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In the Supreme Court of B. C.

ON APPEAL TO THE FULL COURT

BETWEEN

THE CORPORATION OF THE CITY OF VICTORIA
(DEFENDANT)

AND

MARTHA MARIA LANG, Administratrix of the Estate and
Effects of John Lang, deceased,
(PLAINTIFF) RESPONDENT.

APPEAL OF THE DEFENDANT CORPORATION FROM THE
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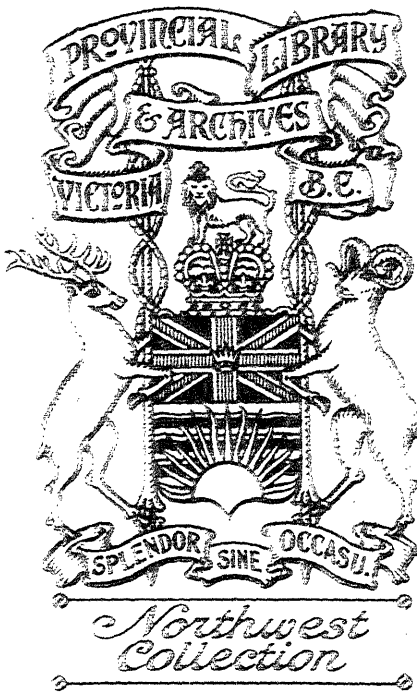
C. DUBOIS MASON,

Solicitor for the Appellants, (Defendants).

D. G. MACDONELL,

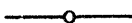
Solicitor for the Respondent, (Plaintiff.)

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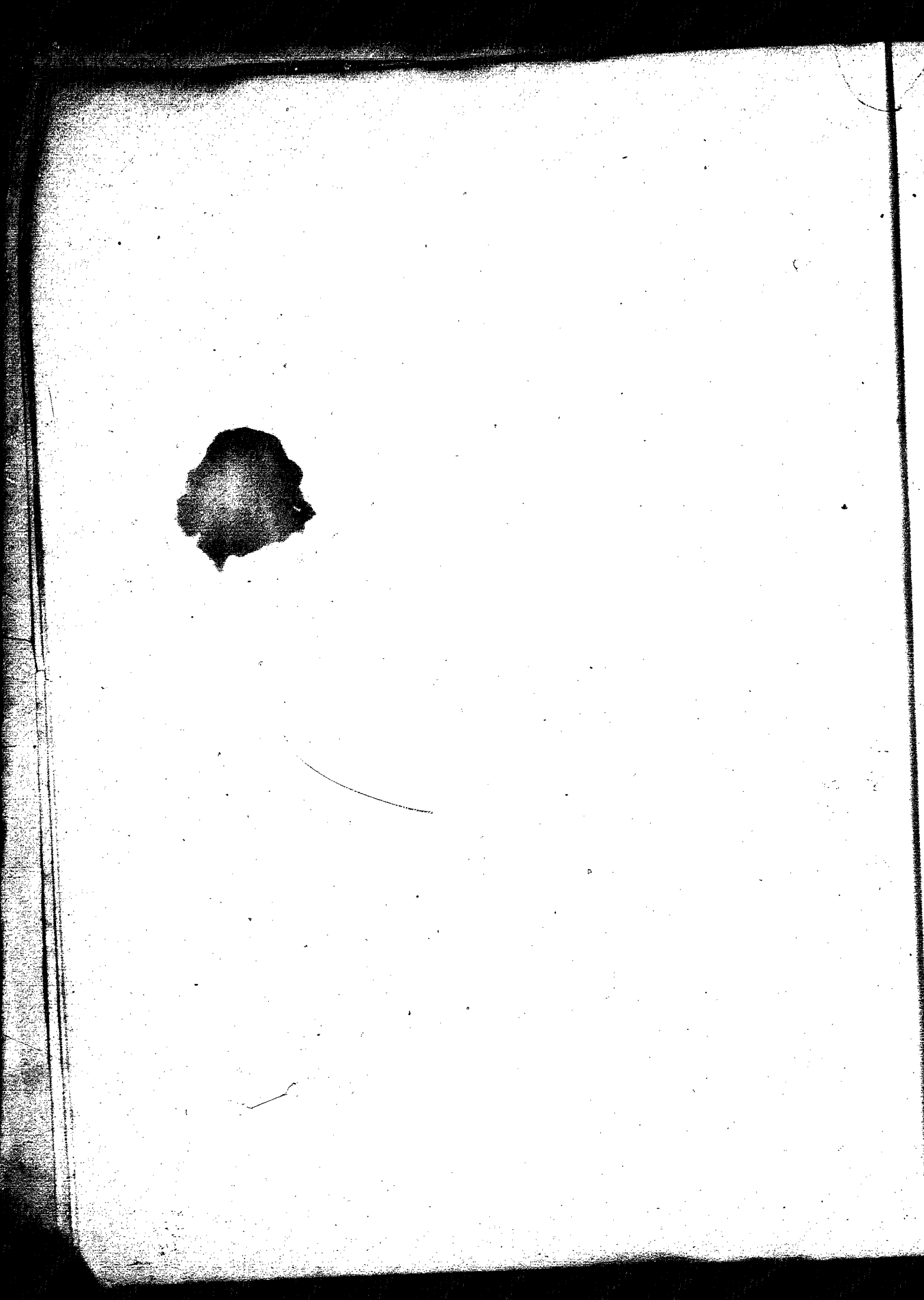
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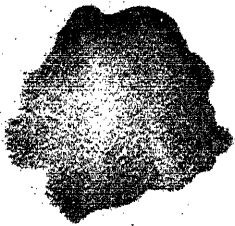
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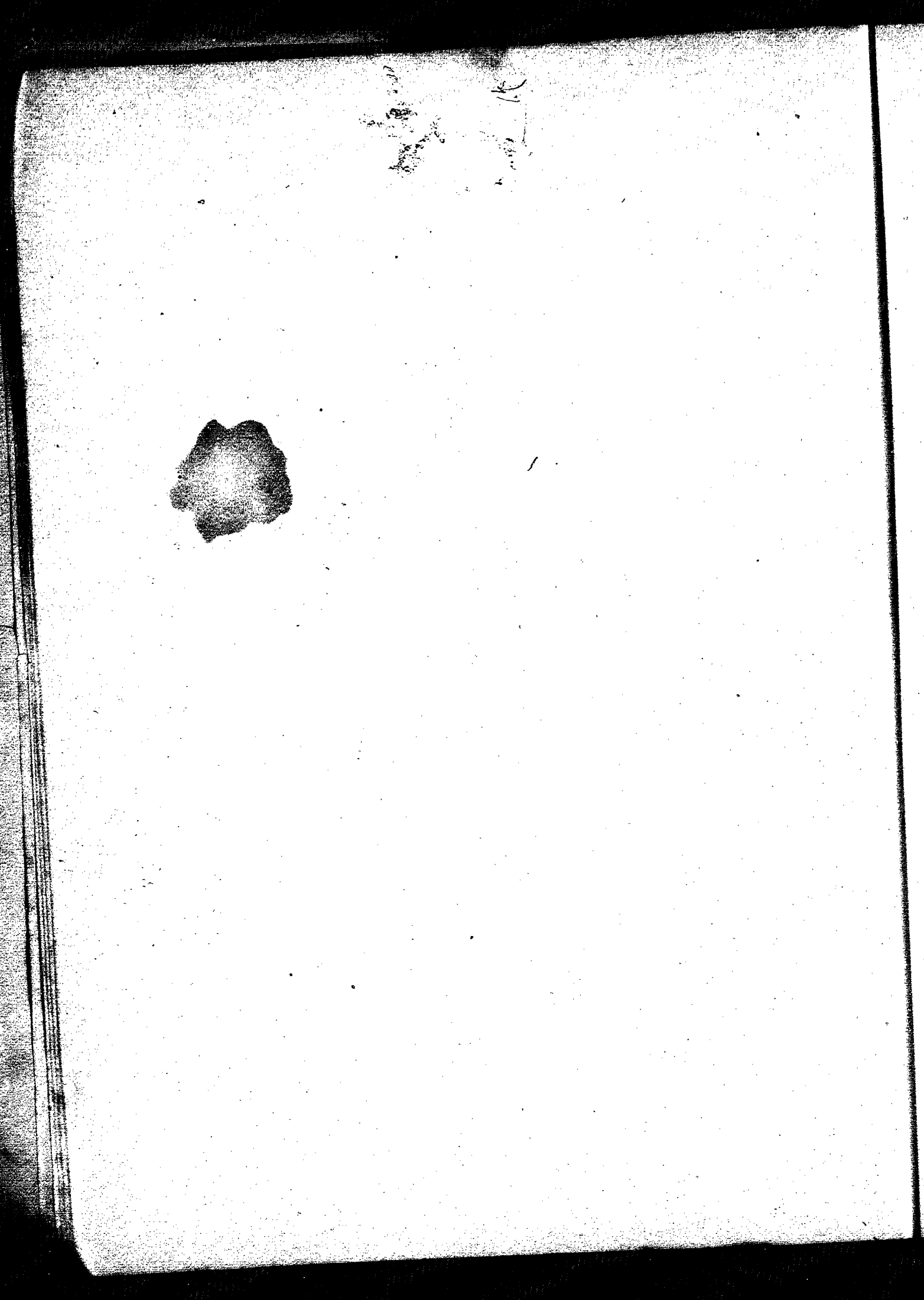
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IN THE SUPREME COURT OF BRITISH COLUMBIA,
ON APPEAL TO THE FULL COURT.

BETWEEN

THE CORPORATION OF THE CITY OF VICTORIA,
(DEFENDANT) APPELLANT.

AND

MARTHA MARIA LANG, Administratrix of the Estate and
Effects of John Lang, deceased,
(PLAINTIFF) RESPONDENT.

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Statement.

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This is an appeal from the judgment and order of the Honorable Mr. Justice McColl dated the 6th day of November, 1897, that judgment be entered for the plaintiff against the defendant for \$20,000 damages and costs upon the findings of the jury.

This is one of the many actions brought against the Corporation of the City of Victoria in respect of the collapse of the Point Ellice Bridge, Victoria, on the 26th day of May, 1896, and was brought by the plaintiff as administratrix of her late husband, Dr. John Lang, who received injuries which resulted in his death at the Jubilee Hospital shortly afterwards.

30



The action was originally against the Corporation and the Consolidated Railway Company, but the plaintiff discontinued the action as against the defendant Company on the 17th June, 1897.

The action was tried at Vancouver on the 12th, 13th and 14th days of October, 1897, before the Honorable Mr. Justice McColl and a Special Jury, when the jury found a verdict in favor of the plaintiff and awarded \$22,500 damages less insurance \$2,500, balance \$20,000 divided as follows:—\$7,500 to the plaintiff as widow and \$2,500 to each of her five children. 10

From this Judgment the defendant now appeals.

PLEADINGS.

Statement of Claim.

Dated the 16th day of June, 1897.

WRIT issued the 24th day of November, 1896.

10

1. The plaintiff is a widow and resides at the City of Victoria in the Province of British Columbia and the defendants are a Municipal Corporation in the said Province of British Columbia.

2. The plaintiff is the wife of John Lang deceased, and was on or about the 3rd day of August, 1896, duly appointed the administratrix of the estate and effects of the said John Lang deceased, who died intestate and as such administratrix sues for her own benefit as wife of the said John Lang deceased, and on behalf of his five infant children. 20

3. In the year 1885 the Government of the Province of British Columbia constructed a bridge across the arm of the sea called Victoria Arm on or near Point Ellice for the passage to and fro of foot passengers, horses, and carriages drawn by horses, and for ordinary traffic, and the said bridge became and formed part of a highway between the said City of Victoria and the village of Esquimalt.

4. At the time of the construction of the said bridge as aforesaid it was without the limits of the said defendants, but by letters patent issued on the 8th day of January, 1891, confirmed by an Act of the Legislature of the Province 30

of British Columbia, passed on the 23rd of April, 1892, chapter 63 of the Acts of that year, the boundaries of the said City were extended so as to include the said bridge and approaches thereto, and the said bridge thereby became the property of the defendants and has ever since remained under their sole control and management.

5. The said defendants, at the time the said bridge passed so into their possession and under their management and control well knew the purposes for which it had been constructed.

6. The said bridge was an artificial structure and erected on said highway and the defendants, after the same became subject to its control and management as aforesaid, were bound and required in so far as the said bridge was concerned and so long as the defendants continued to keep it as part of the said highway to manage and keep the same in repair and safe and fit for persons and vehicles lawfully passing over and along the same, but the defendants so managed and neglected to repair it that the same became dangerous to persons and vehicles lawfully passing over and along it.

7. At the time the said bridge was taken over by the City as aforesaid, the rails of a certain tramway operated in the City of Victoria, were laid thereon and the tramcars were in the habit of crossing upon and over the said bridge as the defendants were well aware. The said bridge, at the time the City assumed the management and control of the said highway of the said bridge forming part thereof, was entirely unsuited for tramway purposes as the defendants were well aware, as the same had not been constructed for that purpose or in a sufficiently strong and substantial manner to bear the weight of the cars which were being run thereon, yet the said defendants permitted the said bridge to be used for the purposes aforesaid although they well knew that its structure was altogether too unsubstantial for such purposes, and the plaintiff says that although the defendants had full knowledge in the premises yet they invited the public to use the said bridge as part of the said highway.

8. The defendants, from time to time in attempting to repair and doing work in connection with the repairing of said bridge, weakened the beams thereof by boring auger holes therein and otherwise which tended to hasten the decay of the said bridge and increased its weakness, and by dividing the flooring on said bridge which further increased its weakness.

9. The said John Lang on the 26th day of May, 1896, became a passenger on the tramcar of the Consolidated Railway Company which was carrying passengers along the said highway and along and over the said bridge forming

part thereof, and while the said John Lang was being lawfully carried on and over said bridge the same gave way and the said car was precipitated into the water under said bridge whereby the said John Lang was drowned.

10. It was in consequence of the defendants negligently continuing the said bridge in the condition in which it was in, and for its negligent management thereof, and of its neglecting to repair it and negligently repairing it as aforesaid, that the said bridge gave way while the tramcar, on which the said John Lang was being carried, was crossing it.

10

The plaintiff claims \$25,000 by reason of the wrongs complained of and his costs in this action.

The plaintiff proposes that this action be tried at Vancouver, B. C.

20

Amended Particulars of Mifeseance.

1. Placing defective stringers on which the car rails of the Consolidated Railway Company rested in the bridge mentioned in the Statement of Claim in the month of July, 1892.

2. Negligently placing stringers in said bridge in the month of July, 1892.

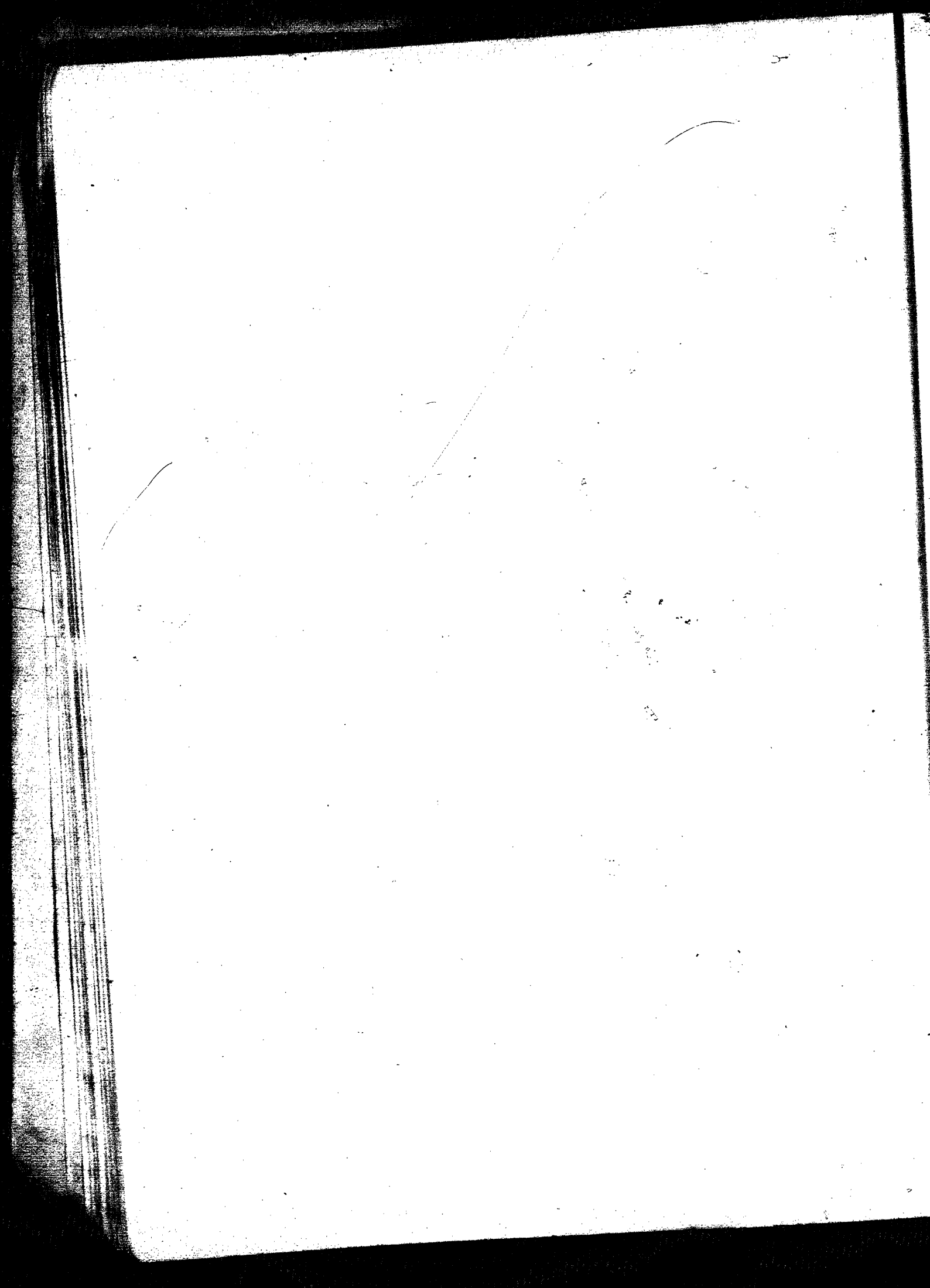
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3. Boring an auger hole in a floor beam of the said bridge in the month of June, 1892, and negligently plugging the hole.

4. In removing the flooring in said bridge in 1892, and replacing it by divided flooring.

5. By changing in 1892 the floor beams of said bridge for beams of a smaller dimension.

40



Statement of Defence.

Dated the 3rd day of July, 1897.

1. The plaintiff is not and never was the administratrix as alleged or otherwise.
2. The defendant as to paragraph 3 of the Statement of Claim admits that at some time prior to the 26th day of May, 1896, the Province of British Columbia constructed a bridge known as the Point Ellice Bridge but the said bridge did not then and does not now form part of an alleged highway between the City of Victoria and the village of Esquimalt. 10
3. As to paragraph 4 of the Statement of Claim, the defendant admits that at the time of the construction of the said bridge as aforesaid the said bridge was without the limits of the said City of Victoria, but the said limits were never extended as alleged or otherwise so as to include and do not now include the bridge and approaches thereto and the said bridge did not become and is not now the property of the defendant as alleged or otherwise and has not at any time become and is not now under the sole control and management of the defendant. 20
4. The said bridge was and is constructed upon and over a public harbour and inlet of the sea known as the Victoria Arm, the waters whereof at the points where the said bridge is constructed were and are tidal and navigable for large vessels and over and upon the foreshore of the said harbour and the extension of the city limits referred to did not include within the city limits that part of the highway on which the said bridge was constructed as alleged but the same always was and remained under the exclusive control of the Dominion of Canada and if the limits of the said City ever were assumed to be extended so as to include the land and alleged highway upon which the said bridge was constructed and to devolve or vest the same in any way in the said corporation, same was assumed to be done by an order of the Lieutenant-Governor-in-Council of the Province of British Columbia the subject matter in question not being within the power or control of the said Provincial Government. 30
5. The said Corporation of the City of Victoria never acquired took over or assumed possession of the said bridge as alleged or otherwise, but the same has always been the property and subject to the control and management of the 40

Province of British Columbia, and the defendant has never known and does not know the purposes for which the said bridge was constructed as aforesaid.

6. If the Consolidated Railway Company had or acquired any right to use such bridge for the purpose of running cars and carrying passengers over same such right was acquired from the Province of British Columbia and not from the defendant. The defendant had not and never has had any power to prevent or regulate the use of the said bridge by the said Consolidated Railway Company and did not know whether or not the said bridge was sufficiently strong and substantial to bear the weight of the cars which were being run or used thereon and never invited the public or the Consolidated Railway Company to use the said bridge as part of the said alleged highway or otherwise.

7. No auger holes were bored in any beams of the said Bridge by the defendant or any one in its employment or service as alleged or otherwise and nothing was done by the defendant that weakened in any way the said bridge or the beams thereof and the defendant did not divide the flooring of the said Bridge as alleged otherwise.

8. If the defendant did any work of reconstruction or of repair on the said Bridge it was done voluntarily and not in pursuance of any power obligation or duty imposed on the Corporation in that behalf whether by Statute, By Law or otherwise and the work was done carefully and in a workmanlike manner and the bridge was thereby improved in regard to the safety thereof and if same afterwards fell into disrepair it was not by the negligence or fault of the defendant and the death of the said John Lang was not caused by any of the acts or defaults charged against the Corporation or any neglect on its part.

9. The said John Lang was not on the 26th day of May, 1896, a passenger on the tramcar of the Consolidated Railway Company, which was carrying passengers over the said bridge when the same gave way as alleged or otherwise.

10. If it should be proved that the said John Lang was a passenger on the said car and if it should be proved that the said car was overcrowded the said John Lang had full notice and knowledge that the said car was so overcrowded and that the said bridge was unsafe and he was contributory to his death by his negligence and in boarding an overcrowded car.

11. The said bridge was at the time aforesaid in a fit and proper and safe condition for all ordinary purposes of traffic including car traffic and any breakage of said bridge was caused by the act of the Consolidated Railway

Company by reason of the excessive weight of their cars and the overloading of the same without the knowledge of and without fault upon the part of the defendant.

12. As to paragraph 6, 7, 8, and 10 the defendant will object that no liability or duty is or was imposed upon it by Statute By-Law or otherwise to keep main or preserve said bridge in a good state of repair and in a fit and proper and safe condition for the purposes as alleged or otherwise.

10

13. No loss has been suffered as alleged or otherwise.

14. The admissions made herein are made for the purposes of this action only.

15. Save as aforesaid the defendant denies each and every allegation contained in the plaintiffs statement of claim.

20

Reply.

30

Dated 7th July, 1897.

1. The plaintiff joins issue upon the allegations contained in the Statement of Defence delivered herein.

2. For further reply to paragraphs 4, 5, 6 and 11 of the Statement of Defence of the defendants, the plaintiff says that the allegations contained in said paragraphs are no answer in law to the plaintiff's claim in this action.

40

TRIAL.

FIRST DAY.

12th October, 1897.

Mr. D. G. Macdonell, with Mr. E. P. Deacon for the plaintiff; Mr. W. J. Taylor, Mr. R. Cassidy, and Mr. C. Dubois Mason for the defendant corporation.

10

Case for the Plaintiff.

MARTHA M. LANG. Called by Mr. Macdonell.

Mr. Taylor (to Mr. Macdonell): You do not want to call Mrs. Lang, do you? As far as the fact that she is a widow, and her husband was killed in this accident, and she is his administratrix, and has five children, I am quite 20 willing to admit that.

Mr. Macdonell: And the age of her husband?

Mr. Taylor: Whatever Mrs. Lang says about that I will accept.

Mr. Macdonell: And that he was in a good state of health?

Mr. Taylor: I thought that was all agreed on, before hand.

Mr. Macdonell: I thought that was reserved to my learned friend.

30

Mr. Taylor: I understood, my lord, that these facts were all admitted, and there is really no necessity of taking up any time for we do admit it, if there is any doubt our not having admitted it before.

Court: Unless you have some written admissions, the better way will be to state what you admit.

Mr. Taylor: I will go over it again: I admit that Dr. Lang was killed in this accident—That Mrs. Lang is his widow and administratrix, and that I see she states she has 5 children here, all of which I presume is correct. I admit 10 that fact and their ages—that has not been stated in the pleadings, but whatever Mrs. Lang says as to that, without being sworn, I will admit.

Mr. Macdonell: And that her husband was in a good state of health?

Mr. Taylor: Well, I have no reason to know to the contrary.

Mr. Macdonell: Well admit that, and that is all.

Mr. Taylor: Certainly. You want the ages admitted, do you? 20

Mr. Macdonell: Yes.

Mr. Taylor: Well, let Mrs. Lang state them without being sworn.

Mr. Macdonell (to Mrs Lang): What was the age of your husband, Mrs. Lang? A 37.

Q How old was your eldest child? A When he died?

Q Yes? A Seven—six and a-half. 30

Q At the time of his death? A Yes.

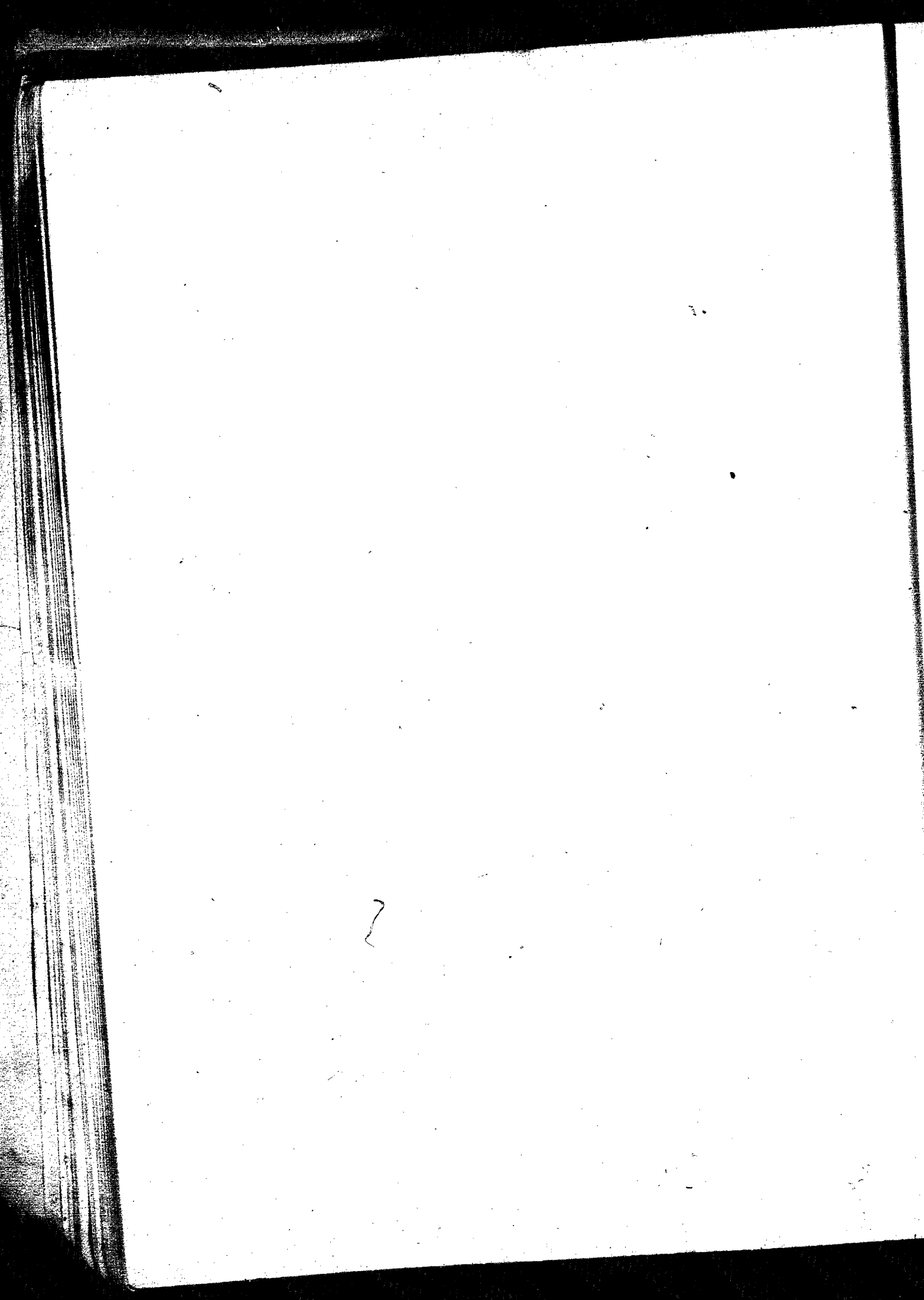
Q And the next child? A Five.

Q And what was the next? A Four, and the other was three, and the next was 13 months.

Q The youngest was 13 months old when he died? A Yes. 40

Q Were they boys or girls? A Four boys and a girl. My eldest is a girl.

Mr. Taylor: Which is the girl? A The eldest is the girl and the rest are all boys.



Mr. Macdonell: What was his profession? (To Mr. Taylor): Do you admit that?

Mr. Taylor: Certainly.

Court: We do not take it through a witness who is not sworn. What I asked you to do was to state those facts that will be admitted.

Mr. Macdonell (to Mrs. Lang): What was his income, Mrs. Lang?

Mr. Taylor: Well, now, on the question of income, I think I have the right. 10

Court: Yes, you are entitled to—let the witness be sworn.

20

EVIDENCE.

MRS. LANG, Sworn.

Court: Before you go on with this examination, let the stenographer read out the admissions that have been made. (Which was done.) 30

Mr. Taylor: And I admit their ages to have been 7, 5, 4, and 3 years, and 13 months, respectively—that the eldest is a girl and the rest are boys.

Mr. Macdonell: And that he was in a good state of health at the time of his death?

Mr. Taylor: I stated that I have no reason to know to the contrary; and he was a passenger on the hind platform. I think that is in the pleadings. 40

The Court: And his death?

Mr. Macdonell: It was admitted that he was killed in the accident—his death resulted from the accident.

Mr. Taylor: I misunderstood you. I may say this: I admit he was on the rear platform of the car. He did not die as a matter of fact for some few days after the accident. I admit that his death resulted from the accident nearly three weeks after the accident.

Court: The length of time that elapsed is immaterial, is'nt it?

Mr. Taylor: I thought you asked me whether he was killed immediately.

1 Mr. Macdonell (to witness): What income was he deriving from his profession, at the time of his death, Mrs. Lang? A From \$280.00 to \$300.00 a month. 10

2 Q He was in active practice, Mrs. Lang, at the time of his death? A Yes, oh, yes.

Cross-examination by Mr. Taylor.

3 Q Am I correct in assuming, Mrs. Lang, that you judged that from his day book? You looked at it after his death? A Yes. 20

4 Q Two hundred and eighty to three hundred dollars. I suppose you know, as a matter of fact, that doctors have a good deal in their day book they do not get paid for? A I know that he made that; that he did make that.

5 Q It is a fact, though, Mrs. Lang, that there is a great deal of money they have on the books they do not collect? A Yes, I know that, too.

6 Q The very large proportion of it, is'nt it people they have to attend out of charity, who are poor and cannot pay? A Yes, but I am not counting that. I am leaving that out though. 30

7 Q You took the whole amount of his day book at \$280.00 or \$300.00 a month? A Well, I know that he made that.

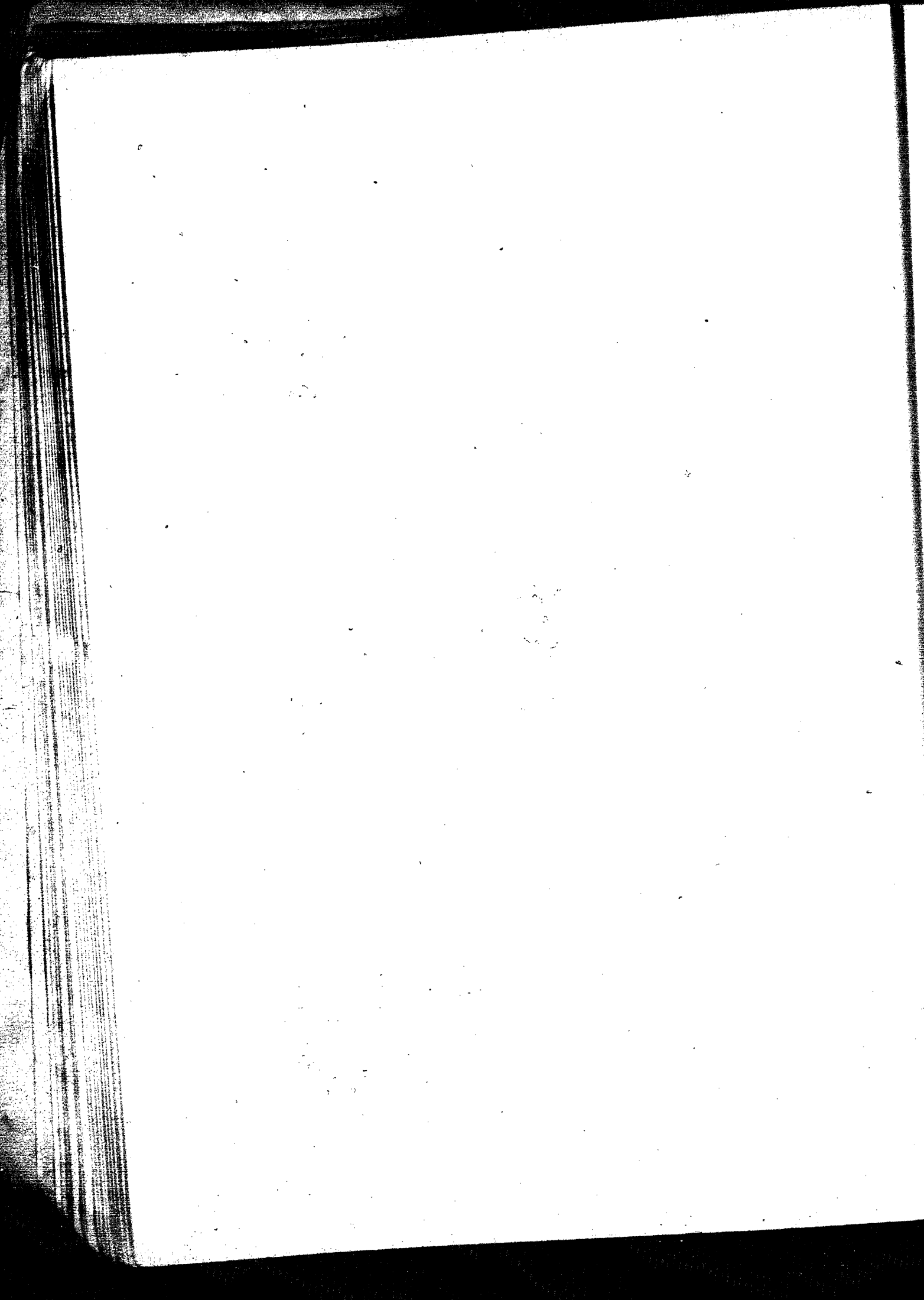
8 Q But you did take that from the day book? A Yes.

9 Q Had he any insurance, Mrs. Lang? A Yes, \$2500.00 of insurance,

10 Q I infer when you said insurance you meant life insurance? A Yes. 40

C. D. BRANCH. Called and sworn

Examined by Mr. Macdonell.



11 Q What is your name? A Charles D. Branch.

12 Q What is your occupation? A I am manager for this business—Sun Life Insurance Co.

13 Q Will you tell me what amount will purchase an annuity of \$280.00 monthly, or payable quarterly for a man who is 37? A Yes—I had the wrong figures altogether.

Court: If this witness is not ready, let him withdraw. This evidence can 10
be introduced at a later stage.

Witness stands aside.

CHAS. FERN. Called and sworn.

Examined by Mr. Macdonell.

14 Q What is your name? A Charles Fern.

15 Q Where do you reside, Mr. Fern? A I reside at Victoria. 20

16 Q What is your occupation? A I drive the Victoria Phoenix Brewery wagon.

17 Q Do you know Point Ellice Bridge? A Yes, sir.

18 Q Do you remember being there on the 26th May, 1896? A Yes, sir.

19 Q What were you doing? A I was driving the wagon across the bridge behind the car. 30

20 Q Behind what car? A Behind car No. 16.

21 Q Is that the car that went down in the accident? A Yes, that's the car that went down in the accident.

Court: There cannot be any objection to your leading as to all matters not in dispute, until the other side object.

22 Mr. Macdonell (to witness): You saw the whole accident? A Yes sir. 40

23 Q What did you first observe about the car after you got on the bridge?
A Well, I was going behind the car—I was a little behind it—about 70—
about 60 or 70 feet at the time it entered the bridge, and I was going along

there until I got on to that span that went down, and I saw when I was going underneath there, under the uprights there, I saw a bend underneath the car wheel.

24 Q You call those (indicating) the uprights? A I call those the uprights. I was going in there, sir.

25 Q And you saw what? A I was going on from the Victoria side behind the car.

26 Q The car was going towards which end? A The car was going on towards Esquimalt. 10

27 Q How far on the bridge had it got when you observed anything wrong? A It had got to about half way when I saw a bend under the car wheel.

28 Q Which car wheel? A The one nearest Victoria, on the side of the Gorge.

29 Q Would that be the north side or the south side? A That is on the north side. 20

30 Q How much of a bend did you observe in the rail? A It went to about a foot, I guess.

31 Q When you say about half way would it be nearer the Victoria side, or the Esquimalt side?

Mr. Taylor: Now, I must object to that. There is the square answer of the witness, and this is cross-examination to further ask him about that. 30

Court: I do not see any objection. Witness: Well, it was about half way.

32 Mr. Macdonell: Then you saw the rail bend? A Yes.

33 Q About a foot. What then? A Well, I heard a great crash like a falling tree.

34 Q What does a falling tree sound like? A Well, It is one great crash, if you understand. 40

35 Q What would it be—the sound? A It was like a large tree falling just when it is breaking off, you see, before it is thoroughly cut through.

36 Q So that it would be like breaking timber, would it? A Yes.

37 Q That was the first sound you heard? A That was the first one after I saw the bend underneath.

38 Q What position was the car in then? A It was a little lower on the north side, and then when this sharp snap—when this crash was, then it went to get level again.

39 Q What position would the car be in as far as distance is concerned? A 10
Well, it was about even: well, it was beginning to lower then, you know.

40 Q No, I am talking at what distance from the Esquimalt end would the car be then? A It was about half way.

41 Q Between what? I am talking now when you heard the crash, how far from the Esquimalt end of the span would the car be then? A Well, it was about 75 feet I guess.

42 Q Was the car moving? A Yes, it was moving until it begun to 20
break, and then it stopped.

43 Q From the time the rail bent until you heard the crash was the car moving? A No sir.

44 Q Eh? A Well, from the time the rail bent, yes, it was.

45 Q Was it going toward the Esquimalt or the Victoria side? A It was going towards Esquimalt.

46 Q Then it was nearer the Esquimalt end when you heard the crash? 30

Mr. Taylor: I submit it is not a fair question.

Court: Mr. Taylor's objection evidently is that it is leading. You are approaching the disputed points, bear in mind.

47 Mr. Macdonell (to witness): After you had seen the rail bend, how far do you think the car had got on to Esquimalt end, before you heard the large cracking noise? A Well, it didn't get any chance scarcely at all, because the other one, you see, soon followed, it didn't get any chance to get much 40
further.

48 Q It would get how much, do you think? A Well, a few feet, may be—may be 4 or 5 or 5 or 6 feet.

49 Q It was moving all the time? A Moving slightly, yes, the car was going very slowly on the span because there was another one in front.

50 Q Then you heard this large crash? A Yes.

51 Q And after that? A Then there were a whole lot of sharp snaps, sidewalk rails, and these timbers above, and one thing and another, and then the whole thing went down.

52 Q What were you doing during the time the bridge was bending? A 10
When I caught sight of the first bend, I began to back up. I looked over to each side to see if I could turn, but I could not do it, so began to back up very sudden, and I broke a new backing strap for backing sudden, and I backed up till I couldnt do it any longer—till I heard screams at the back of the wagon, and I could not get it through, and

53 Q How far were you across when you saw the car rail bend? A I saw the horses and half the wagon on the span.

54 Q How many feet would that be? A Well, I guess about 8 feet may- 20
be.

55 Q Then you backed 15 feet from the time you saw the rail bend until you saw the bridge bend down? A Yes.

56 Q And it must have taken that time to fall? A Yes, you see I backed very rash—I backed very sudden.

57 Q How many seconds do you think it would take to back? A Well, it took 6 or 8 seconds, of course. I had 11 people in my wagon besides my- 30
self, and some beer.

58 Q It took you that time to back off? A Yes.

59 Q Do you know how long that span is? A No, I don't know exactly how long it is. I guess it is about 140 or 150 feet.

60 Q Do you remember seeing Mr. Wilson, the bridge superintendent, on the bridge? A Yes, he was pretty close to the other end towards Esquimalt. 40

61 Q How far was he from the car? A Well, he was just in front of it— just slightly in front of it; he was getting on towards the other end.



62 Q And the front of the car was close to him? A Well, slightly. He was a little further in the front.

63 Q Do you remember what they call a Gladstone trap on that bridge? A Yes, I seen some people—I can't hardly remember how many there was in that.

64 Q Do you know who was in that? A There was Potts.

65 Q Where was the car in comparison to him? Where was he in comparison to the car? A He was about alongside the car. He was just behind Wilson, and then there was Mr. James with his bicycle there.

Cross-examination by Mr. Cassidy.

66 Q How far was the car ahead of your wagon—in feet? A It was about 60 or 70 feet.

67 Q You were coming from the Victoria side going over towards Esquimalt? A Yes. 20

68 Q You were just about here (indicating)? A Yes.

69 Q You had just got to the Victoria side of the span with your wagon when you saw the bend in the right rail? A I was further on than that—further on than where your finger points.

70 Q Well, this is the beginning of the span? A That is the beginning of the span, but I was away further on. I was underneath that (hip vertical). I was away further on than where your finger is. 30

71 Q You were just under here (indicating portal brace)? A Yes.

72 Q At all events, you were examined at the inquest? A Well, it might slightly be further across, according to the way I can remember now it must be a little further than that, slightly—probably I was, but then the horse takes you a little further ahead again, you see.

73 Q At all events you were just entering on this, and the car was about 60 feet ahead of you? A Yes. 40

74 Q Sixty to seventy? A Well, of course, I havn't measured. I can only tell you what I think about it.

75 Q You have said already in your examination to my friend that the car would be about 75 feet on the span and about half way? There was another car on ahead of the first one, was there not? A Yes, sir.

76 Q It had not got off the bridge, had it? A It was just getting off when the other began to give way.

77 Q Off the bridge, or the span? A It was off that span—just getting off then.

78 Q Then the other car was just getting off this span, but on to the next span towards the Esquimalt end? Yes, when I saw the bridge bend. 10

79 Q Whereabouts was the bend with regard to the car? I mean to say, the last car—the one that went through? A It was under the wheel nearest Victoria on the North side.

80 Q That would be one of the rear wheels—the right hand rear wheel? A Yes. 20

81 Q Did you notice any vibration on the bridge? A Yes, sir.

82 Q Swaying apart from the—? A There was great vibration over the first span before it came to this one.

83 Q That is to say, over the—? A Over the first from the road.

84 Q That is to say, right from the time you got on to the bridge from the Victoria side, you noticed great vibration? A Yes, I noticed great vibration. 30

85 Q When you say vibration do you mean lateral vibration in this way, or swaying up and down? A I mean the bridge going this way—the rods all seemed as if they were loose.

86 Q The bridge was shaking from side to side? A Yes, like that, and the rods seemed as though they were loose.

87 Q Did you notice the first car get on the bridge? A Yes, I noticed it go over ahead of us. 40

88 Q Did you notice the vibration when the first car was going over? A Well, I was not quite close enough to it.

89 Q Did it alarm you—this vibration? A No, it didn't alarm me any more than usual. I had often noticed as much when I had been going over with heavy loads; it didn't alarm me—well, I always used to notice it to a certain extent. I used to think it was not a very safe bridge—I thought it was too shaky, I thought all the time.

Redirect by Mr. Macdonell.

90 Q I suppose you heard the rods rattling? A Yes, I always heard them. 40

91 Q When you saw the bend under the hind wheel you did not know how far that bend extended forward? A Well, it extended forward as far as the front, and the car canted slightly, and then when the—

92 Q Yes, but the bend may have extended to the front wheel and beyond it? A A little beyond.

Mr. Taylor : I submit this is not new matter. 20

Court ; I will let you re-cross-examine.

F. J. PEATT. Called and sworn. Examined by Mr. Macdonell. 30

93 Q What is your name? A Frederick James Peatt.

94 Q Where do you live? A Victoria.

95 Q What is your occupation? A Conductor.

96 Q On the tram? A Yes, the B. C. Electric Tramway Co.

97 What is the length of one of those big cars—this car 16 that went down? A It was about 30 to 36 feet over all. 40

98 Q Do you know how far the trucks are apart? A Oh, they would be about 20 feet.

99 Q Have you measured them? A No, I have never measured them I could not say.

100 Q You know this car that went down in the accident? A Yes.

101 Q The number was —? A 16

102 Q Had that car been running on that bridge before? A Oh, yes, off and on at various times.

103 Q From when? A Well, she was running all the holidays. 10

104 Q I mean, when did she start to run—what year? A Well, I could not say exactly.

105 Q Do you know if she started in '92, '93 or '94? A I think it was about '90, '92 '91, along there she started.

106 Q And she had been running continuously up to this time of the accident? A Yes, to the time of the accident. 20

Mr. Taylor : Excuse me, he does not say that.

107 Mr. Macdonell (to witness) : Had she been running continuously, off and on, up to the time of the accident? A Yes, but not on that route.

108 Q How often had she been running on that route? A Well, just on these special days.

109 Q How many special days would there be in a year, do you think? A Well, there would be about ten—twelve—just whenever—they did'nt run her constant—just when they had'nt any other cars, why, they used to run her on. 30

110 Q Did she carry large holiday excursions? A Yes, she was the largest car they had.

111 Q Was she running in '95 over this same bridge? A Yes.

112 Q And in '96 up to the time of the accident? A Up to the time of the accident. 40

113 Q Do you know if a car had just the same or as heavy a load in '95 as at the time of the accident? A Well, yes, just about as heavy : she carried very heavy loads.

Cross-examined by Mr. Cassidy.

114 Q How many people were on that car? A Well, as near as I can judge, it was about 120, or 115 to 120.

115 Q There was another car just ahead? A Yes.

116 Q How many were on that car? A Well, there would be from 75 to 80.

117 Q What is the weight of car 16? A Very near 10 ton. 10

118 Q That Point Ellice Bridge is on the Esquimalt road? A Yes.

119 Q Do you know where the Gorge road is? A Yes.

120 Q It is not the same road; it is a different road—the Gorge road?
A Well, yes, it is a different road.

121 Q That bridge there goes over an arm of the sea called the Victoria
Arm, doesn't it? A Yes. 20

122 Q The harbor of Victoria runs right up to it? A A part of it.

123 Q And the ships come right up to the bridge? A Yes, close to
the bridge.

124 Q What is the name of the motorneer on your car? A Farr—
Thomas Farr.

125 Q When the bridge collapsed the upper beams of the bridge fell
down on the car, did they not? A Well I could not see, I am sure; I
suppose they did, it all came right on top of the car. 30

126 Q The motorneer was killed was he not by one of those beams?
A He was killed, yes, I believe he was killed before he reached the water.

127 Q By one of those beams? A Yes.

128 Q You were on the rear platform? A Yes, I was standing up
just inside of the car—just inside of the door. 40

129 Q Did you know the plaintiff in this case, Dr. Lang? A Yes, by
sight.

130 Q Where was he standing? A He was on the front platform, I believe, so I understand; I could not be certain.

131 Q What is your account of what happened first, in the way of anything to attract your attention to danger? A Well, I heard the crash, and then the next thing I was in the water.

132 Q Whereabouts was the crash when you first heard it? A Well, the car was very near the centre of the span.

133 Q It was proceeding towards the Esquimalt end and had nearly reached the centre? A Yes, that is the centre of the first— 10

134 Q Span that went down? A Yes.

135 Q Where did the sound come from which you first heard—what you call the crash? A Well, I could not say exactly; it was just like something breaking—some beams or timbers.

136 Q You, of course, being on the rear platform were outside the car? 20
A No, I was inside the car, standing up just inside of the door.

137 Q The first thing that you noticed was the falling of the beams was it not, from above? A No, of course I could not see anything at all. I could not see the beams falling; I was inside.

138 Q You know however beams did fall from above and struck the car before it went down? A I could not see at all.

139 Q Well, you know the motorneer was killed in that way? 30

Court: How could he tell?

140 Q Mr. Cassidy (to witness): You saw it, didn't you? A No, I did not.

141 Q Did you yourself hear any of these beams strike the roof of the car? A No, I did not.

142 Q You just heard a crash? A I just heard a crash, and then the next second I was in the water; it could not have been more than many seconds. 40

143 Q You mean to say the whole thing seemed to give way all at once? A Yes, the whole thing seemed to give way all at once.

144 Q Practically without any interval? A No, I don't think there was any interval at all.

145 Q The whole bridge seemed to collapse? A Yes.

146 Q And in fact, just fell about your ears and you all came down together? A Yes, all came down together.

10

147 Q Did you go down with the car in the water? A Yes.

148 Q Did the car maintain its horizontal position in going down? A Well, it seemed to take a pitch up towards the Gorge, that is, towards the Gorge side of the bridge.

149 Q That is to say, it canted over? A Yes.

150 Q To what extent was that cant, now? A Oh, I could not say.

20

151 Q It was not a great cant? A I could not say, I am sure, how much it was.

152 Q At all events, it was a side motion—a cant over to the right side.

153 Q You said in your evidence at a former trial the structure seemed to fall at once—in other words it went down something like an elevator? A Yes.

