

Morrisons Hotel
Dublin 16th Aug. 1863.

Sir.

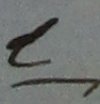
I have the honor to report, for
the information of the Lords of the
Committee of Privy Council for Trade,
that in compliance with your Min^{ty}
of the 11th Inst^y, I inspected, the Leekhampton
and Malvern Railway, from Malvern
Wells to Leekhampton, on the 14th Inst^y.

The new line is 10 miles 13 Chains long
and is doubled throughout, but the
down line from Leekhampton to Malvern
only, was inspected ^{by} me, the 2nd line ^{not} being
^{ready for inspection}
~~still incomplete~~ - The gauge is
4^{ft} 8^{1/2} in. And the intervals between
the lines are 6^{ft} wide - The

To The Secretary
Railway Dept Board of Trade }

The rail used is double headed, rolled
in lengths of 18, 21 & 24 ft and weighs
68 lbs per lineal yard. It is fished, and
fixed, in 22 lbs Chairs, with oak & Elm
keys. The Chairs, ~~as~~ I consider rather
light, & the wooden keys are ~~rather~~ short.
When any renewals are required, I would
recommend that the size of both be increased -

The Chairs are spiked to ^{semicircular} Sleepers
9' x 9" x 4 1/2", laid ~~transversely~~, about
3 ft apart, except at the joints where they
are abt 2 ft apart. The Spikes are driven
inside ferrules. The Ballast is ~~principally~~
sand, laid about 1 ft thick under the Sleepers -

A flat bottom  of flange rail is
used on all the under bridges, except one, 40th bridge on
~~which~~, the ordinary chair road is laid -
The Engineer (Mr. Kennerly) has ordered that the
chairs & ~~all~~ the joints of the rails on the under
bridges to be fully bolted -

There is one ~~at~~ ^{at} ~~the~~ ^{the} ~~end~~ ^{end}

(with Wth Iron Girders, the remaining four, are)
over bridge, & ~~therefore~~ built of brick.
Three ~~Wth Iron~~ under bridges & Cast Iron
have Wth Iron Girders. These have Cast
iron girders & the seventh is built of brick.

The whole appear to be substantially
constructed & of sufficient strength, except
the Wth Iron Under bridge at 11.35ⁱⁿ in
which the cross Girders, are rather light
& ought to be strengthened, or, have the
weight distributed over them, by means
of something more rigid than a 6ⁱⁿ

longitudinal sleeper. ^{building stones} The ~~coats~~ on which the
main girders rest on those of the next bridge to it, are all six.
There are ten viaducts, the largest ^{expected in ten}

Span is a Wth Iron ^{lattice} Girder bridge of
126^{ft} Span over the river Avon. The
Girders, ^{according to calculation} are light, to carry the greatest weight
that can be brought upon them, but ~~I do not~~
~~before persons~~ ~~consider them sufficiently so to reject~~

~~them, should they ~~exceed~~ not give ~~rise~~ for~~
~~too large deflections when loaded with~~
~~on each line with three of the largest~~
~~engines which the Midland Railway (who~~
~~are to work the line~~

before pronouncing definitely on them,
I should wish to test their deflections, under a
load of the heaviest Engines, of the Midland
Railway ~~passing~~ ^(who are to work the line), as can be brought upon them.

This would be, three Engines on each line -
I had only two of a small Contractors Engine.
~~and the~~ ^(under this load within 8 ft. of) deflections near the abutments
under this load were $\frac{7}{16}$ in, mainly attributable
in my opinion, to the state of the tension
lattice bars near these points.

A second Viaduct over the river Severn,
consists of three brick arches, two
openings of 65 ft. two of 45 ft. and
two of 43-6 ft. ~~It is a~~ ^{is a} ~~lat~~ ^{cropped}
with W. Iron Girders, supported on
Cast Iron piers, filled in with concrete.

