of carts been a rail-way train; and the flooring imme-
diately assumed its proper camber when the weight
was withdrawn.

Let it not be supposed that it is the intention to re-
present this light and comparatively feeble bridge over
the Schuylkill, as at all proper to be used, in its pre-
sent condition, for modern rail-way purposes. It is
wholly unfit for any such application. The example
which it furnishes is intended only to illustrate the
single fact, that although a small weight placed in the
centre will produce a perceptible movement, a very
great weight may be stretched along the flooring with-
out causing any considerable increase of flexure.

The bridge which we are discussing will be five
times as heavy as that at Fairmount, for each lineal
foot, or fifteen times as heavy in the aggregate; and
will require, as will be hereafter shown, eight times
the weight to disturb it; and will be no more shaken
by a twenty tons engine, than the other by a two and
a half tons cart.

The rules upon which these computations are made,
have been stated approximatively; but it may well be
asked upon what authority they are laid down, and
how their accuracy is to be verified.

The scientific reader is referred, for a complete and
beautiful analysis of this whole subject, to the “Mé-
moire sur les Ponts Suspendus,” par M. Navier, late
Chief Engineer in the Corps Royal des Ponts et
Chaussées, and a distinguished member of the French
Academy of Sciences.