154 Q Is that right? A Yes, that is about right.

30

155 Q That is to say that the floor of the bridge appeared just simply to fall down straight? A Yes, to go right through.

156 Q In other words, as if the supports from above had given way and it fell through? A The whole thing seemed to come open immediately; I just heard the crash and then the next thing the whole thing was in the water.

157 Q That is to say the floor did not buckle up in the middle? A Not that I—

40

158 Q So as to leave two declivities—one at each side,—it went down

straight? A Yes, everything was down; everything was cleared right away when I come up.

159 Q And the whole floor of the bridge went straight down? A Yes.

Redirect by Mr. Macdonell.

160 Q You were inside the car? A Yes, sir.

161 Q You are judging not from what you saw but from what you felt? A Yes; just what I felt. 10

162 Q Because it would be impossible, I mean, to see? A Oh, I could not see anything.

163 Q And I suppose you could not see even the end of the bridge from where you were in the car? A No, not then.

164 Q And you are judging now of about where the car was, from the velocity it had?—the car was moving? A Yes, it was going very slow. 20

165 Q You think, then, you would be about half way across the span? A Yes, about half way. I could not tell you exactly because I was inside of the car.

166 Q And it might have been a little nearer?

Mr. Cassidy: Does your Lordship think, in view of the examination he presented to the witness that this arose?

Court: Yes, I think it arises out of your cross-examination. I will let you re-cross-examine. 30

Mr. Cassidy: But I want to point out it is a very important point—the gist of the thing, and I would ask my friend not to lead his witness.

Court: Yes; I was going to say he must not lead.

167 Mr. Macdonell: Could the car have been a little nearer the Esquimalt end than the centre?—was it possible? 40

Objected to by Mr. Cassidy.

168 Mr. Macdonell: I will put it another way. (To witness): You

could not see either end of the span? A No, I could not see either end of the span?

169 Q So that the exact position of where the car was you could not be positive? A No, I could not be positive; I could not swear to it.

170 Q But judging from the rate the car was going you thought the end would probably be near the centre? 10

Court: Mr. Macdonell, you should not indulge in that.

Mr. Macdonell: I will put it another way.

Court: No; listen a moment. The mischief is done, and the jury will probably think, as this is evidence of belief and impression that it will lose the weight it might otherwise have, if the witness did not adopt your own suggestions. There is no difficulty in getting his own view of what occurred without getting the answers framed by the questions.

171 Mr. Macdonell (to witness): You could not see either end of the span? A No. 20

172 Q You were inside? A Yes.

173 Q Then, as you said before, you are only judging according to the speed of the car where the car was? A Yes.

174 A juror: Would the bridge rattle and shake like whenever the car went on? A Yes; it always did that.

Mr. Taylor; I would ask your Lordship to ask—as I do not suppose it is proper for me to do so—a question which occurs to me as the result of a question just asked? 30

Court: Yes, certainly.

175 Mr. Taylor: The question was this: He speaks of the bridge shaking and rattling when a car went on. Does he mean by that a swaying motion—vibration above the car? 40

176 Court (to witness): You hear the question? A Yes.

177 Mr. Taylor: It was the upper structure that was vibrating? A Yes; those irons and things which are on—

178 Q Would sway? A Yes—would sway.

179 Q And that was always so, and the stronger the load, I suppose, the greater the vibration? A Yes, with a heavy load.

C. D. BRANCH. Recalled. Examined by Mr. Macdonell.

10

180 Q I think you stated you were manager of the Sun Life Insurance Co.? A Yes, sir.

181 Q What amount would it require to purchase an annuity to produce \$280.00 a month, payable quarterly, or the way you figured it, for a person 37 years old? A \$57,052.80.

182 Court: You mean it would take that sum to purchase an annuity equal to \$280.00 a month? A To purchase an annuity equal to \$280.00 a month.

183 Q What expectation of life do you place that at? A Age 37.

184 Q But the expectation of life? A At that age, 29 years decimal 6.

30

After Recess.

Mr. Macdonell: I wish to put in these exhibits that were in the Patterson case, I am filing now, my Lord, the by-laws or rather—

Court: Exhibit "A"—printed by-law.

40

Mr. Macdonell: Yes, probably, my Lord, if they could be numbered the same as they are in the Patterson case, we could remember them better hereafter.

Court : Very well.

Mr. Macdonell : There is by-law No. 124, that is not numbered in the Patterson case—if some other number could be put on that—the extension of the corporation limits.

Court : Why not keep it to the end of the list ? You will have probably a number for it. You will have to put them in regularly, you know. I have nothing to do with the Patterson case.

Mr. Macdonell : No, my Lord ; I understand. Call John Cox. 10

Mr. Taylor : In this regard I may say that my learned friend obtained an order to examine Cox before trial, and he was examined. His evidence is all down and it could be read. It would prevent going all over it again and save an enormous amount of time. If my learned friend even wants to read his testimony in the Patterson case and in this case, put them both in, if you want to.

Mr. Macdonell : There was a lot of evidence that was irrelevant ; it took two or three hours, and I think it will shorten it to have him examined again. 20

Mr. Taylor : I submit that having taken this evidence *de bene esse*, we are entitled to have it in. This was taken by consent.

Court : You do not suggest that notwithstanding the plaintiff's counsel should wish to call the witness, he should not be examined ?

Mr. Taylor : The consent was this evidence should be put in and read at the trial, as I understood it, and that puts me rather in this position, in order to oblige one side they examined a witness and his evidence was taken 30 down, and then perhaps it did not suit, and now I submit that arrangement should bind both parties.

Court : I do not see how it can be possible to bind him to that.

Mr. Taylor : Would your lordship allow me to suggest a reason why that should be so ?

Court : No, pardon me; no reason you could urge would weigh with me. If you have a binding authority I would acquiesce, but the principle of the 40 thing is so much the other way that I could not listen. It is unsound.

Mr. Taylor : I should like to put this principle before you. The

defendant in the case consents to the examination of a particular witness, and it is consented that the evidence shall go in at the trial. You rely upon that, and perhaps find at the trial the man completely changes his testimony, and therefore that is what I say is not a fair proceeding to force us like that. Suppose Cox comes and completely changes his testimony? We are completely taken by surprise. We might have otherwise had another witness here who is not present as we did not anticipate this course would be adopted.

Court: I do not think you have the slightest confidence in the proposition you advance. The reason you give for it certainly indicates that there is nothing in it, if the witness, as you suggest now, will swear diametrically opposite to what he swore the other day, I fancy all you have to do will be to point it out to the jury and that will count against him, no—I overrule that. 10

Mr. Taylor: Very well, my lord. I just wish to note the objection to the way of his being called. Perhaps your lordship having ruled as to that, will allow me to suggest that there is another way to shorten this—ask Cox the points upon which he wishes to differ from this, and then read those, and thus shorten the case materially. 20

Court: I am very much obliged to any counsel who will shorten a case like this as much as possible, because after the previous trials—without saying what the result was, counsel ought to be in a position to shorten the evidence which formerly took so long, but at the same time Mr. Macdonell is, within certain limits, absolute master of how to conduct his case, and you and your learned friend are entirely in the same position, and it is for Mr. Macdonell to say how far, in the interests of his client, it should be adopted.

Mr. Macdonell: All the evidence given in the Patterson case can be read to the jury and not any other. 30

Mr. Taylor: Put in the evidence you have taken in this case up to date, the examination taken before trial, and take the other.

Court: Mr. Macdonell is willing that the evidence in the Patterson case shall be read in this case.

Mr. Taylor: I am agreeable to that, provided there is also read Cox's evidence as given in this case. 40

Mr. Macdonell: No, read the evidence Cox has given in the Patterson case, and let that evidence go to the Jury.

Mr. Taylor: If my learned friend is agreeable to this, he has a number of witnesses who were examined in the Patterson case. I take it he can take some of those witnesses out, because it is merely repeating over again. The experts, I take it, are the principal witnesses. Take his two experts, Messrs. Lockwood and Warner—and also take Mr. Bell, and any others he can mention, and then we can examine Cox over again.

Mr. Taylor: Cox was not cross-examined at all in the Patterson case, but I asked as a further condition to read Cox's evidence the same way. He does not agree—I say, very well, agree to read it all except Cox, and he will cross-examine and that will settle it and he will be the only witness. 10

Court: Do you understand, Mr. Macdonell? I do not say it is satisfactory, but to have the evidence in the Patterson case read in this case, and go on with the examination of this witness, in addition?

Mr. Macdonell: To make one more suggestion—there was a witness examined this morning—Mr. Fern. If your lordship will allow me to ask one question, then I will consent. 20

Court: certainly,—one question of Fern. That cannot affect the position.

CHARLES FERN recalled by Mr. Macdonell. 30

185 Q This morning you swore the car was about half way across the span? A Well, where the sinking of the wheel nearest Victoria was about half of the span.

186 Q Was the end or centre of the car in the centre of the span? A The end—this way.

187 Q The end of the car was about the centre of the span? A The end of the car, under the nearest wheel towards me: that end of the car. 40

188 Q So when you say the car was about the centre, you mean the end of the car was? A Yes, I mean where it sunk down: the end nearest Victoria began to sink down: that is where I mean when I said it was about the centre.

189 Q Mr. Taylor: And the sinking was right under the Victoria end of the car? A Yes.

190 Q That would be the north-east end wheel? A That would be the north-east wheel; the north side at the end nearest Victoria.

191 Q On the Gorge side? A Yes.

10

Mr. Taylor: Then the way I understand it, Cox is the last witness now?

Court: Yes. There is now just this observation I ought to make. Possibly the jury might desire to put some question arising out of this evidence which will be read to them for the purpose of understanding it. The jury in the Patterson case had the advantage of having had the different portions of the members pointed out to them, but if the jury for the proper understanding of the case wish to ask a question of that kind, it should not be excluded. That ought to be understood on both sides.

20

Mr. Macdonell: I might say that Atherly is here, and the jury—

Court: Now, you had better let it go at that. Very good, now.

Mr. Macdonell asks that the model be admitted.

Mr. Taylor: I am willing, subject to any incorrectness in the design, to admit that as an illustration—as illustrative simply of the structure as laid down. For me to say it is absolutely accurate, I am not able to do that, because I do not know anything about it. It looks to me all right. If my learned friend wants to examine Cox with reference to it, he can do that.

Mr. Macdonell: I will have to prove that is a true model of the bridge. If my friend will admit that, I want to examine Cox with reference to that.

Court: I suppose it may be taken as a true model as far as the points in dispute are concerned.

40

Mr. Taylor: He proceeds to examine Cox and produces this to illustrate some questions. He has a perfect right to do that.

Court: It is a mistake to suppose any proof is necessary for this purpose—the use of it for any witness to explain his evidence. It might be the most inaccurate model it is possible to conceive, but it is admissible to make a witness more intelligible. But what Mr. Macdonell wants is something beyond that. He says to you “admit that is a perfect model of the bridge,” and you say you have no objection to admitting it?

Mr. Taylor: I suppose it is.

Court: Well, let it be taken this way: Mr. Taylor admits model of 10 bridge to be substantially a true model of the bridge, but if during the trial it should turn out to be inaccurate, leave reserved to call evidence on both sides.

Examination De Bene Esse of John Cox.

BEFORE ARTHUR KEAST, DEPUTY REGISTRAR.

Thursday, 26th August, 1897, 2 P. M.

10

Pursuant to order of 6th August, 1897, and appointment dated the 18th August, taken at this hour by consent of parties.

20

Mr. Macdonell appearing for the plaintiff.

Mr. Taylor appearing for the defendant.

JOHN COX being duly sworn, testified; examined by Mr. Macdonnell.

Q What is your name? A John Cox.

Q Where do you live, Mr. Cox? A Victoria.

Q Were you in the employ of the City of Victoria in the year 1892? A
Yes.

30

Q When were you employed by the City first? A 1891 May 1891.

Q And how long were you in their employ? A Until April, 1896.

Q What were your duties? A Well, I was employed as carpenter; the city carpenter, to look after the sidewalks and bridges generally.

Q Do you know the Point Ellice Bridge? A Yes.

40

Q Did you ever look after it in any way? A Yes, in a similar way, just the floor way only.

Q When first? A I cannot swear that I did anything in 1891.

Q Well, in 1892? A May be in 1892.

Q What did you do in 1892 first? A I may have put planks in the bridge or hand railing or sidewalks.

Q Under whose directions? A The City Engineer.

Q Who is he? A Mr. Wilmot.

10

Q The present City Engineer? A Yes.

Q He was in the employ of the City? A Yes, he was in the employ of the City in 1892; not in 1891.

Q What salary had you? A I had \$2.50 a day, the same as the men that were working under me.

Q Did you ever get any special instructions from Mr. Wilmot, the City Engineer, as to repairing the Point Ellice Bridge in 1892? A Not except the one when there was an accident.

20

Q When was that accident? A That was in 1892, June I think.

Q June 1892. What instructions did you get from Mr. Wilmot, City Engineer, in reference to point Ellice Bridge in 1892 then? A Well, after the accident, which happened in the afternoon—I mean to say about one or two o'clock, or it may have been later—the bridge was shut off that night, blocked up at both ends by order.

30

Q By order of whom? A Of the City Engineer. Traffic was shut up at both ends. I received orders the next morning from Mr. Wilmot to bore the beams of the bridge, that is to see whether—near the hangers—whether they were decayed or not or rotten as you may term it.

Q Well, any other instructions? A After we bored those beams the borings were numbered separately and handed in to the engineer's office.

Q By whose instructions? A By my own.

40

Q Did he ask for those borings himself? He asked you to return those borings to him? A I would not swear whether he did or not, but they were handed in to the office for them to see the state of the beams. It was handed to

Mayor Beaven in my presence, part of it, previous to being handed into the office.

Q Well, they knew, then—at least the Mayor and City Engineer knew that the borings were from the beams of the bridge? A Yes; they were all numbered one, two, and three, and so on up to nine.

Q And it was in consequence of receiving instructions from Mr. Wilmot to do the boring that you returned the borings to Mr. Wilmot and the Mayor?
A Yes.

10

Q Did you do anything to the bridge before the accident? A No, not that I am aware of, except that I might have put a sidewalk plank in, or might have been a floor plank, I could not say. I think my book would state if there was. I don't see anything in it at that time. After, there was.

Mr. Taylor: Q What document is that you refer to? A That old day book. (Book handed to Mr. Taylor).

Mr. Macdonell: Q Did you have any assistance in boring the beams? 20
A I had one man.

Q Who was he? A Samuel Atherly.

Q He went with you? A He was working with me daily on the sidewalks.

Q It was necessary to have him, was it, to assist you? A Yes.

Q Do you know how many spans were in that bridge? A Seven spans 30
in each.

Q How many spans in the bridge? A Oh, there was two spans in the bridge.

Q There is what they call the Esquimalt span, is'nt it, towards the Esquimalt side of the Gorge, and the Victoria Side? A Yes; one West and East.

Q ~~One West and East.~~ Do you know where you started to do the boring, 40
in which span? A On the Esquimalt span.

Q Esquimalt first. In the morning? A Yes.

Q Who did that span? A Mc and Atherly.

Q Whereabouts did you do the boring in that span, the beams? A It was either number one or two on the Esquimalt counting number one that way towards Victoria.

Q No no, I am talking now about the Esquimalt span. What beams in that did you bore do you remember? A They were all bored except one.

Q Are you sure as to the only one or more not being bored? A I ¹⁰ believe they were *all* bored, I would not swear, they may have been *two* out.

Q Yes; well now, talking still about the Esquimalt span— A I know there were *nine* in the hole.

Q Talking about the Esquimalt span, did you bore each end of the beams in that span, or just one end? A Some of them, not all.

Q Some you bored both ends in the Esquimalt span? Then did you bore any of the beams in the other span, the span we call the Victoria span? A I ²⁰ bored three.

Q Did any one assist you to bore these three beams? A I bored those three myself.

B Do you know what beams they were, all? A They would be numbers one, two and three, counting from the end of the Esquimalt span on towards Victoria.

Q Towards Victoria? A On the Gorge side. 30

Q That would be the West end? A The North-west end.

Q The West end of the Victoria span? A Yes.

Q The span that fell? A Yes.

Q You bored those three beams. Now what part of these beams did you bore? A On the Gorge side.

Q Only on the Gorge side, would that be the North or the South side? ⁴⁰
A The North side.

Q On the North side. Did you bore any of them on the South, on the

Victoria side? A No, not on that span.

Q You are positive of that? A Yes.

Q Why did'nt you bore more of the beams in that span than the three, do you know why? A We had not time to bore more that evening. I had but one man, just Atherly and myself, and it was getting late, it must have been four o'clock, and I told Atherly to go back and put down the sidewalk on the other spans that were bored, while I bored the other three, and he did so, and by this time we went home.

10

Q Whereabouts did you bore the three beams? A It was on the North side.

Q Near the hanger? A Yes, on the outside, on the Gorge side under the sidewalk.

Q Under the sidewalk. How close to the hanger did you bore? A Well it may be six or seven inches, I would not say more than that.

20

Q Bored as close to the hanger as you could?

Mr. Taylor: Take his answer, six or seven inches.

A Well, you have to bore at the angle, to get in. You could not bore straight down, if you did you would come in contact with the vertical.

Q That is the reason? A Yes.

Q How deep did you bore? A May be seven inches, perhaps not quite as much; or it may be more, I could not say.

30

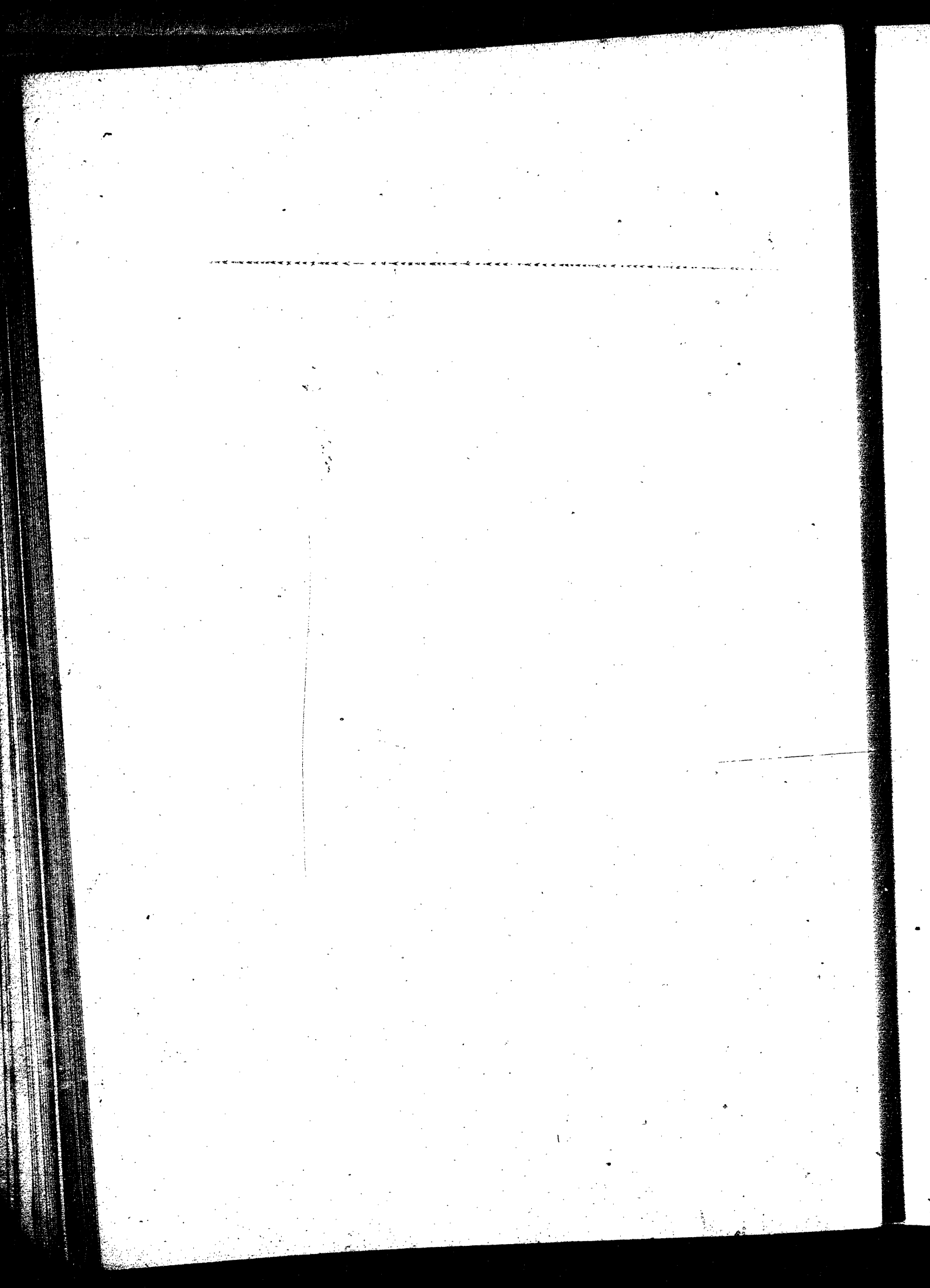
Q What size auger did you use? Used inch and a quarter.

Q Used inch and a quarter auger. After you bored the holes what did you do then? A Well, I closed up for that day.

Q How did you close them up? A What I mean to say, we closed work for that day.

Q But immediately after boring? A The next day I received orders to get oakum and tar and plug them up.

Q Where did you get the oakum and tar? A McQuade & Sons.



Q What quantity of oakum and tar did you get? A I think there was two pounds of oakum, and a gallon of tar, if I remember right.

Q Were those items charged to the City do you know? A Yes

Q Where did you buy them, what place was it you bought them? At what shop or chandler did you buy them? A McQuade & Sons the ship chandler on Wharf Street.

Q You told him to charge it to the City? A I took him an order from the City; I could not get it without. 10

Q Then after getting the oakum what did you do? A We got the material and then we went and plugged them up.

Q With the oakum? A With the oakum and the tar.

Q And tar? At least I don't think the tar was used with the oakum; the oakum was used only for the holes, the tar was used for painting the pier below the high water mark. We did not use the tar for the holes, only the oakum. 20

Q Did you use any wooden plugs at all in the holes? A No.

Q Nothing but the oakum in the holes. Mr. Cox, could you have used a smaller auger than you used there? A I could have used a smaller bit.

Q What was the object in using so large an auger as you did use? A To obtain more particularly the quantity that was rotten in the beam. By using a smaller one you could not tell how much was rotten. By the large one you could see it in your hand. 30

Q Was it for any one's special benefit? A It was for the Officer, City Engineer, Mayor and those, to see direct the state of the beams.

Q But for your own information, as to testing that for your own information, you could have used a small bit? A I could have used a very small brace-bit that size, I could not use one less.

Q That would be a sixteenth of an inch? A Yes, thereabouts, you could not learn much by that. 40

Q But I mean you could test yourself by that? A Oh, yes.

Q Did you bore any other beams in the Victoria span? A None but those three.

Q Those three.

Cross-Examined. By Mr. Taylor.

10

Q How much painting were you going to do with this tar you speak of?
A The pillars in the water, those iron pillars.

Q Were you instructed to do that with the tar? A Yes, it was not done then, it was done afterwards.

Q Were you instructed to get the tar for that purpose at that time? A²⁰
Yes.

Q By whom? A By the engineer or by the clerk; I always brought the order from the clerk.

Q What did you do with the order? A Left it at McQuade's; I took it to McQuade and he furnished the tar.

Q It was a quart of tar, you said a gallon? A It might have been.

30

Q That document says a quart? A Does it? Then probably it is so.

Q You say that the object of your taking this big auger was that you should take out a large piece in order to show it to the Engineer, who could tell whether or not it was rotten? A Yes.

Q But you could tell whether or not it was rotten with a much smaller auger? A You might find it decayed but you could not find out how much.

Q But you could tell it was rotten? A I might not.

40

Q And that is what you were sent over to ascertain? A Yes, and that was my object in using the bigger auger.

Q Were you told to bring the borings back to the clerk? A I believe so.

Q You said that you were told to do so, but you did not remember whether Mr. Wilmot told you or not? A No.

Q Is not that what you said? A I don't think so.

Q Who did the borings, you or Atherly, the two of you were there? A We sometimes took turn about in boring.

Q You changed off? A Yes. 10

Q You used this inch and a quarter for boring? A Yes.

Q Right through the chapter with all the beams? A Yes.

Q Now you say you bored all the beams in the Esquimalt span that afternoon, and three beams of the Victoria span? A Yes.

Q Did you bore all on the— A I would not swear all, whether two outside of that or not, but there were nine in the whole, in the two spans. 20

Q There were nine beams in the two spans altogether? A Yes.

Q Those that were in the span? A No, that were bored.

Q That were bored? A Yes.

Q How many were in the spans? A There was six in one and three in the other. 30

Q That would be if you bored all the beams in the Esquimalt span? A No, it would not; there were seven.

Q There were seven? A Seven floor beams not including the—

Q Why did you miss one if you were sent there to inspect them all? A Well it was so. The way it is now.

Q The way it is now. What do you mean by that? A The beam is there now. 40

Q The beam is there now? that you did bore or did not bore? A Did not bore.

Q That is your reason for saying that you did not bore all the beams that were there then, in the Esquimalt span? A Yes.

Q Because you find a beam now that was not bored. A It was not necessary to bore them all, otherwise I would have bored the Victoria span all the beams, naturally. I should have bored the Victoria span right through, all the same way, but it was not necessary to do it when we found they were all rotten, one after another, with the exception of the one on the Esquimalt span.

Q All the beams you found rotten? A Yes, every one of them. 10

Q And you concluded you would not bore any more on the Victoria span, because all you bored on the other span were rotten? A No, not at all, we did not have time. Q Why didn't you go back to do it? A We had other work to do the next day.

Q Did you tell them you did not examine but the three? A They were satisfied.

Q Did you tell them that you had not examined but the three? A Cer- 20
tainly, there is the span.

Q Who did you tell? A My borings proved they were not all bored. There were only nine parcels handed in to the engineer.

Q Did you tell anybody what beams you had bored? A Yes?

Q Who? A The engineer.

Q The specific beams you had bored? A Yes. 30

Q Did you tell what beams you had bored? A He knew perfectly well.

Q Did you tell him? A Yes.

Q When? A The next day, when I took the borings I said there is nine, and there is all the borings.

Q Did you tell him? A He had sense. Yes, I did tell him.

Q What did you say to him? A I said, are we to bore any more beams. 40
and he said he did not think it was necessary.

Q Why not? A Because everyone we had bored was rotten.

Q Because everyone you had bored was rotten? A Yes.

Q Then it is a fact that all the beams you bored were rotten? Every one.

Q Everyone. They were pretty badly rotten too, weren't they? A I believe they were.

Q You believe they were? A Yes.

Q Then why didn't you replace all the beams in the bridge? A I had 10
nothing to do with it.

Q You had nothing to do with it? A No.

Q You were told to go and bore the beams and plug the holes? A Yes.

Q Did you plug the holes, or any of them? A Yes, all that we bored,
with oakum.

Q Did you plug any with wood? A No. 20

Q You were city carpenter from that period you spoke of in 1892? A
What is that?

Q You were city carpenter from the time you are talking about? A Yes.

Q What date was it, now, about can you tell me the date in June, 1892?
A 15th, I think.

Q Fifteenth of June? A The accident. 30

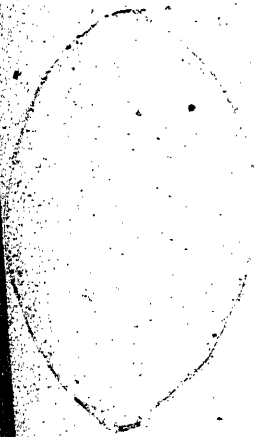
Q I mean the time you bored? A I cannot state; it must have been
the next the 16th.

Q So that you must have told Mr. Wilmot, the city engineer, that you
did not bore these on the Victoria side, on the 17th? A The next morning.

Q The next morning, that would be the 17th. A Yes.

Q Well, did you tell him that all the beams should be replaced? A I
had nothing to do with that whatever, telling him that. 40

Q Did you express any opinion about it at all? A No; no conversation
about it at the time at all.



Q Weren't you expected to make any report? A No.

Q How were they going to find out your opinion whether they were rotten or not? A There was my opinion that was handed to them.

Q Was it your opinion? A Yes.

Q That was something that you bored out of the beam? A Yes.

Q And they were rotten? A Yes.

Q Everyone of them? A Yes.

Q Very badly rotten? A Yes, pretty bad.

Q You never did, in fact, then, bore the other beams in the Victoria span?
A No.

Q But they were replaced? A I believe they were afterwards.

Q You know they were? A I didn't know for some time; I had 20
nothing to do with it.

Q Didn't you know in fact that they were? A No.

Q As city carpenter, it was your duty to see whether those things were sound? A No; the city took those things out of my hands.

Q Wasn't it your duty to circulate about the city to ascertain whether the bridges and sidewalks were in good condition or rotten? A I had nothing to do with it in that case. It was placed in their own hands, and I had nothing, 30
to do with it.

Q Wasn't it your business to ascertain whether or not this material was rotten? A It was not my business at all.

Q What was your business? A To ascertain whether they were rotten.

Q To ascertain whether they were rotten, to find out whether the materials were rotten, the sidewalks and bridges in the city? A You mean previous to the accident? 40

Q At the time of the accident? A I had not got the chance to do it, when I was ordered the next minute almost—

Q At any time was it part of your duty to see the sidewalks and bridges as to rottenness? A On the surface, on the road, nothing underneath.

Q Who did it underneath? A There was nothing done underneath.

Q Nobody inspected underneath? A No; not at that time.

Q What were you employed for? A To go around the city, and put in a sidewalk plank or a bridge plank, or anywhere when it was needed.

Q Didn't you look at the other beams to find out whether they were rotten or not? A You could not do it in this case. 10

Q Was not that what you were employed to do? A No; it was not because you could not do it.

Q Why not? Was not that what you were employed for? A Not particularly.

Q Well, generally? A Well, at the close of the year. 20

Q In 1895, you reported on it? A Yes.

Q And you reported it sound? A Yes, as far as I could say.

Q You reported it. Did you look at it then? A No.

Q Did you know these beams were rotten in 1892? And yet you reported that some of those old beams in there were sound? A I had no report in 1892.

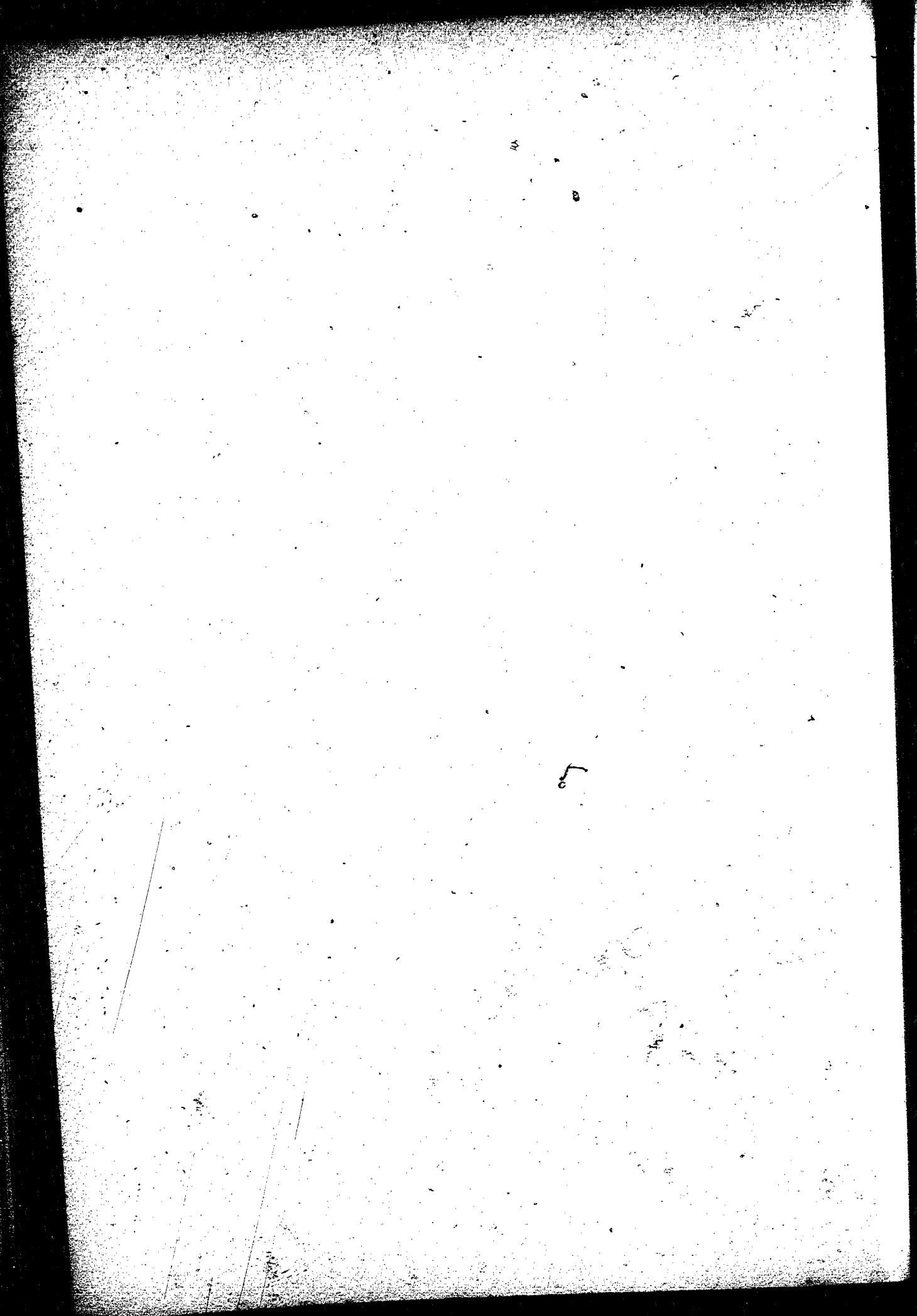
Q You have told us that they were rotten in 1892, and some old beams were left in the bridge that were rotten, and yet in 1895 you reported it sound to the council? A Yes; it was their place to take those two beams out, not mine. 30

Q Yes; but you knew they were in there when you made the report in 1895? A I did not know. I did not go over the bridge.

Q You made the report without examining the bridge? A Certainly.

Q And that is the way you did? A That is the way it was done in all cases. 40

Q Didn't you think that it was your duty— A I was not allowed.



Q You made a report, which you signed, not knowing anything about it?
A Yes.

Q And yet you knew in 1892 it was rotten, badly rotten? A Yes, it proved itself in 1892 that it was rotten.

Q Now, you testified in a case of Gordon against the Corporation of Victoria, in Vancouver? A No.

Q Patterson, I mean to say, and the Corporation of Victoria in Vancouver? Yes.

Q A short time ago? A Yes.

Q You testified there as to the boring of the beams. Now was there anybody else whose business it was to bore and examine these beams in this bridge in 1892? Anybody but yourself? A No.

Q And it was not examined by anybody in 1892, as far as you know, but yourself? A There was no one sent to do it. 20

Q There was no officer of the city who had any business to do it except you? A No; not at that time.

Q Nor from 1892 to 1896? A No.

Q As long as you were in the employ of the city? A No.

Q And as far as you know, no one did other than yourself? A No. 30

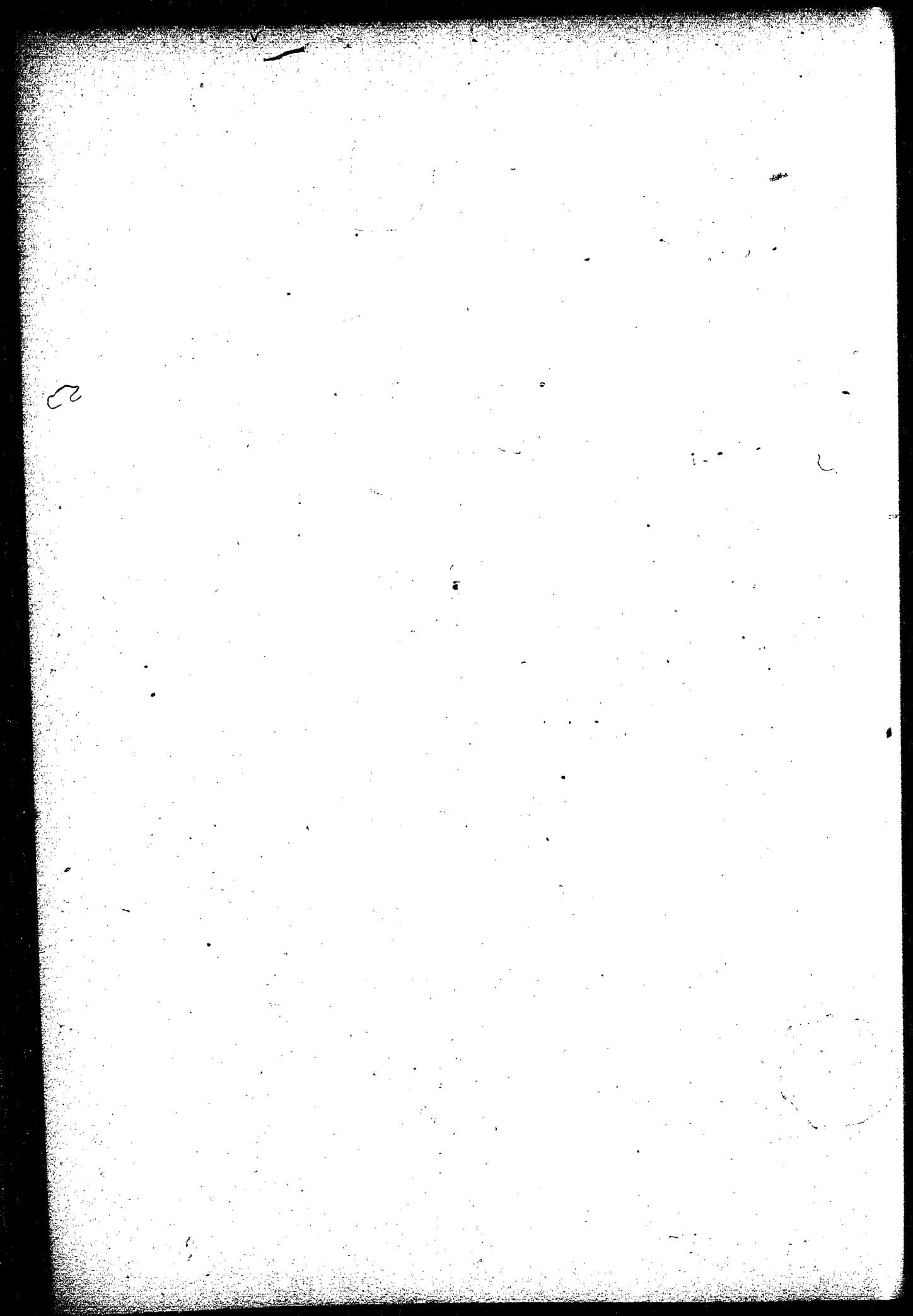
Q Is not that right? What do you say? A Explain that again.

Q So far as you know, no person other than yourself ever bored Point Ellice Bridge from 1892 to 1896? A I don't know that they did.

Q You don't think they did? A No. If there was, it was done unknown to me.

Q Now during the times, Mr. Cox, you were not actively employed in repairing something, what did you do? A What. 40

A For instance, you were working on a yearly salary from the city at that time? A A monthly salary.



Q You were not engaged every day in repairing the sidewalks and bridges? A Pretty near; you can see items there where I have been every day of the week on bridges.

Q But during the time you were not actively employed in repairing, what did you do? A Do you imagine a man could walk over 150 miles a day on sidewalk?

Q No. A That was my duty.

Q It was your duty to walk about the city and ascertain the condition of the sidewalks? A Yes. 10

Q And where ever any repairs were needed, to do it? A Yes; small repairs we might handle it.

Q At any rate you reported whether they wanted repairs or not; and if they were small repairs you repaired them, and big ones you reported? A Somebody else did them.

Q But you reported? A Yes. 20

Q At the time you were not repairing, you were looking about the city to find out whether anything needed repairing? A That is right.

Q That is what you were there for? A Yes.

Q So that you were busy all the time. Now this auger you used you produced in Vancouver didn't you? A I believe so.

Q It was all you used that day in all those beams? A Yes. 30

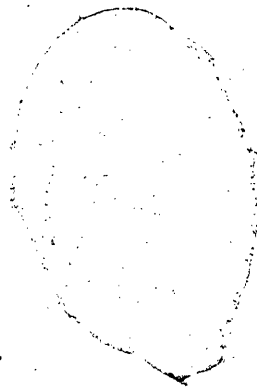
Q Why did you produce that particular auger? A The one we had to use at that time.

Q What? A That was my auger.

Q Why did you produce that particular auger? A Why; it was the one that was used.

Q It was the one that was used all the way through? A Yes. 40

Q It was an inch and a quarter auger? Yes.



Q I suppose you had a half dozen augers there, hadn't you? A No.

Q Are you sure about that? A Yes.

Q Now, be perfectly sure, Mr. Cox. A In fact the city had no tools at all, not even a saw, at the time.

Q And you used your own tools? A Yes; I did use my own tools.

Q And that was your own? A That was mine.

Q And it was the only one you had I suppose at the time? A Yes.

Q So that you are positive about that inch and a quarter auger? A Yes.

Q And they were all bored with that, whatever you did? A Yes.

Q There can be no doubt about that? A Well, I don't think there is any doubt about it whatever.

Q Answer very carefully, Mr. Cox, now, because it is possible, you know, that you might have? A No; it was the only auger, and it was my own.

Q It was the only auger you used; the city did not have any tools, and it was the only auger you had down there? A Yes; it was the only auger I used; the city did not have any auger at the time.

Q Now, you bored the beams in the Esquimalt span, and you bored three beams you say in the Victoria span? A Yes.

Q Now you testified in Vancouver that you bored those beams in both ends—north and south ends? A No.

Q You did not. I will see whether you did or not, and I will read it to you; beginning at line 25 on page 94, down to line 14 on the succeeding page 95. I will tell you what you said there. You were asked first, "Will you tell us why you remember boring only three in that span?" (A) Yes. (Q) Why? (A) It was getting late in the afternoon, and it was somewhere near four o'clock, and to complete the thing, I had another man round; and I says to this man: "Go back and put on those planks that we had tore up to bore those other beams both in the north and south side." — A Yes; on the sidewalk and not the roadway.

Q He was to put in those planks that were torn up both on the north and

south side? A Yes, that is right.

Q —“To make the place secure for the night; and I will bore these beams. We had started one. I says, I will complete those three while you do that, and by that time it will be five o'clock, and we will go home. That is the reason why I bored those three at that time. (Q) Which part of the beam of those three did you bore? There is a north side?” The north side is the Gorge side? A Yes.

Q “(A) Yes, it was the north side; we bored the south and north side 10 both; but it was the north at that time when I say I told the man to go back and put on those planks, to nail them down and make them secure. Where he left me boring; I bored on the Gorge side.” You did say that you bored them on the north and south side both? Not in that span.

Q You were asked about both spans? A It does not read right.

Q You were referring to the boring of the Victoria span; A Yes.

Q And you answered: “We bored the south and north side both.” A 20 No; I distinctly remember about that.

Q You swear that you did not say that? A Yes; the north and south side of the Esquimalt span; that was under God; but it was misconstrued there.

Q “Which part of the beam of those three did you bore?” A On the north side.

Q “It was the north side; we bored the north and south side both?” 30
A No; not on that span.

Q That statement was not true? A No.

Q Wasn't your attention called to it? A No.

Q What do you mean then on the other span? What did you mean by this then: “Go back and put on those planks that we had tore up to bore those other beams, both on the north and south side?” A This is on the north and south side, on the sidewalk. You have got it wrong. 40

The beams were bored on the Esquimalt side on the north and south side.

Q They were bored on both ends you mean? A That is the meaning of it.

Q That is what was meant there; "We bored the north and south side" meaning both ends? A It means, "You go back and put in the planks on the north and south side that were torn up."

Q But you had not bored these on the north and south side; why did you bore one on the north and south side and not the other. A We didn't bore none on the north and south side in the Victoria span. 10

Q Did you in the Esquimalt span? A Yes.

Q Why did you do it in one and not the other? A We didn't have time.

Q Why didn't you go back and finish it? A We wasn't ordered to do it.

Q You were asked to bore and find out the condition of the bridge? A We were not ordered to do any more boring; we bored that day, and that was 20 sufficient.

Q And you might have bored one beam, and if it was five o'clock you would call that sufficient? A Yes, if they ordered it.

Q And then report the bridge in sound condition? A It was quite sufficient to report the bridge rotten as far as the beams.

Q How do you explain your report then in 1895 that it was sound, when this beam had not been removed? A There wasn't any question 30 about it's being rotten, I don't know, if it is not bored underneath it is not bored on top.

Q What is not bored on top? A That I think, it is the number one, I would not be sure on the Esquimalt span—on the north side, it is bored underneath, and the other side it is bored on top.

Q You bored some underneath and some on top? A That is what we did.

Q Why did you do that? A To ascertain which was the worse. We 40 found the bottom was worse than the other, and we did not bore but one or two of them.

Q You bored one beam on the Esquimalt side at the bottom, and you found that absolutely rotten? A Yes; worse than the top.

Q And then you bored the others from the top of the beam? A Yes.

Q And you found them absolutely rotten? A Yes.

Q You did that with the Esquimalt span? A Esquimalt span only.

Q And then you bored three of the beams on the Victoria side, on the top? A Yes. 10

Q And found them absolutely rotten? A Yes.

Q And you found the condition of the beams on the Esquimalt span was a little more rotten when bored from the bottom than when bored from the top? A Yes; the one that we bored.

Q And they were all rotten and unsafe at that time? A Yes.

Q And you were aware of that fact? A Yes. 20

Q And you did not report that to anybody? A It was reported the next morning.

Q You handed in those borings? A That was what we did.

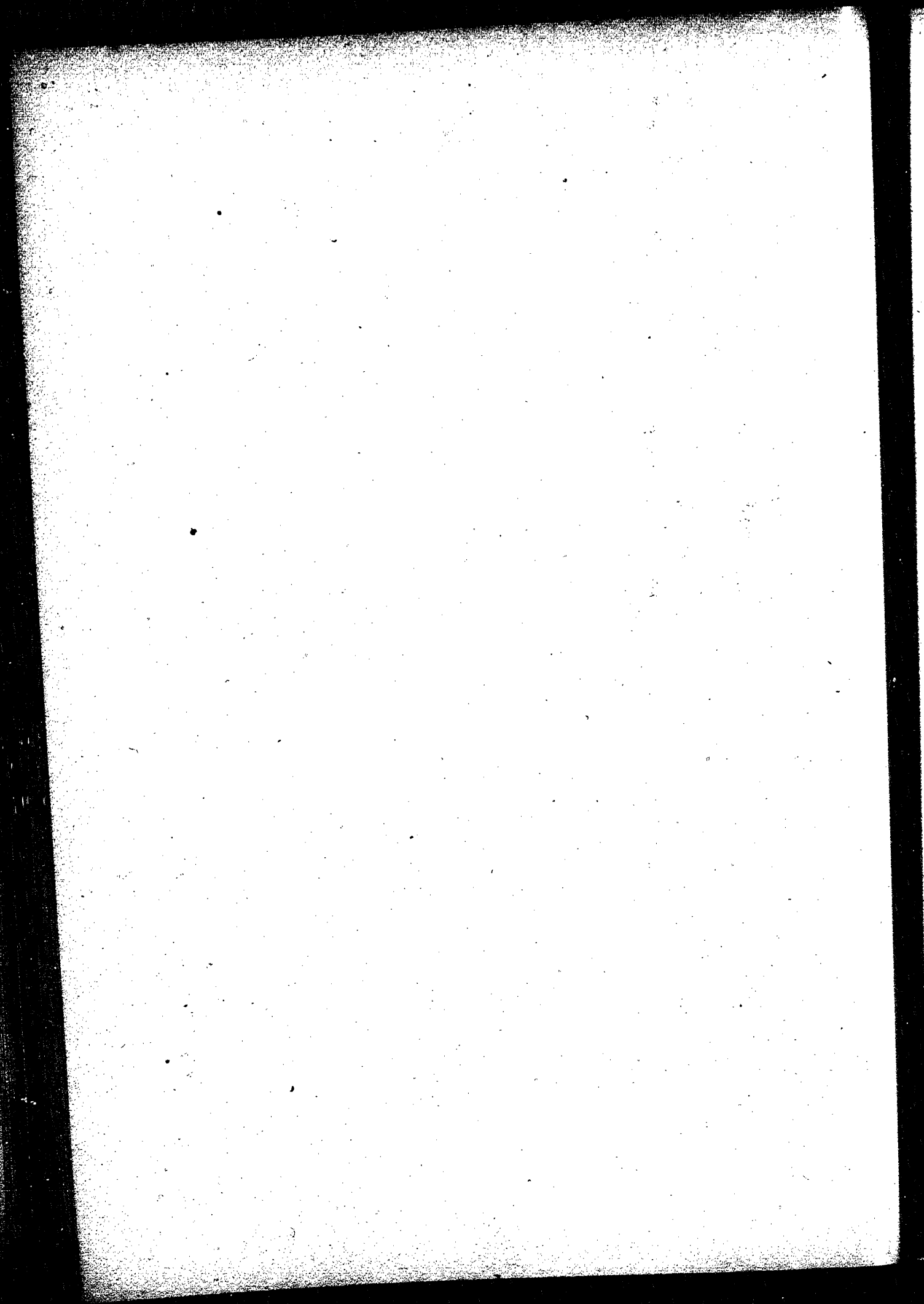
Q You say this particular beam in the Victoria span you handed in the borings to let them see for themselves? A Yes.

Q That was your idea in doing it? A Yes. 30

Q I see. Well, Mr. Cox, I would like to ask you how could you, knowing these beams were absolutely rotten in 1892, made a report in 1895 that the bridge was sound? A We didn't know—I had no business to touch the removing of anything.