One of the 45 ft. openings is required
to open, to allow vessels to pass up & down
the river Severn, but the apparatus, to
draw back the rolling girders, is broken
or incomplete, & the bridge is a fixture
~~incomplete~~ and the method adopted,
to



to carry the permanent way, over
the cross girders, on this part of the
bridge is not ~~of a permanent~~ kind,
as is likely to continue firm -

Short blocks of timber 4 ft in
length, are jammed in, between
the cross girders & spiked to a thin
longitudinal timber, running along
the top of the girders. The shrinking
of these short blocks, and the continued
working & vibration of the bridge, will soon
shake these blocks loose, even if their
bearing is good at present. The
wooden platforms of all under bridges
require some protection from fire - Two
or three of the Signals were not in working
order. The 2^d Signal from Midway Wells
Station, & the from the Dewsbury Junction, cannot
be seen from the place of working - The
of them for the protection of the rolling bridge

appears ~~to those~~ & neither ~~of them~~
were in working order - The signals
generally, are of poor construction, &
just single wire being used ^{to work} ~~for~~ all
distinct signals, & the rods of the station
signals were bent & appeared ~~like~~ cases light
& not sufficiently supported -

The stations are, Upton, Puffin,
(incomplete) & a temporary station
near Leekesbury Junction -

The Leekesbury Junction is now
formed as a single Junction & the ~~points~~
handles of the points & signals are
not connected - As I have inspected
this ~~Malvern~~ & Leekesbury line,
as a single line, the doubling of which,
is ~~already~~ completed to Malvern Wells,
& very nearly completed for the whole distance,
I consider, that the Junction near Leekesbury
should be a double Junction, with the
separate ~~handles~~ of the points & signals

properly connected. There are
numerous facing points on the line,
which have no indicators & which
I have refrained from recording.
Considering that the 2nd line, is so
nearly completed & that when it is so,
they will no longer be facing points - they
should be ^{logged in the same manner} ~~logged in the same manner~~
There are no turn tables - I have

received no undertaking as to the
proposed mode of working - & there
is a road at $9^{\text{m}} 65^{\text{ca}}$ which is given
in the returns, as "not known whether
"public or private" which is crossed
on the level, without being authorised
as a ^{public} level crossing - The Road
at one side of the railway looks as if
it was used ^{constantly} but at the other side,
the grass is growing on it & it appears
only to be used by the various farmers
Proprietors of the line - It
is no doubt a public road, though probably
not kept in repair by the County - My

My reason for stating it to the public, is,
that ~~the~~ ^{no persons} appear to have the right
to close it, & the Resident Engineer
stated, that he believed that it was
the old Coach road from Worcester to
Cheltenham. This road is now
provided with only an ordinary
accommodation ^{to} feet.

Several small culverts have
given way & got very much out of shape -
two ^{whichever} of 6" wide, particularly so. They
will require watching when the adjacent
lands commence & the adjacent lands
are flooded. One of these, at 3 miles,
is now only 3^{ft} 8ⁱⁿ high, though it ~~should~~
be 6^{ft} 6ⁱⁿ high. I recommend, that longitudinal
balks be placed under the cross sleepers above it,
~~to prevent~~ as a precaution. The fencing
to the overbridges is very weak & the posts
abutting on the wing walls of bridges &c.
require making up. They submit that the Evesbury &
Milverton Railway from Malvern Wells to Evesbury, cannot
be opened for passenger traffic without danger to the public
using the same by reason of the incompleteness of the works.
I have the honor to be Sir Y. Somerset's most
Obedt. Servant
J. H. Hill. Esq. M.P.

P.S. The line deviates, from that
laid down on the Parliamentary
Plan at 1^{st} 47^{ch} to 1^{st} 62^{ch} and
again at 7^{th} 25^{ch} to 7^{th} 34^{ch} . The
curves are slightly increased but
not materially - It deviates beyond
5 ft. vertically at 0^{th} to 0^{th} 11^{ch} about
16 ft. at 2^{nd} at 3^{rd} 60^{ch} at 4^{th} 10^{ch}
at 6^{th} 52^{ch} at 8^{th} - the gradients are
increased - I am informed that
the landowners have made no
objections to these changes.

J. H. R.