and arranging the connections of the parts, and sufficient
directions and illustrations have already been given, to
enable this to be done, and the plan arranged with fa-
cility.

When the track passes over the top, the abutments or
piers should be built with offsets or recesses to support
the ends of the trusses, and a thin wall carried up to sup-
port the ends of the rail timbers; or, a bent of wood may
be made to answer the purpose.

With this arrangement of the track, the distance between
trusses need not exceed the tenth part of the length of
span, by which means a considerable saving may be effect-
ed in the length and size of cross bearers.

Horizontal bracing, of course, will be requisite at the
top, but not at the bottom of the trusses; as the constant
tension on the lower stringers, will counteract sufficiently
any tendency to swing, unless the sides be boarded up,
so as to take the severe action of the wind; in which case
some bracing may be necessary.

On the whole, it is manifest, that when practicable,
there is a decided advantage in point of economy, in ar-
ranging the plan for the track to pass over the top.

**Common Road Bridges.**

LXXII. If we allow 16 ft. width of road-way, which
will admit the passage of two carriages, and reckon 100
lbs. to the square foot for the maximum load of a common
road bridge, the trusses for the latter would require only
about three-fourths the strength that we have estimated for
rail road bridges, aside from what supports the structure
itself.

But the flooring of the common road bridge is heavier
than the rail track, though the load of 100 lbs. to the
square foot is more, probably, than one bridge in a thou-
sand is ever exposed to. It is therefore probable, that
the trusses for common road bridges do not, in general,
require more than three-quarters the strength of a rail