Q You knew they had not been removed? A Do you suppose for a minute that I should say: Here, Mr. Wilmot, there are two beams in that bridge, and you have not removed them, and you ought to remove them? 40

Q You knew they were rotten, did you not? A Yes; and he knew they were rotten.



Q You knew they were absolutely rotten at that time? A I did.

Q Badly rotten? A Yes badly rotten.

Q Then, I say, how did you report them sound to the city in 1895? A I did not report anything sound.

A Yes, you did? A Not the beams, there is not a word about the beams.

Q You reported the bridge. A Generally. 10

Q Would not that include the beams? A Include the whole bridge generally.

Q If you were employed to examine the bridge and ascertain whether it was rotten or not, and you found the bridge rotten, would you report it sound? A If I was to report upon a beam, that is another question.

Q You reported this bridge sound? A I reported the bridge in good condition. 20

Q Was it in good condition? A The roadway was in good condition, and the piles, and that is all I required.

Q And yet you reported the whole bridge sound? A Yes.

Q Without examining it, and notwithstanding that you know in 1895 those beams were absolutely rotten? A Yes.

Q Including this number, three beams that gave way? A Yes. 30

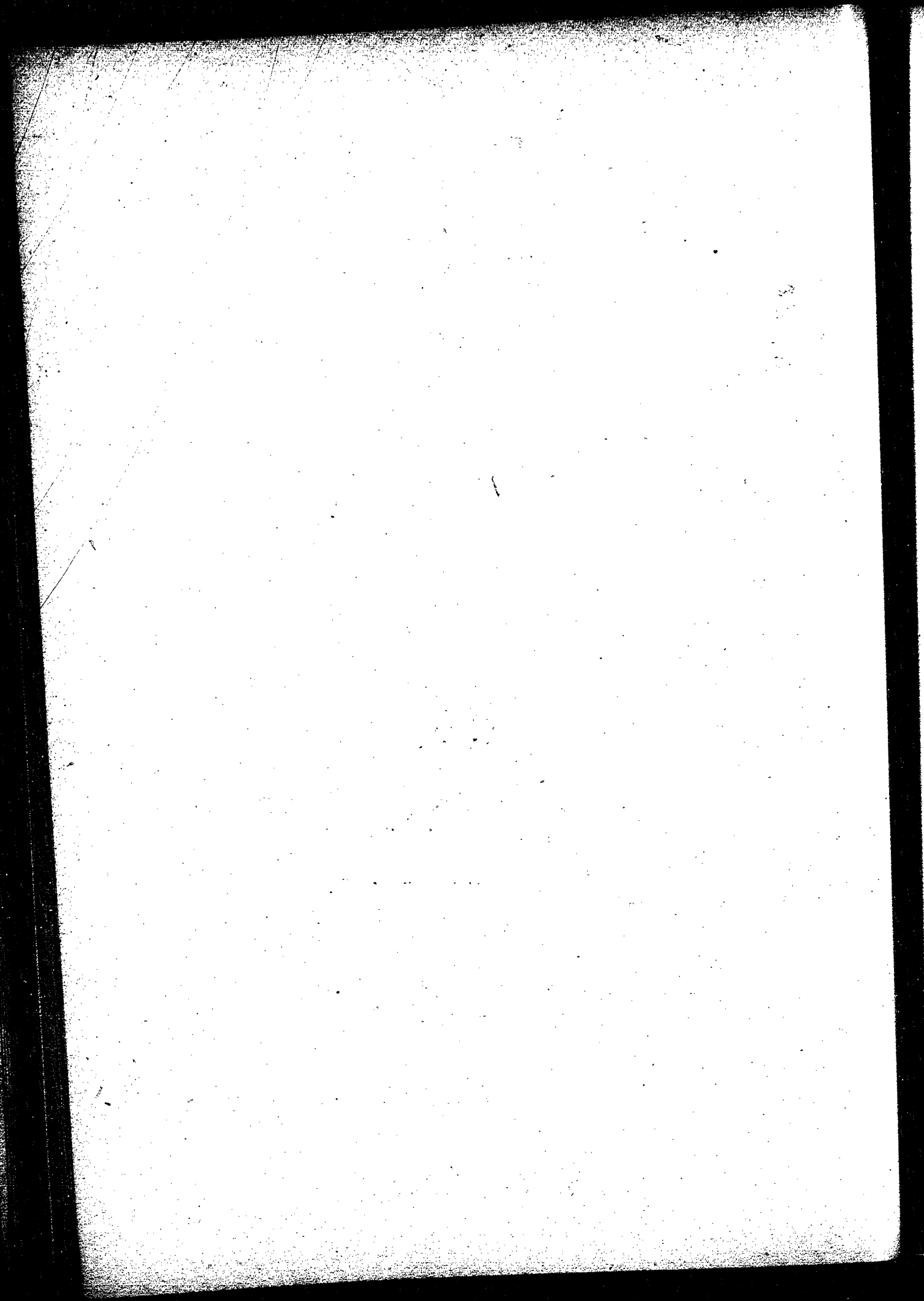
Q And it was more rotten at the bottom than it was at the top. A Yes.

Q Now let me clear up a point. The beams that you bored in the Esquimalt span you bored on the north side? A The Esquimalt span upon north and south side.

Q You bored the beams on the Esquimalt span both on the north and on the south ends? A Yes. 40

Q With the same auger that you bored these beams? A Yes.

Q And you put one hole in each end, I suppose, in each timber? A



Just one.

Q Just one. And no one else, as far as you were aware, bored the beams? A I don't know of any that I am aware of.

Q And you are quite positive that you used your own auger? A Yes.

Q And that was the auger you produced, the inch and a quarter auger?
A Yes.

Q That was the only auger you had there? A Yes. 10

Q How do you remember that auger so well all these years? A I have had it in my chest ever since.

Q Have you any other augers there? A Yes; I have a half dozen smaller ones and bigger ones.

Q When you speak of an auger what do you mean? You drew a distinction to my learned friend; when he referred to an auger, you said a bit?
A A bit; and an auger is another thing? 20

Q A bit and an auger are two things? A A bit is another thing.

Q Am I to understand that the handle constitutes the auger and the screw is the bit? A Yes.

Q And it was the screw that you produced in Vancouver, an inch and a quarter screw? A Not an inch and a quarter handle.

Q What? A An inch and a quarter auger, not a bit; bits are about this size, about this long; perhaps a little longer—some of them. 30

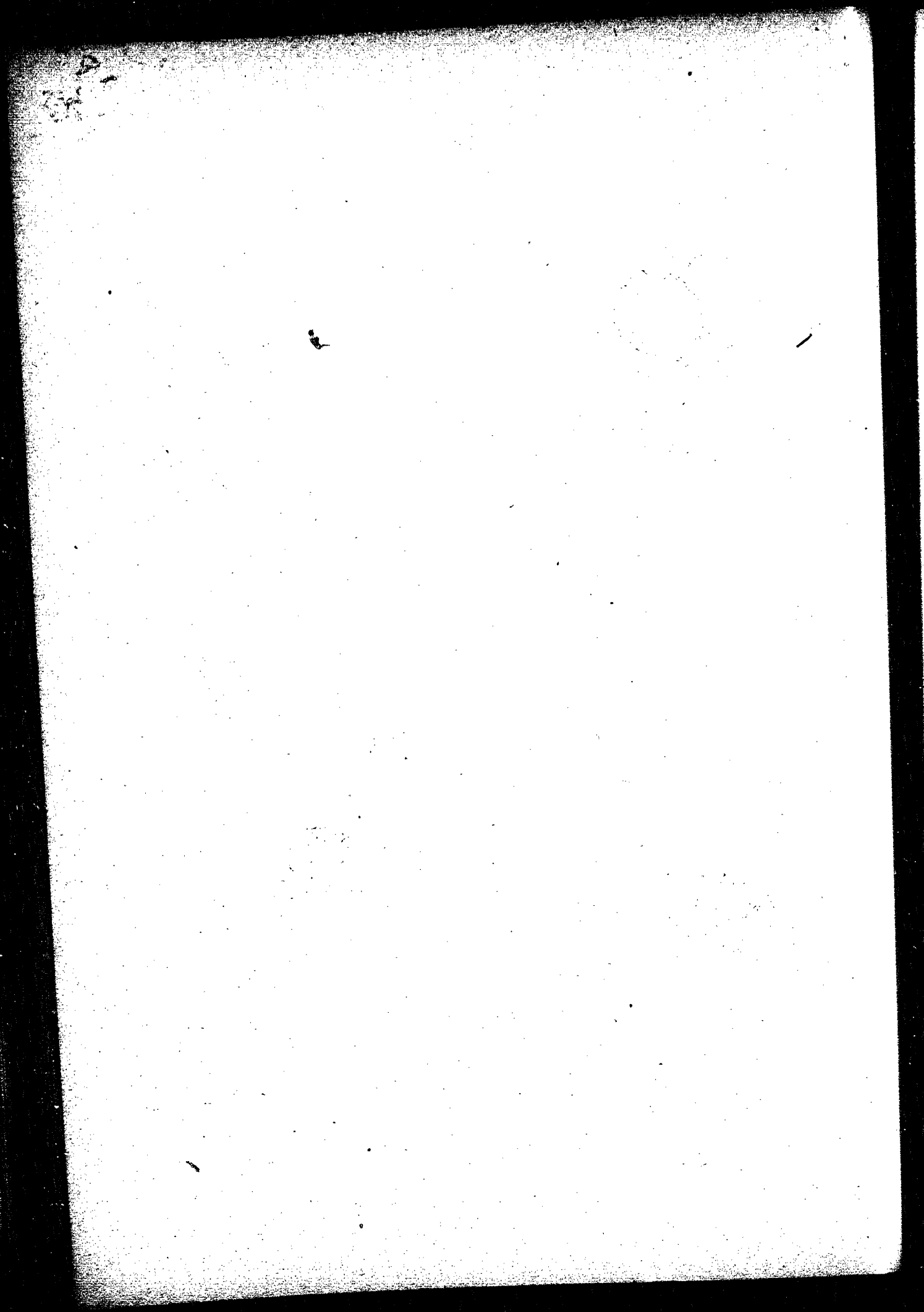
Q An auger has a wooden handle? A Yes.

Q Horizontal? A Yes.

Q And it is attached perpendicularly to that horizontal handle? A Yes, that is correct.

Q The auger that you used then was an inch and a quarter? A Yes; 40 that is the one.

Q When you spoke to my learned friend about a bit, what did you mean?



A A bit is what we use with a brace—this way—(making circular motion).

Q A small— A A small little thing.

Q The same construction as an auger? A Pretty much only much smaller.

Q You did not use a bit? A No.

Q Would you find a hole five-eighths across bored by a bit or an auger? 10
A That would be an auger or a bit?

Q There is no distinction except the handle you put on them? A That may be it.

Q I just want to understand it? A Yes; that is it; that is so. Those small ones are what we call a brace and bit.

Q Would you be surprised to find that the holes put in there were five-eighth inch holes? A No. 20

Q You have just sworn they were inch and a quarter? A No; there was somebody else put them in.

Q If there were any such holes, when were they bored? A I don't know. They may have been bored when the thing was put on, or when the accident was, or when McIntosh put those beams on. There was lots of repairs done.

Q You examined them in 1892. Were there any holes in them then other than the ones you bored? A I never saw any; it is possible there were. 30

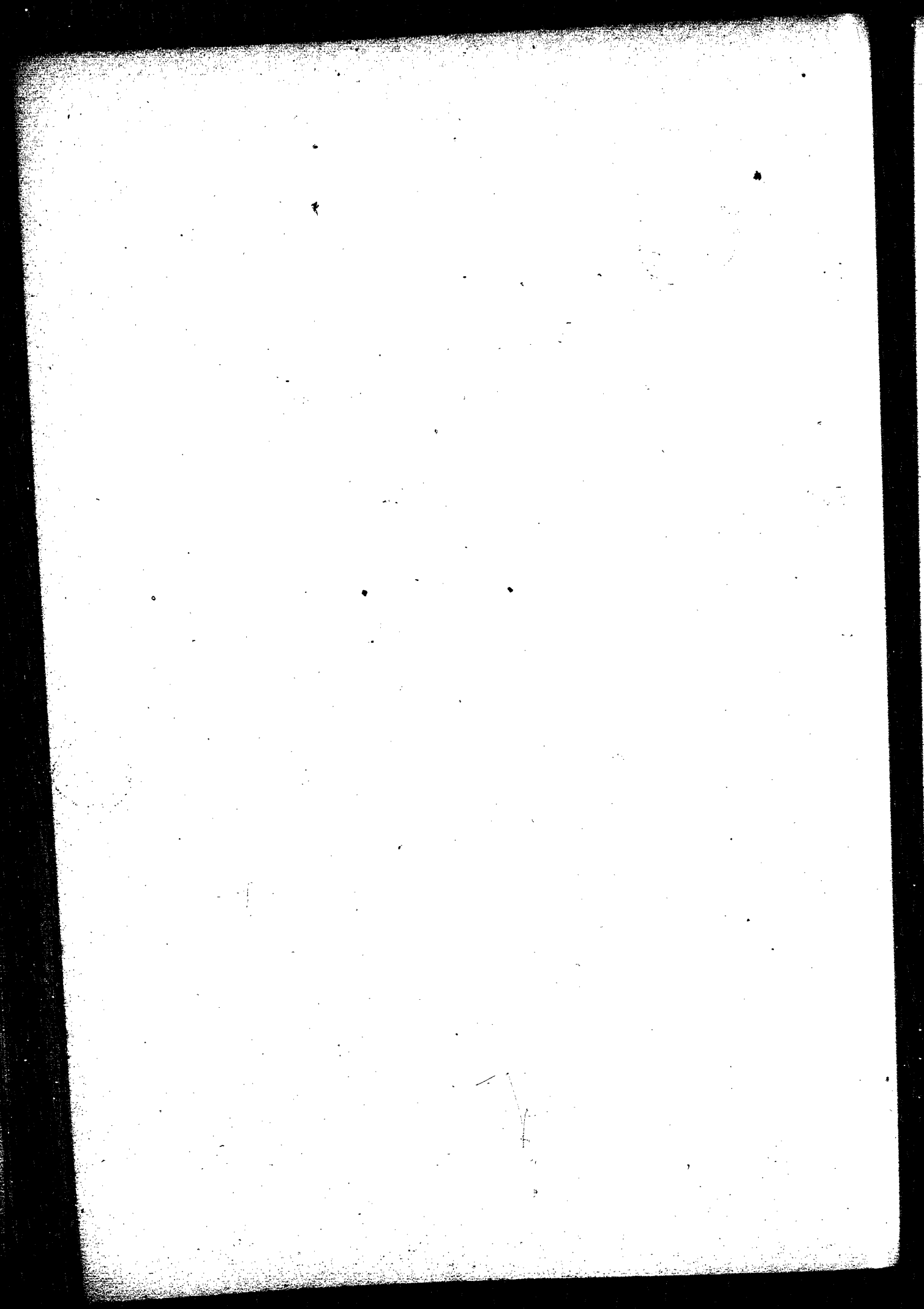
Q But you never saw any other holes? A No.

Q Now, Mr. Atherly, who was with you at the time you did those borings; he also states you bored these beams at both ends? A Yes.

Q He is wrong about that? A Not in the Victoria span? A No—he bored in the other span, not in the Victoria span at all.

Q You have already told me that what you swore at Vancouver on that part is not true? 40

Mr. Macdonnell: No, he said it was improperly reported.



Q Now listen to this, at page 273 of the appeal book, the testimony in Patterson and the Corporation at the trial. "What was he going to do while you were doing that"? (A) He was going to finish the boring sir. (Q) He was going to finish the boring, and where; As you went away to put the planks down on the Esquimalt span, where did he go on with the boring. (A) He started right to bore on towards the Victoria side. (Q) On towards Victoria. And at which end of the span? That would be the side towards the Gorge, or the other side that he went on to bore? (A) We bored it on both sides. You say that statement is not true? A He did not bore on the Victoria side at all. 01

Mr. Macdonnell: Just continue, you will find that he refers—

Q Here is the next question: "(Q) I know, but the Victoria side I am speaking of, now, that we went to bore when you went on putting the planking down? (A) On the Gorge side." Well that is the same thing. That is what they both said, there at the time, they were putting the plank in they were boring on both sides. You say these statements are not true at any rate? A I say they aint. 20

Q Now I will read from your report here that you made in 1895. After enumerating a number of sidewalks and bridges in the city that you deal with, you say Point Ellice Bridge in good condition? A Yes.

Q Now you got written instructions to examine that, didn't you? A No, none.

Q Didn't you get a letter from Mr. Wilmot? A No, sir; and further than that I had no instructions generally either; that was all my own object that I made a general report. 30

Q It was all your own object eh? A Yes, I never had any instructions from any one.

Q What do you mean by starting it out this way: In compliance with your request I beg to submit here the following report with reference to sidewalks, water tanks and bridges. What did you say that for? A Well, I thought it might be my duty to do so. 40

Q You thought it was your duty to do so? A Yes.

Q And what you conceived to be the discharge of your duty, you did it? A Yes. I received no orders to do it.

- Q You say there was no letter to you to do it? A No.
- Q I will show you a letter pretty soon. A If it is there I did not get it.
- Q Did you ever tell anybody that you plugged those holes you did bore with oakum? A Not that I am aware of; everybody knew it.
- Q Did you tell anybody? A Not particularly as I know of.
- Q Was anybody there besides you and Atherly? A Mayor Beaven and the engineer were there both when we were starting and finishing. 10
- Q And when you finished? A Yes; and I said to Atherly, "Pick up that boring and hand it to the Mayor." And he said, "That is pretty looking stuff."
- Q He saw it was rotten? A Yes.
- Q Did you do the plugging when they were there? A No, the next day. 20
- Q Was there anybody there then? A Not that I am aware of.
- Q Did you tell anybody you had plugged them? A No, I did not.
- Q Was that a good way to plug them? A I don't know, it might keep the water out and it might not.
- Q Why didn't you plug them with wood? A What would be the use of wood any more than oakum? 30
- Q Wouldn't it keep the water out better? A Not a bit of it.
- Q Not a bit of it? A No.
- Q If you put a little tar with that oakum it would make it water tight?
A No, if you filled it with white lead it might have done.
- Q Would not tar help it? A No, tar would soak right into the hole.
- Q It would act to keep water out of the wood? A I don't think so. 40
- Q Did you plug that good and tight with oakum? A I expect we did, with a stick as well as we could.

Q You did plug it good and tight with the stick? A Yes.

Q How did you pound it in? A Pounded it in with a hammer.

Q Put a stick on top and drove it in with a hammer, did you? A Yes.

Q That is the way they calk boats, is it not? A Something like that I believe; I never calked boats.

Q Is that the stuff that is used to keep water out? A Yes; but it is put in a different way to that. 10

Q You put this in the hole, I understand, and then put a stick or plug and hammered it in? A A stick similar to the size of the hole, and then tamped it.

Q Drove it in tight? A Yes.

Q Water could not get in on top of that? A Yes. You might as well say that water would not go through a salt bag. 20

Q What did you put it in for? A Well, orders is orders.

Q Who did you get the orders from? A That gentleman there.

Q That is Mr. Wilmot? A Mr. Wilmot.

Q Well now were you told to plug it with oakum? A Yes.

Q Or, were you told just to plug it? A I was told to plug it with oakum, and the order I received for the oakum and the tar. But the tar was not for the holes, it was for the painting of the columns. 30

Q The painting of the columns underneath. Now what use would a quart of tar to be paint those columns? A Well, I don't know.

Q Would it go anything like around them. A Not half way.

Q But there would be enough with this oakum to plug up the holes with, wasn't there? A Oakum. 40

Q Yes put the oakum in, and tamp it as you say, and then put tar on it?
A No.

Q There was enough tar? A There was no tar in them at all.

Q I know you say that, but wouldn't it have been a good thing for that purpose? A No.

Q Now wasn't that the object of ordering that tar? A For the columns, not for the plugging.

Q Who ordered it? A Mr. Wilmot.

Q For that purpose? A Yes.

Q And you swear positively that Mr. Wilmot told you to get the oakum and plug the holes with oakum? A Yes, what did he give the order for. 10

Q Did he tell you? A Most decidedly he did.

Q What did he say to you? A "Plug the holes with oakum and get an order and get it."

Q This is a book you kept a record in of the work that you did? (Indicating). A It is a private book, it does not belong to the city. 20

Q It is impounded for this case? A Well you can have it. There is another book shown to you in the office that I got in 1895 from Mr. Wilmot.

Q What do you call this? A It might be a scrap book.

The book was here put in marked exhibit A.

Q Well, Mr. Cox, from what I can make out, from what you say, this beam was rotten and unsafe in 1892? A Well, wasn't they all rotten? 30

Q They were all rotten, at any rate this one number 3 was. A They were all rotten, and that was rotten too.

Q And they were unsafe? A They ought not to have been there.

Q In 1892? A Never ought to have been left in.

Q Of course it would get a good deal worse every year after that? A It was bad enough then. 40

Q It was bad enough then? A I don't see why they did not take them all out; in fact they were so rotten they ought all to have been taken out? A They saw enough of nine to remove the other three you see.

Q What is that? A They saw enough of the nine that were bored; it should have satisfied them they were all rotten.

Q That is when I understand you bored this number 3 and found it absolutely rotten too? A Yes; bored underneath.

Q How was it rotten, half or three-quarters of the way through? A Take the top and bottom, I guess it was pretty nearly half.

Q Take the rotten part out, nearly rotten through.

10

Mr. Macdonnell: Q What beam is that, number 3? A The one that is there now.

Q Number 3 is not there now at all? A I mean the one that is there now.

Mr. Taylor: Q You said they were all alike, didn't you?

Mr. Macdonnell: He said the one that is there now.

20

Mr. Taylor: Q Well, speak about the beams that you told us about in 1892; you say they all ought to have been removed, and they were all rotten then? A Yes.

Q And they were all about in the same condition? A Yes.

Q And you say that this beam number 3—that is the third one you know from the end in the Victoria span? A You mean the one in the Victoria side?

A The one that broke in the accident, in the Victoria span, the number 3 you see on the diagram? A Yes.

30

Q And it was rotten? A Yes.

Q You put it rotten at the top and bottom about half through? A Yes, about that, all of that, I calculated there was nine—I calculated the eleventh beam was the only one—I think it must have been this one that is there now that had about nine inches of solid wood in it.

Q The one that is there now? A Yes.

40

Q Which one is that? A The one that is bored underneath.

Q In the Esquimalt span? A Yes.

Q It was more solid than most of them? A That was the only one, and I suppose that is the reason why they left it.

Q That was the only one that was solid? A Yes.

Q And you think it was solid for eight or nine inches? A Yes.

Q What is the size of the beam? A About the same size.

Q About 18 inches; and then it was rotten about half way through? A Yes.

Q And it was better than the rest of them? A Yes.

Q And this number 3 beam that broke at the time of the accident—A Yes.

Q That was worse.

Mr. Macdonnell: There is no evidence that number 3 broke at all. I you will place it on the map—

The witness: Give me a pen and then go on and then we will see.

Q I thought we were talking about the same thing. Take the Victoria span, I think you bored three beams? A Yes.

Q The one nearest Victoria we will call number 3. A Yes.

Q The one nearest the Esquimalt end would be number one, and the one next to it number two? A Yes.

Q I am referring to number three. Now the beam in the Esquimalt span, the beam was solid about nine inches? A Yes.

Q And the other beams that you bored included three in the Victoria span, and were in a worse condition than that? A Yes that is the meaning of it.

Q That is what I understood you. Now this diagram that is exhibit R in the former trial; (handed to witness). The beam you have referred to in the Esquimalt span is not shown on this diagram? A I see it is not.

Q As being rotten half through, and the other beams in the Esquimalt span and the one, two and three in the Victoria span were still worse rotten? A Yes.

Q More rot in them? A Yes.

Q And number three then would be more rotten than half way through?
A I would not—it is hard to say; it may be an inch either way. They were bad enough.

Q They were bad enough to be taken out at once, any way? A Yes. 10

Q Now, Mr. Cox, didn't you receive instructions from Mr. Wilmot in writing to make your report in 1895, on December 18th in a letter in the following words: "J. Cox, Esq., City Carpenter, Dear sir, I wish you would make inspection of the following bridges, namely, James Bay, Point Ellice, and Rock Bay bridges, and report by the end of the present year the condition of each; also note anything you consider should be done in the way of repairs or renewals. Yours obediently, E. A. Wilmot, City Engineer." 20

Now isn't that what you were referring to when you say, "In compliance with your request I make this report."

A I don't remember receiving that order; I made my report from my own knowledge.

Q Isn't it probable you did get that? A Well, I might have, I would not swear to that. If I had, I think I should have had it by me.

Q What is that? A If I had been served with a report I think I should have had it by me. 30

Q Well, you were as a matter of fact.

The diagram which was marked exhibit R in the Patterson case was put in by Mr. Taylor, marked exhibit B.

Q Now, Mr. Cox, do you remember the beam you bored from underneath, you say, in the Esquimalt span—where was that? What part of the Esquimalt span? A What beam? 40

Q You say that one beam in the Esquimalt span you bored underneath, you know, and found it very rotten, and the rest you bored on top? A It may be num-

ber two or three on the west end ; I would not swear whether it is or not.

Q That would be the Esquimalt end of the bridge ? A I would not say which one.

Q It was in fact in the Esquimalt span ? A I know we did bore one underneath, and that is what took up so much time.

Q That beam was under the hip vertical ? A It might be, I think not—it may be I would not swear. 10

Q You are not positive about it ? A No.

Q That beam is there now, isn't it ? A There is one there. I believe.

Q There is one there, you believe. Now look here, Mr. Cox, do you know how many old beams were left in the Esquimalt span ? A I do not.

Q You do not. You have not examined it since, the Esquimalt span ? A I have been over the bridge, but as to what is in or out, I don't know. 20

Q You knew there were some old beams left in the Esquimalt span ? A I believe there was one, I think there was one, in the Victoria span, I am not sure.

Q At any rate, the one that you bored underneath and found badly rotten there, was towards the west end of the bridge ? The Esquimalt end ? A Probably in the centre—it might have been four, five or six, I would not say ; fourth, fifth or sixth beam I would not say. 30

Q You told me—mentioned that you bored it at the Esquimalt end underneath the beam ? A Yes, one or two, I would not say.

Q One or two from the Esquimalt end ? A Yes, on the Esquimalt span. I would not say there was more than one ; there might possibly have been two. It took up too much time.

Q Well that would be the west end of the bridge then ? A Pretty well along there. 40

Q The west end of the Esquimalt span ? A Yes.

Q I think you have already explained that you bored on the sidewalk side

in every case? A Yes.

Q That would be on the outside of the tracks? A On the outside; we could not get inside without tearing up the floor of the bridge.

Q You bored on the sidewalk side in each instance, both in the Esquimalt span and the Victoria span? A I believe so, except what was bored underneath.

Q And you said that was, as near as you could recollect, six or seven 10 inches from the hanger holes? A Pretty near that, probably a little more, that is the top of the holes might have been more than that.

Q You laid the sidewalk over them again? A Yes.

Q Then the sidewalk would be over the holes? A Yes practically.

Q The boards of the sidewalk would be over the holes that you bored?
A Yes.

Q How do you account for this beam number seven in the Victoria span 20 having been bored? A I don't know.

Q You told me that you were the only person to do that, and that you never bored any more than three in the Victoria span? A I never bored any more than those three, and was not aware that any of them were bored.

Q And that you were in charge from 1892 to 1896; you must have quit shortly before this accident? A In April.

Q And the accident was on the 26th of May, just a month after you quit? 30
A Something like that, yes.

Q And you are not aware of anyone else having tampered with the bridge during that month? A No, I don't think there could have been anything done between that time and the accident.

Q And there was no one authorized to deal with it as far as you knew but yourself, from April, 1892 to April, 1896?

Q No, nothing. Well, I believe there was some man sent there in one 40 case, to block up the east end, that was underneath, on the right side line.

Q That would not be on the span that stands? A Not in the span at all, right on the embankment, facing on the road. It was right on the bank. That is all that I remember of anyone else having anything to do with it.

Q Now, Mr. Cox, you are pretty familiar with all the circumstances; the fact of the matter is that beam was rotten in 1892, and should have been out; that is it isn't it? A That is it.

Q And you do not for a moment say that that hole of yours caused it to be rotten; it was rotten at the time? A It made it worse. 10

Q Why didn't you put a plug in it then to stop the water? A They were all plugged up that I bored.

Q They were all plugged up that you bored, yes, but do you say it was any use plugging them that way, which would let water in?

Mr. Macdonnell: It was according to instructions? A Plugged with the oakum, that is all I know. 20

Q But you tell me that it was no good? A A good soldier does what he is told you know.

Q You were to go and plug it afterwards? A Not afterwards. Not afterwards, it was plugged first, and not afterwards.

Q I mean plugged after you bored the hole; you could not do it before you bored the hole. And you left it in such a condition that the water would get in? A It is bound to get in. How does it get through a ship? 30

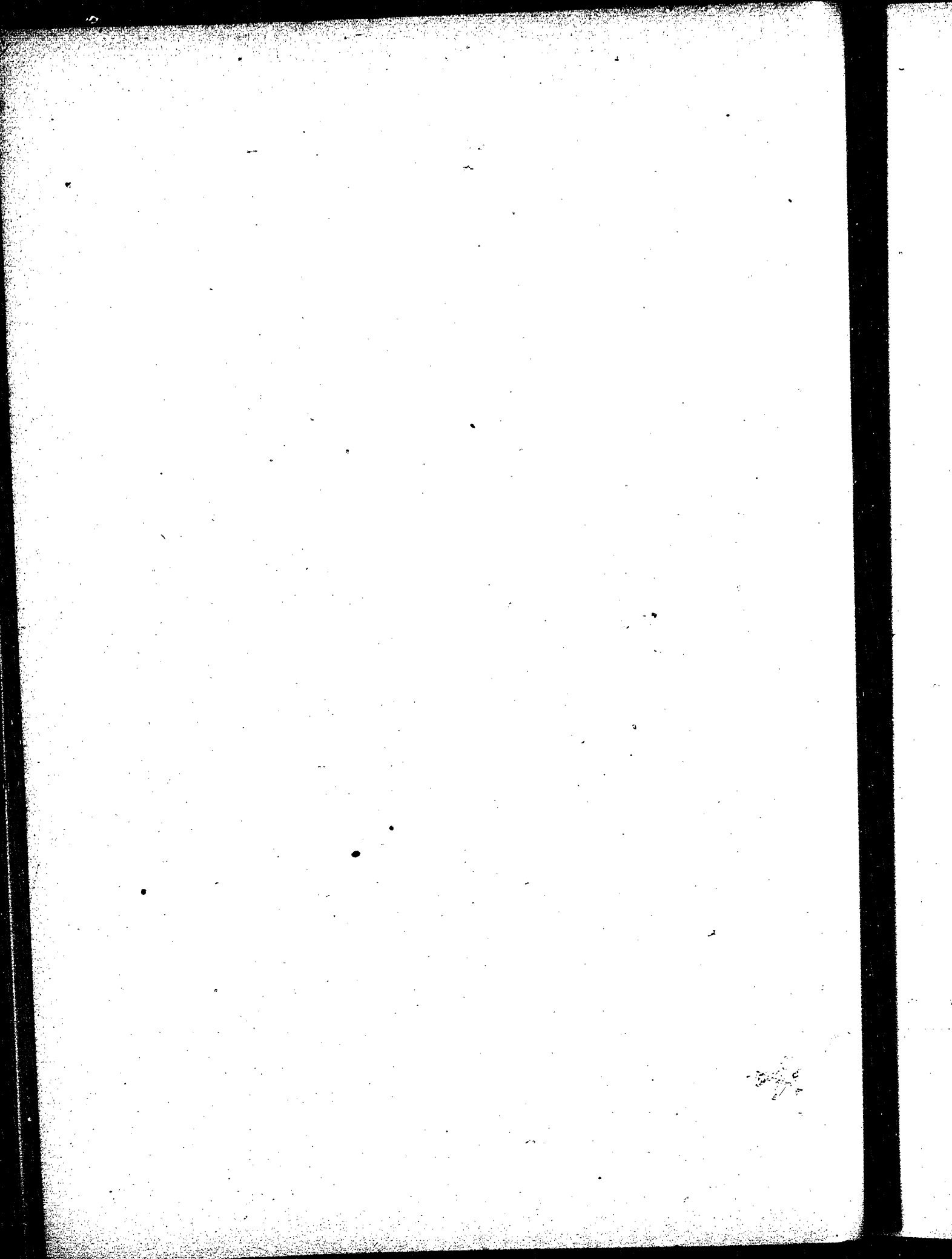
Q Why did you bore the beams in that way at all? A I had orders to do it.

Q And you made no report to them it was rotten? A Yes.

Q Except handing in the borings? A That is it.

Q That is it? A That is enough, I think.

Q Because it was in such a bad condition that anybody could see it? A 40 No, you could not see it; you could not tell but that beam was as sound as a new beam till you went into the centre.



Q Until you bored? A Yes.

Q And then you found it out? A Yes.

Q And then it was rotten in the centre? A Yes, pretty much.

Q Did you consider it safe then if there was any weight on it? A Of course after the accident you could see.

Q They should have been taken out then, they were all rotten then in 1892 on the inside? A Yes.

Re-examined by Mr. Macdonell.

20

Q Mr. Cox, when you were requested to inspect the bridge that was I suppose simply superficial inspection, was it? Superficial, what you could see from the outside?

Mr. Taylor: I object.

A That is all.

Mr. Taylor: I submit that is not a proper question. He may be asked by my learned friend what instructions he got. What construction he put upon that instruction is for the court, and not for him to determine.

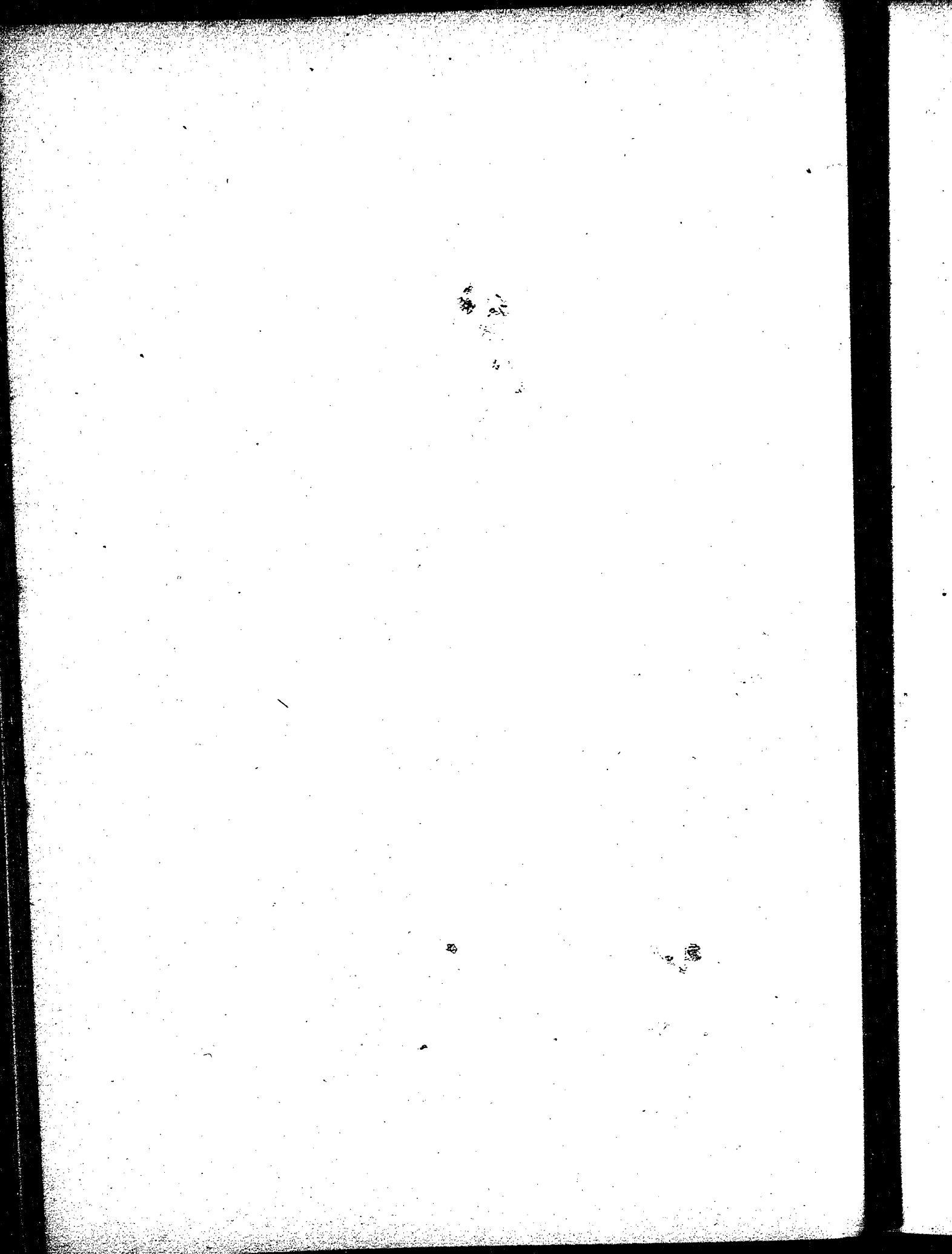
Q You are not a civil engineer. A Me, no.

Q The person to make a minute inspection of the bridge, or bridges was Mr. Wilmot? A Yes.

Q Do you know that he ever did that himself? A I do not.

Q And the inspection that you made was a superficial inspection? A It was just—well you might say partial—just as you might walk over it or go under it in a boat.

40



Q Did you tell Mr. Wilmot the kind of inspection you made? A He knew the kind of inspection.

Q He know the kind of inspection you made? A I could not make any other.

Q Now Mr. Cox you did not bore the under part of No. 3 beam in the Victoria span? A No.

Q So you do not know whether it was rotten underneath or not? A I cannot say. 10

Q You bored into it seven inches or thereabouts? A Thereabouts.

Q When you say it was rotten you mean traces of rot were in that seven inches? A Dry rot, traces of it? A Yes.

Q It might have stood for a year or two in that way? A Yes, it might and perhaps more.

Q But being plugged with oakum would allow the water to get in and increase the rot? A Yes. 20

Q Very materially would it increase the rot? A Fifty per cent.

Q The oakum being in there would increase the rot fifty per cent. Are you sure that Mr. Wilmot saw the borings of those beams? A He must have saw it. He stood there in front of me, and the Mayor, both of them.

Q At the time you were boring? A Yes, Atherly handed it to him in his hand. 30

Q Handed them the borings? A Yes.

Q And showed them the condition of the borings? A Yes; and the Mayor, he put his fingers so and says "That is queer looking stuff; that is Mayor Beaven."

Q And afterwards they were put in papers and handed? A They were kept separate, put in papers and numbered. 40

Q And handed to Mr. Wilmot? A Handed it to Mr. Wilmot the next morning, and I layed it on his desk. What they did with it I don't know. It was there for them to see. Some were a little more than others decayed.

Q Who else worked on that bridge? A Atherly.

Q Any one else? A Not with me.

Q Besides you, not with you, but outside of you, did anybody else work?
A Oh, there was a dozen worked on the bridge beside me. I had no occasion to cover any of it except planks, that is all.

Q You don't know whether any of the others bored any of the beams or not? A I do not. They may have been bored with McIntosh, or Elliott, or 10 any of them.

Q Did you use a five-eighths auger at all? No, I did not.

Q The auger that you used was the inch and a quarter? A That was the only boring I ever did.

Q That was the only boring you ever did, and that was the auger you used? A Yes.

Q And you put no wooden plugs in any of the beams? A No, I did 20 not; only oakum.

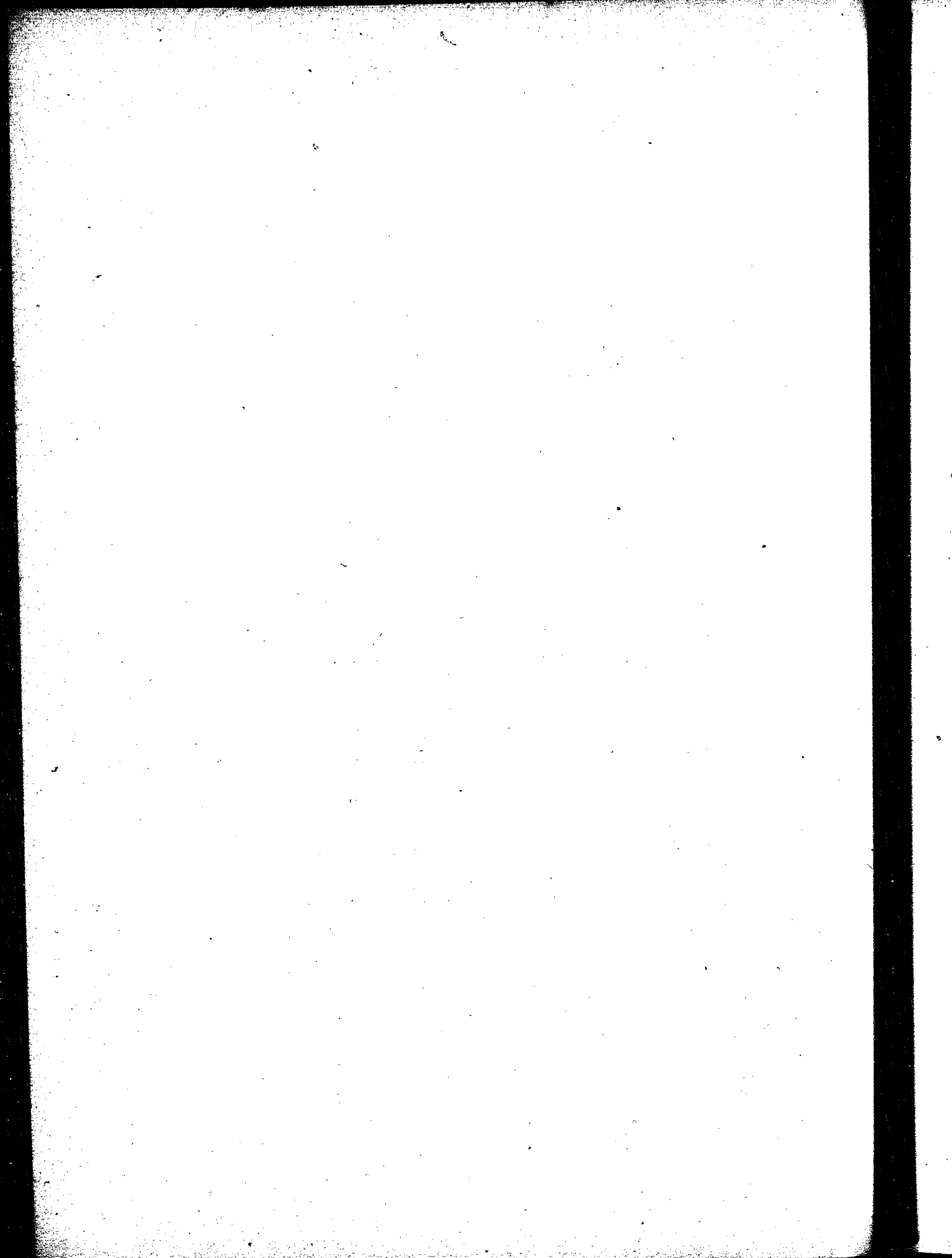
The examination here closed.

30

Evidence of John Cox at the Trial of Patterson v. Victoria

Taken 20th May, 1897. 40

JOHN COX, of Victoria, called and sworn. Examined by Mr. Macdonell.



Q What is your name? A John Cox.

Q Where do you live, Mr. Cox? A Victoria.

Q Were you in the employ of the city of Victoria in the year '92? A
'91, sir.

Q In what capacity? A I was acting as city carpenter.

Q What were your duties? A My duty was to look after the sidewalks, 10
bridges, etc. and report the same to the engineer.

Q What was your salary? A I was getting the same at that time in '91
—the same as the men that was under me—no more.

Q How much? A That was \$2.50 a day.—when you work.

Q Were you sole city carpenter—or was there any other city carpenter,
except you? A No, sir, I was the only one at that time. in that year.

Q Were you that in 1892? A In 1892 I was appointed permanently 20
carpenter.

Q And what official was over you? A The city engineer.

Q Who is he? A Mr. Wilmot.

Q The Mr. Wilmot that was here? A That is the gentleman.

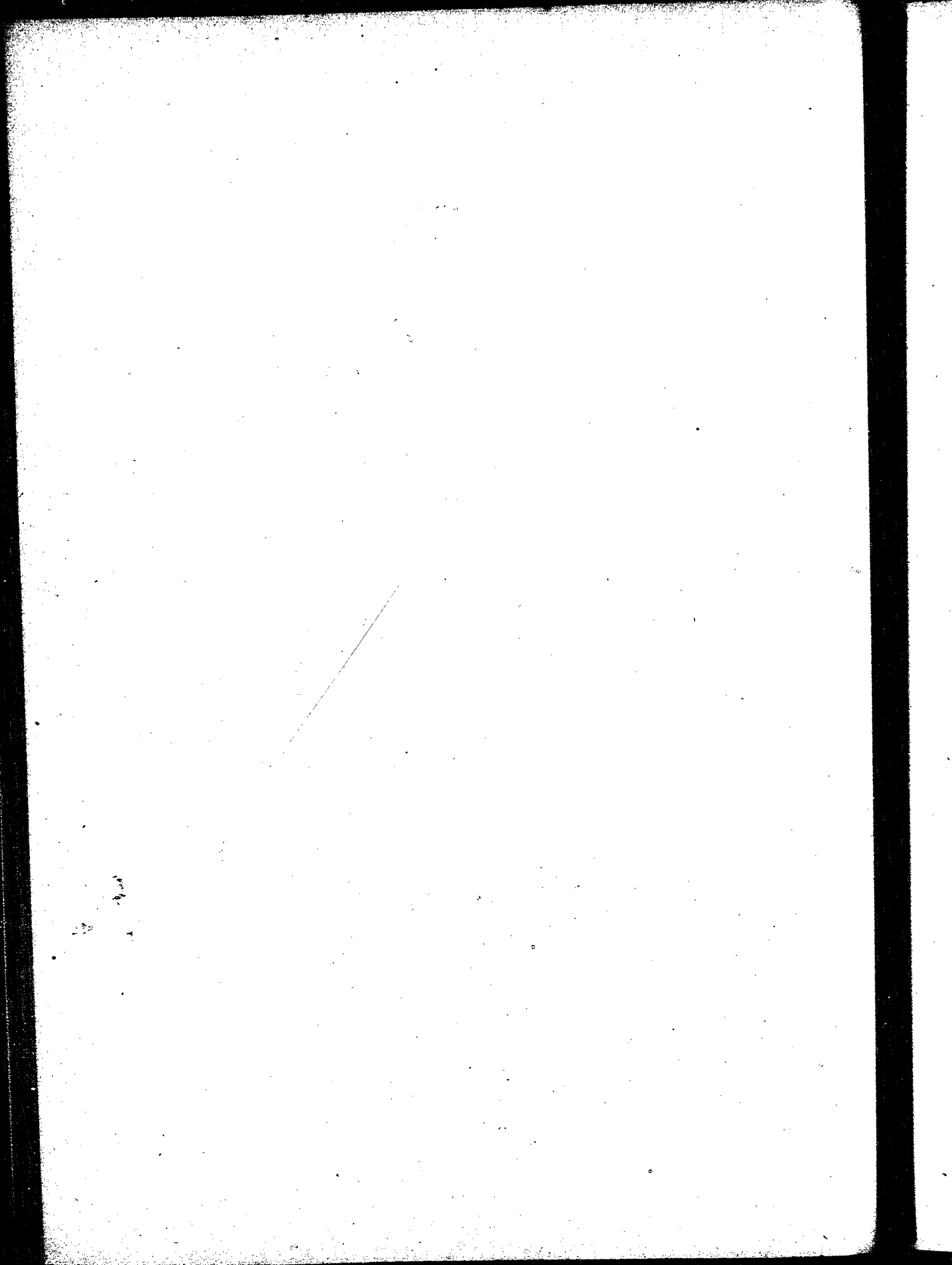
Q And you took your instructions from him? A Yes, sir.

Q In '92 do you remember an accident on the Point Ellice bridge? A 30
Yes, sir.

Q You remember the bridge being repaired? A Yes.

Q Did you get any instructions from Mr. Wilmot to look after the repair
of that bridge in '92 or report or do anything in reference to it? A Well, the
only repairs I did prior to the accident was just on the platform on top of the
sidewalk. 40

Q After the accident did you get any special instructions from Mr. Wil-
mott in 1892? A Yes.



What were those instructions? A The next morning after the accident happened in the afternoon—one, two or three o'clock were to bore this beam that gave way—or to bore the beams of the bridge—this and all.

Q For what purpose? A To ascertain whether the hangers—what state they were in.

Q That is, to see whether they were rotten or not? A Whether they were rotten or not.

Q Do you remember when that was—the month? A I believe it was about from the 12th to the 15th or thereabout, in June. 01

Q 1892? A I would not swear exactly, but I think thereabout in 1892. The next morning after the accident, I got those instructions.

Q In pursuance of those instructions, what did you do? A I bored those beams and handed it to the city engineer separately in paper and numbered. I took it into the office, and handed it to Mr. Wilmot. 20

Q There were two spans in the bridge? A Yes.

Q There was a span towards the Esquimalt side of the bridge? A Yes.

Q And a span towards the Victoria side? A Yes.

Q What they call a whipple truss? A Yes.

Q That is the span towards the Victoria side. You enter the bridge from Victoria here (indicating on plan), there is a Pratt combination comes in, this large span. You enter from the Victoria side and go across there, here; that is the end of the first span? A Yes. 30

Q And then you enter the second span? A Yes.

