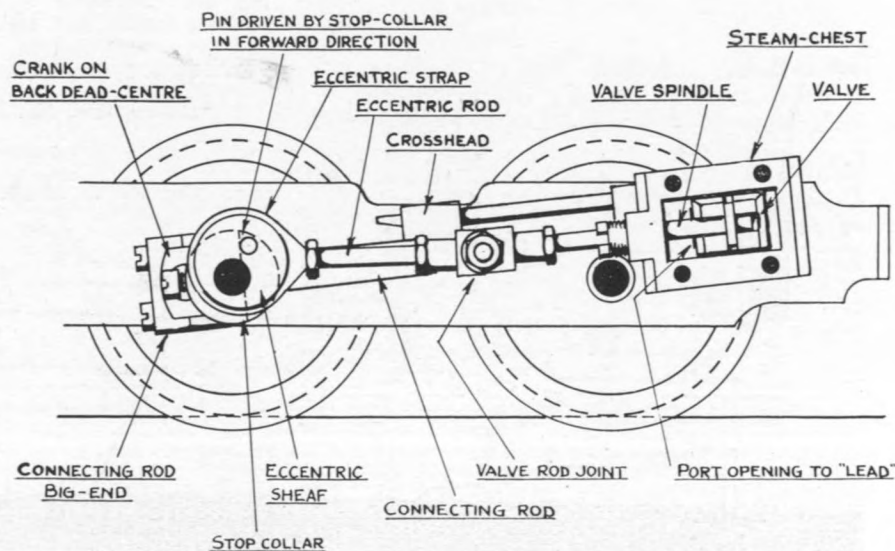


Fig. 87. The layout of the valve gear parts. (Actual size).

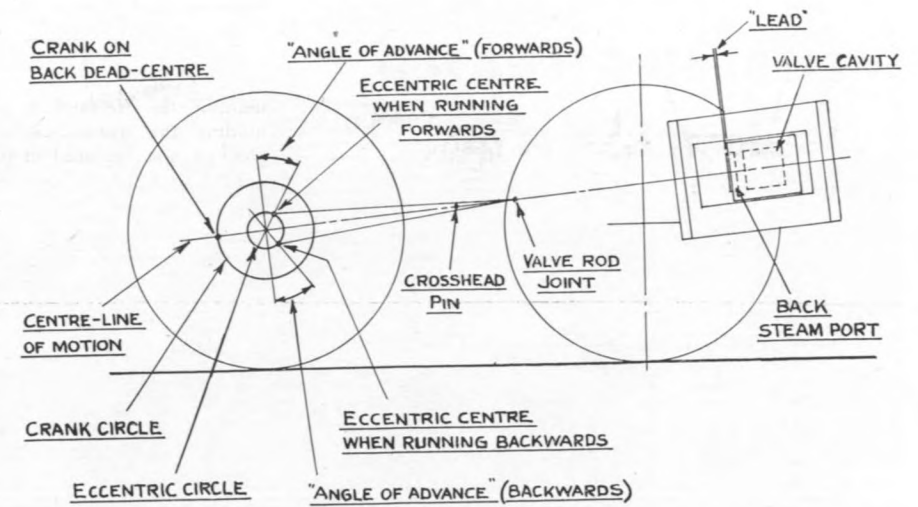


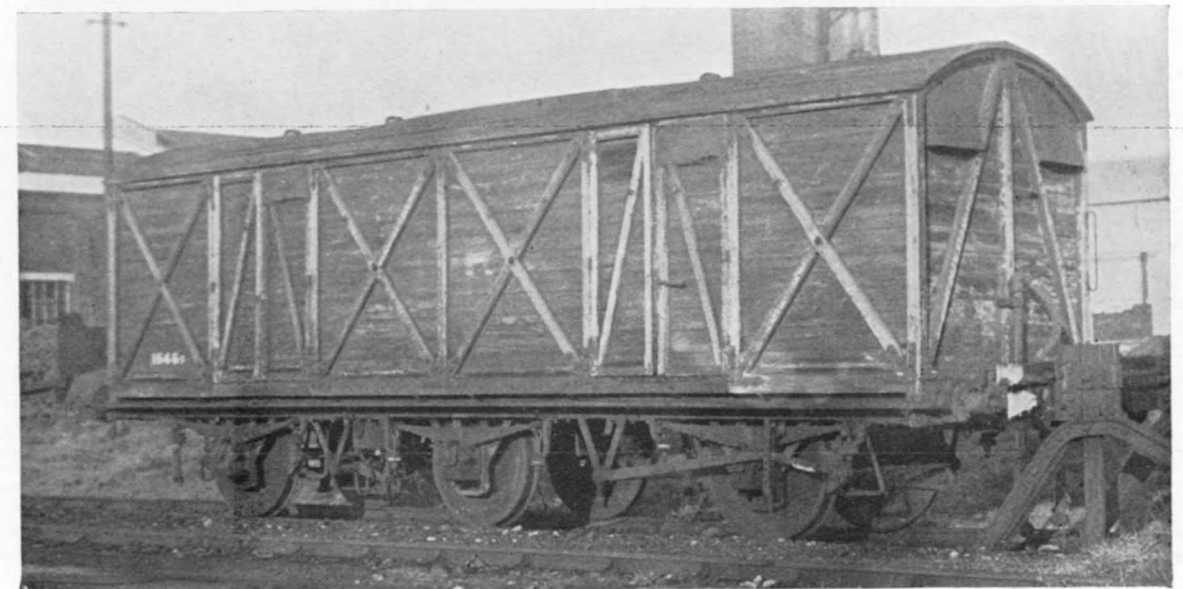
Fig. 88. Diagram of the valve gear, showing forward and backward positions of eccentric.

(Actual size).

main crank is in this position, is fairly close to its top or bottom centre, according to which way the engine is running and therefore the valve is moving almost at its fastest over the ports, and a slight angular error of this dead-centre position of the crank will make no difference at all to the position of the piston. The impression therefore may be that an approximation is near enough, but this error is having a maximum of effect on the position of the valve, which is what matters. The process of finding accurately the correct dead-centre position of the crank is identical for any engine, and is so simple, but by all accounts so little known even among the more experienced of the loco-building fraternity that we make no apology for

including it, along with the valve-setting methods, in this "stock-pile" of general information for future use, which we are endeavouring to build up within these "Aladdin" articles.

Speaking technically for the moment, the method consists of "stopping" the movement of the piston at some point along the cylinder. The position of this point itself is not terribly important; what is important is that the position is exactly the same round the top and bottom arcs of the crank. Bisection of these two points thus gives the exact end-of-stroke position of the piston, which translated into terms of crank rotation, gives the dead-centre position.



Ex-L.B.S.C. Railway Luggage Van—see drawings on page 154.