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BRAY

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in the former.

I then repeated the experiment with a single piece of glass about 2 cms square & 2 mm thickness, having previously ~~marked~~ traced the shape of the piece with a pencil on a piece of paper. All I could observe was a mere spark which appeared close to the side of the receiver ^{where} which the plate I was moving,

In bringing a light into the room I found that the piece of glass was near the side of the receiver where the spark appeared. This seems to indicate that the spark was produced when the piece of glass came in contact with the receiver. I intend covering part of the interior of the receiver with lead.

I also wish to determine whether the breaking of glass might ~~not~~ produce the

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Dear Dr Fitzgerald

I am anxious to go for the assistant lectureship in Physics at University College North Wales, which is now vacant & should feel much extremely obliged if you would use your influence in my favour, also a testimonial from you would prove invaluable to me.

The assistant lecturer in Mathematics Mr Edwards is a 1st class man; so is Mr W J Jones who is a lecturer or professor, I am not sure which, in the other

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College of the University of Wales, so they don't seem to be unfavourable to dishonesties over there. I should like to get your opinion upon the subject.

I would like to know what day you will be in town as I am anxious to show you what I have been doing ^{in the laboratory} also to get your advice on a good many points in connection with what I have been working at.

I think it - not - at - all unlikely that the light - is produced by the impacts of the pieces of glass against the walls of the receiver & against each other.

Among many other experiments I tried the following

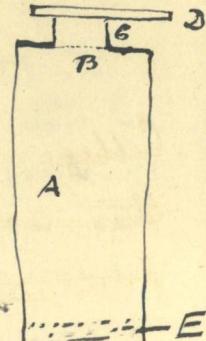
1° A in the receiver
B a piece of tissue paper
on which I placed several pieces of glass

C a ring on which rested a plate D of thick glass

E was some cotton wool

On drawing the plate D aside when a vacuum of about 20 mm had been obtained, a number of luminous spots were visible, which appeared as if it were the pieces of glass that became luminous.

The intensity of the luminosity was, however, much less than when a plate of glass was broken directly at the mouth of the receiver, and the faint ~~long~~ glow that spread throughout the whole receiver (along with the luminous spots) which was visible in latter case, did not appear



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I have tried a number of other experiments which I shall describe when I see you.

I would like you to see my notes & get to get from you suggestions

Believe me dear Dr Fitzgerald
Yours very respectfully

John Burke.

the light, I could not ascertain even on comparing the shape of the piece of glass with with the figure of it which I had drawn, whether a small piece might not have been taken off. I broke vials in the ^{not in a vacuum} but - not no light. I also ^{but} ~~not~~ fall on it - not - no light - weight - fall on it - not - no light - weight - It may be, was produced.

however, that when air rushes on the newly exposed surfaces that light is produced. I repeated the experiment ² already described with a piece of glass of about the same thickness as before & the same area of surface, but longer & narrower

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Do you think this likely?

If so the mere ~~rusting~~ breaking
of the glass when air is rushing
into a vacuum does not produce
the light -

I ^{used} a heap of broken bits of steel
& iron but no light - was produced,
I have not succeeded in allowing
air rush into a vacuum by breaking
a plate of steel or cast-iron.

I have carried out your
suggestion of letting air rush
into a bottle with a long & narrow
tube but failed to obtain any
light

I tried CO_2 and oxygen but
effects seemed to be the same as
with air.

I saw no light - of any kind,
the glass was found to have been
broken into several pieces, it
may have been that the glass struck
the receiver near the bottom when
it had almost entered the space
occupied by the wool ~~& that~~ in that
the light - escaped my notice.

It may also have been that
the sudden rush of air on the
piece of glass caused it to break
because of its long & narrow shape
vibrations may have ^{been} more easily
set up than in the square piece