Q That is the span that collapsed. Now, you can call it No. 1 or No. 2. In that span it has been sworn there were seven beams. A Yes one in each panel.

Q Will you point out on that plan there, the beams that you bored in 1892 under those instructions? (Referring to exhibit "R") No. 1, No. 2 and No. 3. That is all that was bored in that span by me or any one else at that time, on the Esquimalt side. This is the Esquimalt side, as I understand it, of 40

that span—that is, the collapsed span. This is going from Victoria to Esquimalt ; that is the Esquimalt end that gave way.

Q The Esquimalt side of the first span that gave way? A Of the first span that gave way? A Of the first span from Victoria.

Q Will you tell us why you remember boring only three in that span? A Yes.

Q Why? A It was getting late in the afternoon, and it was somewhere near four o'clock, and to complete the thing I had another man round, and I says to this man "Go back and put on those planks" that we tore up to bore those other beams both in the north and south side," to make the place secure for the night, and I will bore these beams. "We had started one. I says "I will complete those three while you do that, and by that time it will be five o'clock; and we will go home." That is the reason why I bored those three at that time. 10

Q Which part of the beam of those three did you bore? There is a north side? A Yes, it was the north side ; we bored the south and north side both, but it was the north side at that time when I say I told the man to go back and put on those plank, to nail them down and make them secure. Where he left me boring I bored on the Gorge side. 20

Q Just look at this beam and see if that is a true model of a beam—one of those floor beams? A I believe it is.

Court : We had better have that in as an exhibit ; it is not too large.

(Wood model of portion of floor beam, marked exhibit "U.") 30

Court : (To witness): Which is the Gorge end of the beam? A This (indicating).

Q Did the laterals go through here? A Yes ; they go through like this (illustrating).

Mr. Cassidy : We had better mark it north south east and west.

Mr. Macdonell asks Mr. Lockwood to mark in pencil the points of the compass on the model. 40

Mr. Macdonell (to witness): Mr. Cox, can you place where the tram track

or road track would be? A This is the tramway here; this is a space of two feet between the hangers and the tramway; this is the two rails here; this is a space of about two feet from that to this—to the hangers.

Court: Just mark that "rail."

Mr. Macdonell: One and two. Witness: And this (indicating) is the road.

Q And which is the Gorge end? A (Witness Indicates) Six feet of sidewalk clear to this.

Q Between the hanger and the Gorge end? A Yes, that is right. It is a little better, but it hangs over to allow—it is a little better on account of allowing the water to keep clear of the bridge—to run off to the side.

Q What size auger did you use? A Inch and a quarter.

Q Where did you get that auger? A My own property.

Q Now, will you just bore in that beam as you did in 1892. A I don't know whether I could without a chisel. 20

Court: Why is it necessary to bore.

Mr. Macdonell: That is, point out where you bored?

Court: You had better mark it in colored pencil.

Mr. Macdonell: Marked red. 30

Court: It is all red, say boring.

Mr. Macdonell: Was it in the end towards the Gorge side and the hangers. It was between the end of the beam and the hangers, on the Gorge side? A Yes.

Q How far did you bore that hole? A Seven inches.

Q After you got through boring—is that an inch and a quarter? A That is an inch and a quarter? 40

Q Just go in a little (referring to augering). After you got through boring that hole in seven inches, what did you do? A I took the borings out

and saved every one of them and put it in paper separately, one from the other, right through.

Q And those borings—what became of them? A I took them myself to the city engineer, into his office.

Q What became of the hole that was left after the boring? A The hole was calked up with oakum for the present time only, with the understanding that the whole thing would be moved. I suppose it was to keep the water out for the present. 10

Q How did you put the oakum in? A Just put it in with sticks.

Evidence of John Cox at the Trial of
Lang v. Victoria. 20

Taken 12th Oct. 1897.

JOHN COX. (For plaintiff.) Called and sworn. Examined by Mr. Macdonnell. 30

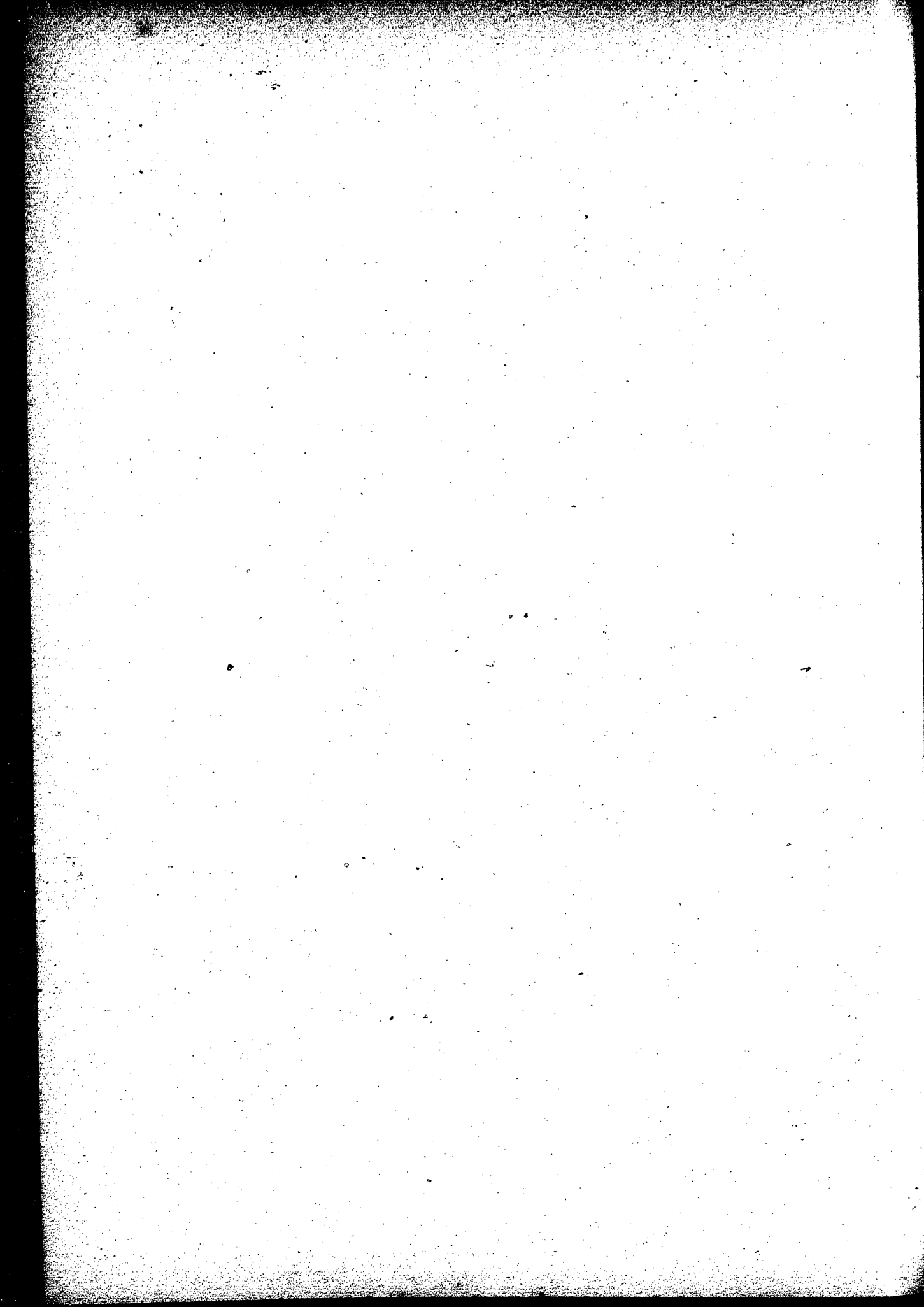
192 Q You live in Victoria, Mr. Cox? A Yes.

193 Q You were in the employ of the city of Victoria, in 1892? A in 1891.

194 Q And in 1892? A 1892.

195 Q What was your position as far as the city was concerned; A City carpenter. 40

196 Q What duties did you perform? A Looking after sidewalks and bridges in general.



- 197 Q What was your position, Mr. Cox? A City carpenter.
- 198 Q And what duties had you? A My duties were to look after all the sidewalks and bridges, and such other buildings that may be under my notice.
- 199 Q Do you know the Point Ellice Bridge? A Yes.
- 200 Q Did you ever inspect it? A Yes.
- 201 Q When? A 1892. 10
- 202 Q What time in 1892? A Early in 1892.
- 203 Q Sometime in June, 1892? A June, I believe.
- 204 Q Who instructed you to inspect that bridge? A Mr. Wilmot, the city engineer.
- 205 Q What was the occasion of that inspection? A The occasion was there was an accident sometime in June, early in June, I think, by one of the cars, and the bridge had to be shut off—blocked off, to prevent any travel. 20
- 206 Q Did you do anything to stop the travel? A Blocked off the bridge.
- 207 Q By whose instructions; A Mr. Wilmot.
- 208 Q You stopped the traffic? A Yes.
- 209 Q Were notices put up to that effect? A I believe so. 30
- 210 Q And you were instructed to inspect? A Yes.
- 211 Q Whom did you employ with you to inspect? A Atherly.
- 212 Q What was his first name? A Samuel.
- 213 Q Do you see him in court? A The gentleman there (indicating)
- 214 Q You employed him to help you inspect? A He was employed 40 by the city at the time.
- 215 Q What did you do when you received the instructions from Mr.

Wilmot to inspect? A We are instructed to bore the beams.

216 Q How many spans are there in that bridge? A Two trusses—
spans.

217 Q One called what? A The Esquimalt span, and one the Victoria
span.

218 Q That is, a span towards the Esquimalt side and a span towards the
Victoria side? A Yes. 10

219 Q Can you recognize that as a model of one of the spans (referring to
model in court)? A I believe it is a true model of it.

220 Q How many beams do you remember boring in the Esquimalt side
of that bridge? A We bored seven—we bored 5 in the Esquimalt span.

221 Q Have you examined any beams in the Esquimalt end since the
accident? A Since the accident of 1892. 20

222 Q No, since the accident in 1896, have you examined the beams in
the Esquimalt side span? A Yes, I have seen them.

223 Q I believe it is there now—the Esquimalt span? A There is two
old beams, No. 1 and No. 7.

224 Q Is the Esquimalt span standing over that arm of the sea, now? A
Yes.

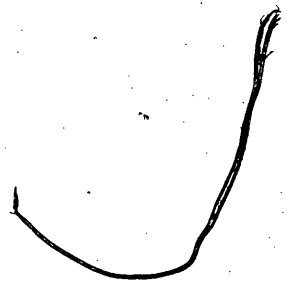
225 Q What beams in that span did you not bore? A No. 1 and No. 7. 30

226 Q Why do you know you did not bore them? A Well, I lowered
Atherly underneath.

227 Q No—do you find any holes in those beams now? A Lately?

228 Q Yes? A There is one small hole that must have been bored
some years ago that I found the other day. There is two small holes have been
bored underneath from the bottom.

229 Q Did you find any holes in either of these beams, that is 1 and
7, that are in the Esquimalt side, that you put in? A No. 40



230 Q So that the holes put in there, now, were not put in by you and Atherly? A Not put in by me.

231 Q Are they larger or smaller than those you put in? A Half-inch or something similar.

232 Q Do you know how they were plugged? A Those holes were kind of "skivered" (?)—put in a small stick like your finger, just whittled out with your knife and plugged in the hole. You could pull it out with your hand; one of them was pulled out in my presence. 10

233 Q And the other beams you and Atherly bored? A Yes.

234 Q Whereabouts? A We bored them on the outside, on the sidewalk on the top.

245 Q What do you call the outside? A Well, on the sidewalk; we took up the floor.

236 Q Tell me where the sidewalk is? A Well, it is on both sides of 20 the span.

237 Q Outside of the span? A Yes.

238 Q And you bored the beams on the outside of the span? A Yes; on the outside.

(Model put in position for the jury to view, and construction explained by counsel to jury).

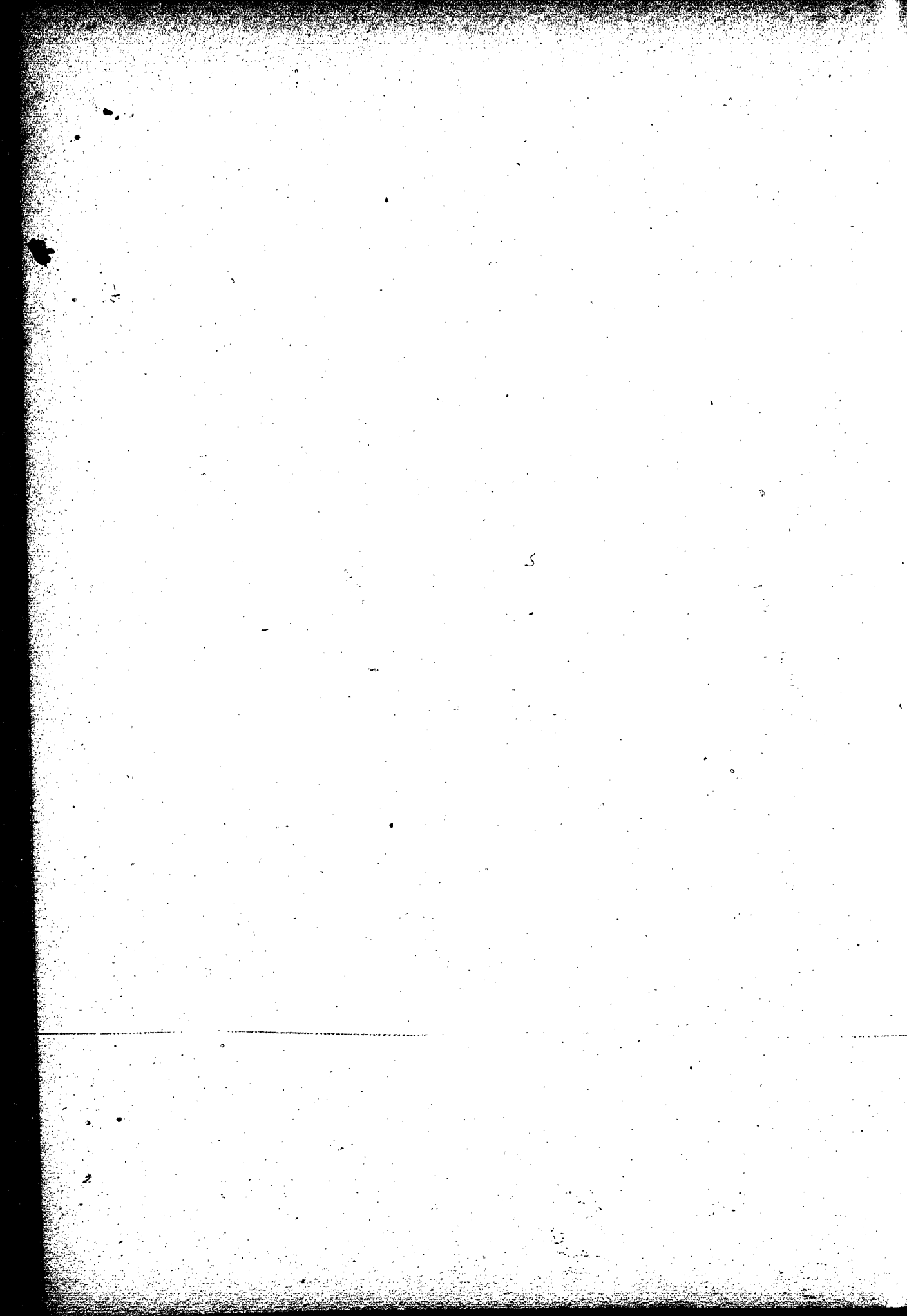
239 Mr. Macdonell (to witness): Now, Mr. Cox, you say you bored the beams on the Esquimalt span, under the sidewalk? A Yes. 30

240 Q Did you bore any of the beams on top of the beams? A On top of the beam?

241 Q Yes, the upper side of the beam? A Yes, they were all bored excepting one.

242 Q Are you sure as to only one? A Only one, I would not swear 40 to more.

243 Q You are not sure of one, anyway? A Yes.



244 Q Where was it bored? A It was bored underneath.

245 Q Whereabouts as far as the length of the beam was concerned? A Right under the hanger, underneath.

246 Q Did you bore them at both ends of the beam on the Esquimalt side of the span? A Yes.

247 Q All of them? A All, except two, I believe—No. 1 and No. 7 was not bored. 01

248 Q You bored at both ends of the others? A Yes.

249 Q On the Victoria span, how many beams did you bore there? A The first three nearest the Esquimalt span.

150 Q Do you know what numbers they would be? A That would be No. 1, 2 and 3. The beam would be number three and counting from the Victoria side, on the north side, nearest Esquimalt.

251 Q Would that be the Gorge side? A The Gorge side, Yes. 20

252 Q Can you call any fact to mind that makes you remember why you only bored three on the Victoria span? A Well, it was this: it was getting late in the evening, towards 4 o'clock, and Atherly—he was assisting me boring a certain one, and I says: "You go back, Atherly, and put down the sidewalk plank that we have taken up for the boring, and to make it secure for the night, and" I says, "by that time it will be time to go home, and I will go on with the boring," and then I bored three only on that side. 30

253 Q Did Mr. Wilmot see you doing any boring? A No, he saw us boring.

254 Q Do you remember the Mayor the same evening being there? A Yes.

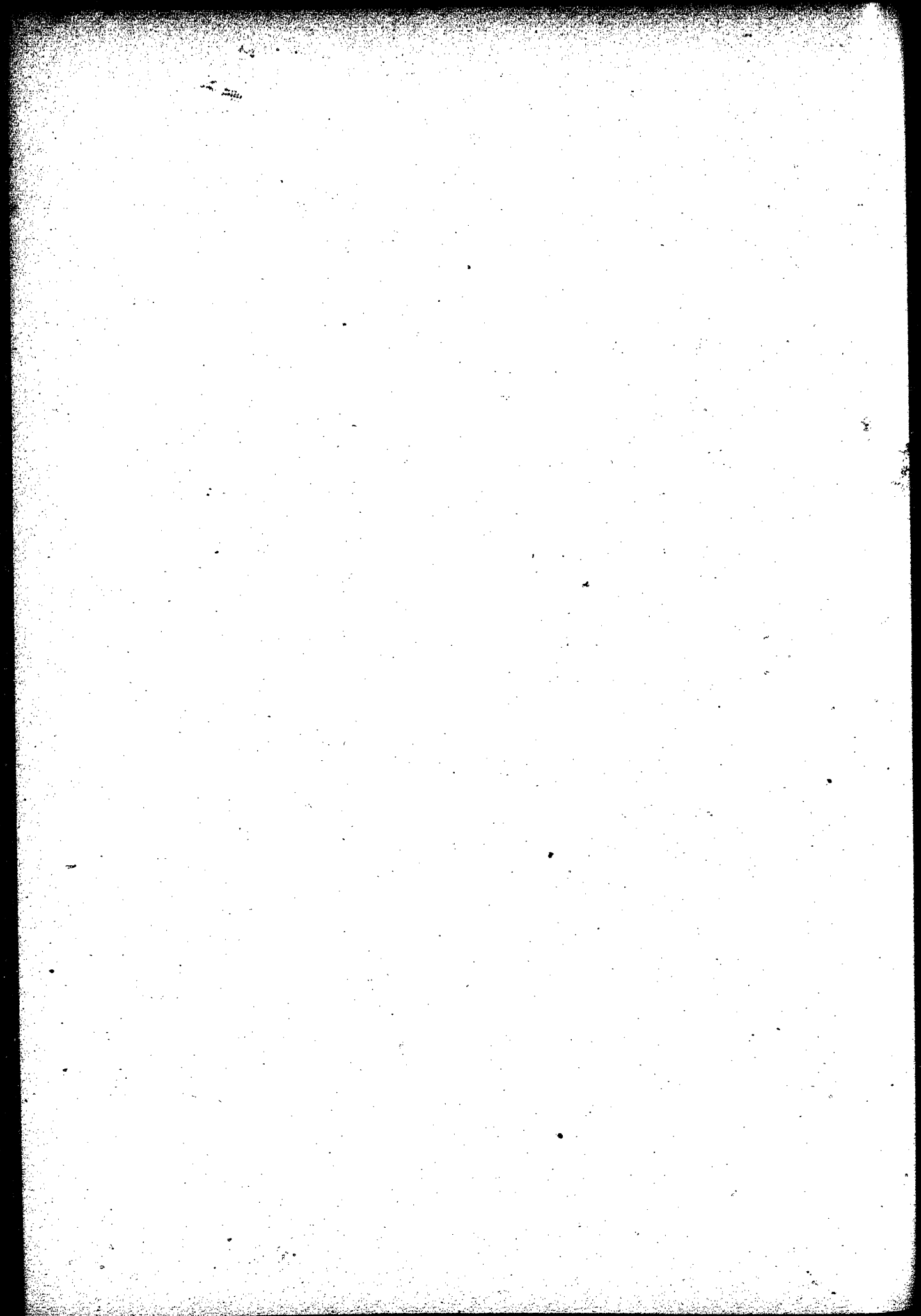
255 Q Did he see you? A Yes.

256 Q Did you show them the shavings from the borings? A Yes. 40

257 Q You are positive as to that? A Yes.

258 Q They saw the size of the auger? A Yes.

- 259 Q They saw the shavings? A They saw it all.
- 260 Q What time of the day did you stop boring do you think? A Close upon 5 o'clock.
- 261 Q You had to take up the sidewalk, I believe? A Yes, we could not do otherwise.
- 262 Q Did you inspect the beams from underneath, at all? A Yes.
- 263 Q How did you do that? A By means of a ladder and a seat; a piece of planking with two holes on each side and a little reef at the top—a small plank. I lowered Atherly down. 10
- 264 Q That is the Atherly who is here? A This man here.
- 265 Q So that was the reason why it took so long to bore those beams? A Yes.
- 266 Q What did you do with the borings after you got through? A They were taken to the office. I took them into the engineer's office myself, and laid them on his desk. 20
- 267 Q Were they all together? A No, they were separate; they were all marked, but I suppose he didn't notice the mark on the outside—1, 2, 3 and so on.
- 268 Q Were they marked "sound" and "unsound," and so on? A I believe they were.
- 269 Q Did you remark some as more unsound than others? A There was some little trace on some—just a little more. 30
- 270 Q Did you notice some any more than others? A I could not swear to any.
- 271 Q When were they taken to Mr. Wilmot? A The following morning.
- 272 Q Left with him? A Left with him in his office. 40
- 273 Q Did you get any instructions about plugging the holes? A Yes, I believe that day.



274 Q From whom? A From the engineer, Mr. Wilmot.

275 Q What did he tell you to plug those with? A Told me to get some oakum and tar and plug up these holes for the present, just temporary.

276 Q Did you get any oakum? A Yes.

277 Q From whom? A McQuade & Sons.

278 Q Who was that oakum charged to? A To the City, the corporation. 10

279 Q When did you plug the holes? A I would not swear whether it was the next day or afterwards. It was the day following—the third day after the boring, I believe.

280 Q How did you plug them? A The tar was mixed with the oakum, and just shoved in with the handle of a hammer.

281 Q Was it done for a temporary purpose, or was it—? 20

Objected to by Mr. Taylor. Objection sustained.

182 Mr. Macdonell (to witness): Was it the intention to remove those beams? A Yes.

Objected to by Mr. Taylor.

283 Q How hard did you drive in the oakum? A Just with the hand so. 30

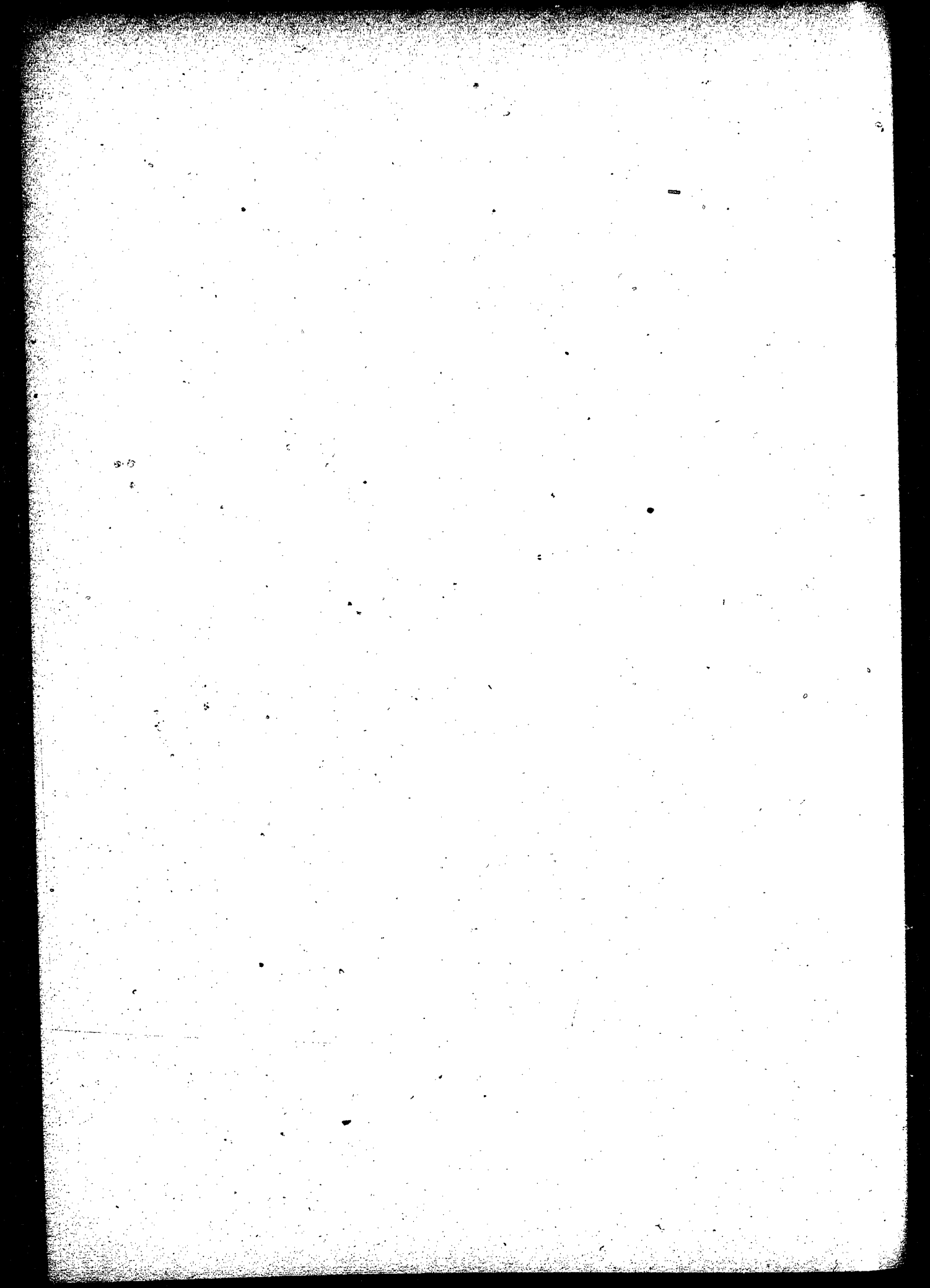
284 Q Was it driven in tightly or loosely? A Well, it might have been driven in tighter.

285 Q Do you know anything about wood, and rot? A Yes.

286 Q If it was the intention of having those beams in there permanently for any length of time, how would you have plugged them? A I would not have plugged them at all. They would have been better without plugging.

287 Q If you had to, how would you have done it? A I would have put in cement, or something of that kind. 40

288 Q Did you notice if the beam number 7 on the Victoria span was



bored? A I can't say whether it was or not.

289 Q The auger that you used, what kind of a handle had it? A In a piece of wood, and turned round this way (illustrating motion of augering.)

290 Q How long was the handle—the wooden part? A Might have been a foot—no more.

291 Q Could you have bored the holes that were in number 1 and number 7 in the Esquimalt side, with that auger? A Yes. 10

292 Q The same way that the holes are now bored—the same place? A No, I could not.

293 Q Why? A I could not get in between the iron—you would have to work it through half-way.

294 Q What kind of an auger would you have to use for the holes in those there, now? A A brace and bit to work half-way; we could not get round. A small bit—half inch. 20

295 Q I believe you are a ratepayer, Mr. Cox? A Yes, sir.

296 Q In Victoria? A Yes, Sir.

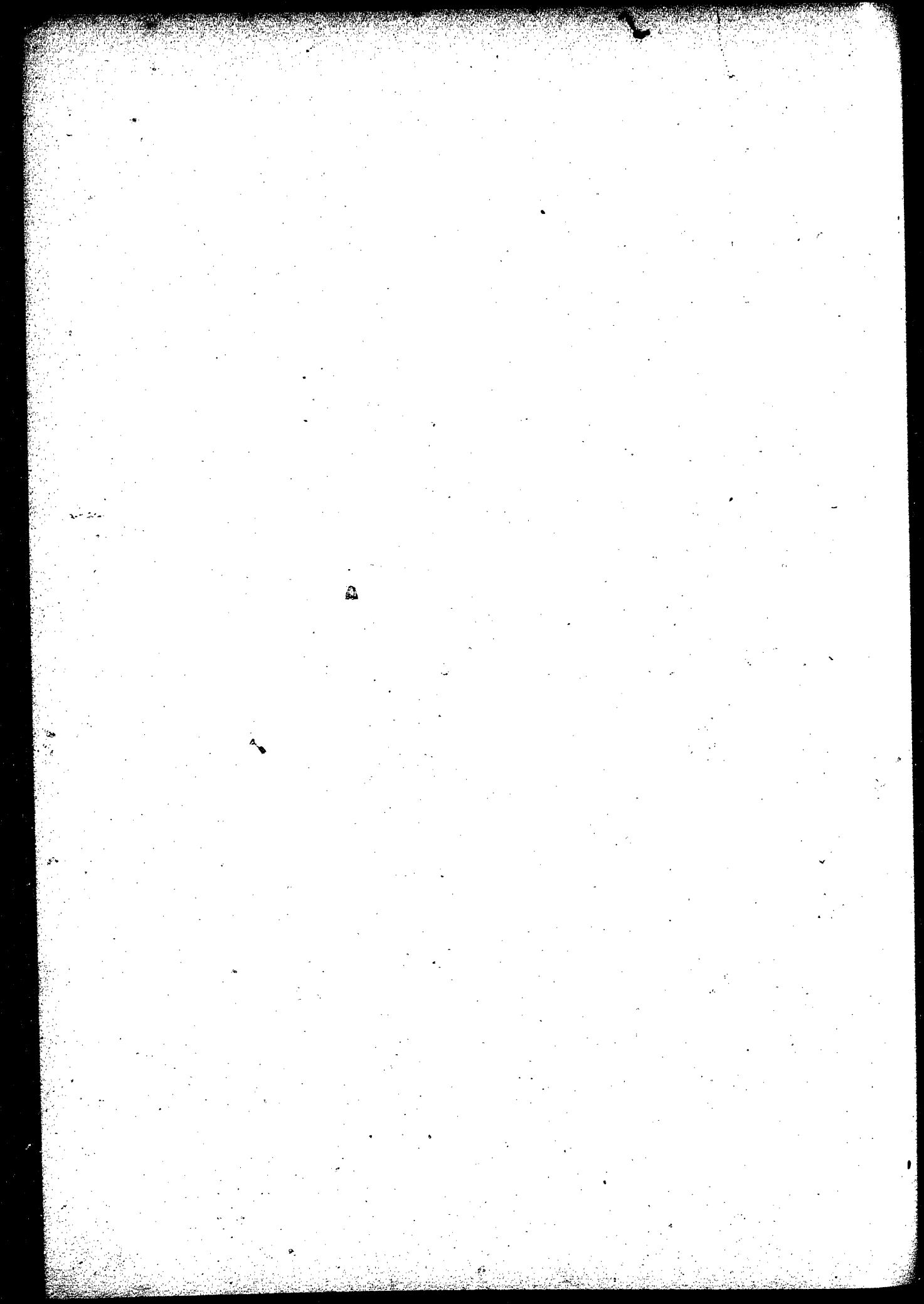
297 Q You were not examined at the inquest? A No, I was not here.

30

Cross Examined by Mr. Taylor.

40

298 Q You were examined though in the Patterson case weren't you?
A Yes, sir.



299 Q And you were also examined in this case before trial? A This case? No.

300 Q Don't you recollect that? A No.

301 Q You cannot recollect that? A In this present case?

302 Q Yes? A Is that the examination in Victoria? when you was present?

303 Q Yes. A Yes.

304 Q You were examined. So you have testified with reference to the bridge accident twice already, and this is your third time? A Yes.

305 Q Speaking generally, is your recollection as good now as it was then? A Generally, I think. I think it is generally.

306 Q And how was it then? A Good, then.

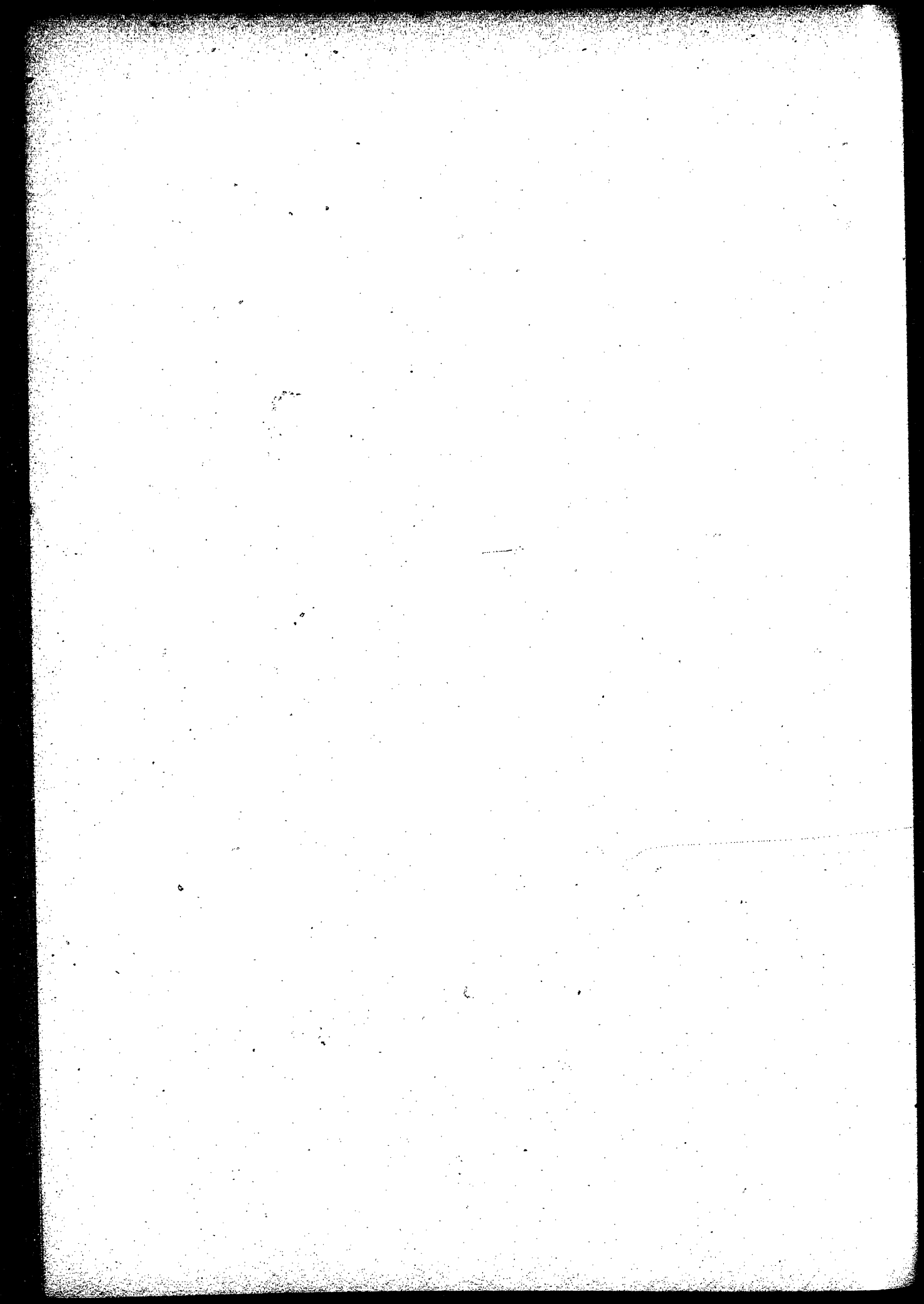
307 Q I think that you testified that you bored this hole about 7 or 8 inches from the hanger hole on the plank walk side. You testified in the Patterson case that you bored these beams at both ends—1, 2, and 3? A No, I did not.

308 Q You did not? A No.

309 Q Well, perhaps I am wrong, Mr. Cox. I was under the impression you did testify you bored them at both ends? A No.

310 Q You say you did not testify that way. Look at line 25, p. 94 evidence in the Patterson case, in the ^{appeal} ~~special~~ book. It is just before exhibit "V" is put in (to Mr. Macdonell.) (To witness) You were asked this question: "which part of the beam of those 3 did you bore? There is a north side? A Yes, it was the north side; we bored the south and north side both, but it was the north side at that time when I say I told the man to go back, and put on those plank to nail them down and make them secure. Where he left me boring I bored on the Gorge side." You say you did not say bored on both sides? A No, on the Victoria span.

311 Q I suppose that statement was not true in that case? A No, I said as far as the other span was concerned. I said the Esquimalt span was bored on the north side,



312 Q I will call your attention to where you make a reference to what you have just said now, at page 94 beginning at the middle of the page, and I will read the questions to see if your attention was not called to that. "Will you point out on that plan there the beams that you bored in 1892 under those instructions (referring to exhibit "R" —referring to the instructions you say you got from Mr. Wilmot, referring to exhibit "R." That was 1, 2, and 3, the same as that.

313 Q "Number 1, number 2, and number 3. That is all that was bored in that span by me or anyone else at that time, on the Esquimalt side." 10
Witness: On the Victoria side.

314 Q On the Esquimalt side? A No—on the Victoria side.

315 Q "This is the Esquimalt side, as I understand it, of that span: that is, the collapsed span. This is going from Victoria to Esquimalt; that is the Esquimalt end that gave way" This was the question asked: "The Esquimalt side of the first span that gave way?" You say: "Of the first span from Victoria." Witness: Yes, that is right. 20

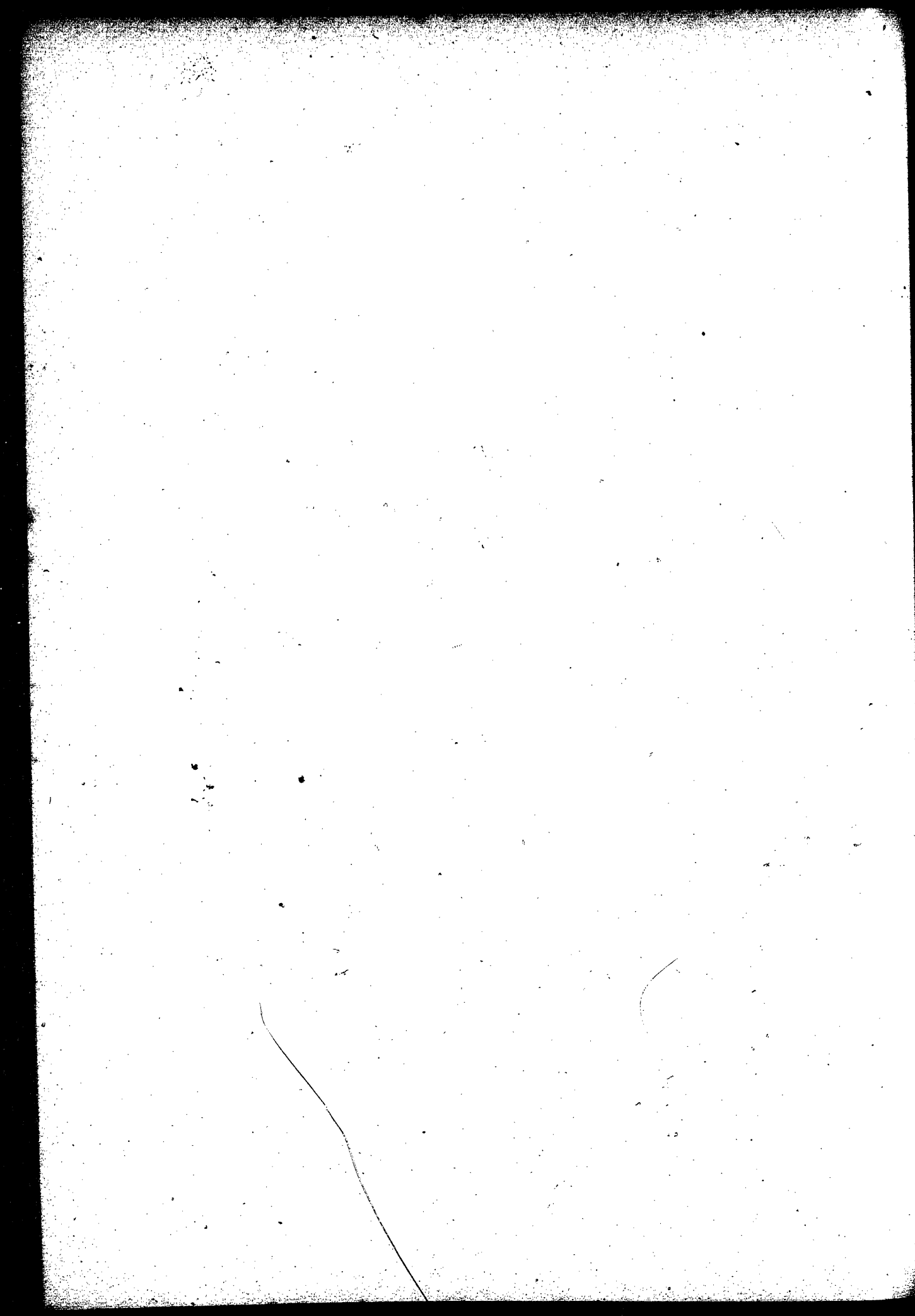
316 Q "Will you tell us why you remember boring only three in that span? A Yes." Then you give your answer pretty much as to-day, and then you are asked "Which part of the beam of those 3 did you bore? When you refer to 3 you are referring to 1, 2, and 3, of the span that collapsed? A Certainly.

317 Q Then you were asked the question. Witness: On the north side.

318 Q The question says "There is a north side?" and you answer it was the north side. "Which part of the beam of those 3 did you bore?—there is a north side," and then you add yourself, without any further question, "We bored the south and north side both, but it was the north side at that time when I say I told the man to go back and put on those plank, to nail them down." A The north side; I said the Esquimalt span we bored on both sides. 30

319 Q Was not your attention called to those beams? A That was the only beams we bored at that time. That is what I stated at that time in the presence of this Court. 40

320 Q You were asked still further with reference to that On page 21 of the *de bene esse* examination. You heard Atherly also testify at the Patter-



son trial? A I believe I did.

321 Q And he was with you at the time? A Yes.

322 Q And you remember what he testified as to which side of the beams?
A He said the same as I said. He said that he bored—assisted to bore one beam on the Victoria span, and I told him to go back and put on the planks while I finished boring that end.

323 Q Do you remember whether he said he bored the two end of the number 3 beam? A He didn't say so; I say he didn't so.

324 Q Well, we will see whether he did or not. Beginning at the place where you told him to go and put down the planks over the sidewalk, pp 272, and 273 of the testimony in the appeal book. It would be beginning at p. 2 of his evidence marked by the stenographer. "On the Esquimalt span. To do that you would have to leave him, of course? A Yes, sir. Q What was he going to do while you were doing that? A He was going to finish the boring sir"—(that is you were). Q He was going to finish the boring, and where, as you went away to put the planks down on the Esquimalt span, where did he go on with the boring? A He started right to bore on towards the Victoria side." Witness: That was me. 20

325 Mr. Taylor: Yes. "On towards Victoria, and at which end of the span? That would be towards the Gorge or the other side?" and Atherly answered "we bored it on both sides." Witness: No.

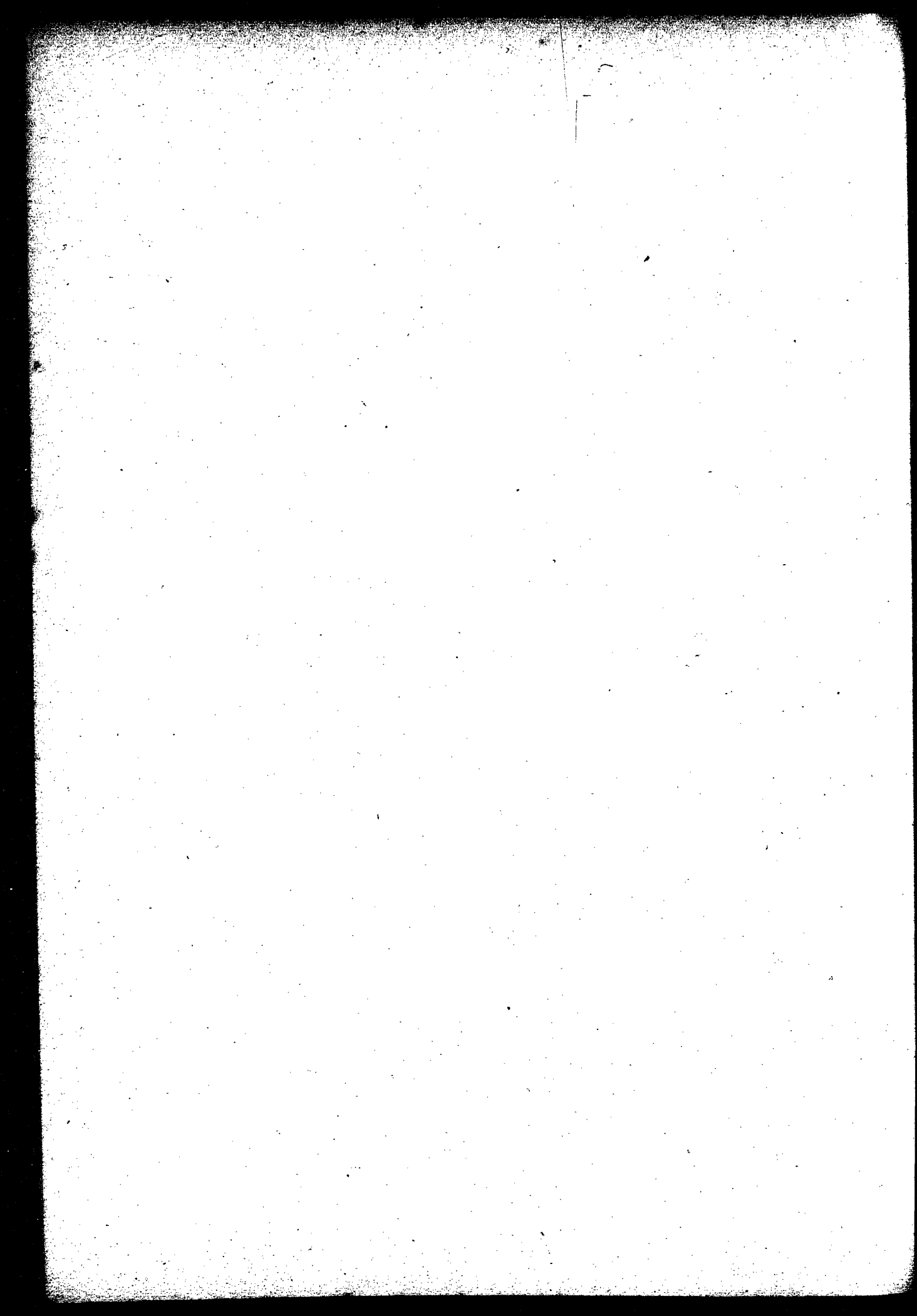
326 Mr. Taylor: He did not—eh? To go on: "I know, but the Victoria side I am speaking of, now, that he went to bore when you went putting the planking down?" and the answer is "On the Gorge side." And then you go on to another question. So you both said then you bored it on both sides? Witness: I didn't say it. 30

327 Q And you say that Atherly didn't say it? A He did not.

Mr. Macdonell: I submit that Atherly did not say anything of the kind.

Court: You will have a chance of showing that at the proper time, and of calling attention to the other portions of the evidence to disturb the position that Mr. Taylor suggests, now. 40

Mr. Macdonell: But if my learned friend will say a witness said so-and-so,



to this witness when he did not say so, and I see he is mistaken, then I think I have a right to call his attention to it at the time.

Court: Yes, but he is putting this advisedly. It is not as if a casual disagreement arose. Evidently Mr. Taylor is relying on a substantial variation between a former statement of this witness, and now, and unless Mr. Taylor misreads the evidence from the stenographer's notes, it is not usual to interrupt.

Mr. Macdonell: No; but I say he is mistaken in what Atherly said.

Court: Well, you will have an opportunity in re-examination to read as much or as little of it as you like. 10

Mr. Taylor: For the purpose of keeping this clear on the notes, I direct attention to question and answer 273, Appeal Book, in the Patterson case, beginning at line 10, and ending at line 12.

Court: After all, there is very little reason for any misunderstanding about this evidence, because under the arrangement made the jury will be able to take this evidence into the juryroom with them, and if it rests upon the mis- 20
placing of a comma, the jury are quite as able to judge of it as we are.

Cross-Examination Continued.

