

# A narrow escape for Faraday

Faraday Exchange in the City of London was a very important place. It was the trunk exchange for calls into and out of the London Toll area, and was the trunk exchange for an area from Southampton to the Wash. In addition, it was the UK's only international exchange. If any disaster such as a fire or explosion befell Faraday, London and a large chunk of the UK would lose its trunk service and cut off all the Country from the rest of the world. *In 1939, the worst nearly happened...*

*"The whole building shook and the plugs were jerked out of our hands..."*

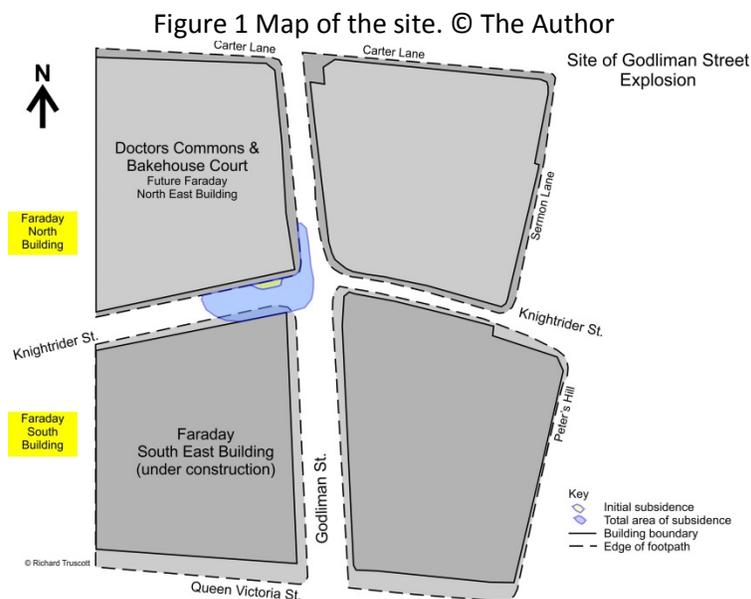
These words, said by a telephone operator at Faraday inland trunk exchange were reported in the Manchester Guardian's London edition the day after the gas explosion of the 4<sup>th</sup> August 1939, she went on to tell the reporter;

*"...the Chief Supervisor stood up and in a clear voice said, It's quite alright girls, go on with your work, and I will find out what has happened" (1)*

## A smell of gas

During the day in Godliman Street that runs between Queen Victoria Street and St Pauls Church Yard, there was a smell of gas. It was particularly strong near the junction with Knightrider Street. Noticed by a patrolling police officer at 08:45, he reported the smell to the Gas Coke and Light Company. However, they already knew about it, having had a report of gas in the GPO footway boxes and nearby sewer works. The Gas Company sent out repairmen, who dug a hole in the road and by lunchtime had stopped the leak with a temporary patch intending to come back at the weekend to make a permanent repair.

Along the west side of Godliman Street there was the construction site for the Faraday South East Building, work was progressing and much of the steel frame of the building was in place. Just north of the new building stood the Doctors Commons (2) (3) and old building due for demolition along with its neighbour Bakehouse Court. This site would become Faraday's North East building.



## An explosion

In the afternoon at about 15:30, the smell of gas was stronger when part of the pavement collapsed. The Police and the Gas Coke and Light Company had time to; rope off the collapse, put up no-smoking signs, and tell workers in nearby buildings not to use naked lights.

The city of London Police attended including Sub-Inspector Fuller and Inspector Burrell from Snow Hill police station. Inspector Fuller took charge getting barriers moved further away and going to inspect the two holes in the road, he noticed that water was coming into them. The London Hydraulic Power Company<sup>B</sup> man is there and tells Fuller that they have no mains in the area and the water must be coming from the Metropolitan Water Board's main. The water company "turncock" having been summoned some time ago was not there yet.

The area of subsidence gradually got larger exposing gas pipe and electricity cables. Job Griffiths (4), a Trunk Mains Inspector with the Gas Coke & Light Company supplied a sketch of the subsidence with his evidence to the police. The subsidence was getting larger, the Gas Company had parked their truck nearby and eventually the hole swallowed it. The old Doctors Commons building was showing signs of collapse by its shaking and creaking sounds.

