

Tender for the Six-year-old's "4F"

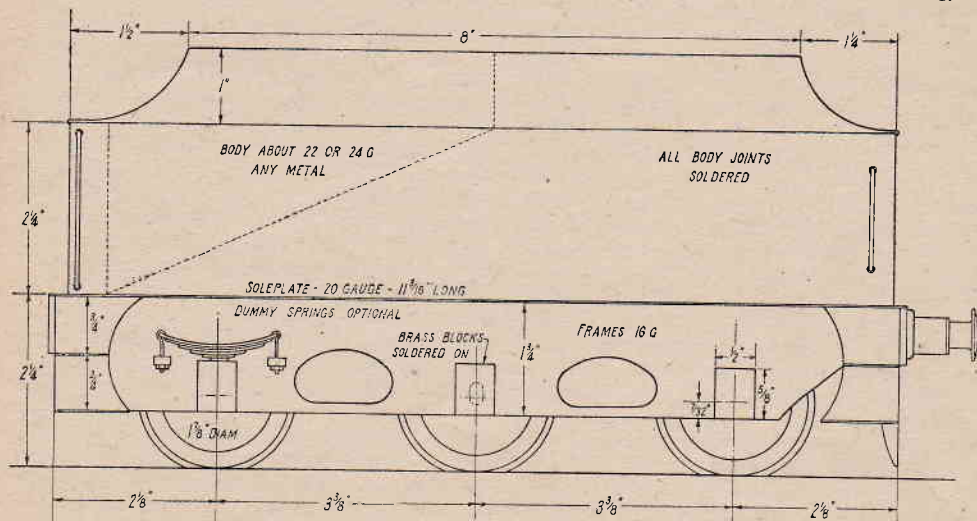
By "L.B.S.C."

THE tender for our embryo engine man's class "4F" L.M.S. 0-6-0 can be completed in a week of spare evenings by the rawest tyro who ever mishandled a soldering-bit, and should provide good practice for the more elaborate job he is certain to undertake later on. As it is merely an "ornament" to trail behind the self-contained locomotive, and does not carry fuel and water—though it is a safe bet that "his ribs" will promptly fill up the coal bunker from the domestic scuttle!—any metal will do, provided it is not too thin and flimsy; half a century ago, young Curly used to cut up tin cans and flatten them out for use as side tanks, cabs, splashers, tender sides and various other uses, whilst a tin biscuit-box was an absolute treasure for use as material. The frames should not be less than 16- or 18-gauge, as they need to be fairly stiff; two strips 11 in. long and $1\frac{1}{2}$ in. wide are needed, all the cutting-out required being the two openings between the wheels, and the small segment cut away below the buffer beam. There is no need to spring-mount the tender unless you wish; being shorter than the engine, and having no working parts, it will ride very well unsprung, if the middle axle is allowed about $1/32$ in. lift. This will allow the leading and trailing wheels to keep contact with the railheads over any slight bumps in the track. Therefore, drill plain holes $5/32$ in. diameter for the axle journals at the points

given in the illustration, and file the middle one slightly oval in an upward direction, to give the journal the necessary lift.

The buffer and drag-beams are exactly the same as those on the engine, and the frames are attached to them the same way; but note that the distance between frames is $3\frac{1}{4}$ in. The six wheels are $1\frac{1}{2}$ in. diameter; but any wheels either a little larger or smaller can be utilised, by drilling the axle holes in the frame either above or below the given dimensions, so as to keep the footplate at the proper height from rail level. The axles are $3\frac{3}{4}$ in. overall length, made from $\frac{1}{4}$ -in. round steel, turned down to $\frac{5}{16}$ in. for pressing into wheels, and to $5/32$ in. bare where they project beyond the wheels. The distance between the flange backs is $2\frac{9}{32}$ in. Additional bearing surface is provided by soldering small blocks of brass, about $\frac{1}{4}$ in. in thickness and $\frac{1}{2}$ in. long and $\frac{1}{2}$ in. wide, to the tender frames over the bearing holes. These "axleboxes" are drilled with a $5/32$ -in. blind hole in each, to accommodate the ends of the axles; the middle ones are given the extra play as mentioned above. Dummy springs, made up from strips of tin, or castings, can be fitted if desired, for sake of appearance.

The soleplate should be about 20-gauge, any metal, $11\frac{3}{16}$ in. long, and about $\frac{1}{16}$ in.



Simple $2\frac{1}{2}$ -in. gauge L.M.S. tender.