

pressure engine and connection pipes on board the Sunbury the spring of the present year. The Sunbury had three guage cocks and a water guage on each boiler, she had a safety valve on each boiler, and a government safety valve on the starboard boiler. The Sunbury had a force pump for feeding the boilers, worked by the low pressure engine and Giffard's injector. The boilers were fed by two separate pipes, one to each boiler, with a check valve to each boiler; each check valve was connected with a weighted lever on the outside. By means of this arrangement either of the boilers could be fed, or both of them, at the same time. The branch pipes from the injector were partly  $1\frac{1}{2}$  inch and partly  $1\frac{1}{4}$  inch interior diameter. There was no water connection between the boilers except as stated. I saw the boilers tested by the Provincial Inspector, and as nearly as I can recollect they bore a pressure of  $112\frac{1}{2}$  pounds to the square inch. I saw the boilers after they were repaired last Spring, and they appeared to be well done. I consider that the pumps worked by the engine were quite sufficient to feed the boilers without the injector. I think that even if the boat had a list of a foot, that the highest boiler could be fed by this arrangement. I think that nothing was wanting so far as the boilers and engines were concerned, that the Steamboat law required when she was fitted up last Spring. The injector was fitted on as an extra precaution. Thinks that after the boilers were tested by the Inspector, that they would have been safe with plenty of water in them to bear a pressure of steam up to 85 pounds to the square inch. Consider a pressure of 112 pounds of water in the boilers a more severe test than the same pressure of steam.

(Signed) ROBERT SCOTT.

JOHN EDDY, sworn.—Is an Engineer in the employment of Messrs. Fleming & Humbert. Was sent to work on board of the Sunbury about the 25th day of March last as an Engineer or Fitter-up. Was first employed to fit up the steampipe between the dome of the boilers. Assisted to adjust the Giffard injector and its feed-pipes. Went up to Fredericton in the Sunbury. In consequence of a derangement in the feed-pump, the boilers were supplied by the injector nearly all the way. The boilers were under a pressure of steam from 68 lbs. to 75 lbs. to the square inch. The Sunbury was at this time employed as a passenger boat. I paid particular attention to the Engine. Mr. Glasier, the owner, asked me to go up in the boat; was in the Engine-room nearly all the time. Whilst coming down the feed-pump was sufficient to feed the boilers without the injector. The Engineer and Assistant appeared to be careful and attentive. The steam was always blown off by the Engineer when it arrived at 75 lbs.

(Signed) JOHN EDDY.

DAVID B. MAYES, sworn.—Was chief Engineer of the Sunbury since the boat was built last Spring. Been in Mr. Glasier's (owner of the Sunbury) employ since 1857. The force pump on board of the Sunbury, at the time of the explosion, was the one that was on board of the Tarratine. Saw the boilers when being repaired by Mr. Ranton, and since they were repaired, and thinks they were properly repaired. Was on board of the Sunbury when she was being fitted up, and approved of the manner in which the repairs were made. Found no difficulty in feeding the boilers either with the injector or pumps. The feed-cock of the feed-pump did not require to be more than half open generally to feed the boilers. Was in charge of the Sunbury as Engineer when she left Indiantown for Fredericton on the thirteenth instant; started the Engine. Thinks the boat had a list to starboard when she left Indiantown. Tibbits, second Engineer, took charge of the Engine before the boat got through the Narrows. Did not again take charge of the Engine until about ten minutes before the accident. One of the firemen had charge of the water. About half an hour before the accident I tried the water and found two guages with water in the starboard boiler, and three with water in the port boiler. Immediately after directed the second Engineer to put on more feed, as the boat was going to make a landing at Flewelling's, and I was desirous of blowing off the boilers, and wanted plenty of steam. We had poor wood, and the steam would get as low as 60 lbs. I was standing in the Engine room at the time of the explosion, with my hand on the starting bar. The fireman reported in the Engine room the state of the feed,

to the Engineer on duty. Was allowed to carry 75 lbs. of steam to the square inch by the Government safety-valve. So far as Mr. Glasier was concerned, he complied with all the requirements of the law. The boiler was officially tested in May last. Considered the boiler in good order at the time of the explosion. Cannot assign any reason or cause for the explosion. The boiler did not foam so as to injure the working of the Engine.

(Signed) DAVID B. MAYES.

ARCHIBALD CARNEY, sworn.—Was one of the Firemen of the Sunbury at the time of the accident on the thirteenth instant; went on duty about 6 o'clock of the evening of that day, at which time I tried the guage cocks and found two in each boiler apparently full of water; did not examine the glass guages. Shortly before the explosion, tried the guage cocks, filled the furnaces with wood, and then went on deck and lighted my pipe, when immediately the explosion took place; did not see the engineers try the guage cocks during the time I was on duty; they might have done so, but did not see them; thinks the Sunbury was listed towards the Ino when the explosion took place; heard the engineer complain of the want of steam. The last time I tried the guage cocks there were two in each boiler apparently full of water, but did not look at the glass guages.

(Signed) ARCHIBALD CARNEY.

JOHN GILCHRIST, sworn.—Was Mate on board of the Sunbury since she commenced to run last Spring; she listed somewhat from side to side about the same as usual, on the 13th instant. About 5 or 6 miles below where the explosion took place she listed somewhat more than usual for a short time, but she righted up again; she stopped at different places about as usual; does not recollect that the steam was blown off; thinks she did not go as fast as usual. When the explosion happened the Sunbury was lying still, opposite Flewelling's wharf; thinks the explosion took place about five minutes after the Sunbury reached Flewelling's wharf.

(Signed) JOHN GILCHRIST.

DUNCAN D. GLASIER, sworn.—Is sole owner of the Steamer Sunbury. Thomas Ranton made repairs required on the boilers of Steamer Sunbury last Spring by day's work. He examined the boilers and informed me as to the nature of the repairs and materials required. All the requirements of the Provincial Steamboat Law were complied with by me. I consulted the Provincial Inspector, and whatever he directed, I complied with. Had two engineers, so that one could always be at his post; thought that this was more particularly desirable when the boat was authorized to carry passengers. The boat was new, and all her outfits were new last Spring.

(Signed) DUNCAN D. GLASIER.

ALEXANDER WILSON, sworn.—Is an Engineer and Machinist, was requested by Mr. William M. Smith, Provincial Inspector, to examine the exploded boiler of the Steamer Sunbury, for the purpose of giving an opinion as to the cause that led to that explosion. Examined the same boiler on the 23rd instant, found that the top of the furnace, and top tier of tubes had both been dry. From the appearance of the head sheet, and the manner in which it was bent, came to the conclusion that it had been red hot. When water comes into contact with iron in this state, gas is formed, which is highly explosive, and the effects of this explosive power, it would be impossible for any boiler to withstand. Is of the opinion that the direct cause of the explosion of the boiler of the Sunbury, arose from a deficiency of water in the same. Has heard the evidence of the Engineer and Fireman of the Sunbury in this matter, and is of the opinion that there was a great want of care and system on the part of the Engineer, in leaving the charge of the feed water to the Fireman, and to which cause the late explosion may be fairly attributed.

(Signed) ALEX. WILSON.

GEORGE FLEMING, sworn.—Is the senior partner of the firm of Fleming & Humbert, of Saint John. Is an Engineer and boiler builder. Has examined the parts of the exploded boiler of the Sunbury, at request of the Provincial Steamboat Inspector; found the said boiler in fragments, and from the appearance of the iron and the manner in which it was doubled up, has no doubt that from a shortness of water,