

They are all right if ^{he} you
can find a place for the
compass where the effect
of the ship on the compass
is the same whether the
ship heels or not - which he
says he can generally do -
and as the heeling error in
tween deck compasses is
~~sometimes~~ stated to be often
in the opposite direction from
that of upper deck compasses
I conceive there is a probability
that some ~~such~~ place ^{exists in}
~~which~~ there shall be no heeling
error may exist in ~~a compass~~
near the funnel under a

39 Botanic Avenue
Feb 2 1889
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Dear George

I enclose some of Mr
Moore's literature with
diagram showing his
arrangements (Fig 3) and
I ~~think~~ ^{think} that if the needles
were placed in the place
of the card in Fig 3 instead
of where they are, their
effect ~~of~~ would be different
from what it is. Also (Fig 2)
if the balls were as there placed
but arranged to swing with
the compass bowl, the general

construction and
arrangement of the binnacle
and binnacle hood would
have to be altered to allow
of their moving about
so that there is a definite
purpose, and a substantial
change made, when Moore
altered the needles from
the horizontal plane to
the vertical, and shifted
the balls from a fixed
position on the binnacle
to a place below the card

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on the bowl, which would
~~not have been obtained~~
whereby different (because
I don't believe they are
more efficient or better)
results are obtained from
what he would have at-
tained if the needles had
been placed in the plane
of the compass.
I take of the effect of Moore's
arrangement ^{is} that the effect
of the correctors ^{taken by themselves} on the com-
pass is the same whether
the ship heels or not, since
they don't heel, and therefore

if the mere lightness
of construction
of it had been the actual
thing patented.

(2)

flying bridge, being partially
in a 'tween decks condition
with upright bars in front & behind &c.
However never having
actually ascertained the
actual heeling error of any
actual compasses in
actual ships I can't
tell whether Moore is
right as to his facts or
no, and I don't believe
in his reasoning - only I
believe he may be right
sometimes - and he may
possibly be very often right

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in the case of the ^{lowes} bridge
steering compasses of
merchant steamers.

~~you~~ I don't know
whether I made it clear
that it was Moore, or Moores
lawyers, who suggested
you as a good authority
to me

your affectionate brother
Maurice F. Fitzgerald
Paget's patent (for light alu-
minium compasses with
multiple small needles)

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is No 843 of the year 1868
Lieut. W. Thomson's most
important one is No ¹³³⁹~~1374~~
of 1876 and there is a second
4876 of 1876 referring to
(among other matters) the
substitution of silk worm
gut or metallic wires for
threads in the compass card
showing that it was con-
sidered necessary to protect
the card by enumerating
other materials for the spokes
of it besides silk, which
would have been unnecessary