That if the economic depth be calculated for any span, where
the panel length is twenty feet, or the nearest length below
twenty feet, and if the economic depth for the same span, but
with one panel less, be calculated, the latter will exceed the
former by one or two feet.

That, in places where lumber is expensive, it will not be well
to make panels over twenty feet long, or, in places where it is
cheap, to make them over twenty-four feet long, because tim-
bers exceeding the latter length are not easily procured. Then,
too, in designing iron bridges, which are supposed to last indefi-
nitely, it must be remembered, that, as time goes on, long
timbers will become more and more expensive, and less easily
procurable, even in timber districts; so that panels exceeding
twenty feet in length should be employed very cautiously.

For appearance, through spans of one hundred feet and under
should have five panels.

The principal objections to the use of the double intersection
for short spans are, that, as the rods are long and slender, they
will vibrate more than the shorter and larger ones of the single
intersection. Any flaw in a small rod will have a proportion-
ately greater injurious effect than the same sized flaw in a larger
rod. Long and slender rods are difficult to transport, and are
liable to become twisted and bent; though this objection can
be partially removed by halving them, and, as the posts are
light, they will spring more under the shock of rapidly moving
loads.

As the width of roadway and the live load increase, and as
the intensities of working-stresses diminish, the inferior limit
of the double intersection may be lowered. The table on p. 8
gives the limits which the author would recommend.

The common idea among highway-bridge builders, that a
double-intersection bridge should, for economy's sake, have more
panels than a single-intersection bridge of the same span and
loading, is incorrect.

The economic depth for a double-intersection truss is about
three feet greater than that for a single-intersection truss of
the same span, and number of panels.

Tables IV. and V. give the principal results of the before-