

ALFRED APPS,  
ELECTRICAL ENGINEER,  
OPTICAL, MATHEMATICAL AND  
PHILOSOPHICAL INSTRUMENT MAKER,

MAKER OF INSTRUMENTS TO THE WAR  
OFFICE, ADMIRALTY, SCIENCE AND ART  
DEPARTMENTS, &C., AND THE PRINCIPAL  
OBSERVATORIES AND COLLEGES IN GREAT  
BRITAIN AND ABROAD.

PRIZE MEDALS.

LONDON ... ..	1872
" CRYSTAL PALACE ..	1882
MELBOURNE ... ..	1880
PARIS ... ..	1881

433, STRAND,

LONDON, W.C.

J. F. Fitzgerald Esq

Feb 20<sup>th</sup> 1896

Physical Laboratory Trinity Coll. Dublin.

26/57

Sir,

I try to acknowledge your order for a 10 in. spark coil which shall have my  
best attention.

(For "Röntgen" rays)

"The special Crookes' tubes are now 15 to 25/- and not exhausted they would  
I think come out about half price. A special tube with pricing plat<sup>in</sup> foil 10/-  
heated by gas from reflector (or pole) 25/-. All these tubes vary in price ac-  
-cording to size & quality. Awaiting your decision as to these tubes,

I am, Dear Sir, Yours truly,  
A. Apps.

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With apology for delay, etc.

433, STRAND,

LONDON, W.C.

Feb. 14<sup>th</sup> 1896

G. F. Fitzgerald Esq

Physical Laboratory Trinity-Coll. Dublin.

26/57

Sir,

In reply to your favor the 10<sup>in.</sup> spark coil can be run from a direct current supply at say 10 P.D. current about 15 to 18 amperes (preferably from storage cells) The alternating current will not produce 10<sup>in.</sup> spark only 3 to 4<sup>in.</sup>, but you can get over this difficulty by using a Tesla transformer, when, with the latter the result is better than with a direct current in the primary coil. A thermocouple should be inserted at the end of the primary tube. In heavy work per ozme &c I have never found the temp. rise to more than 95° Fahr + you might carry it up to 120° say. I have an 18<sup>in.</sup> made

shall have same for purchase of electricity. See Mr. Apper.