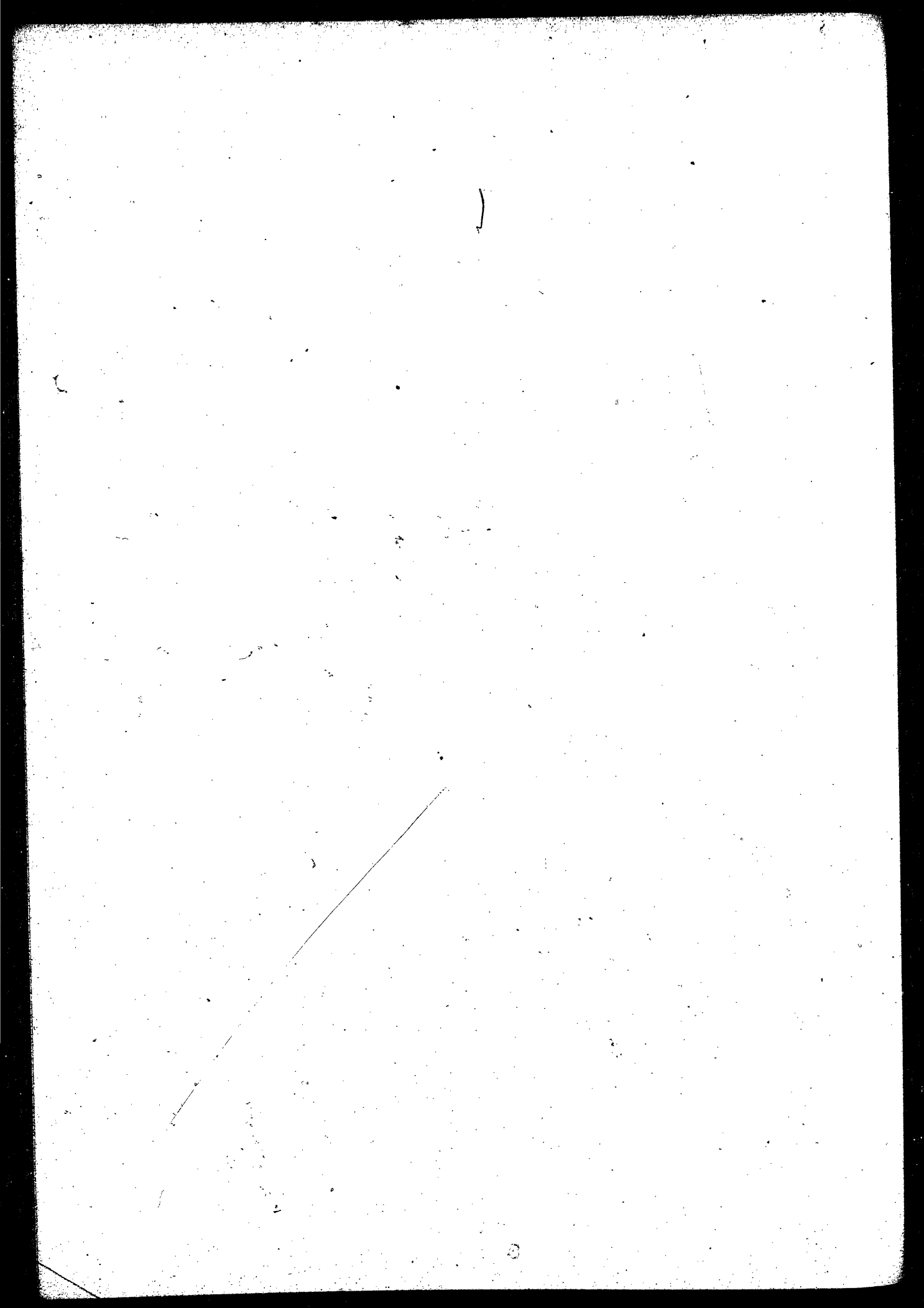
328 Mr. Taylor (to witness): At any rate, the stenographer must be wrong; he had no business to take down the answer that way, Mr. Cox? A I told them down below it was a mistake in his taking of it down that way.

329 Q You testified in Victoria on a commission there a short time ago?
A Yes. 30

330 Q You were examined and cross-examined there, and you spoke of boring not on the span that collapsed, but on the span nearest Esquimalt—boring some beams there, didn't you? A They were all bored except two in the Esquimalt span.

331 Q Do you remember what you said about the boring of them then, Mr. Cox? A I forget exactly—what is it?

332 Q You don't remember what you said about the boring of them? 40
I will show you in a moment. You were in charge of this work of inspection of bridges and sidewalks from that time to what time? A 1891,—oh, the bridge only?



333 Q No, bridges and sidewalks. In other words you were in the employ of the city from—? A From 1891 to 1896, April; May, 1891, to April, 1896.

334 Q And part of your duty was to inspect and see the condition of bridges and sidewalks? A Yes.

335 Q And to let the city know? A Yes.

336 Q I think you testified that the minor class of repairs you would do without saying anything about it to the city, and repairs of a greater degree you would report if they needed repair? A Yes. 10

337 Q In other words, small matters you did without reporting particularly, and your duty was to report work needing a larger extent of money? A Yes.

338 Q There was no one else during that period whose duty it was to do that work other than yourself? A Oh, if I sent a man to do it— 20

339 Q But I mean to say, the inspection of these bridges? A No one except the engineer.

340 Q But that was your particular duty? A Yes.

341 Q And if ever you saw anything wrong, you either repaired it, or reported it as needing repairs? A More often repaired it than reported it—any small matter.

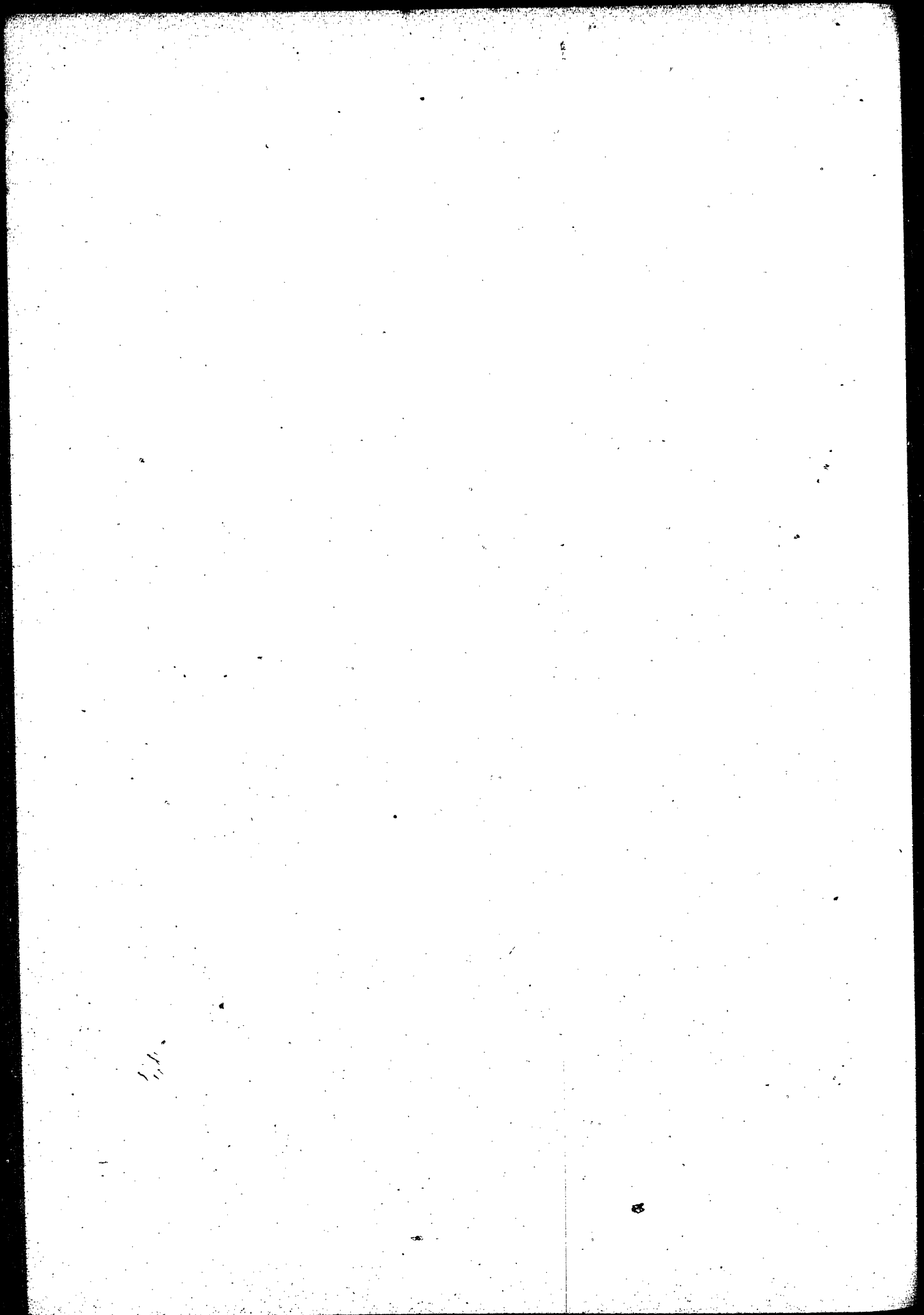
342 Q You testified with regard to the number of beams you bored and the size of the auger you used at this Patterson trial, and also in your examination on this trial, at Victoria? A I think so. 30

343 Q And you said an inch and a quarter auger? A I believe I did.

344 Q And since you have examined some old beams that are in the Esquimalt span that now stands— A Yes.

345 Q —and you find it is much less than an inch and a-quarter auger hole? A It is not a half inch—barely a half inch. 40

346 Q And No. 7 beam on the span that collapsed, did you see the auger hole in that? A No, I was not here when they was broke up.



347 Q And the auger holes you did see were smaller than an inch and a quarter, and you say were plugged with wood? A A stick just about the size of your finger.

348 Q Isn't that about large enough to fill a one-inch hole? A Something about that.

349 Q It was bored underneath? A No, between the hanger on top; there was one on No. 1 on the Esquimalt span, and one on No. 7—not on the other. 10

350 Q During the time you were in charge of the bridge was there any other person to do any boring? A Might have been.

351 Q Do you know of any? A I don't know of any.

352 Q It being your duty you would have known whether there was any other person? A Other people have overhauled that bridge, besides me.

353 Q Do you know of any while you were there? A No. 20

354 Q And you were in charge, too? A When other folks were working on it, I had nothing to do with it.

355 Q You were in charge of the bridge up to within thirty days of the accident? A No, when other people worked on the bridge, I was relieved. I had nothing to do with it, gentlemen.

356 Q Then I ask you what other people? A McIntosh repaired the bridge after the accident. 30

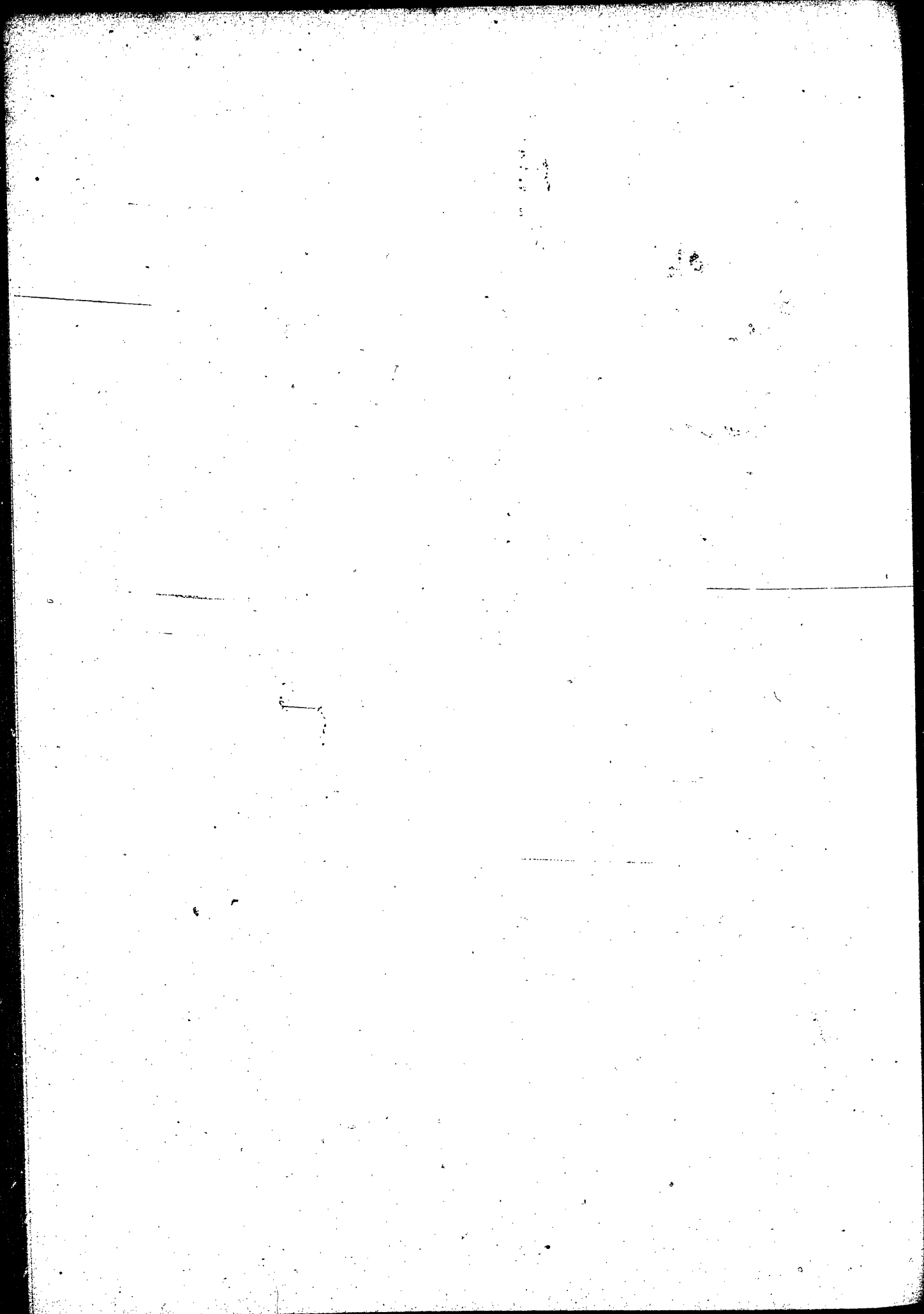
357 Q What did he do? A Generally overhauled the bridge.

358 Q What he laid was stringers and rails? A And put a new floor in.

359 Q He was doing that for the tramway company? A The city or the tramway company.

360 Q Don't you know he was doing it for the tramway company? A No, I don't know. 40

361 Q Oh, come now, Cox, what is the use of saying that? You say



you don't know? A No.

363 Q That is what he did; he laid some stringers for the car rails? A For what difference there was between the city and the tramway, that is none of my business.

364 Q You know what he did to the bridge? A I know it was put on; that is all I know about it.

365 Q It was necessary for you to know? A No; I was not there at all. It was entirely taken out of my hands. 10

366 Q But didn't you see what was going on? A No.

367 Q You do not mean to tell us that you whose duty it was to look after these sidewalks and bridges, would see something of that kind going on, without knowing what it was? A I tell you it was the city engineer who looked after that.

368 Q Didn't you know what was done? A Afterwards. I was not present when it was done. 20

369 Q What they did was to lay stringers for rails for the car, and laid a new floor? A Yes.

370 Q And in 1892 they put some new beams in? A Yes, I believe they did.

371 Q Well, you know they did, don't you? You saw it done? A I don't know how many was put in. 30

372 Q You saw it done? A No, I didn't see it done—none of it.

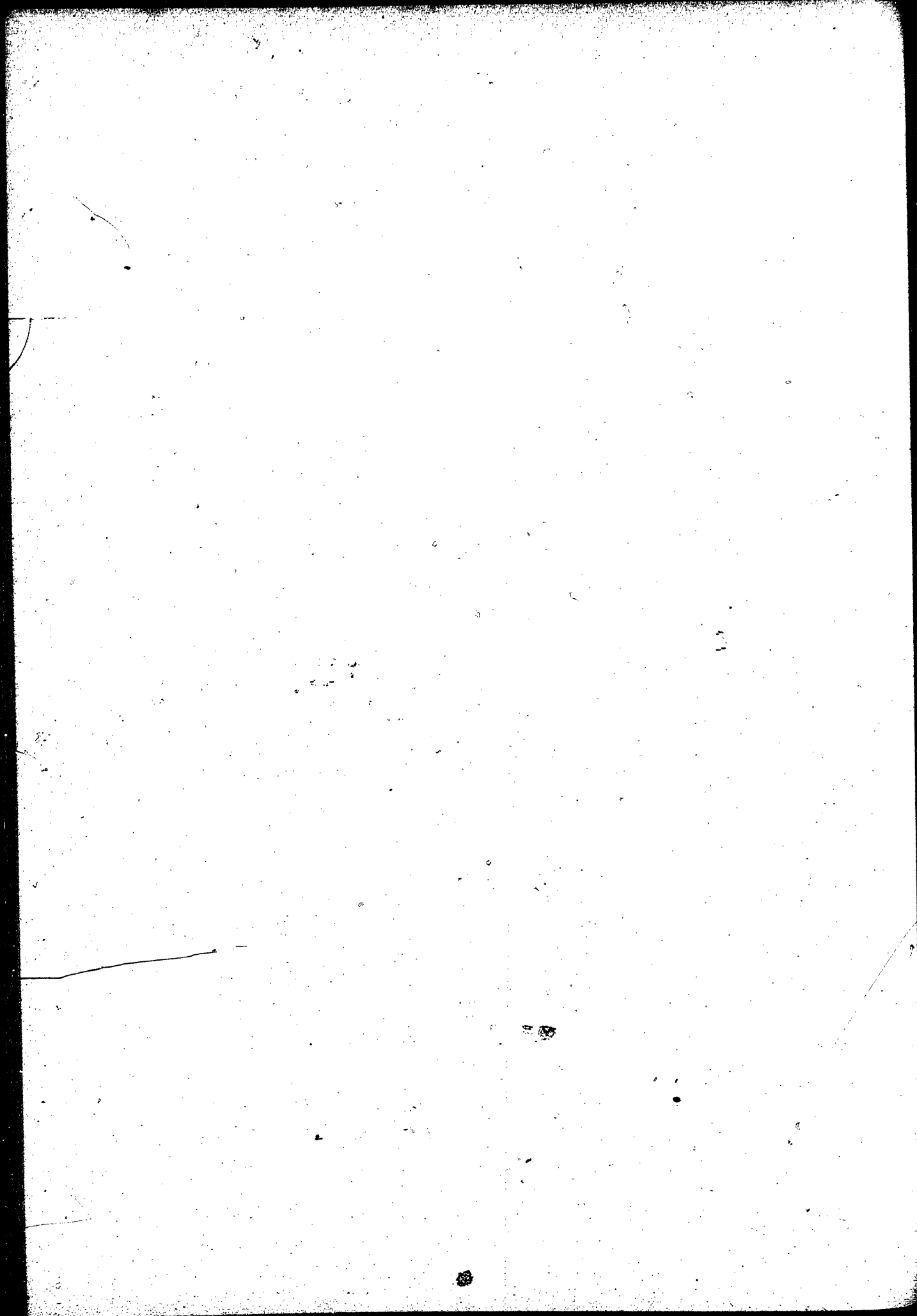
373 Q And you did not see what the effect of it was after it was done? A How could you after it was covered?

374 You did not look during the course of it? A I had no business to.

375 Q You did not pay any attention to it at all? A No.

376 Q And you were city carpenter for three years after that period? A Yes. 40

377 Q When did you first find that out? A I didn't know even until



after the bridge was collapsed how many new beams was put in that span, until I came back here a year and a-half ago.

378 Q And it was your duty to see what the condition of the bridge was? A No, it was not.

379 Q Then you were not correct a few months ago when you say it was your duty? A So far as that bridge as you may walk over—so far as the eye could see, and nothing more.

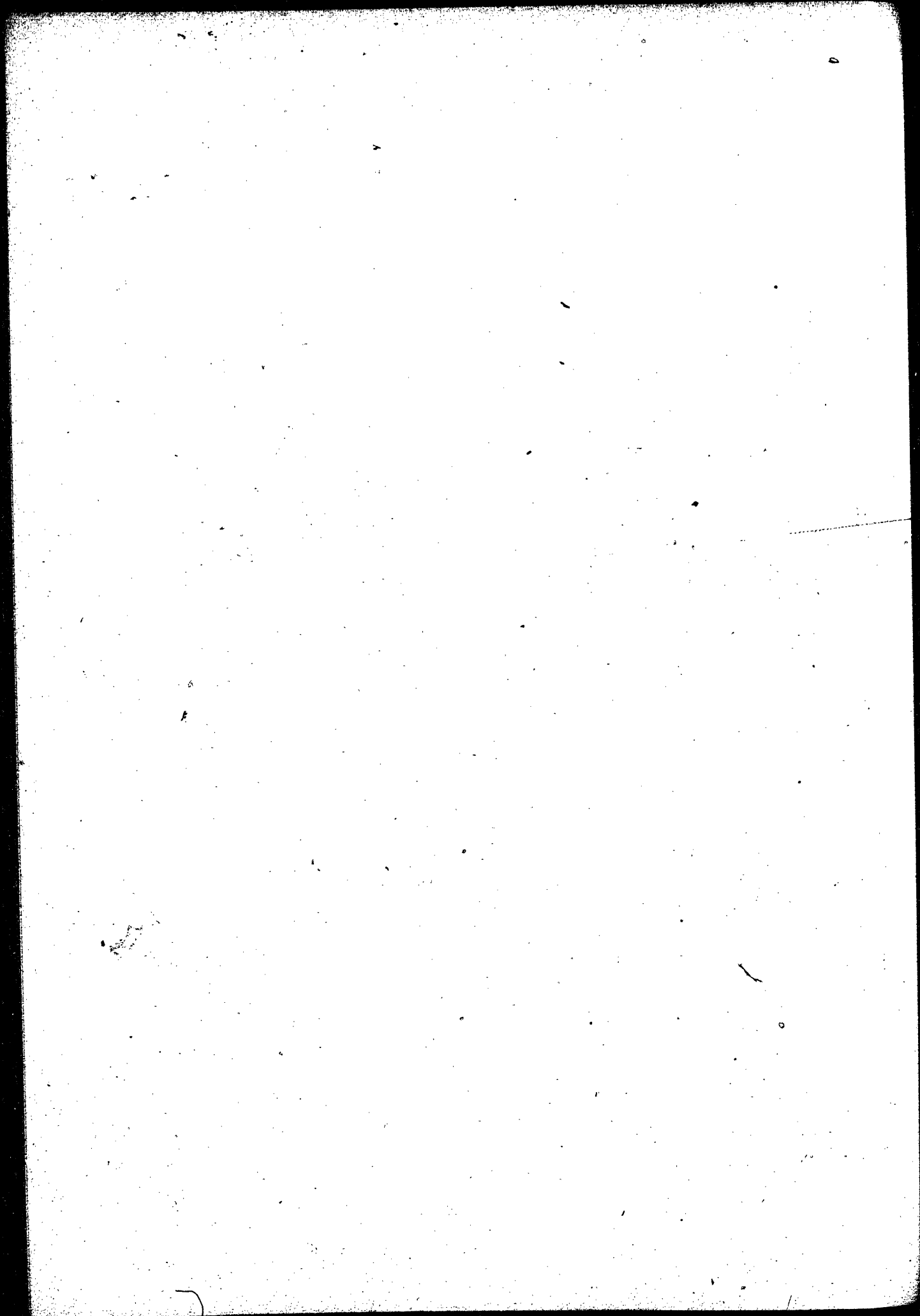
380 Q You were told in 1892 to go and bore some of those beams and see if they were sound, and did bore some of them? A Yes. 10

381 Q And some that you bored you found extremely rotten? A Not extremely; there were pieces of rot

382 Q Is that so, what you said in your examination here only two or three weeks ago in Victoria? You were asked this question, p. 13, ques. 26:—“Then it is a fact that all the beams you bored were rotten?” To which you answered “Every one.” A More or less. 20

383 Q “Q Every one. They were pretty badly rotten too, weren't they? A I believe they were. Q You believe they were? A Yes. Q Then why didn't you replace all the beams in the bridge? A I had nothing to do with it. Q You had nothing to do with it. A No. Q You were told to go and bore the beams and plug the holes? A Yes. Q Did you plug the holes? A Yes, all that we bored, with oakum. Q Did you plug them with wood; A No.” You say that answer is not quite correct? Witness: It may be pretty near the remark, but so far as saying they were badly rotten— 30

384. Q To see if you were taken by surprise, in that question we will turn to p. 15, and see what you said, beginning “weren't you expected to make any report?” That is referring to the time you had instructions to go and bore and examine and report “Q How were they going to find out your opinion whether they were rotten or not? A There was my opinion that was handed to them. Q Was it your opinion? Yes. Q That was something that you bored out of the beam? A Yes. A And they were rotten? A Yes. Q Everyone of them? A Yes. Q Very badly rotten? A Yes, pretty bad. Q You never did in fact then bore the other beams in the Victoria span? A No. Q But they were replaced? A I believe they were, afterwards. Q You know 40



they were? A I didn't know for some time; I had nothing to do with them." We look further down in that question and see what you said then in regard to it. Line 22—"Q Wasn't it your duty to circulate about the city to ascertain whether the bridges and sidewalks were in good condition or rotten? A I had nothing to do with it in that case; it was placed in their own hands, and I had nothing to do with it." You had instructions to go and report on it at that time? A No.

385 Mr. Taylor: P. 16. Q "Wasn't it your business to ascertain whether or not this material was rotten? A It was not my business at all. Q What was your business? A To ascertain whether they were rotten." Witness: Some mistake there. 10

Mr. Taylor: We have been gifted with a number of bad stenographers? A Well, even so.

386 Q "To ascertain whether they were rotten—to find out whether the materials were rotten, the sidewalks and bridges in the city? A You mean previous to the accident? Q At the time of the accident? A I had not got the chance to do it, when I was ordered the next minute almost—" (To witness): Now, Mr. Cox, you also said in this examination that you bored one of the beams from underneath. A Yes. 20

387 Q And you found it very rotten? A I can't say I said that.

388 Q Well, what do you say now about it? It may be rotten.

389 Q What do you say now? A I say now it was rotten more or less; as to how much a person can't tell—as to any quantity, a man can't tell. 30

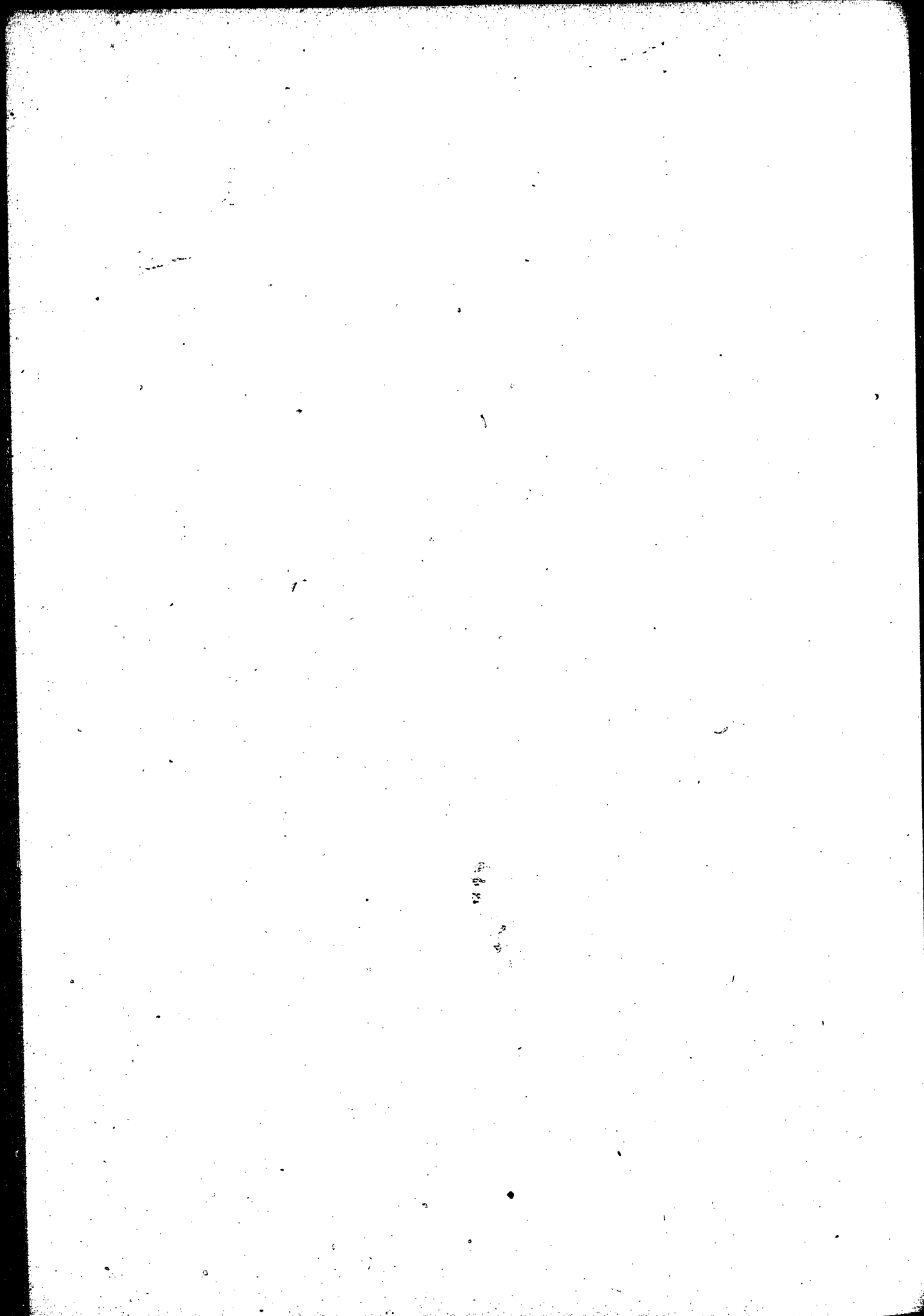
390 Q Didn't you say as a matter of fact they were about half rotten through? A No, I did not.

391 Q You did not say that? A I did not.

392 Q What kind of a recollection have you got? A I have a pretty good one.

393 Q Must this reporter be wrong in what he has reported you as saying? Is that so, Cox? A What is that, sir? 40

394 Q Do you say this reporter must be wrong, in this statement of what you said? A Pretty indifferent, some of them.



395 Q At any rate, you knew this beam was pretty badly rotten in 1892? A It might be ; I don't say that it was ; I never swore it was.

396 Q I read what you say, and you say that is not correct? A I could not say how much ; might be one or six or the whole.

397 Q Didn't you say all were so rotten they should all be taken out? A I did not ; I dont think so.

398 Q Well, we will see whether you did or not. A I think I made some remark why wasn't those two beams that were left in and taken out during the inquiry—? 10

399 Q In page 24, Mr. Cox, beginning at the top— Q You were asked to bore and find out the condition of the bridge? To which you answered: "We were not ordered to do any more boring ; we bored that day, and that was sufficient. Q And you might have bored one beam and if it was five o'clock, you would call that sufficient? A Yes, if they ordered it. Q And then report the bridge in sound condition? A "It was quite sufficient to report the bridge rotten as far as the beams—" Witness: You might have wrote it down, but I didn't say rotten. 20

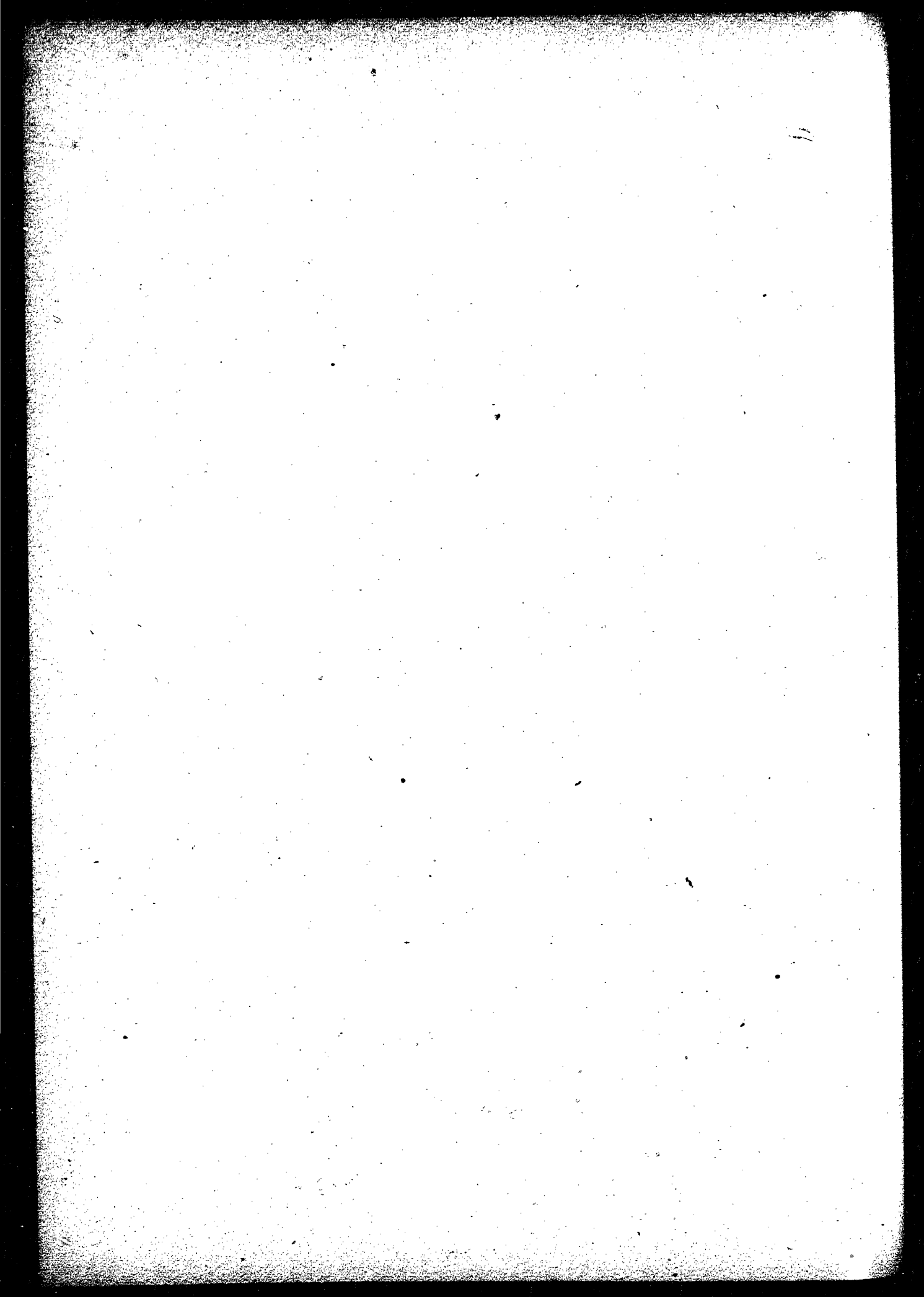
400 Q This was written not by me, but by the shorthand reporter. "And then report the bridge in sound condition? A It was quite sufficient to report the bridge rotten as far as the beams— Q How do you explain your report then in 1895 that it was sound when this beam No. 3 had not been removed? A There wasn't any question about its being rotten ; I don't know; if it is not bored underneath it is not bored on top." Do you know what you mean by that answer? Witness: Which beam are you referring to? 30

401 Mr. Taylor: "Q What is not bored on top? A That, I think it is the No. 1—I would not be sure—on the Esquimalt span on the north side it is bored underneath, and the other side it is bored on top." You answered that way? A Yes.

402 Q And then "Q You bored some underneath and some on top?" Do you say that still? A There were one or two bored underneath and the rest on top.

403 Q You answered to that "That is what we did." A Well, even so— 40

404 Q Then you were asked this:—"Q Why did you do that? A To



ascertain which was the worse ; we found the bottom was worse than the other, and we didn't bore but one or two of them." That is, you mean the holes you bored in the bottom disclosed a more rotten state than the holes in the top?
A I suppose that was the meaning of it.

405 Q You bored one of the Esquimalt side at the bottom and you found that absolutely rotten? A Yes, worse than the top."

406 "Page 25. Q And then you bored the other from the top of the beam? A Yes. Q And you found them absolutely rotten? A Yes. Q 10 You did that with the Esquimalt span? Esquimalt span only. Q And then you bored three of the beams on the Victoria side on the top? A Yes. Q And found them absolutely rotten? A Yes." That was your answer. "Q And you found the condition of the beams on the Esquimalt span was a little more rotten when you bored from the bottom than when you bored from the top? A Yes, the one that we bored." Witness : Yes.

407 Mr. Taolor : "Q And they were all rotten and unsafe at that time? A Yes. Q And you were aware of that fact? A Yes. Q And you did 20 not report that to anybody? A It was reported the next morning. Q You handed in those borings? A That was what we did. Q You say this particular beam (3) in the Victoria span you handed in the borings to them to let them see for themselves? A Yes. Q That was your idea in boring it? A Yes." Then this question : "Q I see. Well, Mr. Cox, I would like to ask you how you could, knowing that those beams were absolutely rotten in 1892, make a report in 1895 that the bridge was sound?" and I ask you now how could you do it? You did make a report in 1892 that the bridge was sound, and I ask you now, knowing those beams were absolutely rotten in 1892, you could report to the council in 1895 that the bridge was sound? A The only 30 way the order that I ever received from the city was this—what I could see, walking round, with my eyes—walking round that bridge or any other bridge. I was not allowed to take up any floor or interfere with anything underneath any sidewalk of any description, and that is what I reported.

408 Q Do you mean to say that knowing beams were rotten in 1892 (because you had exumined them by boring) and knowing those beams were not taken out in 1895, that you would report to the council that the bridge was sound? A I didn't know how many was taken out from 1892 to 1895.

409 Q Did you look to see? A No, I was not allowed to look.



410 Q Who stopped you looking? A Well, take the engineer for it and he will tell you.

411 Q Who stopped you from looking at the bridge? A No one stopped me particularly, but I was not allowed to meddle with it.

412 Q I refer you to your report of 1895 that you made to the council. After dealing with a number of other matters, you say: "The Point Ellice bridge is in good condition"—A So far as I could see.

413 Q Did you say that, here? A So far as I could see. 01

414 Q Did you say that in your report? A I believe it is there, and if it is not there, it ought to be.

415 Q If you can show me that in the report, I shall be pleased for you to find it? A It may not be there.

416 Q Presented for 1895? A You can't go upon that report.

417 Q Is there anything in that you do not agree with? A I don't want to look at it. 20

418 Q You add this "This is to certify that the above mentioned bridges are all in general good order and have kept so during the past year." A Yes.

419 Q Was that true? A That is true.

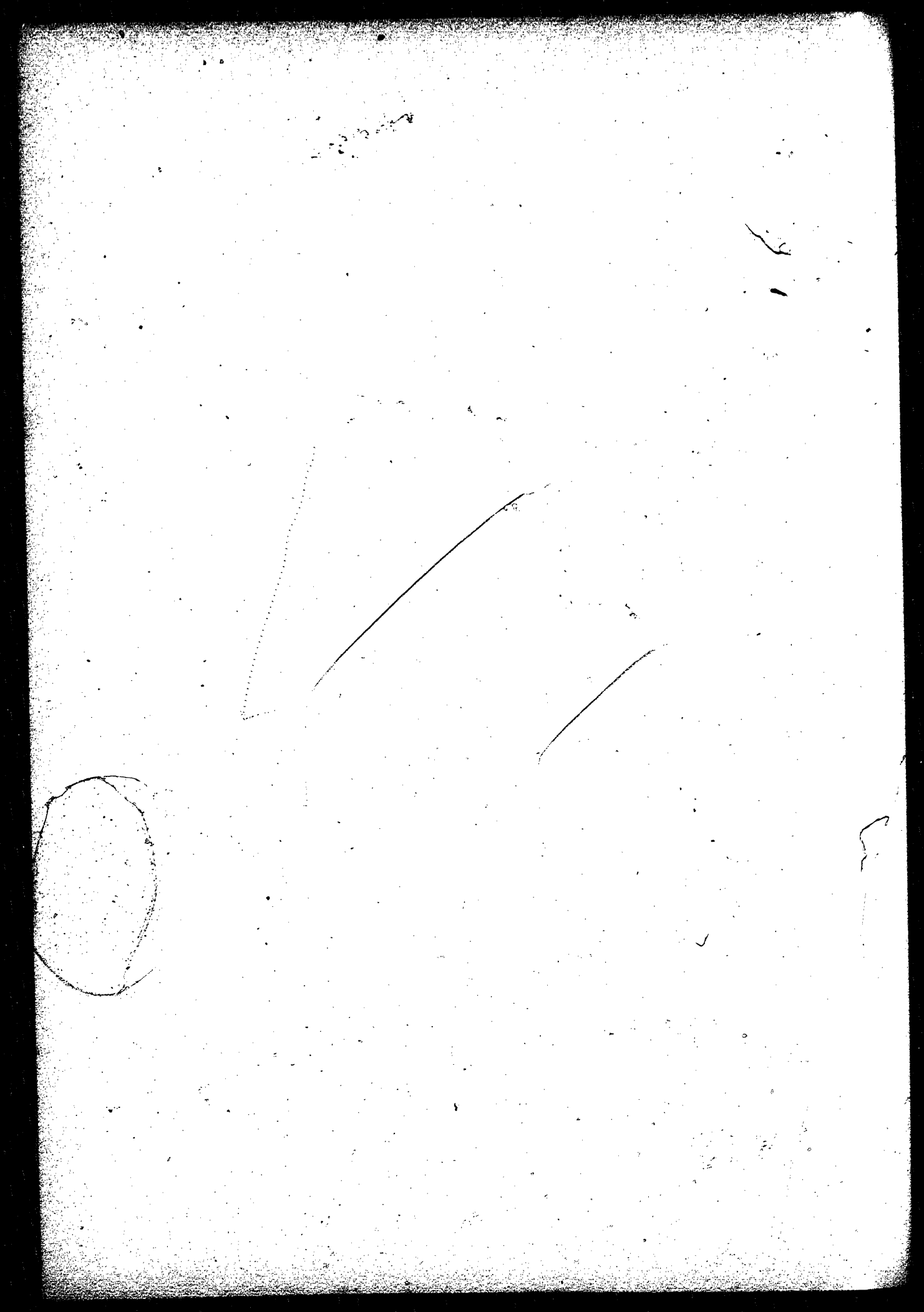
420 Q How could you say that when you say in 1892 this beam was rotten, and had never been replaced? A I didn't know but what those beams were replaced—I told you before. 30

421 Q Did you look and see? A I was not allowed to look—only to walk over the bridge and the floor—that is all you were allowed to do.

422 Q Who stopped you from looking at the underneath portion of the bridge? Was there anybody who ever stopped you? A Do you suppose I could waste my time going round—?

423 Q Answer the question? A Yes, if I went to any alderman and said "I would like to take that plank up," they would say you could not do it. 40

424 Q Couldn't you look? A How could you, without taking up the floor?



425 Q Then your own report, signed by yourself, addressed to the city engineer. (Reads letter accompanying report.)

"Sir, In compliance with your request, I beg to submit herewith the following report, relative to sidewalks, water tanks and bridges." Witness: That is right.

426 Q In other words, you were asked to do that? A That was Mr. Wilmot's instructions at that time.

427 Q And in pursuance of that, you reported this bridge sound, without knowing whether or not it was sound? A By looking over it only; just what I could see as you walk over it, and from a boat underneath, looking up. That is, all that you can see from the bottom. 10

428 Q You could tell from a boat underneath, looking up, whether they were old or new beams? A You couldn't tell a thing about it.

429 Q Do you mean to tell us that in discharge of your duty to inspect that, that is all you did? A That is all I did in any case. 20

430 Q What was the object of getting this report from you? A Just a general routine of business every year—it was not one year.

431 Q Was it not in order that the city council might know the condition of the bridges and sidewalks? A They did know previous to that, but they never completed it.

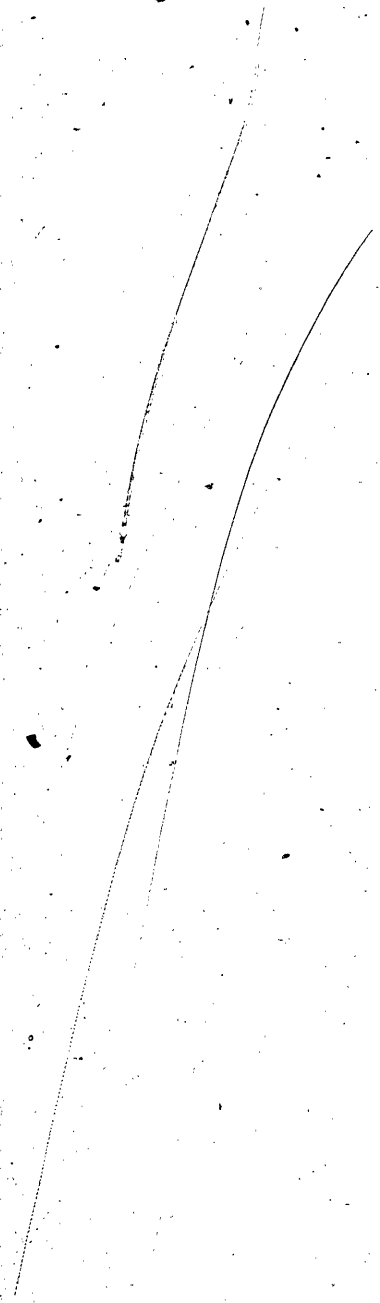
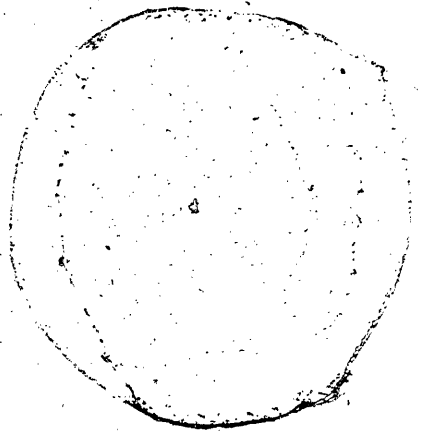
432 Q The city council change, as individuals? A Every three years—some of them. 30

433 Q They change every year? A No, some of them go back for two or three years.

434 Q But there is a new election every year for aldermen? A Oh, yes.

435 Q Do you consider that was a fair thing to do to the council and ratepayers to report that bridge as sound without knowing whether it was, or making an examination? A Yes, I consider it was fair. 40

436 Do you consider that was even common honesty? A That is what I was ordered to do, and nothing more.



437 Q You have just told me the instructions you got were set forth in your report, isn't it, with Mr. Wilmot, to examine the bridges? A That is correct.

438 Q And you consider you were performing that duty when you simply walked over, and did not look at the under portion of the bridge at all? A Not of this bridge.

439 Q You skipped this one? A I didn't skip any of them. I walked over it half a dozen times. 10

440 Q You were discharged in 1896 about 30 days before this accident? A April 1st, I think.

441 Q You were discharged from the city service, then? A Yes.

442 Q Do you wonder at it yourself? A Not a bit of it—not a bit of it.

443 Q You have looked at those beams, or those beams in the Esquimalt span? A Yes. 20

444 Q Since you were examined in the Patterson case? A Yes.

445 Q You found that some of those beams were bored with a half inch auger? A No.

446 Q What size? A Half inch bit.

447 Q What is the difference between a bit and an auger? A A great deal of difference. 30

448 Q I don't know it, Mr. Cox—tell us what it is? A An auger is about 2 feet, and a bit is only about 10 inches or 8 inches. You can have them in all sizes, from 2 feet up to 6 feet, if you want an auger.

449 Q An auger is 10 inches? A A bit—I didn't say an auger.

450 Q And how long is an auger? A May be 10 feet.

451 Q You observed some of these beams were bored by a bit? A Yes. 40

452 Q Of what diameter? A About half inch; may be a little less.

453 Q You have previously sworn in the Patterson case that you bored these with an inch and a-quarter auger? A Yes, not all of them.

454 Q Well, all that were bored? A Yes—inch and a-quarter.

455 Q And was not your attention called to the fact you had made a mistake about that? A No, I don't say so.

456 Q Didn't you go down with some people who pointed out it was a half inch bit instead of an auger? A What time are you alluding to? 10

457 Q You have told me you went down after you testified and examined it, and found a half inch hole? A I found two on the same side, one in each stick.

458 Q Did not Mr. Mason, Mr. Cartmel and Mr. Walker—you know all those gentlemen? A Yes, I know them.

459 Q Didn't they invite you on Monday the 4th of this month— A Invite me. 20

460 Q To stop and see them examine the end portions of the beam for auger holes? A No, sir.

461 Q They did not do that while you were there about that time? A I was there when they came, but what their business was I don't know.

462 Q You were there with Mr. Macdonell? A Yes.

463 Q Counsel in this case? A Yes. 30

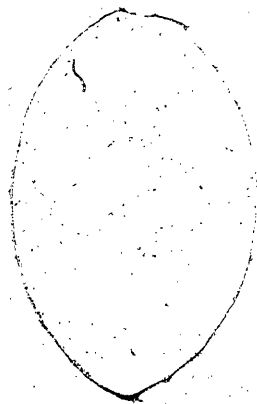
464 Q You were visiting the bridge and inspecting it? A Walking over it, I believe, and that is all.

465 Q How did you find out there was a half inch hole there then? A I knew that there was months previously.

466 Q You examined and found that fact? A It is right between the hanger.

467 Q Did you tell that fact in the Patterson case? A Everyone knew 40 it, I thought, at the time.

468 Q Did you tell it in court? A No, I didn't—I don't think it.



469 Q Do you know of anybody during the whole time you were in charge of that bridge you have told us, who bored any holes in it? A I don't know.

470 Q Was there anybody who had any business to bore any holes? A Yes, McIntosh, he might; it was his duty that time when they came up and put on the new tram car lines—those new stringers.

471 Q That was after you had bored in 1892? A Yes, that summer, anyway. 10

472 Q Well, it was in that month of June, wasn't it? A When the accident was?

473 Q I don't mean the accident in this case, but I mean the time that you bored the holes in 1892 and found them rotten? A That was in 1892.