*Then came the explosion. There was a great roar; a sheet of flame shot up from the roadway, and with it went clouds of dust and fragments of glass from the windows of offices and shops.*

*The flying glass spread over a wide area, and before they could sufficiently recover from the shock of the deafening roar to seek shelter scores of people had been injured. (5)*

The explosion broke windows and ripped off doors and shutters, in some places the glass lay inches deep. Windows 600 metres away in Cannon Street got broken and 300 metres away the blast, knocked passengers going into Blackfriars station off their feet. The Doctors Commons building had collapsed into a heap and the wood of the building was burning in the flames leaping from the road. The explosion injured five construction workers from the South East building and crumpled the steel frame of the building. Nearby St Paul's Cathedral received little damage, just some broken windows, but they did have to curtail the evensong service going on at the time.

Figure 2 The scene of the explosion seen from Knightrider Street looking west. The South Building is on the distant left with the bridges over to the North Building. The girder framework is the new South East Building. © Photograph courtesy of BT Heritage and Archives.<sup>C</sup>



Figure 3 The scene of the explosion seen from Knightrider Street looking eastwards. Godliman House<sup>D</sup> is on the right of Knightrider Street. Where the arch is on the left later became Wren House. © Photograph courtesy of BT Heritage and Archives.<sup>E</sup>



## No trace of excitement

Faraday suffered some broken glass damage too.

*Men inside the telephone exchange building were sweeping shattered glass out into the street. One of the staff told me that in spite of the terrific explosion there had been no casualties and that their own first-aid detachment had dealt with the few cases of shock... In the streets round and about there were sightseers...The queer thing was that there was no haste, no shoving to get a better view no loud voice nor any other trace of excitement. (6)*

## Clearing up

Before the ambulances arrived the police commandeered cars and vans to take the injured to St Bartholomew's or Guys Hospitals. Police officers also treated the injured on site with the bandages kept in the police call posts. Over a 100 were injured and eight needed to stay in hospital. (7)

The Gas Coke and Light Company brought in extra staff to excavate and seal the gas mains serving the area whilst the Fire Brigade put out the fire. The Metropolitan Water Board turncock shut off the water mains. The City Corporation set about clearing the street of debris, whilst building owners secured their premises. The site of the explosion was secure by 19:00.

## What happened next

After the clear up there was a Coroner's inquest, this might seem unusual because there were no fatalities, but it is one of the peculiarities of the City of London Corporation that their Coroner can hold an inquest if there was a fire.

At the time of the explosion, the South East building was under construction; the North East building was planned but unbuilt. The previous year the GPO<sup>F</sup> acquired the NE Building site by Parliamentary act (8). Two old buildings, the Doctors' Commons and Bakehouse Court, occupied the site.

The events in the following eight months have been difficult to trace because none of the Coroner's Inquest papers exist. All the WWII papers have been lost (9). The City Corporation and Metropolitan Water Board papers still exist at the London Metropolitan Archive<sup>G</sup>.

Figure 4 The wreckage of Doctors' Commons seen from the lower part of Godliman Street looking towards St Paul's Cathedral<sup>H</sup>



### Mr. Foreman, are you all agreed on your verdict?

The Jury Foreman said they were agreed. The Jury was probably glad to get to the end of what had been a very long case. It started only a matter of days<sup>1</sup> after the explosion with an adjournment and up to February 1940, the Jury had sat for 26 days and cost many of thousands of pounds in expert witness time alone. However, there was more to come because the Coroner did not start his summing up until the following month and the inquest finally ended on the 19<sup>th</sup> of March. All of the following had an interest in the case:

- Central London Electricity Ltd.
- City of London Electric Light Co. Ltd.
- General Post Office.
- London Fire Brigade.
- Gas Coke and Light Company.
- Metropolitan Water Board.
- London Hydraulic Power Company.
- H.M Office of works (GPO's agents for the new South East Building).

Some of the utility companies criticized the Coroner's conduct of the case, saying that he delayed the case by interrupting expert witnesses and calling others not scheduled to appear.

The coroner in summing up had asked the Jury a number of questions, but they refused to answer these and their verdict was in the end inconclusive because they could not identify the root cause of the explosion (10) because there were a number of possible causes, including underground streams, sewage works, hydraulic and domestic water mains.

