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STEEL PASSENGER CAR FRAME CONSTRUCTION.

BY MR. C. BRADY.

(Read before a meeting of the Mechanical Section,
December 3rd, 1914.)

There are four distinct types of framing for steel passenger cars. These types as actually built vary more or less in proportion as well as in the size of the plates and bars used. Such variations taken together with the different weights of other parts of the car and with different general dimensions make it practically impossible to draw any satisfactory conclusions as to the merit or weight of any particular type of framing when comparing cars built by different designers for different railroads.

The following data were prepared for the sole purpose of determining, if possible, what necessary difference existed in the weight of different types of frame construction when designed for the same loads and stresses.

As only the centre sill, bolster, crossbearers and side frames are concerned in the comparison, no reference whatever is made to the detail of any other part. To make the comparison strictly theoretical would be a waste of time, and therefore it is necessary to establish certain standards for those items which enter into the construction of the members concerned, the dimensions of which are not capable of calculation, but are proportioned in accordance with good practice. In this case, such items are principally as follows:

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