474 Q They were immediately or almost immediately replaced by new beams? A Some time afterwards; that summer at all events. 20

475 Q Haven't you any closer idea? A Well, it was after June; it was the 15th June when the accident happened.

476 Q And you bored on the 16th? A I stopped the traffic on the same day.

477 Q And you repaired it immediately? A Yes.

478 Q It was then repaired immediately after the accident? A The first beam that broke was repaired by Clarke, sometime after that they reconstructed it altogether. 30

479 Q Well, now, how long? A I can't tell you how long.

480 Q You have not the faintest idea? A No—nothing to do with it, whatever.

481 Q You have no recollection at all? A Before winter, probably.

482 Q I suppose they trotted along all summer over a rotten bridge—you never reported it? A I had no occasion; after the accident I had nothing whatever to do with it. 40

483 Q But you did have to do with it all that summer—bridges and

1000

sidewalks? Q Well, I went over it.

484 Q Suppose you had known that rotten beam was in that bridge, would you have reported that bridge sound? A I didn't know there was a rotten beam in it, not then. I should have suggested then to move that out, but I found afterwards—

485 Q Would you have considered you were doing your duty if you reported the bridge sound when you knew there was a rotten beam in it? A No, I should not; I would not have interfered with it—not without an order. 10

486 Q Suppose you knew this bridge had a rotten beam? A I didn't know.

487 Q I ask you if you had known—? A That is another question.

488 Q Supposing you did, would you consider it your duty to report it? A If I had known the bridge was in danger, it certainly would have been my duty.

489 Q Do you consider that you acted in accordance with your duty when you reported it sound, and did not know whether the rotten beam was removed? A It was not my duty after the mechanics and engineer had gone over it—it was not at that time my duty to look underneath the bridge. 20

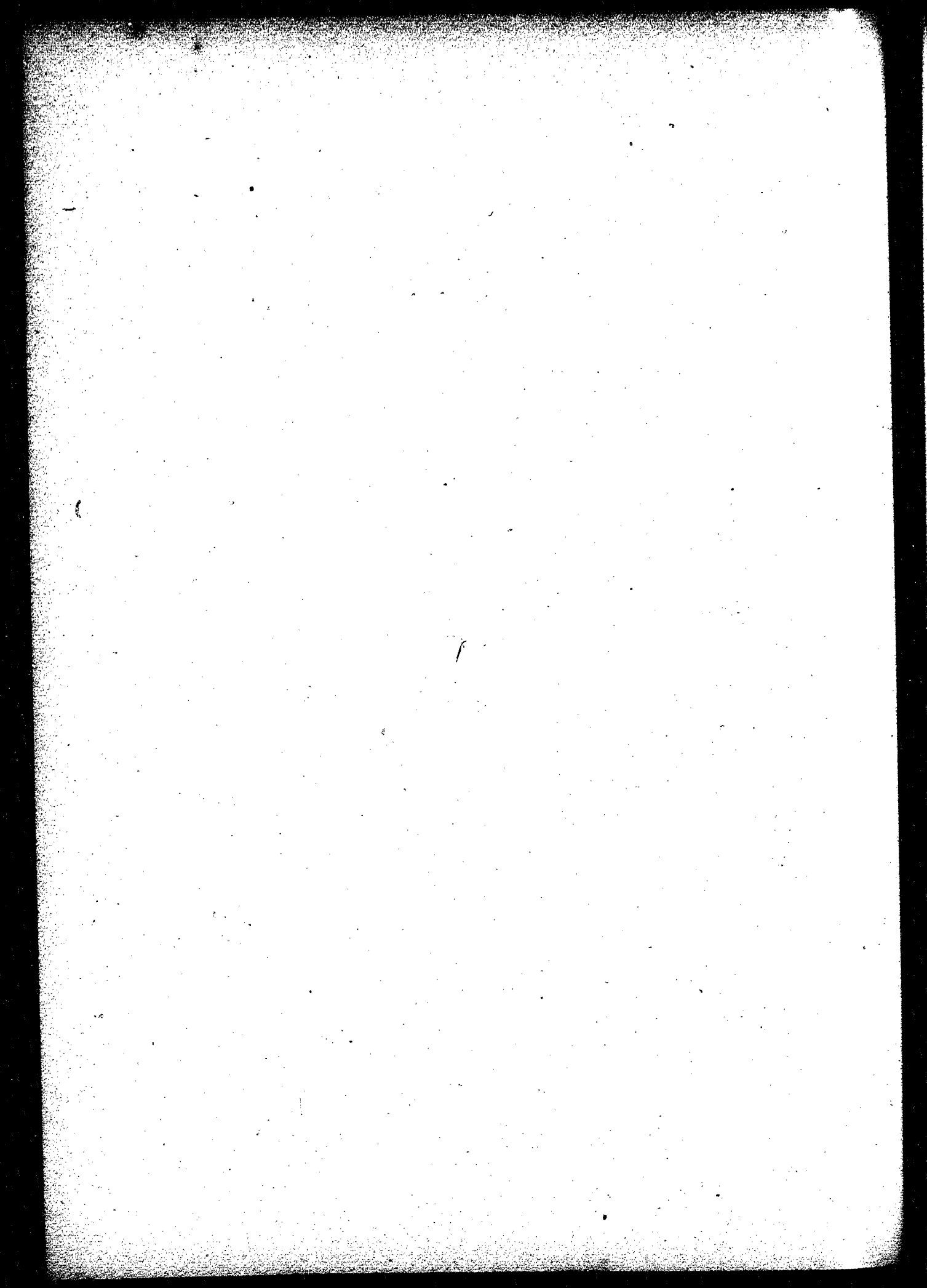
490 Q And you were quite willing to report it sound, without knowing anything about it? A Just by what we could see by walking over it, and nothing more.

491 Q Didn't you know that the under part of the bridge had a good deal to do with the strength and carrying capacity of it? A Generally. 30

492 Q But did you know that. You did know something about bridges? A A little.

493 Q Then you must have known that, and yet you were willing to let people endanger their lives upon a report of yours that it was sound, when you were in ignorance whether it was sound? A That is all I was allowed to do. 40

494 Q I want to know who stopped you, because we may get at the responsible man? A Well, you must go to the engineer.



495 Q Who stopped you inspecting a portion of it? A The engineer.

496 Q When? A In all cases; not when, but in all cases.

497 Q Did you ever try? A Yes.

498 Q When? A Several occasions.

499 Q Tell me one? A In the first place we were stopped by an alderman—"you mustn't do this." or

500 Q Tell me of one occasion on which you were stopped on Point Ellice bridge? A I don't remember any one occasion.

501 Q Did you ever try? A I think so.

502 Q Tell me when? A I could not remember.

503 Q Because this is a pretty serious matter—a man is sent out to expressly examine and report upon a bridge? A I deny that. I was not expressly sent to examine the bridge. 20

504 Q You don't deny that report of yours of 1895? A I don't deny anything that is in it.

505 Q Then you do not deny you reported it sound in 1895? A I did report it sound.

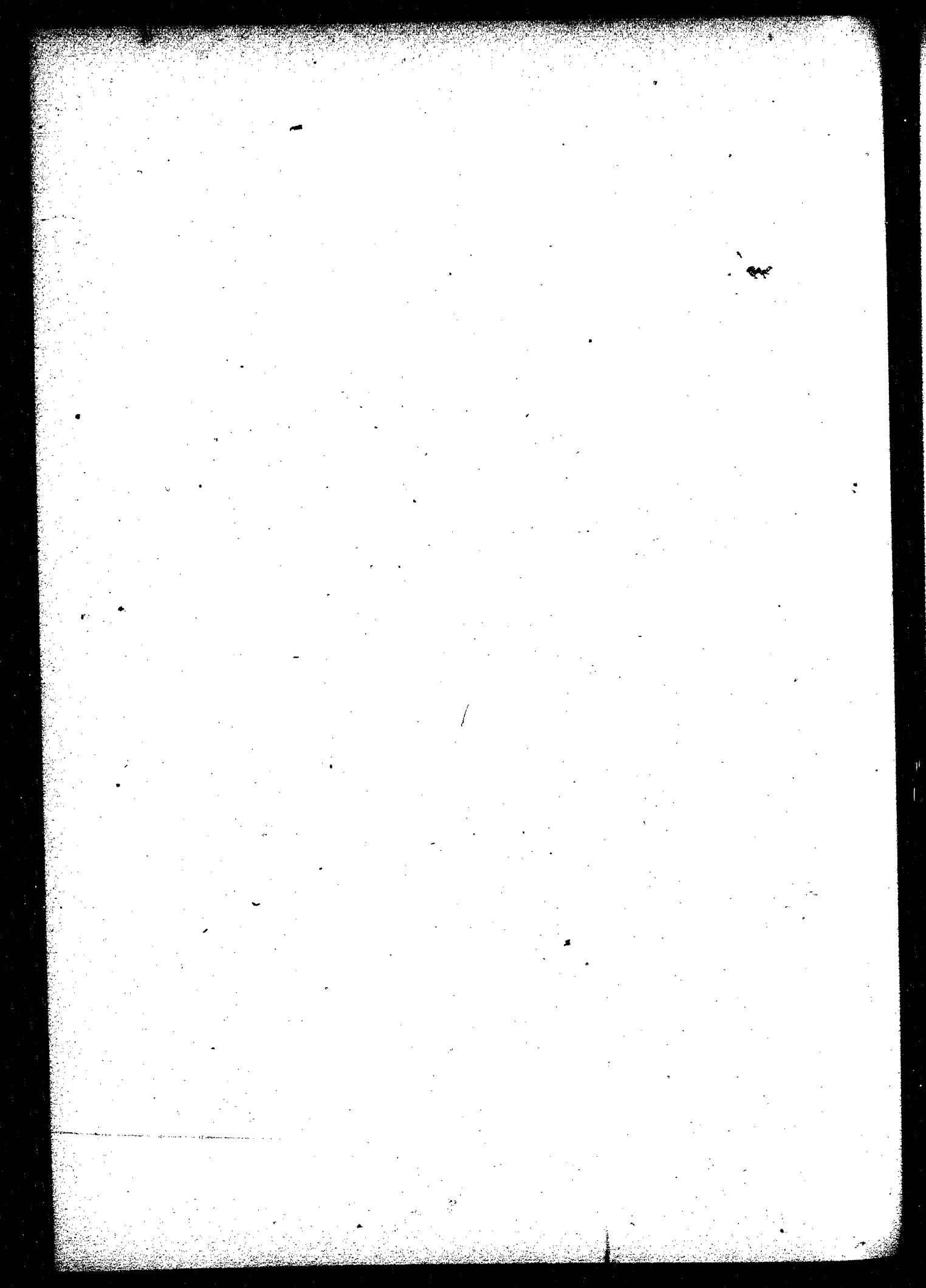
506 You have also testified in your examination in this case in Victoria a few days ago, that you bored holes in 1892, and they were absolutely rotten, didn't you? A Probably something like that. 30

507 Q Well, something like that, and did you ever examine the bridge between 1892 and 1895 to see whether those rotten beams were replaced? A No.

508 Q And yet you reported it sound in 1895? A Yes, so far as you could see by the eye; that is all I was allowed to do.

509 Q Is that what you said in your report? A The report does not mention anything like that. 40

510 Q Would you make a dishonest report? A No.



511 Q You would you make an honest report? A I believe so, and that is honest.

512 Q That is? A I think so.

513 Q Then your statement that that beam was rotten in 1892—it is not honest? A If it is correct in my writing, it is honest, but it is a very great question whether that is, or not.

514 Q You mean the city corporation report of 1895, printed before this accident? A- Yes. 10

515 Q You know that? A Yes.

516 Q And you mean to say the city would falsify your report? A Just as liable to do anything.

517 Q And that is the opinion you entertain of them? Just as liable to do anything.

518 Q Why did you work for them from 1892 to 1895? A That is why I went away—to leave them. 20

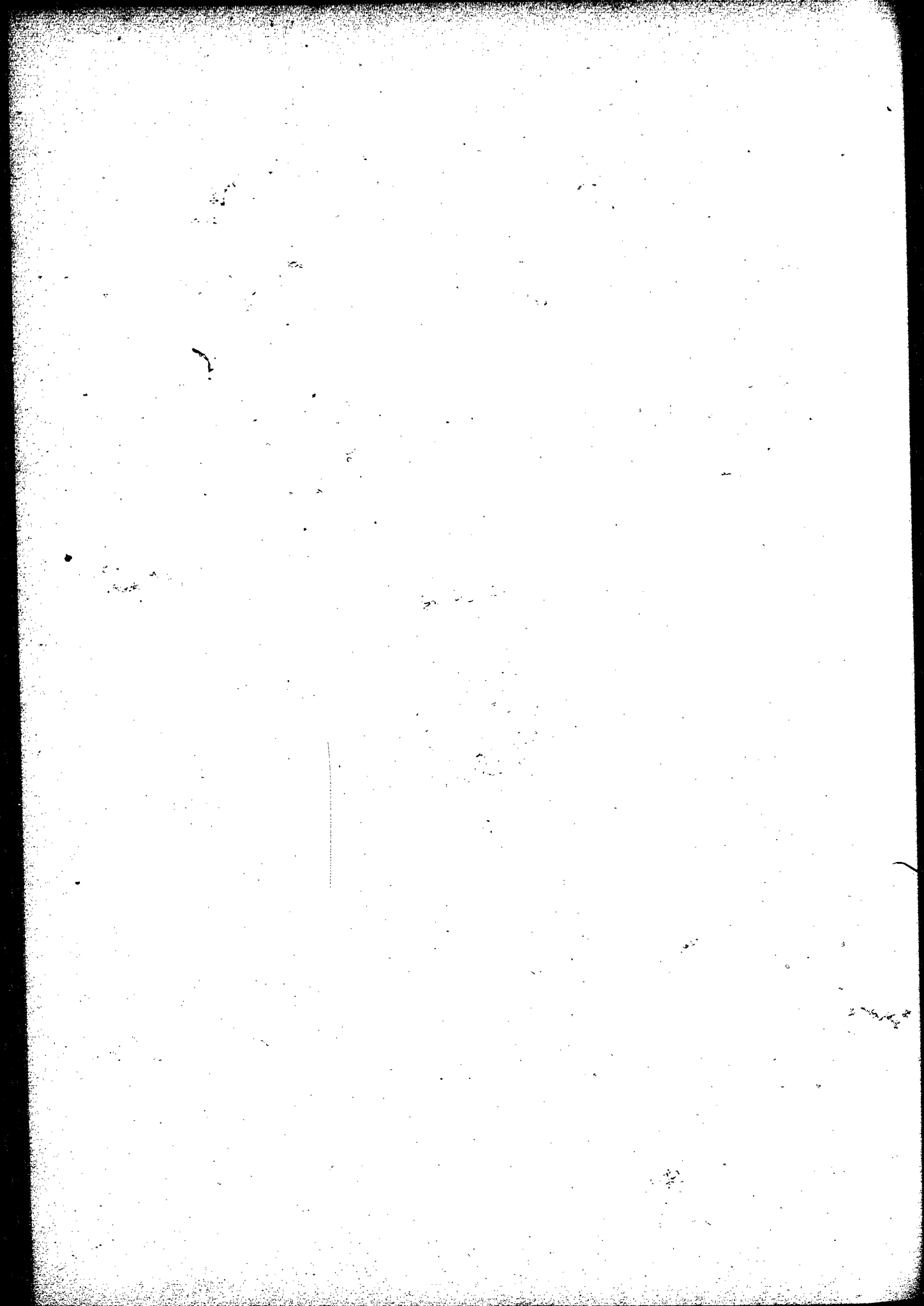
519 Q Didn't they discharge you? Did you resign or were you discharged? A I was discharged for simply this—if you will listen to me—

520 Q You were told to go? A No; listen a minute. I will tell you how I was discharged. Well, now, the city was getting behind and had no funds to carry on its work, and they came to the conclusion to dispense with me or the city foreman—that was Mr. Wilson—and some of the aldermen were in favor of discharging Wilson, and putting his duty upon me, so then the majority turned round and so dismissed me and put Wilson in my place. What did Wilson do when the engineer sent him under this very same bridge?—reported it all sound, didn't he? 30

521 Q I don't know. A Oh, well, you do know, because it was told right in this here court.

522 Q In the Patterson case? A In the Patterson case.

523 Q When and who stated it? I want to see what kind of a recollection you have got, because I don't believe you remember very much about it? 40



A Mr. Wilmot sent Mr. Wilson to inspect the bridge—this was in the coroner's inquest.

524 Q Not in Court here? A Yes, right here too.

525 Q Who stated it? A I don't know who stated it.

526 Q Was it a witness in the case? A I could not say.

527 Q You mean someone outside the courthouse? A No, it was right in the courtroom. It might have been Wilson himself, for all I know. 10

528 Q Was Wilson called? A Yes, he was right here—the street superintendent.

529 Q Was he called as a witness in the case? A He was called I believe.

530 Q And then testified? A I believe so—one of the cases, which ever it was. 20

531 Q You did not testify in the Gordon case? A I had nothing to do with it.

532 Q Well, you were not here, then? He was here in the Patterson case. I was here in the Gordon case, and the Patterson case, too, but I had nothing to do with the Gordon Case.

533 Q You did not testify in that? A No.

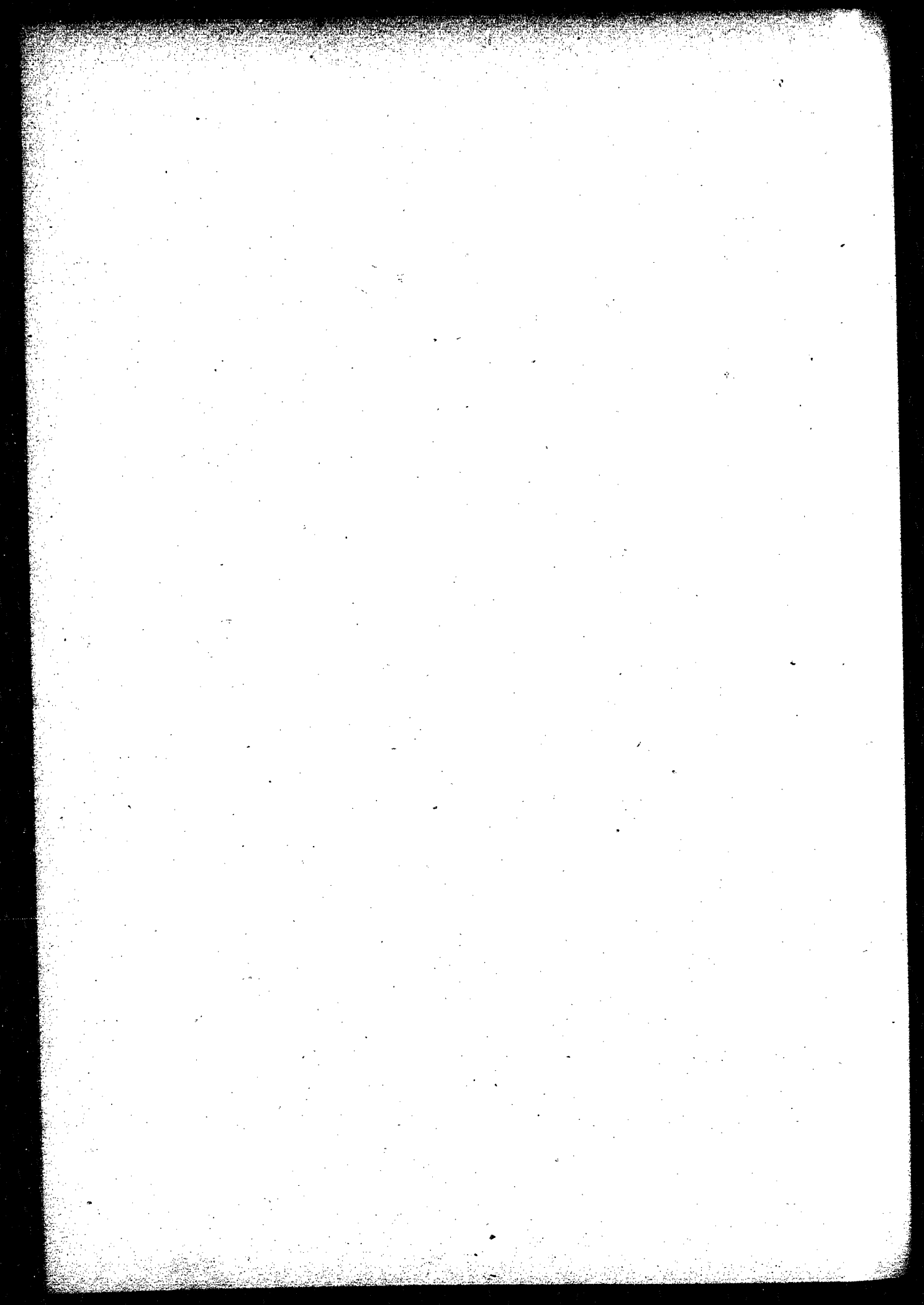
534 Q They did not pay you any fee, I apprehend,—in the Gordon case—did not subpoena you? A No, I didn't ask for any. 30

535 Q We are unable to find that Wilson testified in that Patterson case: You got about \$192 didn't you, for coming down and testifying in the Patterson case? A I didn't get any money at all, only what the court allowed.

536 Q Well, how much was that? A Two dollars a day.

537 Q Didn't you get some money to come from the upper country? A No. 40

538 Q Where were you served with the subpoena? A In Victoria.



539 Q And you got conduct simply from there? A I didn't get any money from anyone.

540 Q Perhaps I was wrong about that. I was informed you got \$192 for coming from the upper country to Victoria? A I swear you are wrong.

541 Q I am quite willing to accept your statement. You did get \$192.00? A No, I didn't even for staying round there.

542 Q You got \$130.00 to stay round for the case and to give evidence in it, and not to go up country? Then I got it a little mixed? A You have got it pretty well mixed. 10

Court: You do not suggest there is anything improper, do you?

543 Mr. Taylor: No, my lord, but (to witness) you did get \$130.00, Mr. Cox? A I would not swear.

544 Q Well, I suppose Mr. Macdonell is wrong this time; it is not the reporter, thank goodness. And that was not to go up country. Where do you mean by "up country"? A It might mean anywhere. 20

545 Q I see. Well, you had no definite idea where it was to go to, but you were just not going to anywhere? A That is like saying they paid me to go somewhere.

546 Q No—paid you to stop here. Where was it you were going? A I was not going anywhere.

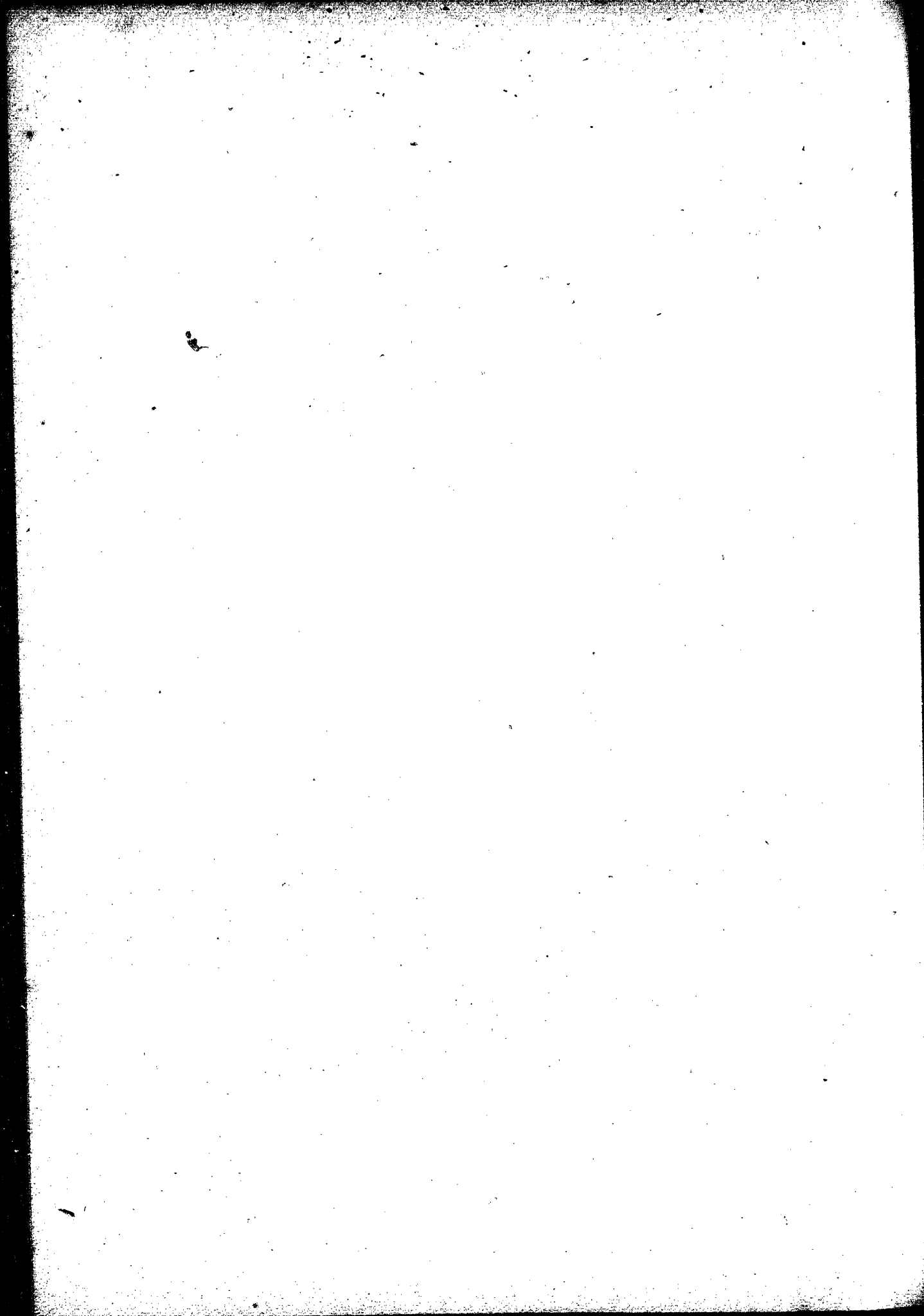
547 Q You have not been working since? A Oh, yes, plenty of work at home. 30

548 Q You do not mean to say you drew \$130.00 from a poor widow by representing to her you were going up country when you were going to stay here? A A widow?

549 Q Yes? A Do you mean my wife?

550 Q You evidently have a keen sense of the ludicrous, Mr. Cox. You keep a general store in Humboldt street, in Victoria, do you not? A Yes. 40

551 Q Well, I would just like to understand if you would take \$130.00 from these people—?



Court: Well, Mr. Taylor, you have stated that already, and the jury will draw their own inference.

552 Mr. Taylor: Very well, my lord; I will not labor it. (To witness): You spoke about this oakum that you put in the hole, Mr. Cox? A Yes.

553 Q You testified with regard to that, in Victoria, in this case? A I believe so.

554 Q Do you remember what you said there about it—about driving in the oakum? A I don't recollect, just now. 10

555 Q Well, you told us here a minute ago that you put it in and drove it in with your hands? A With my hammer handle.

556 Q You did drive it in with a hammer handle? A Yes.

557 Q And a stick? A Small stick.

558 Q And a mallet? No. 20

559 Q You had a stick in your hand about the size of the hole? A I had no stick—the hammer handle.

560 Q Did you drive it in tightly? A Just loosely.

561 Q What do you mean then at p. 33 of your testimony—your examination *de bene esse*, Q 16 “Q You put this in the hole, I understand, and then put a stick or plug and hammered it in? A A stick similar to the size of the hole, and then tamped it. Q Drove it in tight? A Yes.” That it not true, I suppose? Witness: I don't believe that “driven in tight” is true. 30

562 Q “Water could not get in on top of that?” To which you answer “Yes,” and you add “you might as well say water could not get through a salt bag.” Now, you put tar in it, didn't you? A Yes.

563 Q Why did you say you didn't, on the examination before, in Victoria? A Don't I say I didn't?

564 Q Yes—at least, why did you say you didn't put tar in it, in your examination in Victoria? A I don't think I did, because I got the tar for that purpose and no other. 40

565 Q That is, to put it in the oakum? A Yes.



566 Q And put it in the hole? A Mixed it with the oakum, and put the oakum in the hole.

567 Q You got some tar for the purpose of making up that oakum, and then packing it down with the stick? A Yes.

568 Q With the object of keeping the water out? A That was the idea.

569 Q And that is what you got the tar for, and for no other purpose? 10
A As far as I know.

570 Q You testified in regard to that tar in your examination at Victoria a few days ago? A Yes.

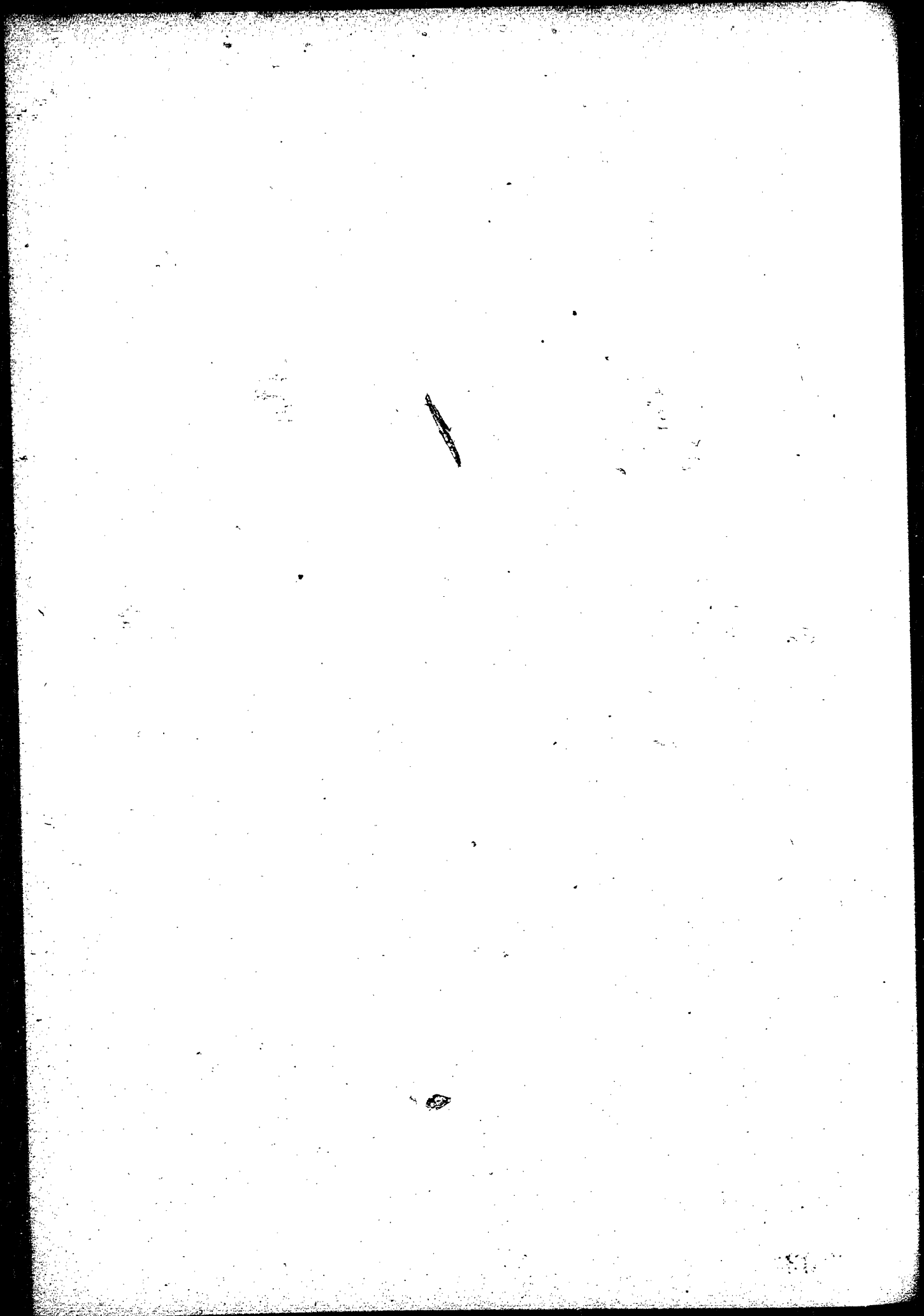
571 Q And you said you got a quart of tar? A I believe I did—a quart.

572 Q And you said you got it for the purpose of painting a pillar? A I don't think that tar; there was other tar. 20

573 Q In p. 7, line 12, you answer: "The next day I received orders to get oakum and tar and plug them up. Q Where did you get the oakum and tar? A McQuade & Sons. Q What quantity of oakum and tar did you get? A I think there was two pounds of oakum and a gallon of tar, if I remember right. Q Were those items charged to the city do you know? A Yes. Q Where did you buy them? What place was it you bought them at? What shop or chandlery did you buy them? A McQuade & Sons, the ship chandlers, on Wharf st. Q You told him to charge it to the city? A I took him an order from the city; I could not get it without. Q Then after getting the oakum, what did you do? A We got the material and then we went and plugged them up. Q With the oakum? Q With the oakum and the tar. Q And tar? A At least, I don't think the tar was used with the oakum. The oakum was used only for the holes, the tar was used for painting the pier below high water mark. We don't use the tar for the holes—only the oakum." Is that true or false? Witness: No; the tar was got for the express purpose of the oakum in those holes. 30

574 Q Didn't you say in this examination it was got for the express purpose of painting the piers? A No, I didn't. 40

575 Q You didn't say that in your examination before? A No.



576 Q You were cross-examined and asked this question: "Q How much painting were you going to do with this tar you speak of? The pillars in the water; those iron pillars. Q Were you instructed to do that with the tar? A Yes; it was not done then; it was done afterwards. Q Were you instructed to get the tar for that purpose at that time? A Yes. Q By whom? A By the engineer or by the clerk; I always brought the order from the clerk. Q What did you do with the order? A Left it at McQuade's. I took it to McQuade's and he furnished the tar. Q It was a quart of tar—you said a gallon?" You remember the order was produced to you then at your examination. Do you remember that? A The order for the tar? 10

577 Q Yes; at McQuade's—from your own book, too? A Yes.

578 Q And it was a quart of tar? A It was a quart of tar.

579 Q And you had previously said you thought it was a gallon? A Oh, I don't think so. I think you made a mistake.

580 Q Again the stenographer has made a mistake, and you did not say a gallon? A I don't think so; I have got Mr. McQuade's note for it. 20

581 Mr. Taylor: Very well. "Q It was a quart of tar; you said a gallon? A It might have been. Q That document says a quart? Does it? Then probably it is so." But you stated then it was for the purpose of painting a pillar? A I didn't say that. How far would a quart of tar go to painting those pillars?

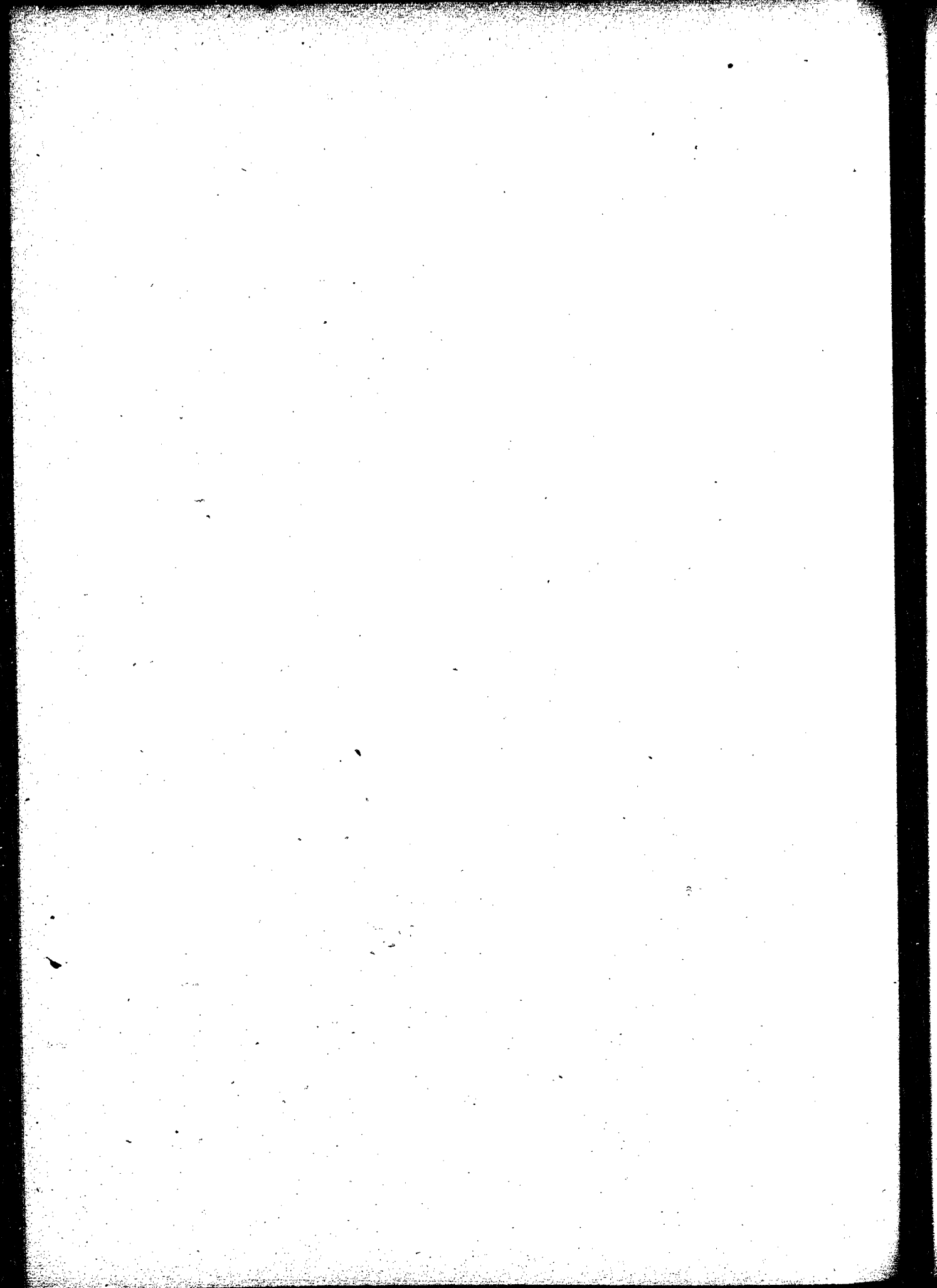
582 Q That is precisely how you found out your error, and that is just exactly what I wanted to show? A It was McQuade's—one quart of tar and two pound of oakum—an order from the clerk himself. How could I state the other. 30

583 Q Well, I don't know; the stenographer says you did? A I could produce one of McQuade's notes for a quart of tar.

584 Q And that will prove your statement that it was for the purpose of painting the pillar was intended for something else? A No, it was for plugging the holes.

585 Q Do you believe yourself? A I do, sir. 40

586 Q Do you believe you could go out for three minutes and come back and repeat what you said? A Oh, yes.



587 Q Are you positive what you said in Victoria? A Yes, pretty near. I didn't say anything about a gallon of tar. You can write whatever you like.

588 Q And When the reporter said a gallon, you say he made a mistake? A Well, it lies between you two; there is no question about that. I will prove it is one quart of tar from the book at McQuade's, and two pounds of oakum. I don't see why I should say a gallon when it was only a quart.

10

REDIRECT BY MR. MACDONELL.

589 Q When you got instructions to inspect the bridge in 1892, were they special instructions? A No.

590 Q In 1892 I am talking about, now? A Yes, they were special from Mr. Wilmot.

20

591 Q To inspect that bridge properly how could it be done? A It could not be done otherwise than by boring the beams.

592 Q And to do that what would be necessary? A You would have to tear up the floor.

593 Q And what would that mean? A Cause an obstruction in the roadway, then.

30

594 Q Would that be the only inspection required? A Well, the beams would be the greatest trouble.

595 Q Would there be any other inspection? A Yes.

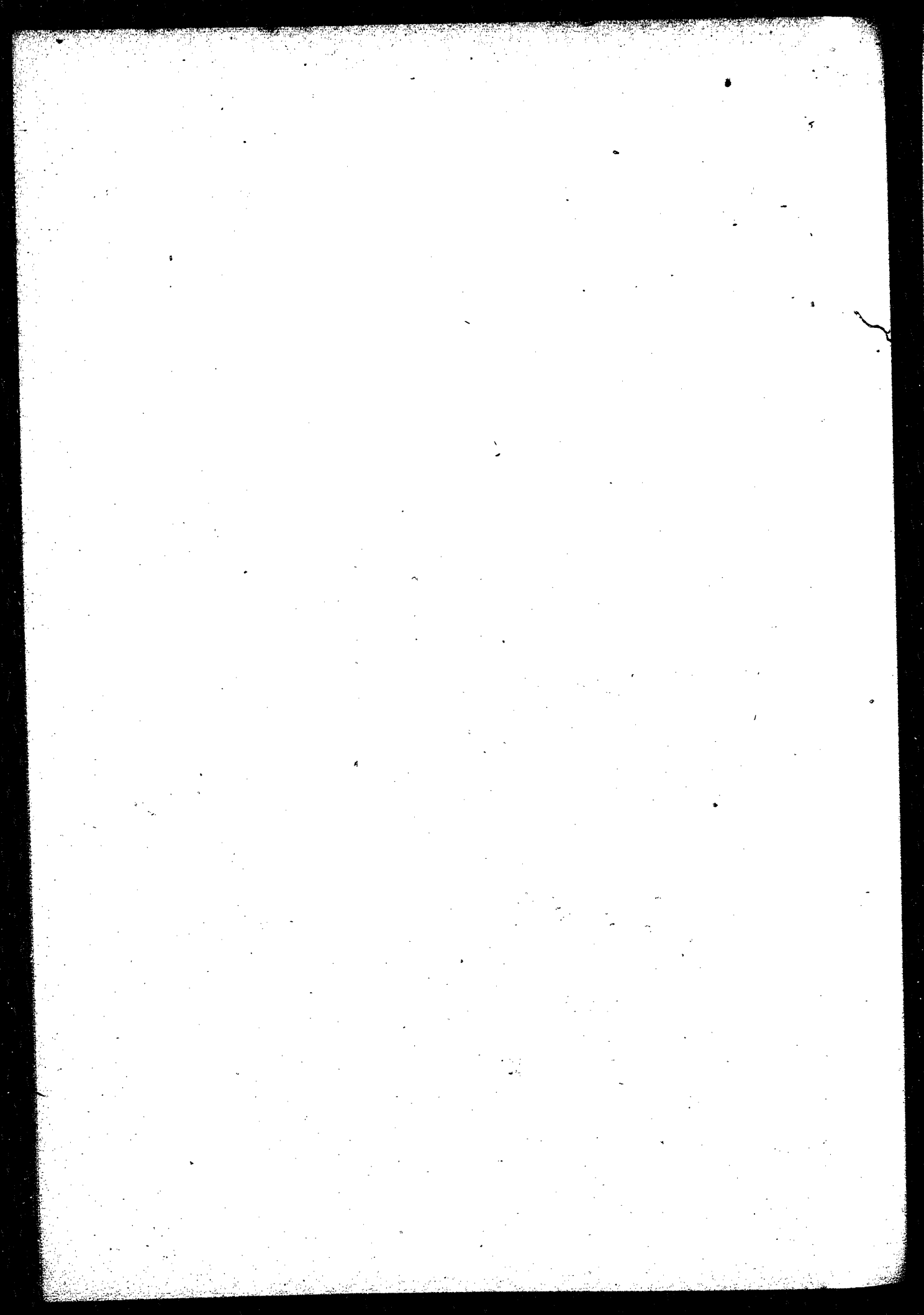
596 Q What other? A Iron work.

597 Q Have you any practical knowledge of that? A I have not.

598 Q Then Mr. Wilmot knew that? A No.

40

599 Q Does he know you have no special qualifications for iron work? A No, he didn't know it, and never asked me anything specially about it, one way or the other.



600 Q Did he know you knew nothing about a bridge? A Yes.

601 Q In 1892 you got definite instructions what to do. When you inspected in 1895 you got no definite instructions? You had been inspecting that year the same as any other year? A Ever since 1892.

602 Q But you gave it the same inspection in 1895 that you gave in other years, except in 1892—is that right, Mr. Cox? A That is right.

603 Q Mr. Wilmot was aware of the kind of inspection you were making? A Yes, he was aware of it.

604 Q So when you gave a report in 1895 it was just as the eye could see, as you walked over the bridge or sidewalk? A That is all I did.

605 Q When you inspected those floor beams and made a report, Mr. Cox, do you know which was rotten, or which was not rotten, now? I mean as far as memory is concerned? A Now? No, I could not tell you.

606 Q When you would say a beam was rotten, what would you indicate by that? Gentlemen, I will show you; I have got some here just to show you what I got a few days since. Perhaps the jury will like to see this, and I will tell you where it came from.

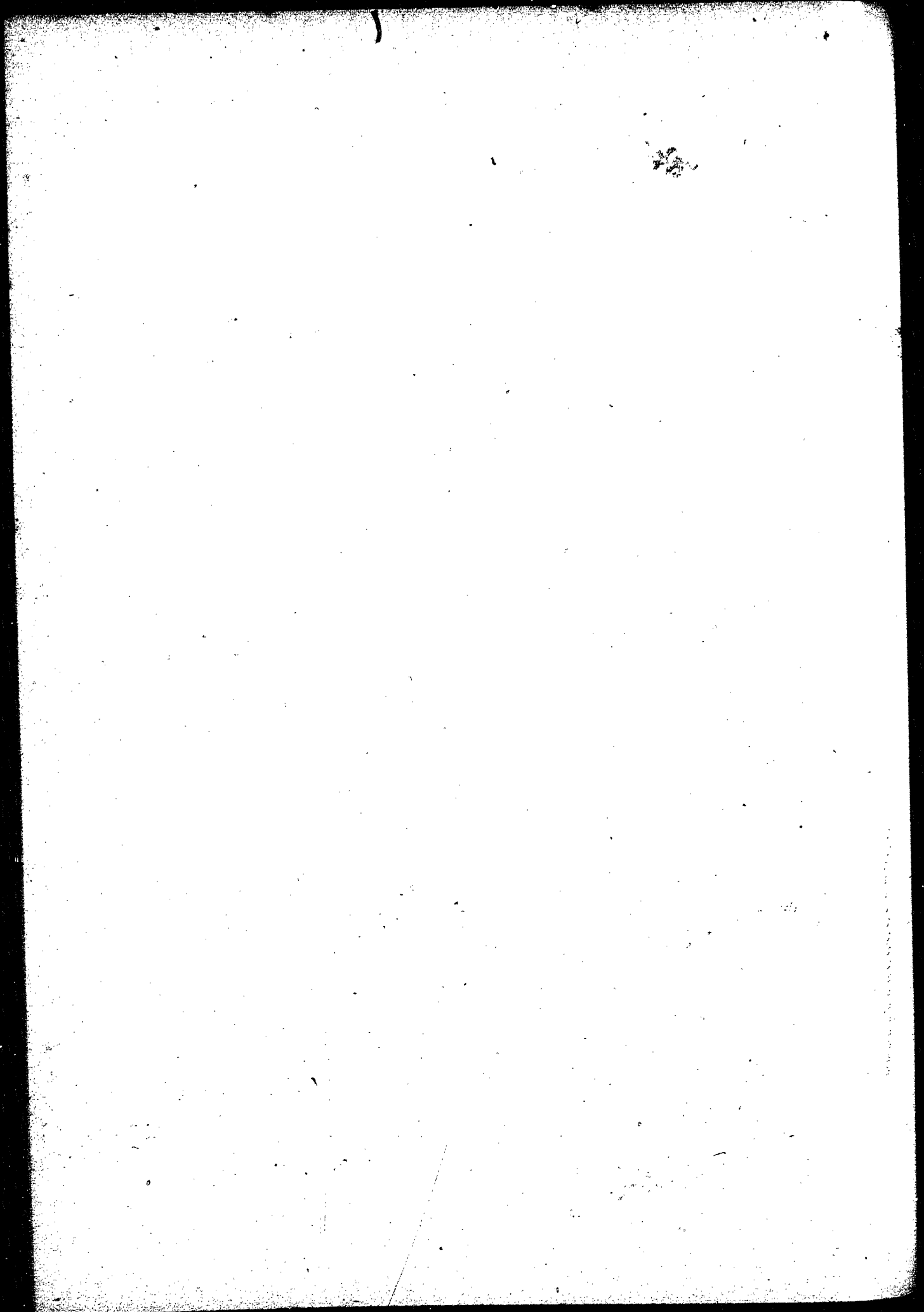
607 Q Where are those borings from? A That (indicating) is from No. 1 beam on the Esquimalt span, now—

Objected to by Mr. Taylor.

Mr. Macdonell: I am merely showing what he means by rotten. It is a relative term.

Court: I think, Mr. Taylor and Mr. Macdonell, that this part of it has been pretty thoroughly exhausted, and I am surprised if the jury do not think they have heard enough on both sides about it, but if you insist (to Mr. Macdonell, I will let you do it, and will let you, Mr. Taylor, cross-examine upon it.

608 Mr. Macdonell: In that examination my learned friend speaks about, over in Victoria, when you (to witness) say those beams bored were rotten, what did you mean? I might ask you this: You said at the same time, "Q When you say it was rotten you mean traces of rot were in that 7 inches? A Dry rot. Q Dry rot—traces of it? A Yes?" Witness: Yes.