### Underground water courses

A letter to the Times newspaper<sup>1</sup> pointed out that the area around St Paul's Cathedral had a number of underground streams running in gravel beds and draining towards the River Thames. The writer, Mr. W.

Stuart Thompson was previously employed to survey St Paul's and he discovered the streams helped by a water diviner. It had rained heavily each day from the 1<sup>st</sup> August to the day of the explosion on the 4<sup>th</sup>.

## Sewage works

The sewer ran under Knightrider Street, dated from 1832, and being due for replacement the City Corporation discussed the sewers rebuilding in connection with the Faraday South East building. Because the GPO was unaffected, they declined to share the cost of the sewer rebuild with the City Corporation. The City put the work out to tender awarding it to D R Paterson Ltd at a cost of £3,853 (£196,000 in today's money (11)). The work consisted of removing the old sewer lining and replacing it with new brickwork. The Contractor carried insurance limited to £100,000, (£5 million in today's money) but of course, they denied any liability.

After the explosion, an investigative trench exposed the line of the sewer. The consulting engineers<sup>K</sup> uncomplimentary report showed a number of instances of poor workmanship and short cuts taken to speed up the work. There were large gaps in between the wood boards used to support the sub-soil after the old brickworks removal. In addition, the City Corporation's plans of the sewer shows it in a different position to its actual position almost under the walls of Doctors' Commons. (12)

## Burst water main

Water mains did break and flood the ground taking away sub-soil and undermining the road and buildings. However, a burst main was unlikely to be the cause. The water company had found no leaks when they tested<sup>L</sup> their mains in the area only a matter of a few days before the explosion. The Hydraulic Power Company had no hydraulic mains in the area that could have caused the problem (10).

In addition, there was water entering the cable chamber and the base of the lift-shaft in the Faraday South Building, samples taken proved it was sewage rather than rain or water from the mains.

## What the Inquest Jury found.

The Jury found that the fire and explosion

*...were caused by a subsidence of subsoil into an existing void, the origin of which we are unable to determine, removing the support from the Metropolitan Water Board main and a Gas Light and Coke Company's main, causing both to fracture...*

Water escaping from the main further eroded the foundations of Doctors' Commons and allowed gas and air to accumulate in the subsidence and under the building. The jury thought

*...the gas in the cavity being ignited by a spark probably caused by the breaking of the electric cable connected with the fire alarm post and thus igniting the explosive mixture...*

Figure 5 Map of site showing the position of the Fire Brigade fire alarm post. © The Author.

