

Acc. 921

Nov 18, /20

Prism
telescope - and
large sunspot

Dear George

In regard to the
prism, I may say that
I had no idea that it would
cost so much as you mention
(£ 2-2-0). I don't think the
8/6 one would do, for of course
the least distortion would spoil
the image. I would hardly like
to give so much as that for
£2-2-0 for it, especially
as it might not exactly suit
when I did get it. For there
are many difficulties in the way,
of which one is that the screws of
the two ~~eye~~ eyepieces (high & low
power) are not the same, so that
if I got the tube of the low

power eye-piece, ^{tube} fitted up with
a prism, the high power eyepiece
would slip in but not fit.

(I use eyepiece, to express the lenses
&c, exclusive of the eyepiece tube).

Another difficulty is that ~~as~~
in order to get the focus, the ^{with the prism}
tube ^{would have} ~~has~~ to be pushed in as far
as possible; ^{as represented in Fig. 2.} so that it would
be a chance whether I could get the
focus at all. I say this from
what I observed in the case
of the diagonal, or rather
reflecting eyepiece, that I told
you of before.

Also in the high-power eyepiece
the tube for adjusting the power
(^{corresponding to} AB in the figure) is so long that
if the tube with the prism in it
was fixed so as to get the focus
with the \times low-power eye-piece, (that
is so that B would just not touch
the prism) then the high power eye-
piece would not go in at all.

Papa says that he will
ask the agent of Parkin, (from

whom the telescope was got) whether
Parkin makes any diagonal eye-
pieces, & if not how much he
could make one for. And then
if it would not cost too much,
I could get one through the
aforesaid agent.

In the following figure I
have tried to represent the way
the prism would work. I don't
know whether I have made the
light go right after it meets
the lenses; but at any rate it
is inverted while passing through
them so that the resulting image
is erect.

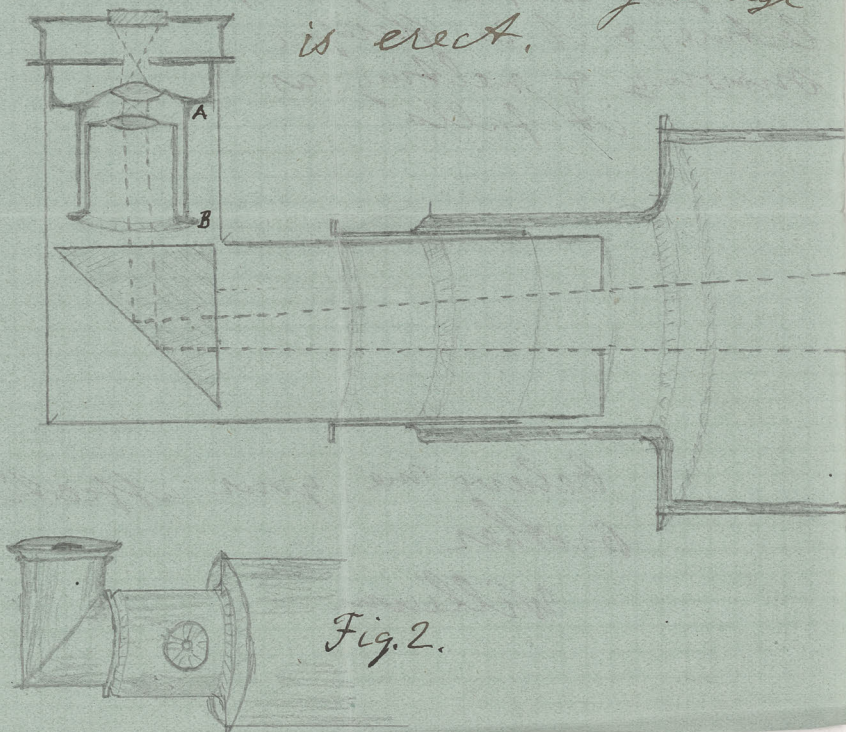


Fig. 2.

In regard to the cracking of the
lens prism by the heat
I may say that I held the
Thermometer in the focus of
the object glass, some time ago;
at a time when it felt quite
hot in the sun, & when at
noon. Well the ther. only rose to
137°. If there was any danger
of that I could use the diaphragm
you had made.

There is a ~~to~~ huge spot on the
sun just now, 15,000 miles long
& nearly as broad. It came
round on the 14th.

This is the night of the University
lecture, & it is therefore
snowing & melting as
it falls.

Believe me your affectionate
Brother

William