609 Q That is what you mean when you say rotten? A Yes, traces of rot.

610 Q What effect would letting water get in on that dry rot have? A Wet and dry?

611 Q Yes, what effect would it have? A Well, it would hasten the rot.

612 Q If water did not get into that dry rot, what would the effect be? A It would rot still. 10

613 Q Quicker or slower? A Not rot so quick, because it would not have so much moisture.

614 Q My understanding of this is, the moment moisture got on to that, it would hasten the rot? A That is it.

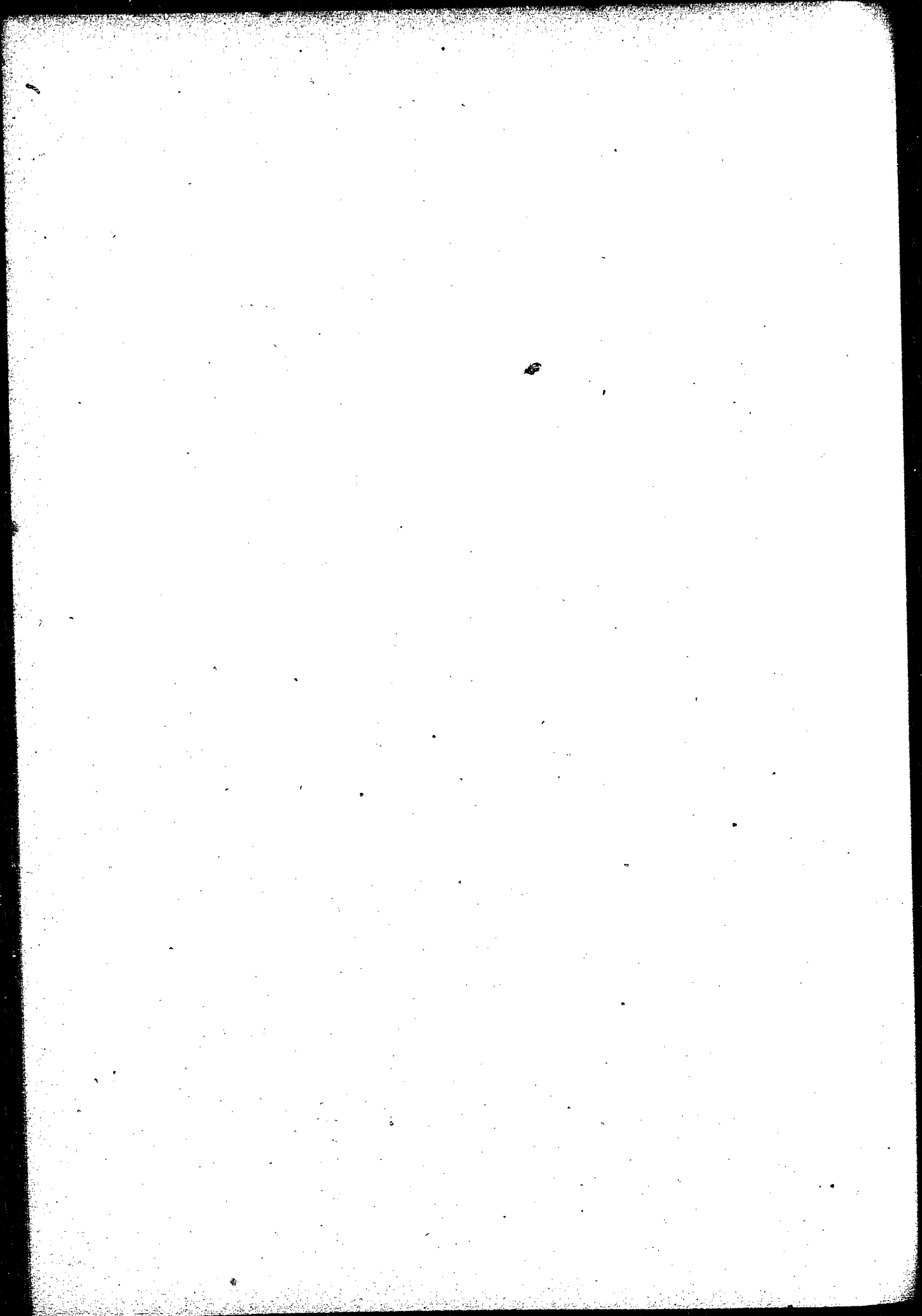
615 Q And when you say those beams were rotten, you mean there were traces of dry rot in all of them? A Yes. 20

RE-CROSS EXAMINED BY MR. TAYLOR.

Court (to Mr. Macdonell): You produced in a packet some borings. I give you leave to put them in; they are either in or not. 30

Mr. Macdonell: They are not in, my lord. I stopped. I do not put them in, in order to shorten it. It does not signify. If my learned friend is going to touch on those, he need not trouble to cross-examine.

Mr. Taylor: Mr. Cox was asked a special question by my learned friend as to what kind of instructions he had:—he was to look at this bridge and was supposed to walk over it, generally. I am going to ask him if his instructions were not in the following terms and read him the letter: "December 18, 1895, J. Cox, Esq., city carpenter. Dear Sir: I wish you to make an inspection of the following bridges, namely, James Bay, Point Ellice, and Rock Bay bridges, 40



and report by the end of the present year the condition of each. Also note anything you consider should be done in the way of repairs, or renewals. Yours obediently, E. A. Wilmot, city engineer." That was the request referred to in your report. Now, the request was in the letter of December 18, 1895, and the report is dated January 2, 1896. The letter, you observe, requests you to report by the end of the year. "Also note anything you consider should be done in the way of repairs or renewals," and he says "in compliance with your request I beg to report," and so on.

616 Court: I have just one question, Mr. Cox, speaking about your duties generally, about walking over the bridges, and, as I think you put it, reporting anything you could see with your eye." Who gave you instructions? A Mr. Wilmot, in all cases. 10

617 Q Had you ever written instructions? A No, sir.

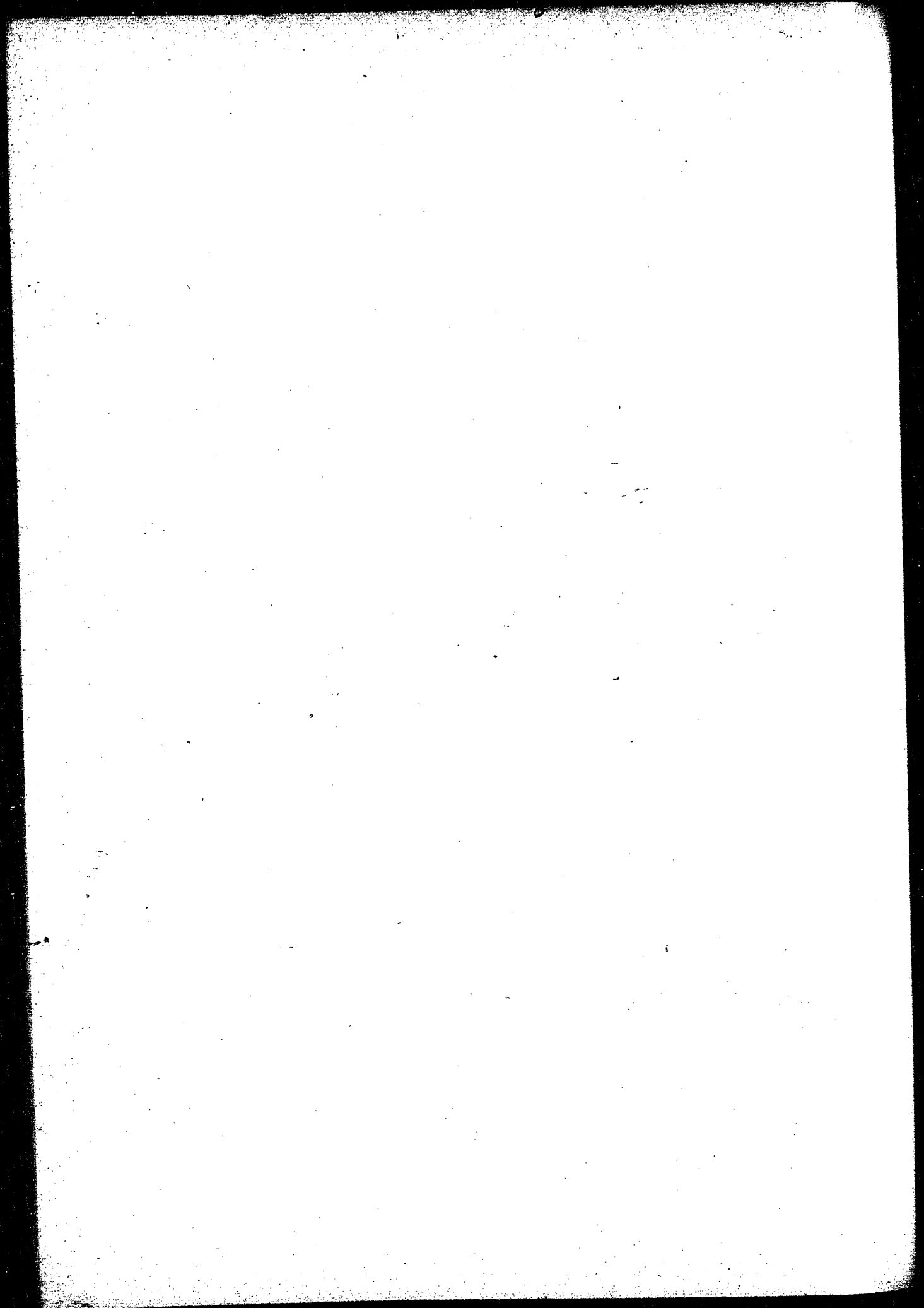
618 Q Were you ever interfered with by anybody as regards taking up sidewalks or anything of that kind for the purpose of seeing the condition of the bridges? A Yes. 20

619 When? A I was interfered with on James Bay Bridge, in one case, under Alderman Humphreys.

620 Q What year was that? A 1895—let's see,—1896—in the summer of 1895, in September.

621 Q What was that interference? A Well, people had complained to me and also Alderman Wilson—who was an Alderman too, at that time—complained to me why didn't I take up this here disgraceful sidewalk floor on James Bay bridge, on the north-west corner of it. Well, I had been chastised so much about this—it was a very bad floor, and the under-work was bad, so I took upon myself to take up I think it was 200 feet of it, and I had the material to put down the new plank, so as soon as I took it out and repaired the under-work I could put it down quick, and finish it the next day. Alderman Humphreys came along in the afternoon, and said: "Who gave you instructions to do this? Who told you to do this? What are you doing this for—?" 30

622 Court: Without going into that, I am speaking of an earlier period. Before 1895 had any interference been made? A This same man interfered —Alderman Humphreys. 40



First Day, Continued.

Evidence of D. J. Biggar, taken in the Patterson case, No. 299, '96, read by Mr. Deacon; also examination of S. Atherly.—Mr. Cassidy reads cross-examination of S. Atherly.—Mr. Deacon reads examination of J. B. C. Lockwood. 10

At request of counsel on both sides, jury are furnished with the printed evidence of Witnesses Lockwood and Warner taken in the Patterson case, and reading of same by counsel dispensed with.

20

Second Day.

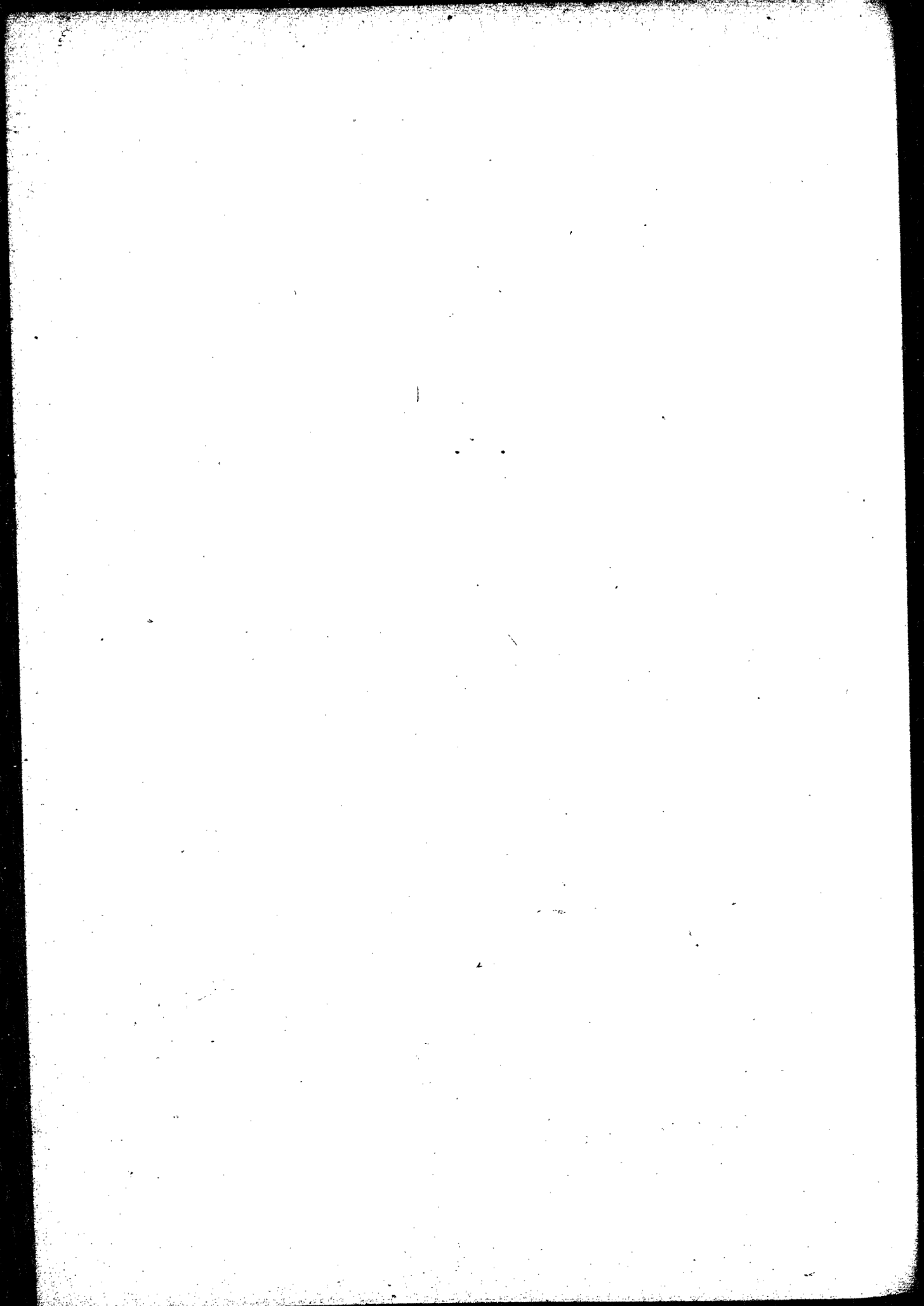
October 13th, 1897.

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Same Counsel present. Jury having been called.

Mr. Deacon reads portions of evidence of B. W. Murray, taken in No. 299, '96 (Patterson case). Exhibit "T" in 299, '96, model of bridge flooring, produced in illustration.—Cross-examination of B. W. Murray, read by Mr. Taylor.

Mr. Macdonell: Mr. Murray, in his evidence stated that No. 7 floor beam was not bored. He made an examination and gave his evidence to that effect. 40 He made a subsequent examination, and found that it was bored and plugged. I wish now to call Mr. Murray to correct that and to explain under what circumstances he made the statement in his evidence before.



Mr. Taylor : I do not see any necessity for that. It is perfectly true he did make the first statement and subsequently saw the beam in conjunction with some officials, and took it back. I think it was a half inch auger hole.

Court : I am not going to let him be called for another reason. You made an arrangement between yourselves, that I did not quite like, that the evidence that went in before should be read in this case. I should not have agreed to the application, but after what Mr. Taylor says, it is unnecessary—he admits that the correction was made.

Agreed : That all formal parts of the evidence proposed to be read, shall be omitted. 10

Mr. Taylor : I have two or three witnesses on the question of contradicting Cox on the boring of this hole. We admitted the whole of the testimony as it stood.

Court : Do you mean witnesses whose names have not been given ?

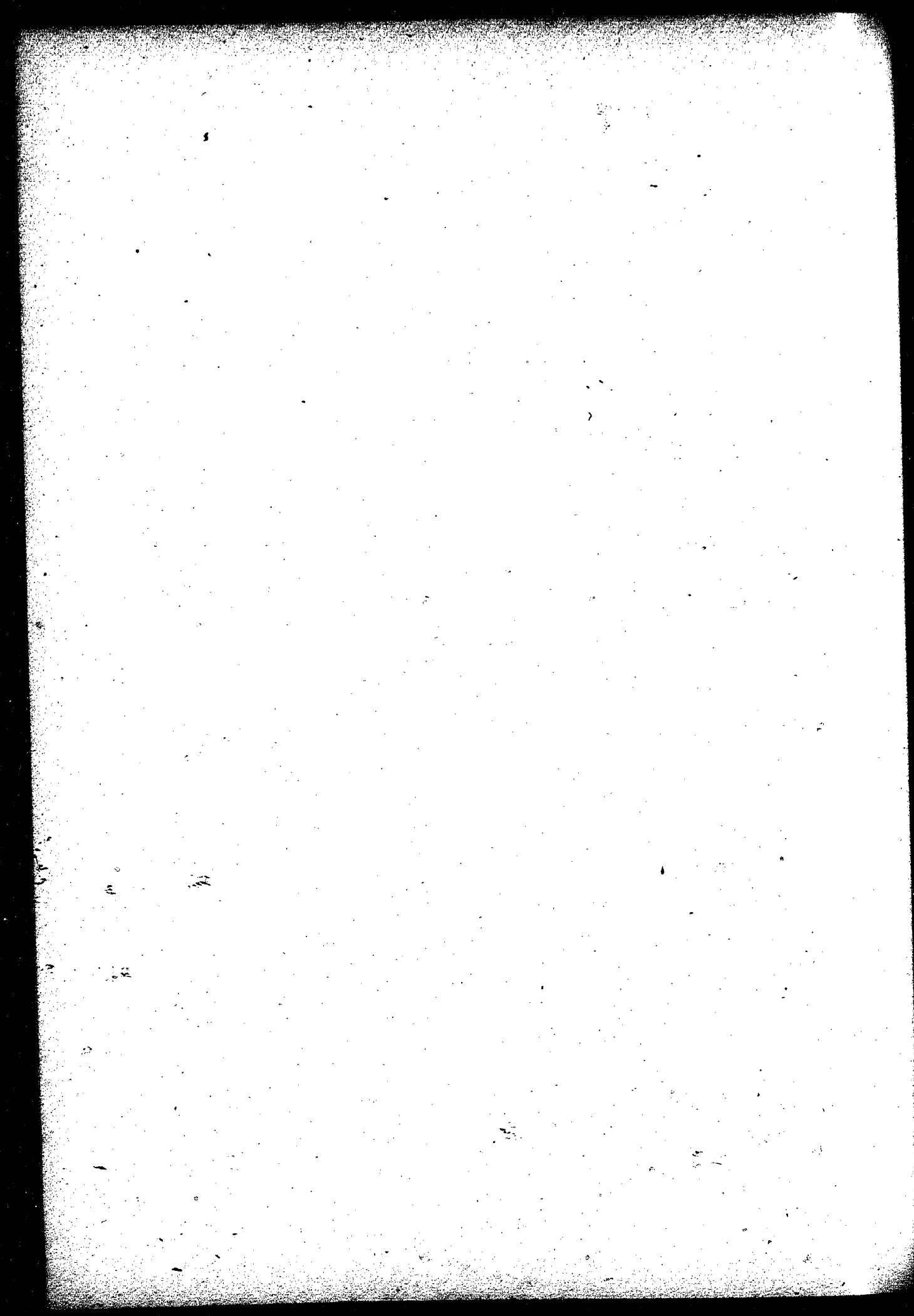
Mr. Taylor : Yes. 20

Mr. Macdonell : We are simply opening up the whole case again. It was to save time that I consented, knowing that their principal witness, Mr. Bell, was away, to let his evidence taken in the Patterson case go in.

Court : This is exactly the result that I foresaw. I did not say so at the time, but I had not the least doubt how it would be—that you would be met with a difficulty of this kind. You agreed specially to Cox's evidence being given here *viva voce*, that the evidence taken in the Patterson case should go in, and there was no stipulation made about other witnesses. 30

Mr. Taylor ; Subject to Cox's evidence, I proposed the whole of the evidence in the Patterson case plus the evidence of Cox taken in this case before trial should go in, without any further testimony. My learned friend did not agree to that ; he insisted upon calling Cox, in which case I must have the right to call testimony to contradict Cox.

Court : But you did not say so. It evidently does lead to misunderstandings or difficulties like the one that is quite apparent, and I quite anticipated it ; but the arrangement was clear and distinct that all the evidence in the Patterson case should go in, and the only other evidence to go in should be that of Cox. You did not stipulate for any further evidence and should be excluded under 40



your arrangement, but it is a grossly unsatisfactory way of trying the case.

Mr. Taylor: I do not propose for one minute in this case to travel outside of what is a fair and legitimate understanding of what I said yesterday—

Court: Pardon me, I cannot allow you to put it that way; for the understanding I mentioned is my own, and admits of no doubt in my mind. I do not know what Mr. Macdonell understood, but I know what I did. I will let you give the evidence, because I am not going to shut out anything that is material to the case; but I do not think you are entitled to give it. It is only a matter of extra indulgence, and it may affect your position in other respects as regards terms. 10

Mr. Macdonell: I certainly understood the agreement as your lordship stated it. One of my witnesses, an expert, was here ready to testify, who did not testify before, and I sent him away, and it places me in an unfortunate position.

Mr. Taylor: Your lordship, I think you are "going for me" before you quite understand what I am going to say. 20

Court: I hope so.

Mr. Taylor: I know it. But whatever was said yesterday I do not propose to take any verbal advantage of, but absolutely to live up to the spirit of the arrangement, and as your lordship now tells me you understood the arrangement to be just as you narrated it now, I do not propose to take any advantage of it; but it does seem to me this—

Court: To make it a matter of grievance to the jury? 30

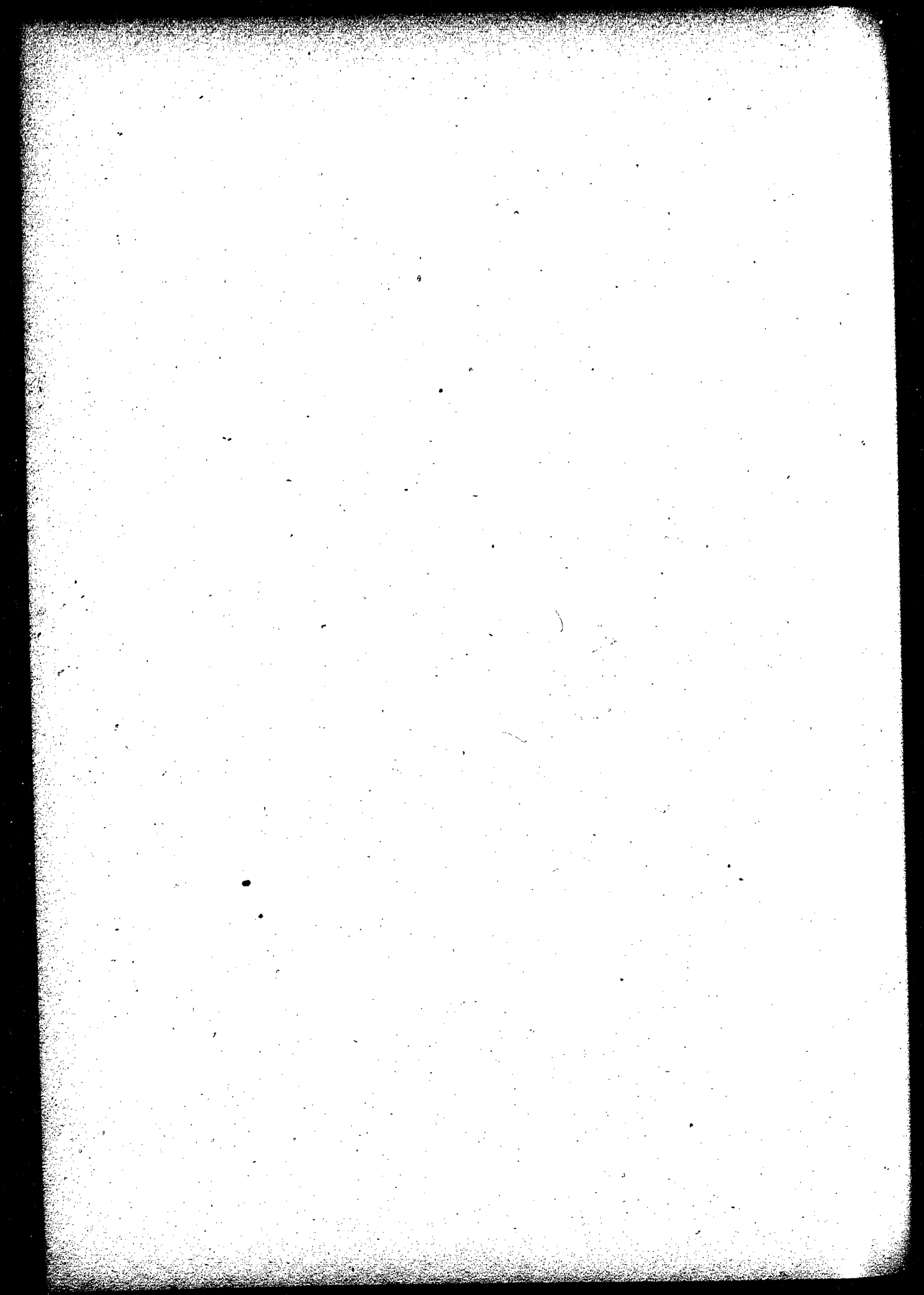
Mr. Taylor: No; I do not think you have a right to say that.

Court: No; I did not mean that.

Mr. Taylor: I do not think your lordship means that; but I had an understanding slightly different. I thought everything said in that case, so far as the testimony was concerned, was to go in, except Cox's, and then I thought I should have an opportunity of contradicting Cox. 40

Court: If Cox is here; it is not worth taking up more time—

Mr. Taylor; All I proposed to call—



Court: I have given you leave—

Mr. Taylor:—was purely on Cox's testimony; and I was going to confine it to that.

Court (to Mr. Macdonell) : I will reserve anything you think necessary in consequence of this—of any injustice that may be done to you, but I am not going to keep out anything that is material. However (to Mr. Taylor), take care that you are not injured by it. I only say this, Mr. Taylor, because it is taken down.

01

Mr. Taylor: If you, who are an impartial judge in the matter, think that was the arrangement, I do not call the evidence and I do not press it.

Court: It does not follow that you are necessarily excluded. I have full powers as regards that. If you neglected to call that evidence, after the understanding I grant it only as a special indulgence to which you have no claim; and I reserve to myself the power, if you adopt that course, of preventing it doing any injury to the other side.

20

Mr. Taylor: Then, if that is your view, living up to the spirit of the matter, I say I do not tender any evidence.

Court : Is it for you to say. You have no grievance at all events.

Mr. Macdonell tenders examination of Cox for discovery herein (marked Exhibit 1). Also examination of Wilmot for discovery herein (marked Exhibit 2). Then the exhibits in the Patterson case will be marked, I presume, as in the Patterson case.

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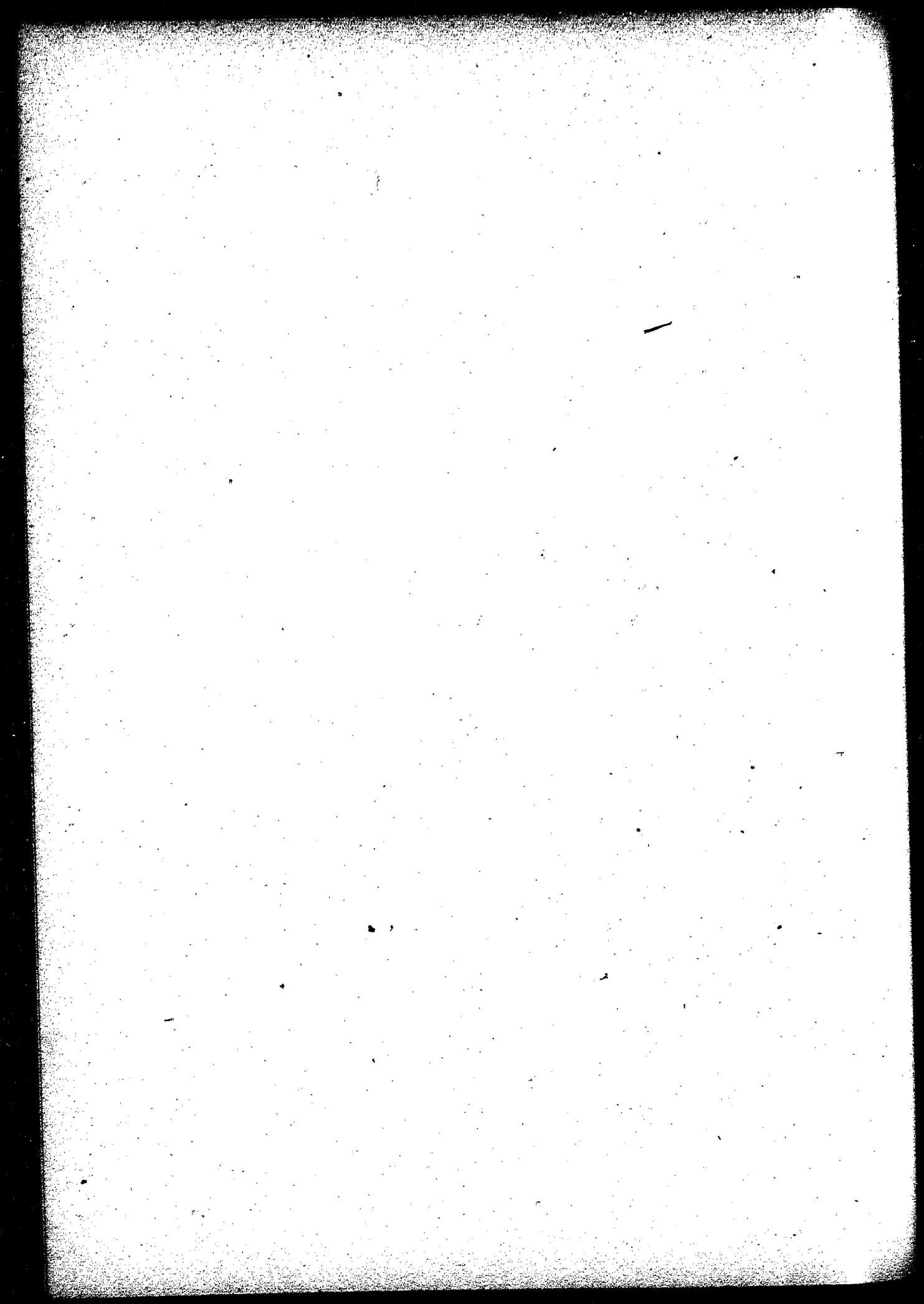
Court : They do not require marking at all ; they go in in bulk.

Mr. Taylor produces as exhibit for defence ends of floor beam No. 7, containing the hanger irons and lateral rods.—Admitted as an exhibit by consent. (To Court) : Both my learned friend and myself understand the admission of this testimony to be subject to just exceptions.

Court : Yes. If it was inadmissible then, it could not be admissible now. Motion for nonsuit on motion for judgment.

40

Mr. Cassidy : It will be understood, then, that we have leave to move for nonsuit on motion for judgment upon all grounds ?



Court : What do you say, Mr. Macdonell ?

Mr. Macdonell : I suppose just the same as in the Patterson case. Of course we won't accept a nonsuit ; I don't know whether it is necessary even to say that.

Court : As at present advised, I propose to put in the questions I submitted to the jury in the other case. I was not sitting in one part of the Full Court which heard the appeal, but I understood from the learned judges they found that the questions and answers were sufficient to come to a decision upon, although their decision has not yet been given, and I took advantage of Mr. Justice McCreight's presence while on the bench here to ask him if during the discussion at the Full Court it appeared to him that the questions could be framed differently, or he could suggest any additional questions, and he said not. If you have any other questions to submit I am quite prepared to put them, if I consider they can properly be put. 10

Mr. Taylor : We have nothing more to suggest than what we suggested at that time, and the reasons that were given for refusing them. 20

Court : I do not say I would come to the same conclusion, now, Mr. Taylor. I do not remember what those other questions were, but I wish you to understand distinctly that I do not refuse to put any more questions than those I mentioned. If you desire any others to be put, I must ask you to put them again, for I cannot undertake to carry them in my head, or my reasons for refusing them, which I do not remember. However, you will have time enough for that.

Mr. Taylor : If my learned friend is agreeable, I am willing to let the questions go the way they were put in the Patterson case—and he says he is. 30

Mr. Taylor makes closing address for the defence.

After Recess.

Mr. Macdonell makes closing address for the plaintiff.

Mr. Taylor : My learned friend challenged me to refer to portions of the testimony. For instance he stated that I said— 10

Court : Mr. Macdonell has invited you to do that which it was very indulgent of him to do, because you are not entitled to it. You had better read the evidence without comment.

Mr. Taylor ; Well, he will find it on page 12 of Cox's examination.

Mr. Macdonell ; Read his cross-examination by me, which will explain the fact of rottenness. 20

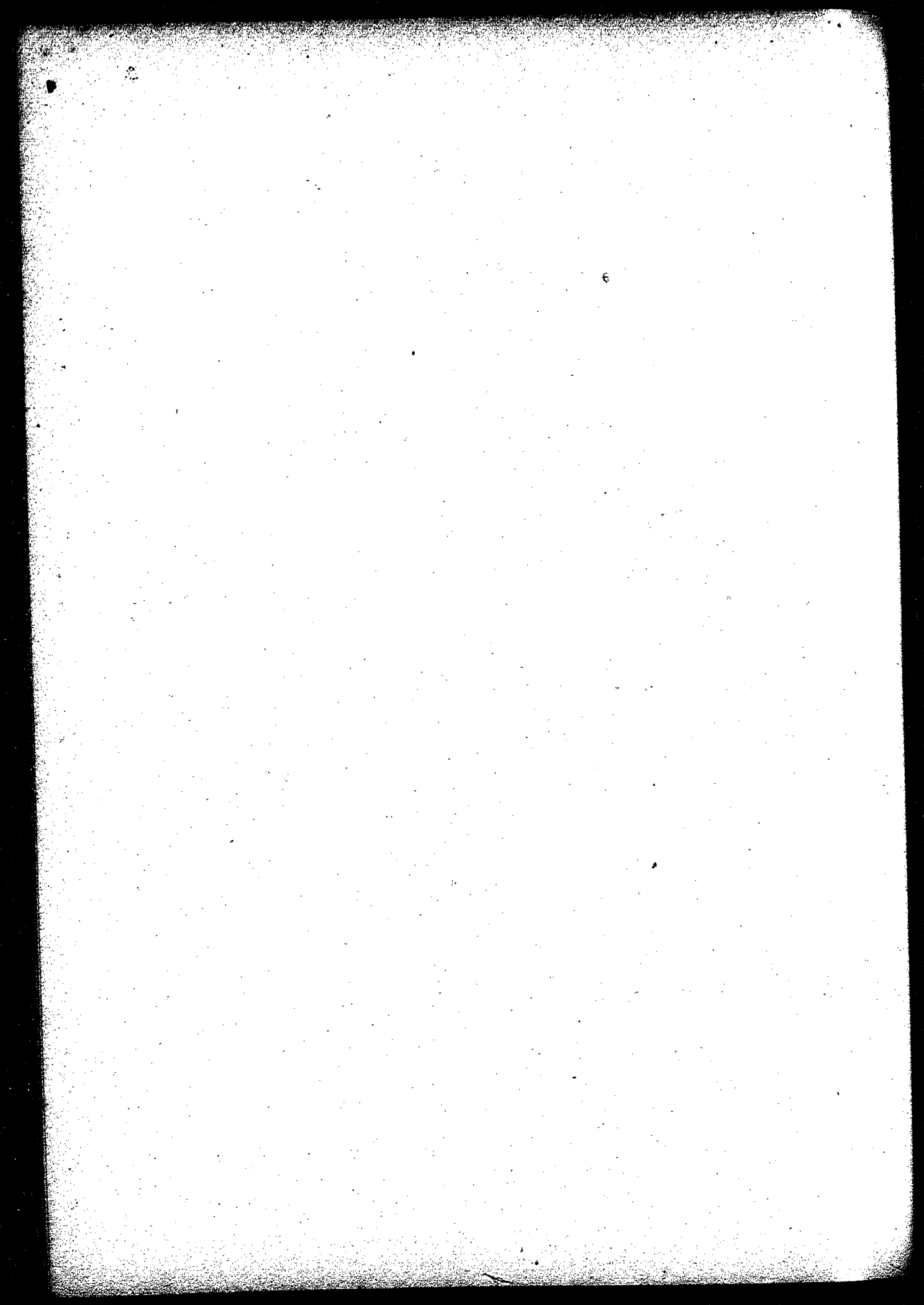
Mr. Taylor : I admit he explained to you that it was not rotten at all, but I am going to read what he said.

Court : If you cannot agree about it, Mr. Taylor, let me have in the morning the references you wish, and Mr. Macdonell also, and I will use my own discretion. There has been too much latitude allowed already, and I shall use my own discretion; we must have some attempt at regularity, at all events, and this will lead to a discussion and another speech. At all events, 30 that is all I can do.

Mr. Taylor: Then I will refer your lordship, so that you may have an opportunity of looking at it this evening, to Cox's evidence taken *de bene esse* on the question of whether the beam was rotten in 1892 when he bored it. P. 12 beginning at line 16; p. 13 at the bottom of the page. Page 15—well, I have run a line down the side, perhaps it will save you trouble if I give you my copy.

Court: Yes, only Mr. Macdonell will want to know, too. 40

Mr. Taylor: Well, page 15, beginning at line 9, and p. 25 at line 6 to 8 inclusive; p. 26, beginning at the top of the page and going down, say, to



line 10, and p. 27, beginning at line 3 down to, say, 7, and that is on the question of whether it was rotten or not when he bored it. Now, the other question—whether he handed in 14 borings or not to Mr. Wilmot, I refer to p. 13 of his examination *de bene esse*, lines 8 to 10 inclusive. That is so far as Cox goes. Then so far as Yorke is concerned, p. 125 of the appeal book—that is on the point of this missing beam. Then p. 277, Atherly, of the appeal book—the last two questions at the bottom of the page, or the next question but the last.

Court (To Mr. Macdonell): What you want to do is to take sufficient¹⁰ time to refer me to any portions of the evidence which explain the portions to which Mr. Taylor has referred. As I said before, I cannot allow any comment on the one side or the other. This is a very serious case, and I do not propose to omit anything which I think will assist the jury on the one side or the other. At the same time nothing must be done except what is in accordance with the rules and in such a way that neither side will be prejudiced. The jury have been very patient, and I have no doubt they are willing to be patient a little longer. My duty is to see they are not unduly pressed and yet are afforded every assistance. 20

Court adjourned till 11 a. m. October 14th, 1897.

30

Examination of Mr. E. A. Wilmot, City Engineer, before the registrar in action of Patterson v. Victoria.

Under order of his Honor W. Norman Bole, Local Judge in Chambers, dated 23rd January, 1897, before B. H. Drake, Special Examiner herein on 40
3rd March, 1897.

Mr. Macdonell appearing on behalf of the plaintiff.

Mr. Mason appearing on behalf of the defendant City.

E. A. WILMOT being duly sworn, testified: Examined by Mr. Macdonell.

Q You are the city engineer Mr. Wilmot, are you? A Yes sir. 10

Q When were you appointed? A April, 1892.

Q By resolution of the Council? A Yes. I was notified by the City Clerk of my appointment.

Q Were your duties defined? A No, not any—

Q Your duties have never been defined? A No; nothing more than a by-law; there was a by-law defining some of the duties of the city surveyor. 20

Q Date of that by-law? A I do not remember.

Q Was that previous to your appointment or subsequent? A Previous.

Q So that you knew what your duties would be to a certain extent by the by-law before you became city engineer? A No; not before I became city surveyor.

Q What have your duties been since? A General public work. 30

Q Including roads and bridges. A Yes, sir.

Q Under the direction of the committee? A Under the direction of the Council.

Q When did you first inspect the Point Ellice bridge as city engineer?

A Well, my attention was first called to it in June, 1892.

Q In what way? A One of the floor beams gave way. 40

Q I mean from the Council? A No; I heard of the accident and I went out there.

Q Did you report to the Council? A Yes. I do not remember now whether I reported to the Council before action was taken or not; but I reported at once to the chairman of the street committee, or he may have been there at the time for aught I know, but action was taken at once to replace it.

Q That was in 1892. You do not know as there was any written report as to the condition of the bridge at that time? A I gave a written report after it was repaired.

Q After when? A After repairs were made. 10

Q Were you instructed what repairs to make? A No.

Q But after you made the repairs you reported? A Yes; I reported on the condition of the bridge and what had been done.

Q To what extent was public money expended on it? How much?
A At that time about \$1,600.

Q Was there any limit? Did the council limit you to any amount in 20 repairing? A No; no specific sum.

Q Do you know the men that repaired it under you? A The first needle-beam that was broken was repaired by a carpenter named Clark, and then the subsequent repairs—

Q I am talking about the first repairing to it that you spent \$1,600 on?
A You might say it was one continuous repair. The first thing was a needle-beam broke—

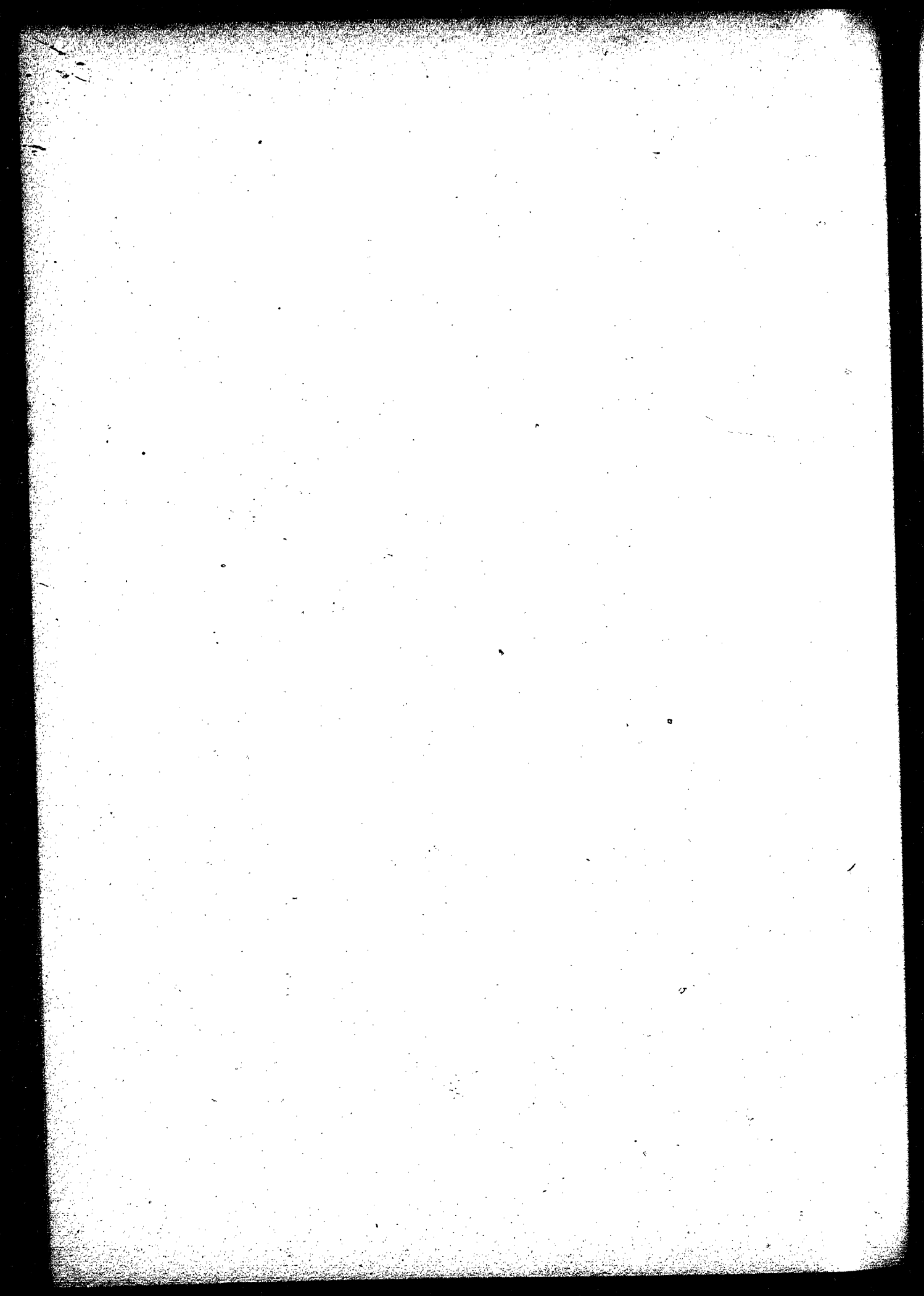
Q The first thing a needle-beam broke? A A floor beam we generally 30 call it.

Q And you instructed— A Mr. Clark.

Q —Mr. Clark to repair that? A Yes.

Q Did you then report to the city council what you had done at that particular time? A Yes; I reported in regard to the work as it went on there. 40

Q Did you report to them the repair of that needle-beam, that that was sufficient to repair it? A No; I do not remember of reporting that. As I remember it was immediately after that that the floor planking was repaired;



there were some other beams first discovered and they were repaired, and the cost of the whole was something over \$1,600.

Q Was the bridge in perfect repair then? A After that, yes.

Q It was. Then when did you inspect the bridge again? A Well, I did not personally inspect it—it has been inspected every year by the city carpenter; all the bridges.

Q Who was he? A Mr. Cox. 10

Q A man named Cox. Was he a city official? A Yes; he had charge of the bridges and sidewalks.

Q Under you? A Yes.

Q Was his duty to report to you direct? A Yes; he reported to me with regard to the bridges and sidewalks that required repairing.

Q Did you give him any instructions how to inspect? A At that time, 20 yes.

Q What instructions did you give him? A To bore and to see—when I found that more than one was unsound, then I had them all bored.

Q By whom? A By him; and any that were unsound were renewed.

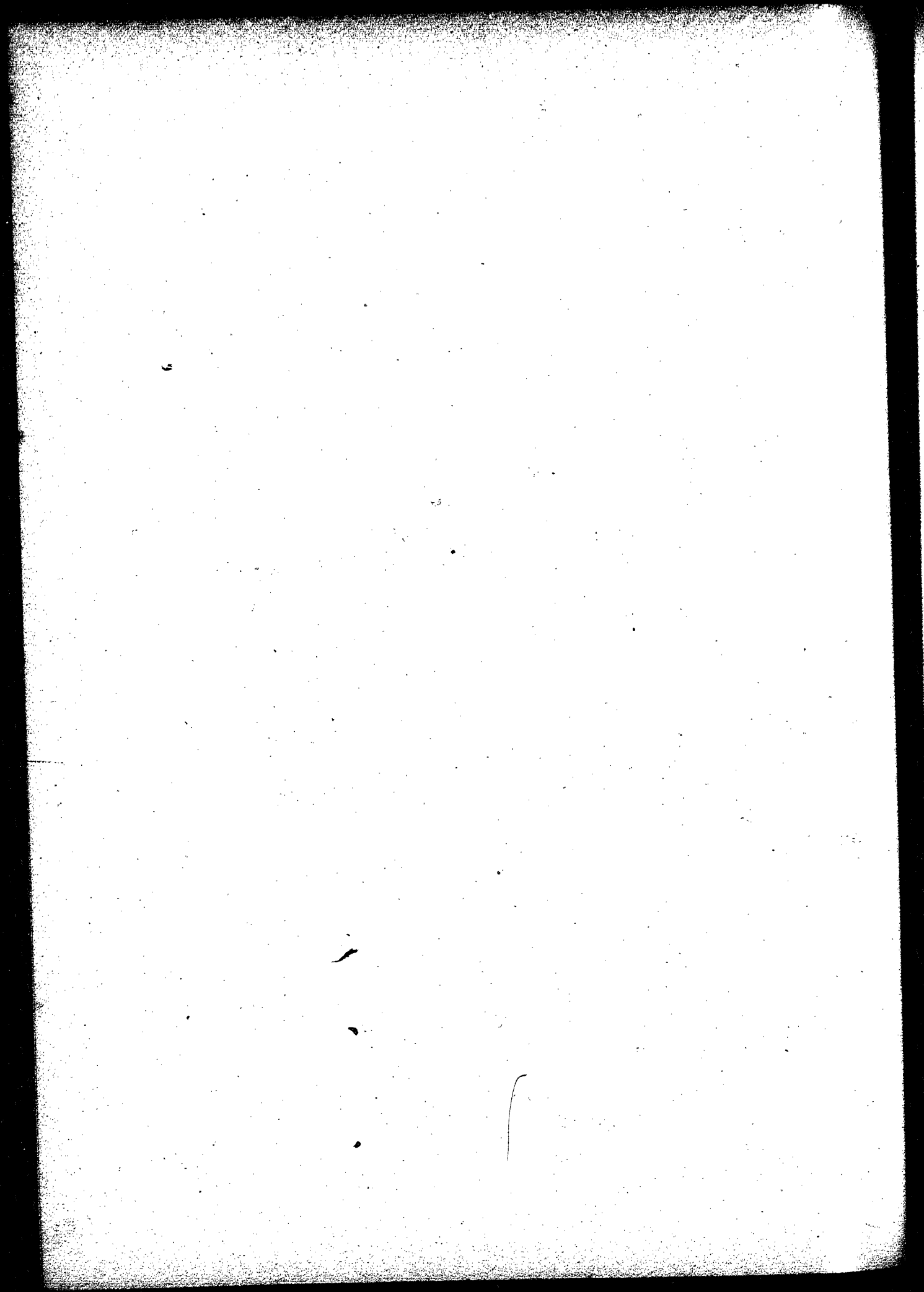
Q Did you see him boring? A Some of them; I was not there the whole of the time. He reported to me the members that were sound. I gave him a list of the number of floor beams there were in the bridge—14 altogether—and he reported which appeared to be sound and which were affected more or less. 30

Q The borings, did he produce them, show them to you? A Well, he generally did when he bored, but I cannot remember in that instance whether he did; I think he did.

Q Do you know what became of those borings? A No, I do not know.