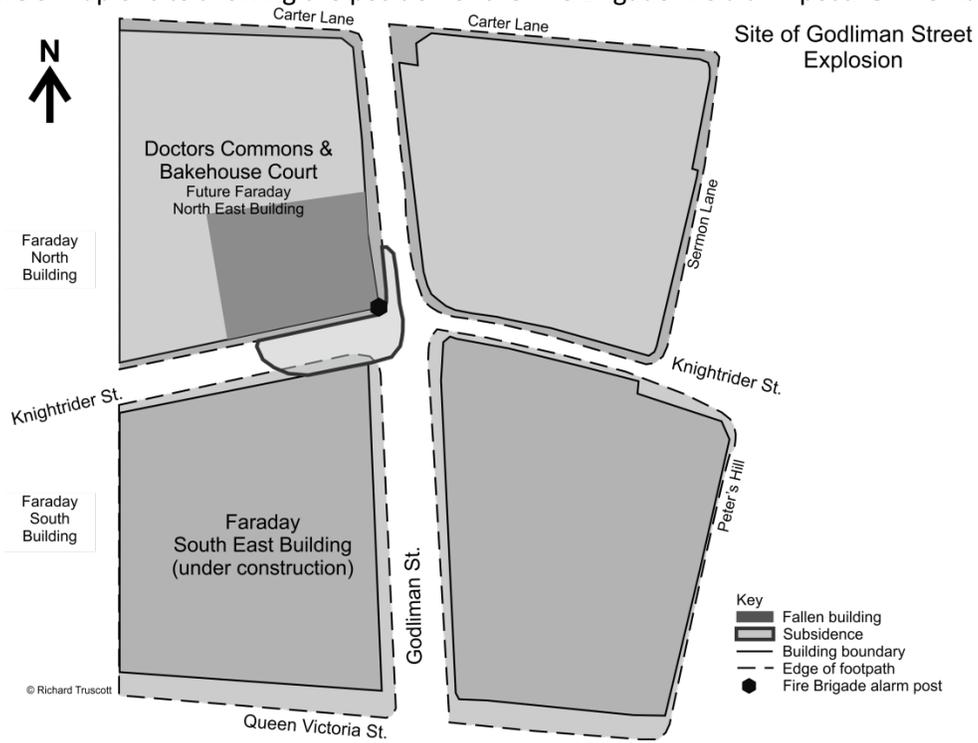


Figure 6 The Fire Brigade Call post in the subsidence. The top of the alarm post is in the top left corner separated from its post, but still connected by its cable. © Photograph courtesy of BT Heritage and Archives<sup>M</sup>



The Jury made a further recommendation about the difficulty the Police had in finding the water company Turncock and suggested posting a notice outside each Turncock's residence giving an emergency telephone number (10).

The Jury had little to go on when it came to deciding on what caused the void because:

- The subsidence and washing away of the upper layers of subsoil removed any trace of the void.
- Excavating the line of the sewer to investigate its construction must also have destroyed any evidence of the void.

The Jury foreman agreed with the Coroner when he suggested to them that the void was not "*due to any work that anybody did*".

## The final clear up

There the matter seems to have rested "*for the duration*" of WWII. The Metropolitan Water Board decided in 1946 to settle out of court all the claims against it. Although the Inquest Jury had found no cause for the initial subsidence, they criticized the Board for how long it took to turn off the water because the Police could not find their Turncock. This delay made the matter worse and the explosion might not have happened otherwise.

Political pressure may have been behind the Metropolitan Water Board deciding to settle the claims. The Water Board had been in public ownership since 1903 and with the nationalisation of gas and electricity due to happen<sup>N</sup> there would have been a need to tidy up any loose ends between the three public bodies.

## Acknowledgments

I obtained the Guardian and Times newspaper material (references 1, 5, 6 and 7) from Cambridge University Library.

My friend and Hertfordshire local historian Edgar lent me his London Encyclopedia for the street name derivations.

I am grateful to John Chenery for the Hansard information on the Post Offices (Sites) Bill and for proof reading the piece.

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## Notes

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<sup>A</sup> The origin of the name is uncertain but it could derive from GODELMYNGES, the skin of young animals used by shoemakers. Originally, Godliman Street only ran from Carter Lane to Knightrider Street. Since 1890, Godliman Street incorporates Bennet Hill and Paul's Chain. (13)

<sup>B</sup> For more information on the London Hydraulic Power Company read Andrew Emmerson's excellent Subterranea Britannica entry at [http://www.subbrit.org.uk/sb-sites/sites/h/hydraulic\\_power\\_in\\_london/index.shtml](http://www.subbrit.org.uk/sb-sites/sites/h/hydraulic_power_in_london/index.shtml)

<sup>C</sup> BT Heritage and Archives reference TCB/417/11307.

<sup>D</sup> Godliman House was later the home of London Precision Cable Test; see THG Journal, Issue 88 (Autumn 2014).

<sup>E</sup> BT Heritage and Archives Reference TCB/417/11310.

<sup>F</sup> General Post Office.

<sup>G</sup> London Metropolitan Archive <http://www.cityoflondon.gov.uk/things-to-do/london-metropolitan-archives/Pages/default.aspx>.

<sup>H</sup> BT Heritage and Archives Reference TCB 417/E 11297.

<sup>I</sup> Inquest starts on 15<sup>th</sup> August 1939 (12).

<sup>J</sup> Wednesday 9<sup>th</sup> August, Letters to the Editor of the Times. The letter is shown in full in (12).

<sup>K</sup> Sir Alexander Gibb & Partners.

<sup>L</sup> Water engineers us stethoscope to listen to the pipe for the sound of escaping water.

<sup>M</sup> BT Heritage and Archives Reference TCB 417/E11361.

<sup>N</sup> Electricity Act 1947 and Gas Act 1948

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