Q On his report to you did you report back to the city council? A Yes, I reported what required to be done to renew it. 40

Q And notified the city council that the inspection had been made by Cox? I do not remember whether I mentioned his name. I notified them that



it required eight additional new beams, in addition to the first one.

Q Can you give me the day and the month and the year about that? A That was the 9th of June, 1892, when the first one occurred.

Q But I mean at the last, after Cox's inspection you asked for eight additional floor beams, when was that? A I think that was in the following month. I wrote to the council suggesting putting in iron beams, or at least giving the prices of iron and wood, and suggested that I thought, on account of the durability of iron, it would be cheaper in the long run than wood. 10

Q You recommended iron. About what date was that? A That was, to the best of my recollection, early in July.

Q In July, 1892? A 1892, yes.

Q Well, they did not follow your recommendations, did they? A They decided to put in the wooden.

Q Wood. Now, under whose directions was that repair made? A 20 Robert McIntosh was the name of the carpenter; under my direction.

Q When did he start to repair? A I think I have it here (looking at memorandum). On June 29th I engaged McIntosh.

Q In June? A 29th.

Q When did he finish? A In July 14th, I have got a memorandum here, "Visited Point Ellice bridge." 30

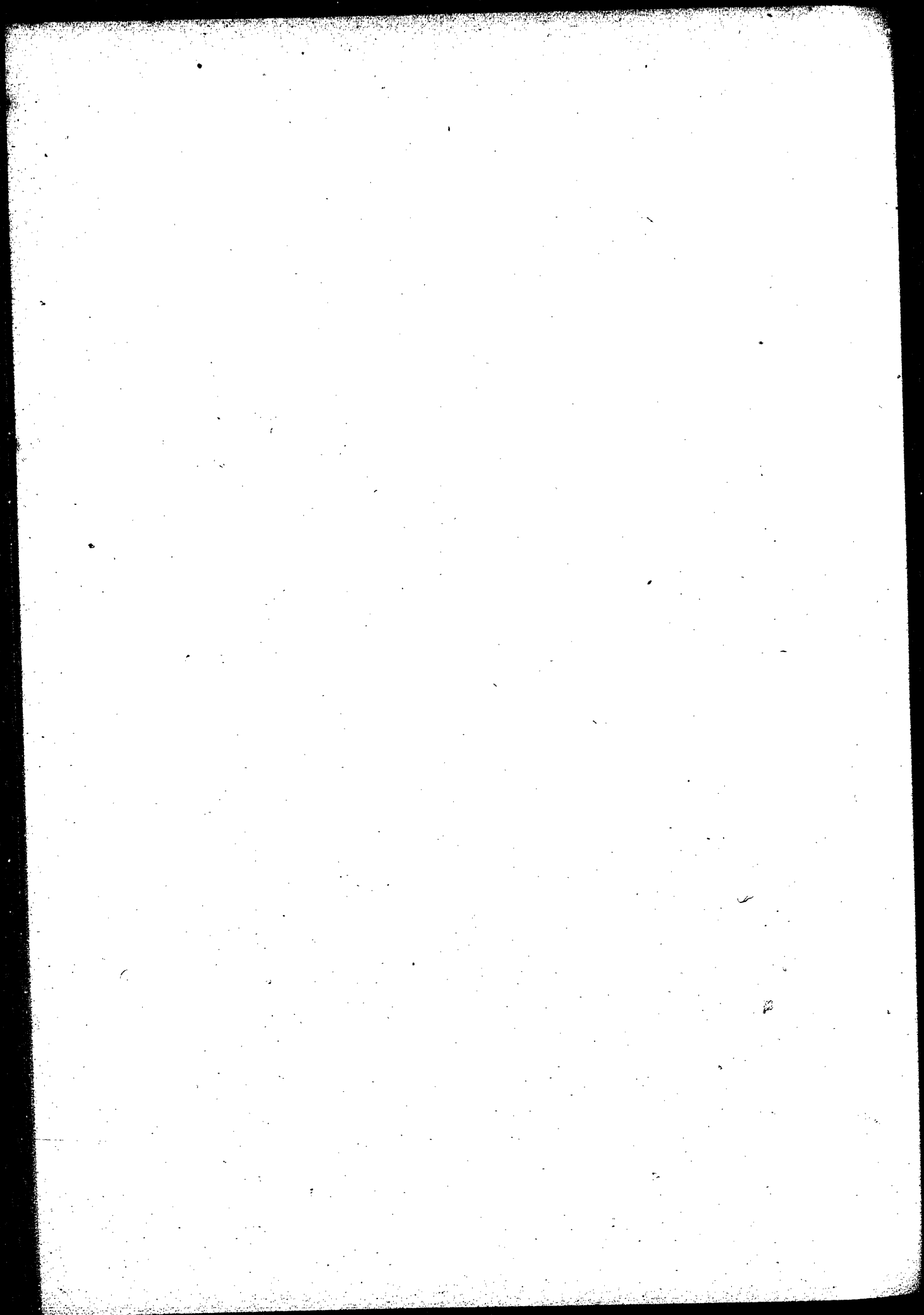
Q You have got a memorandum in July? A Yes, July 14th, Point Ellice Bridge complete, except plank between rails.

Q So that it took him about two weeks to repair? A Yes, that was with the exception of a plank between the rails. He laid the plank outside of the rails.

Q What was the cost or expenditure for this repair? A That would be \$1,600; his repair on that, I think, was \$1,640. 40

Q That amount that McIntosh incurred? A No, that was the total.

Q How much did McIntosh— A It would be in the neighborhood of \$1,600, for there was only one item; \$1,640, I think, included both.



Q Would McIntosh be the \$40 or the larger sum? A He would be about \$1,600.

Q McIntosh put on to the extent of about \$1,600; that was paid by the city council? A That was paid by the council.

Q On your recommendation? Yes, on my certificate.

Q Did McIntosh make any report as to the repairs? A No, no written report.

Q Any verbal? A Well, I was out there every day or so while the work was going on.

Q Well now, did you consider those repairs sufficient? Yes, at that time; I considered the bridge was in better order than it was immediately before.

Q I mean at the time, was it repaired to your satisfaction? A Yes.

Q It was repaired to your satisfaction. Well, do you think that all the money that was necessary was expended on the repairs at that time? A Yes; well, in addition to the repairs made by the city, the tramway company paid for putting down stringers at that time. That was not included in the \$1,600.

Q Who put down the stringers? A They were put down by McIntosh.

Q By the city? A No; they were paid for by the tramway company. It was by an arrangement with the tramway company.

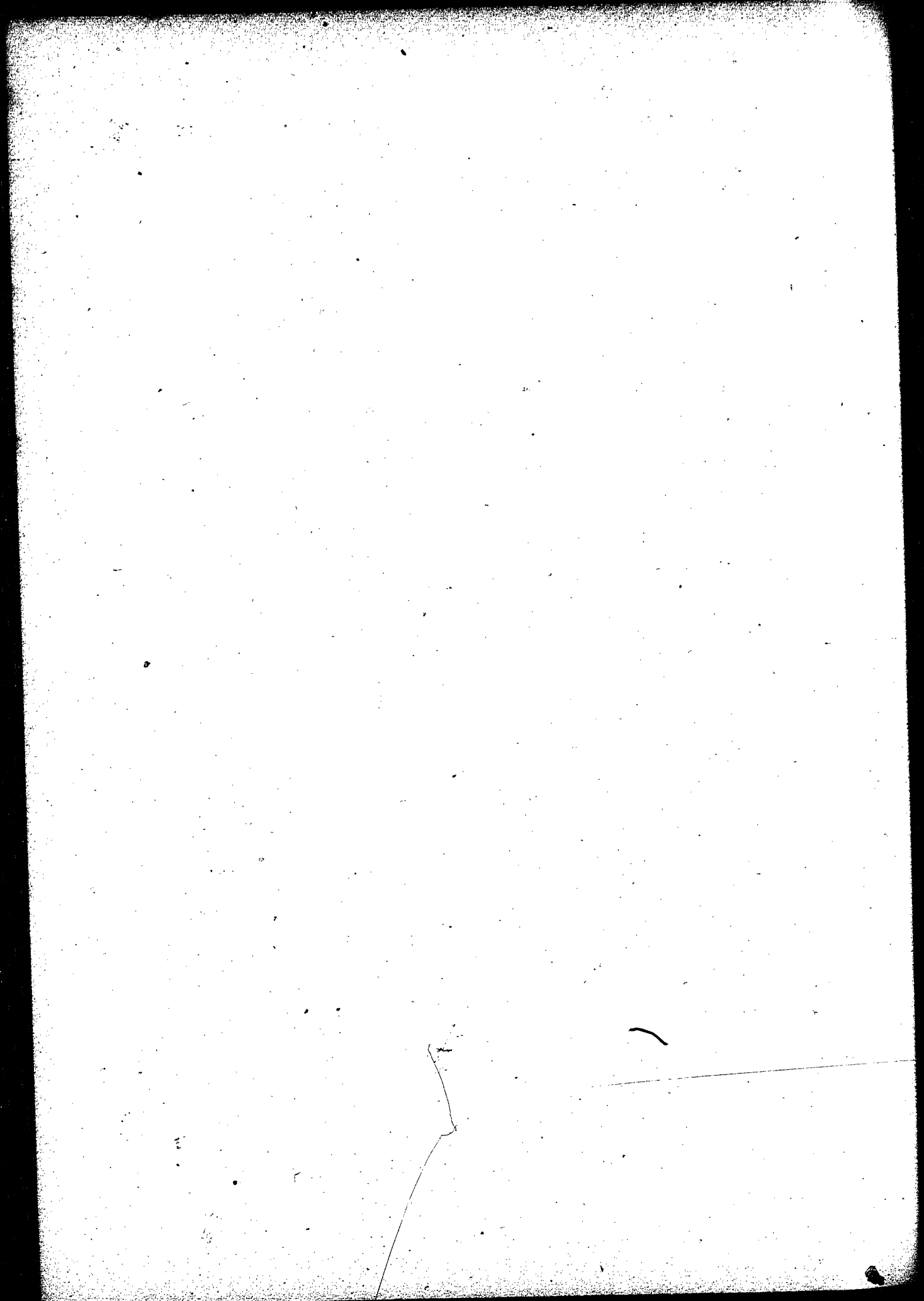
Q And who? A And the city.

Q An arrangement between the tramway company and the city by which the tramway company put in stringers? A The tramway company paid for stringers and laying them down.

Q And they were put down under your supervision? A Yes. Before that there were joists simply under the floor, and the rails were fastened to the planking, and the car in going over it between the floor beams the floor bent some, it was springy; and the object in putting these stringers in was to stiffen the track.

Q To stiffen it and strengthen that? A Yes.

Q Were there certain hangers put in to then? A Yes.



Q What were their dimensions? A An inch and a quarter.

Q Who did the iron work? A Mr. Robertson.

Q Here in the city? A Yes.

Q Were the specifications drawn by you? A There were no specifications drawn. They were the same—the former hangers went through the beam, two shanks through two holes in the beam; and these went outside and had a plate underneath.

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Q They were the stirrup? A The stirrup.

Q Were they the same size as those that went through? A Yes.

Q Who recommended them being the same size? A Well, no one.

Q No one at all. Well, did anyone ask you for your approval as to that at all? A No; not that I remember.

Q You were not asked for your approval? Were they put there by you? A Yes; they were put on under my directions.

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Q Were you there while they were being put on? A Part of the time.

Q Did you inspect them after they were on? A I saw them after they were on.

Q Did you make any complaint as to them at all? A Not that I remember of; no.

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Q Was any complaint made as to them? A No; not that I remember of.

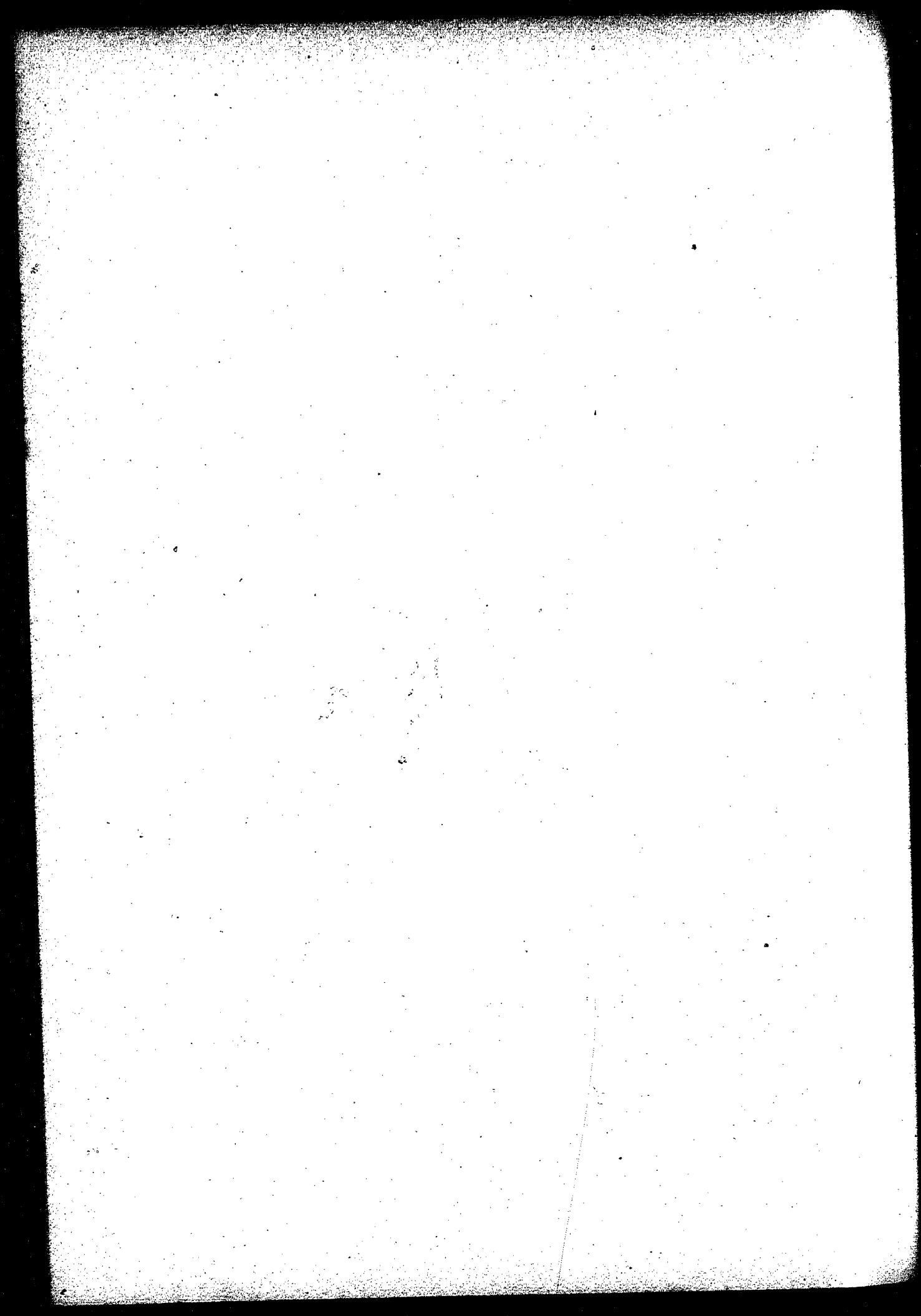
Q Were they discussed at all in any way—any discussion over them? A I do not remember of any.

Q Well, after McIntosh made those repairs, was anything done with the bridge after that? A Yes; it was planked and there were several repairs done to it.

40

Q Planked; under your supervision? A Yes.

Q By instructions from the city? A By report of the city carpenter,



reporting that it required planking. He reported on all the bridges, indicating what needed renewing or repairing.

Q The floor needed repairing? A Yes.

Q Putting in new flooring, would that strengthen or weaken the bridge?
A It would not have any effect either way.

Q Then, outside the flooring, was anything else done to the bridge?
A There was some work done to the approaches; to the approach—east 10
approach.

Q In what way? A Well, the—it was on a side-hill, and the water used to run down, and it caused one of the bents to settle a little, and the water was diverted from running in there, and it was blocked up and braced.

Q That repair was to strengthen it was it? A Yes.

Q The water had a tendency to weaken it? A Yes.

Q What year was that? A That was in 1895. 20

Q Who reported on that? A Mr. Cox reported on it.

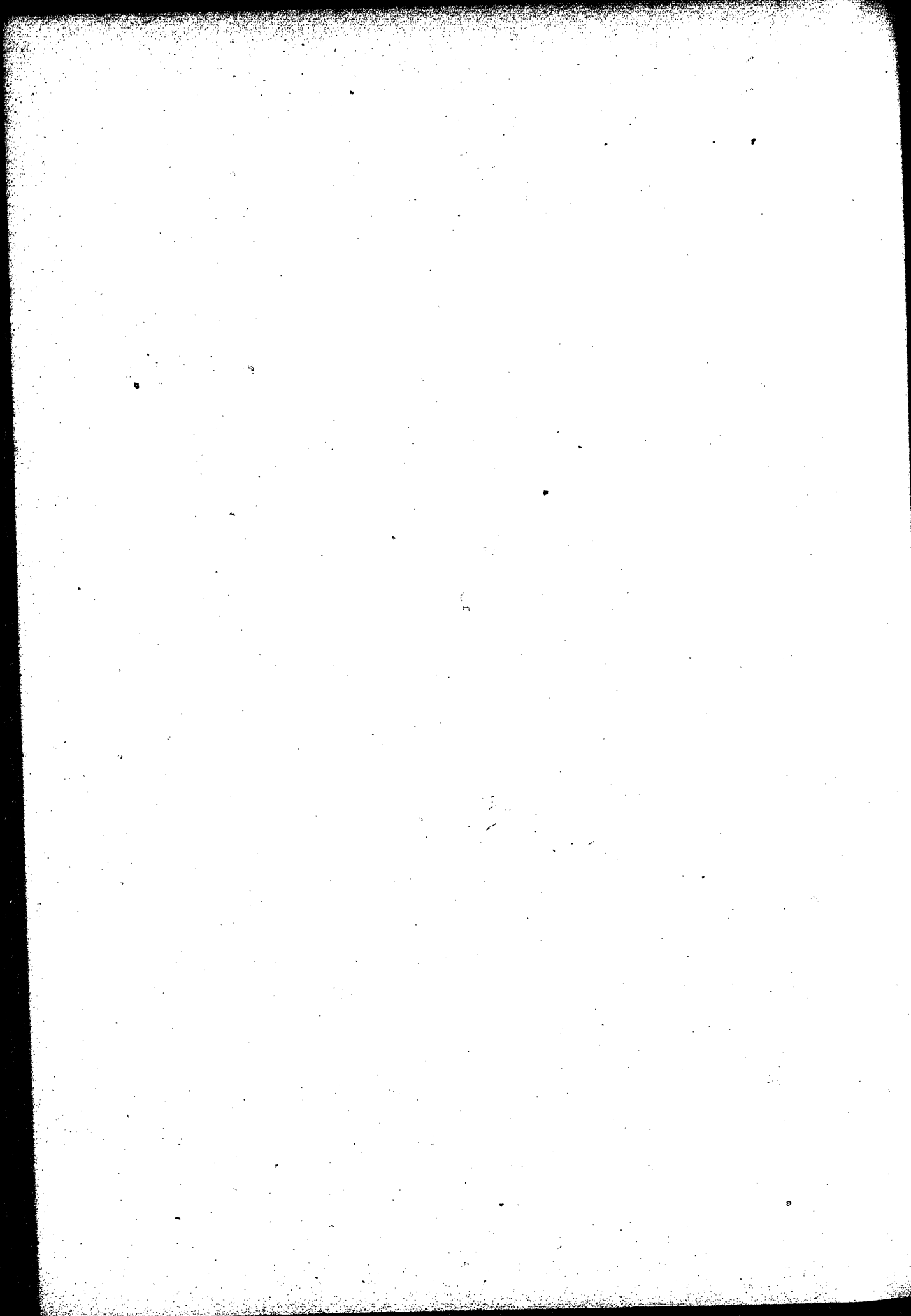
Q He reported? A I think he reported on it first.

Q As to its being out of repair? A As requiring repair. I would not be positive though who first spoke of it. But I know I went over there with him and saw what was required to be done.

Q And the city approved of the repairs? A Well, there was no— 30

Q You reported to the city did you? A I do not remember of making a direct report with regard to that special thing, but it was about that.

Q What I mean is this; did the city give instructions for it to be repaired after a report to the city, or did Cox simply go on with the repairs and hand in a bill to the city? A I forget the particulars with regard to that, but the general order in any case of that kind—I reported to the street committee what was necessary to be done, and if it was decided to be done it was approved of and 40 the work was done. I do not remember in that particular instance what was said about it.



Q Now that was in 1895. Did you report on the bridge yourself in 1895?
A Not specially.

Q In 1896 did you as to that bridge? A Oh, it was 1895; oh yes, 1895 there was a report on the bridge.

Q By whom? A The city carpenter.

Q That is Cox? A Yes.

Q To whom? A That was an appendix to my report. He reported on the bridges, sidewalks and water tanks. ¹⁰

Q Did he report on this bridge particularly? A Yes.

Q In writing? A Yes.

Q Where is that report? A Well, it is embodied in the annual report.

Q Is the annual report printed? A Yes, the annual report of the corporation for 1895. ²⁰

Q Do you remember what Cox reported in it? A He reported the bridge in good condition. I gave him instructions to report on all the bridges, mentioning specially the Point Ellice bridge, Rock Bay bridge and James Bay bridge.

Q You made no report yourself? A No.

Q Did you ever receive any complaints as to the bridge being out of repair? ³⁰
A No; not that I remember of.

Q No verbal reports or complaints? A No.

Q Mr. Cox never said— A I mean nothing but what he reported—I mean from the outside. For instance, if there was any planking that required renewing he would report that to me; but outside of that I never heard of any.

Q You never received or heard of any complaints as to the bridge being out of repair? A No. ⁴⁰

Q Except as Mr. Cox reported it. None of the city officials spoke to you with reference to the bridge being out of repair, or wanting repair? A No; nothing that I remember of.

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Q. Or the tramway company? A. No.

Q. Did Mr. Cox make any suggestions to you as to further repairs? A. No; not in this case.

Q. In any case? A. No; nothing further—no further repairs that he spoke of at the time. For instance, if some of the planking was worn through or decayed he would report on that. He never reported anything that was required beyond what was done.

Q. No one ever mentioned to you or stated to you that the bridge should be further repaired to a greater extent? A. No; not at all. 10

Q. Do you know when that bridge was built, of your own knowledge? A. No; I could not say of my own personal knowledge.

Q. You heard from Mr. Gore, I suppose, the date? A. Yes, I heard it stated.

Q. You know. What is the usual life of one of these timbers in a bridge of that kind? A. Generally about ten years; is good for about ten years. 20

Q. What is this bridge constructed of? A. Douglas fir.

Q. Douglas fir; about ten years. Do you know the length of time that some of these timbers were in that bridge? A. Well, I believe about eleven.

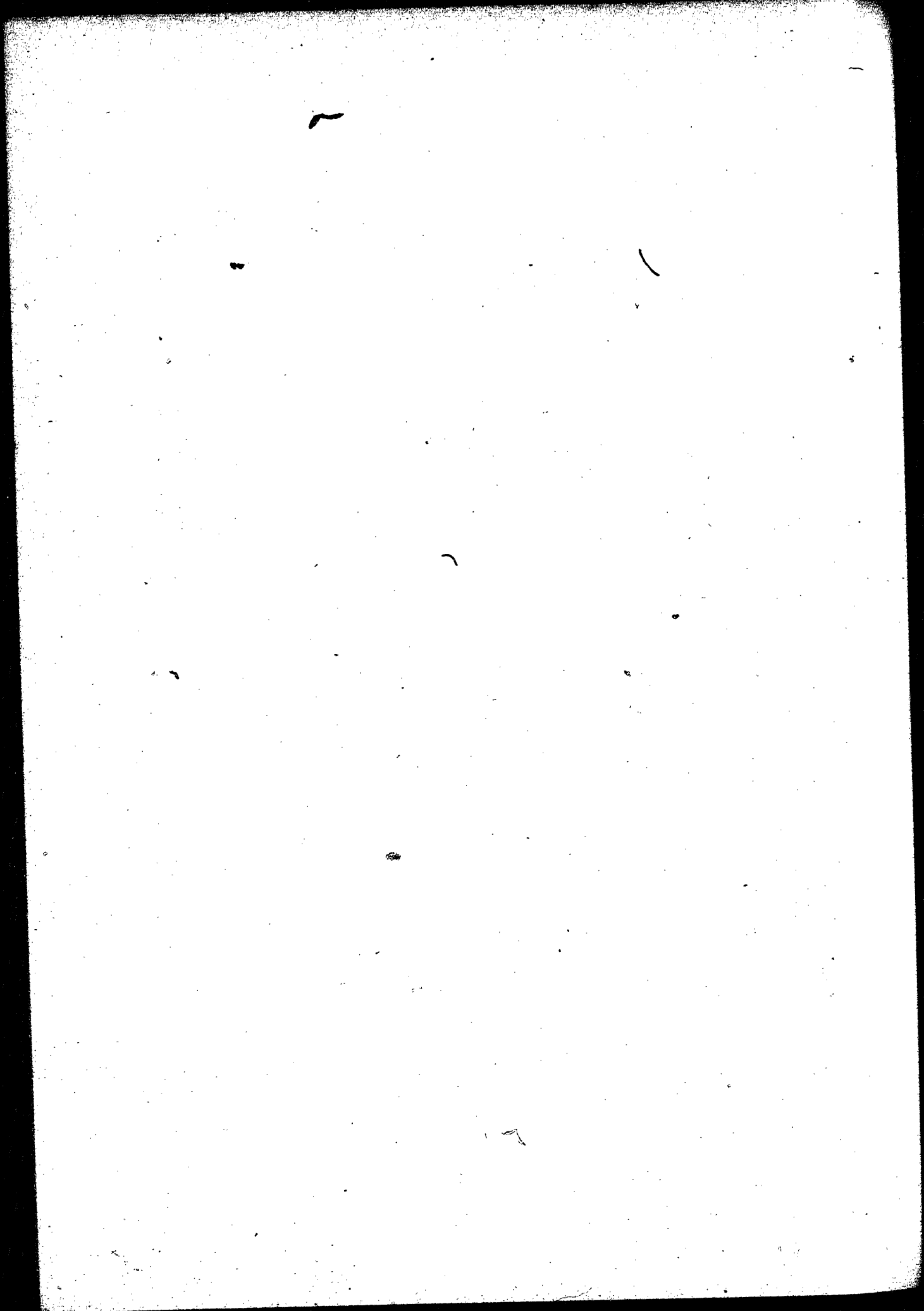
Q. What? A. I believe it was constructed in 1885; they had been in eleven years. 30

Q. Well, did it occur to you at any time that they should be replaced—some of those older timbers? A. No; it did not occur to me that they were decayed.

Q. I suppose you found out afterwards that they were? A. Some of them were; I found out after it broke down.

Q. An inspection, I suppose, would discover that? A. If they had been inspected when they were decayed it would have. 40

Q. What caused the decay; do you know? A. Well, I suppose it is where the wood comes in contact with wood and retains moisture, is the general cause.



Q Any excavation or anything in the timber that would collect moisture would cause rapid decay? A Yes.

Q For instance, a knot or anything of that kind? A A knot hole.

Q A knot hole would collect water, and then a decay would start. A thorough inspection would detect that? A At those places, yes.

Q What became of the timbers that were in that bridge? A Most of them were rafted about the bridge, and I believe some of them are on the wharf. 10

Q Any of them destroyed? A I think some of them were.

Q Why? A I do not know.

Q Under whose directions or instructions? A I do not know; I do not know that anyone gave directions for it.

Q When did you first discover that some of those timbers were rotten after the accident; how soon after the accident? A Well, the second day. 20

Q The second day you discovered? A The first day I went there I did not see any unsound timber; all that I saw was sound. But the second time I was up there I saw some unsound.

Q Now, were any of the timbers that the city put in, rotten? No, I did not see any of those decayed at all.

Q It was some of the original timbers? A It was some of the original timbers, yes. 30

Q Floor beams? A The original floor beams, and one—the end of one upright piece, I think, was partly decayed; that was all that I saw.

Q In the span that went down, were there any of the original floor beams? A Yes.

Q Mostly all original floor beams? A No; they were nearly all new ones. 40

Q How many original floor beams were in the span that went down? A I am not sure whether it was two or three.

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Q Do you know where they are? A There is one of them down here on the wharf.

Q And the other two? A And the other one, I don't know where they are.

Q But they were—? A There were two that I remember of.

Q Did you form an opinion as to whether those were the first that went down? A No.

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Q You did not form an opinion as to that? A No.

Q Did you ever express or form an opinion as to where the weakness in that bridge was at the time of the accident? A No, I could not.

Q You could not form one now from your knowledge? A No.

Q So from what you have seen and heard, you cannot form an opinion as to where the weakness was? A I could not form an opinion as to what caused the destruction of the bridge.

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Q Or where there was the greatest weakness? A No; I could not.

Q Would it be natural to suppose it was in the old beams or in the new beams? A The old beams—I should say were weaker than the new.

Q Were the new beams broken at all in any way? A No; I did not see any of them broken.

Q But the old beams you saw? A One of the old beams broken.

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Q One of the old ones. Do you know where that beam is now? A No; I do not know where it is.

Q Where was it broken? A It was broken where the hanger went through.

Q That is at the end? A It is near the end. Under the chord.

Q Was that a probable place where a bridge would give away first, that particular part? A That part might give away without the bridge going, as it did before. Before there was one of the floor beams gave away just at that place.

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Q The same part of the beam? A The same part of the beam.

Q Gave way. That was in 1892? A That was in 1892.

Q Of course that was repaired, and you found the same breakage in this? A This seemed to be broken about the same way.

Q Was the beam in a good state of repair, except at the ends? A Yes; I did not notice any other place where it was decayed.

Q And there is only one beam broken? A Only one beam broken. 10

Q And there were two beams that were decayed, were there? A No; there was one old beam there that showed slight signs of decay, but was not broken.

Q Would that decay weaken it? It would if it remained long enough.

Q So far as it was then, is it your opinion it was weakened by that decay? A It would be weakened to the extent of the decay. 20

Q To some extent, and that extent you would not see. What caused that decay, do you know? A Well, moisture.

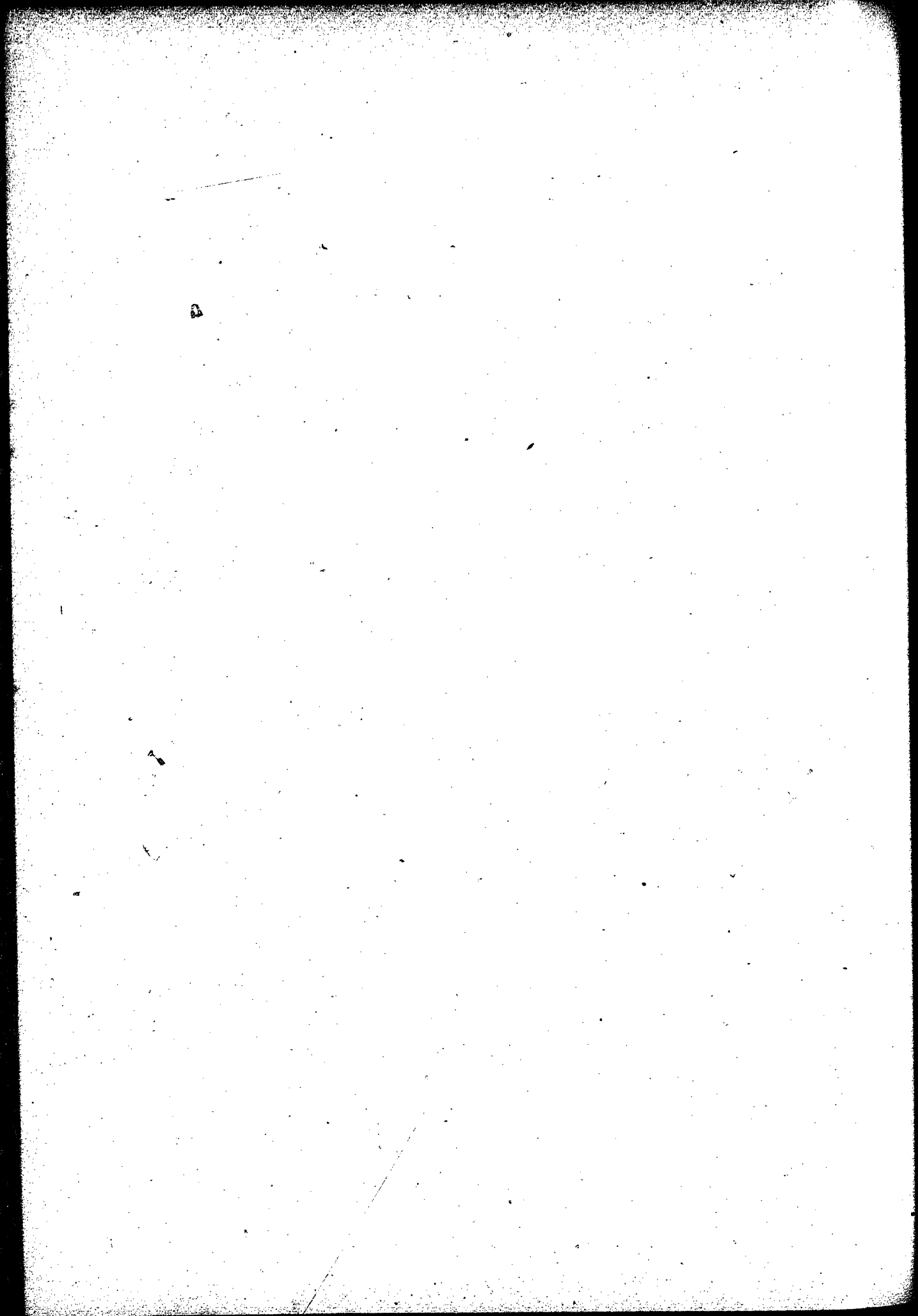
Q Moisture. Was moisture there caused by anything specially defective in the beam itself? A Well, I could not say as to that. The first beam that broke there was where the hangers went down and the plate underneath held the water, while others that were under similar conditions that were perfectly sound, I considered that it did not hold water, and that in those cases it would not be the cause of the decay—not the same cause. 30

Q The beam that was decayed and not broken, you have no idea what caused the detention of moisture in that particular part? A I think it was caused by the water getting in inside.

Q In some crevice? A Yes.

Q But what caused the crevice you cannot tell? A Well, I think it was on account of getting around the bolt beside the hanger. 40

Q Well, the beam that was broken, was it decayed only in one part?
A That was all I noticed.



Q Could it be decayed in more parts than one without your noticing?
A I did not bore it ; I did not make any examination, only a superficial examination.

Q Your attention was directed more particularly to the parts that were broken? A Yes.

Q And to the same extent of the one that did not break, you made just a hasty examination of that? A Yes.

Q Those beams must have been in about eleven years then? A Yes. 10

Q And the ordinary life would be only ten years? A Well, yes ; I would say that would be about the ordinary life of cut timber.

Q Where did the limits of the corporation extend to before the last addition to the city was added, do you know? A No ; I could not describe it.

Q Well, how far did the last addition extend beyond the bridge?
A Harriet street is the boundary. 20

Q Is that beyond the bridge? A Some distance beyond. It crosses just at the siding—the switch.

Q How far beyond—one or two blocks beyond this bridge? A Yes; I think about half a mile.

Q What street was this bridge on? A This end of it was on Work street, and the other end of it is not a street at all—that is on the Indian Reserve.

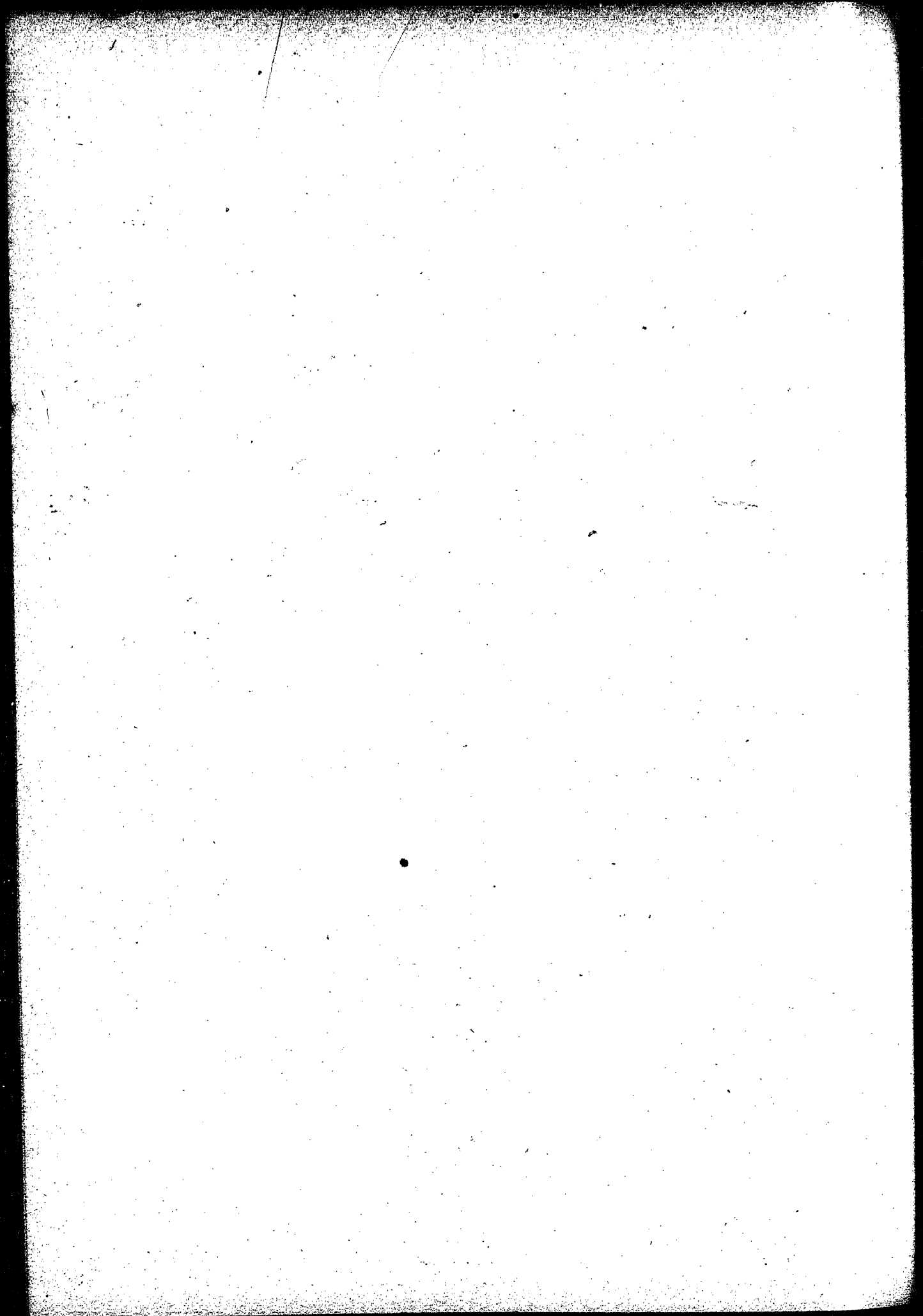
Q Is there any particular road or street running over there? A Yes, the Esquimalt road. 30

Q Did the city extend on that road beyond the bridge? A Not that I know of ; not on the Esquimalt road.

Q Nothing beyond the bridge? A Not on that road. They did beyond the bridge in Victoria West.

Q Why not immediately beyond the bridge? A Well, I would say they did not that I know of. I do not know of any repairs done there by the city. 40

Q Why? A There were many other places that required them more.



Q Because it was not necessary. But beyond that again on that same road they did expend money, did they? A I do not know of any money expended on the Esquimalt road.

Q Any sidewalks there? A Yes.

Q Were they repaired by the city? A Yes, by the city; yes.

Q Your supervision extended beyond the bridge, I suppose? A Yes; out to the city limits.

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EXAMINED BY MR. MASON.

Q Whilst some of these repairs were being done, any car traffic was stopped, was it not? A It was; yes.

Q And you advertised a notice that the bridge was dangerous? A Yes; I advertised it closed for traffic.

Q Had you reason to believe that Mr. Cox was a responsible, competent man? A As far as looking after the wood work of the bridges was concerned, and general work, I did.

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Q Were you city engineer when the bridge was taken over? A No.

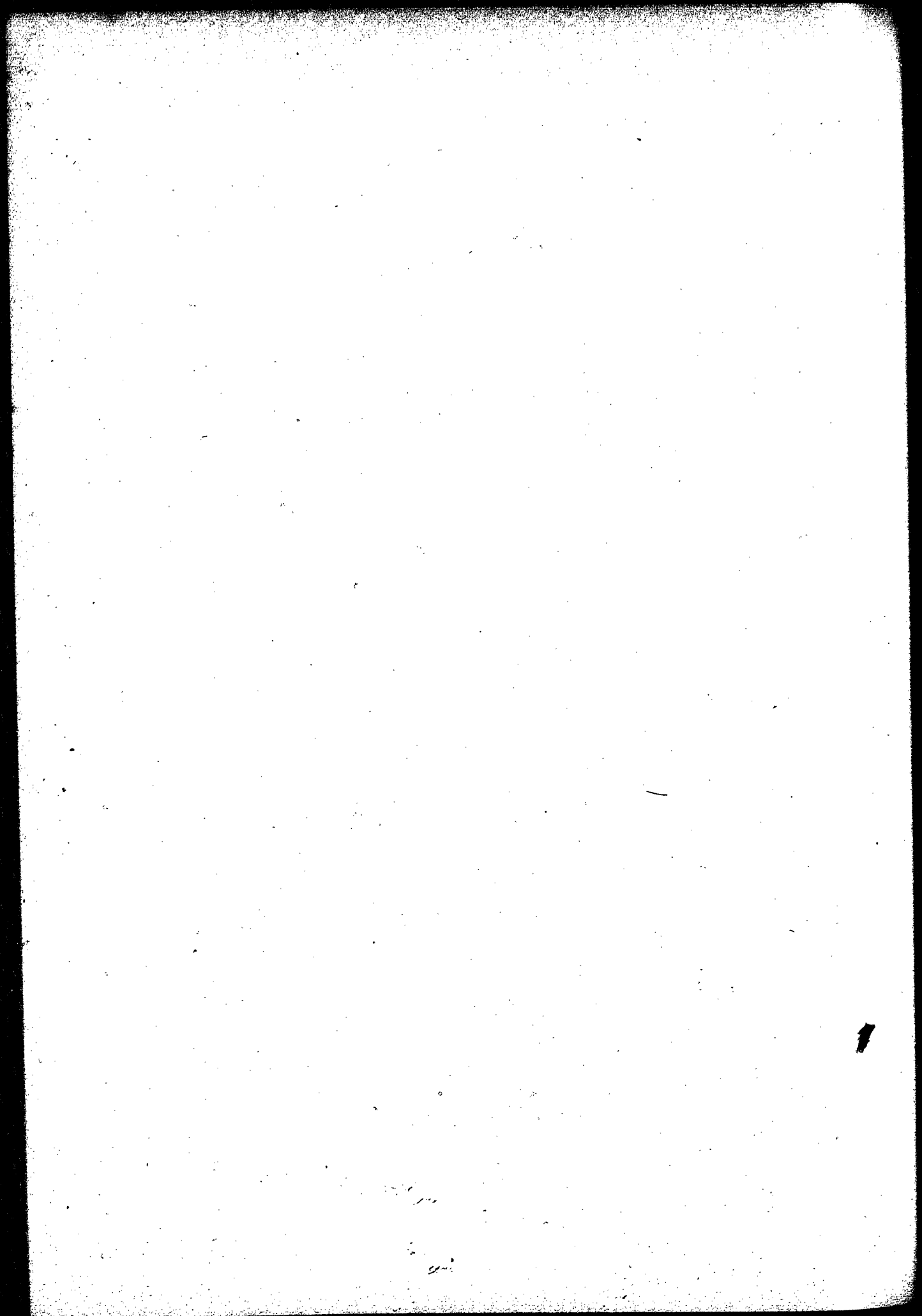
Q Did you ever receive any drawings, calculations or specifications from the government with regard to it? A No.

Q Were any furnished by the Lands and Works Department? A Not that I know of.

Q Not to your knowledge? A The tramcar was in operation over the bridge when I came on.

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Q The tramway obtained their authority to run cars over that bridge from the government? A I believe so; yes.



The examination here closed.

Evidence of Edward Ashley Wilmot, City Engineer, Taken ¹⁰
at the Trial of Patterson v. Victoria.

20th May, 1897.

EDWARD ASHLEY WILMOT—CALLED AND EXAMINED
BY MR. DAVIS.

20

Q You have been city engineer for the City of Victoria since 1892, Mr. Wilmot? A Yes, I have.

Q There is no one, I believe, over you? A No.

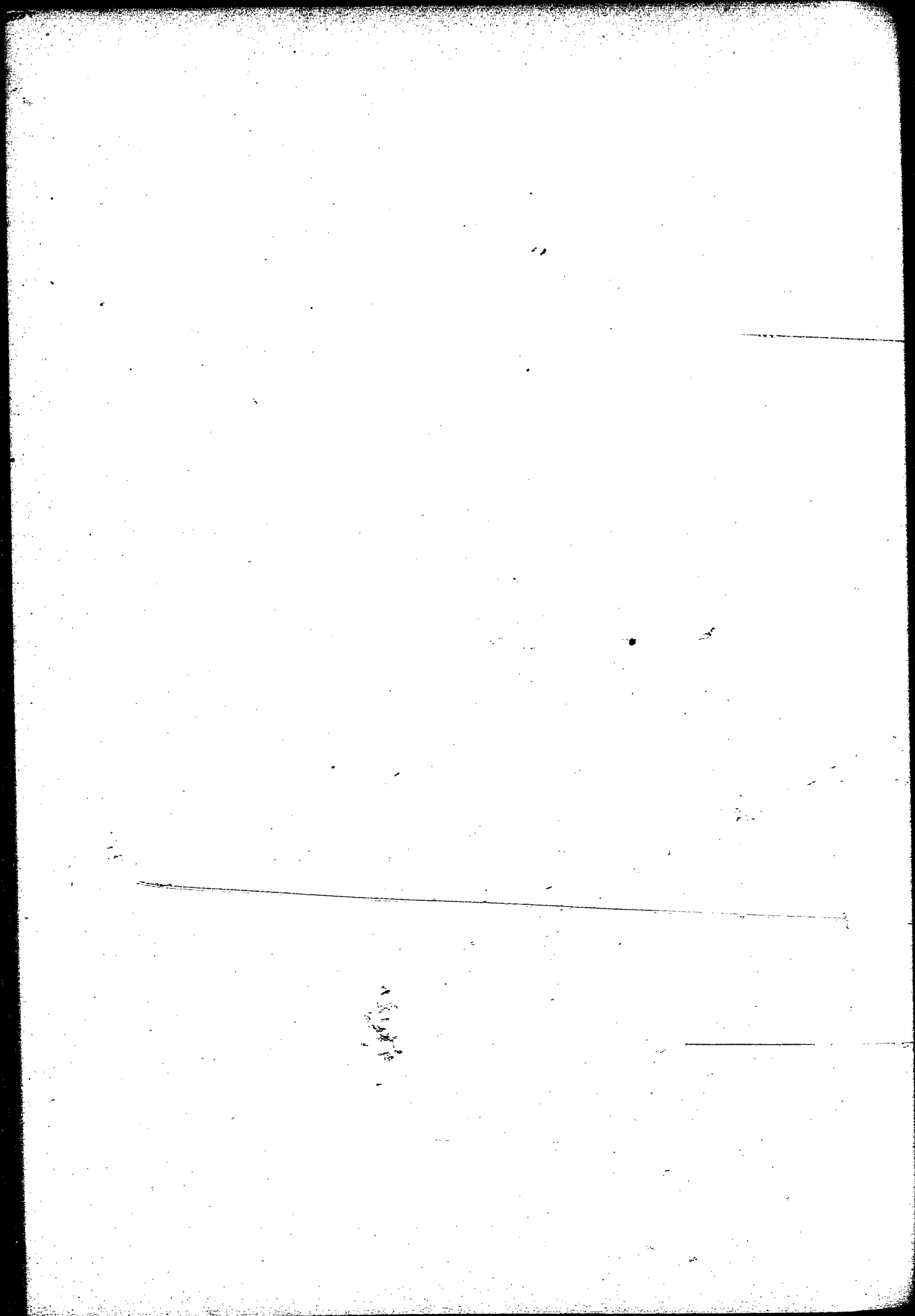
Q That is, no official—subject only to the orders of the council? A Yes. 30

Q I notice that you state in that examination that in 1892 when these repairs were being done on the Point Ellice bridge, it was closed for tramcar traffic? A Yes.

Q After the repairs were completed: it was again thrown open for tramcar traffic by the city, was it not? A Yes; the restriction was taken off.

Q Large cars, or larger cars, so to speak, were running over the bridge prior to the accident of 1892? A Yes. 40

Q Just began a comparatively short time before? A I could not say when they began.



Q In fact, the car which went through in 1892 is the same car as went through in 1896? A So I have been told.

Mr. Davis (to witness): In those communications, (referring to Annual Reports of the Defendant Corporation), I see reference is made Mr. Wilmot, to an accident which took place in 1892—the floor beam broke. Did the car go through on that occasion? A No.

Q It was held up by what? A The end of the floor beams is held up by lateral rods—the end of the broken beam was held up by the lateral rods. 10

Q The lateral rods were the same as in 1896? A Yes.

Q At that time the rail rested on the top of the flooring, I believe? A Yes.

Q Was the flooring broken in 1892? A No; I don't remember that it was; the car passed over the beam.

Juror: Was the 1892 car crowded to the same extent as the other? A 20 Just about it. It was an excursion—a picnic excursion.

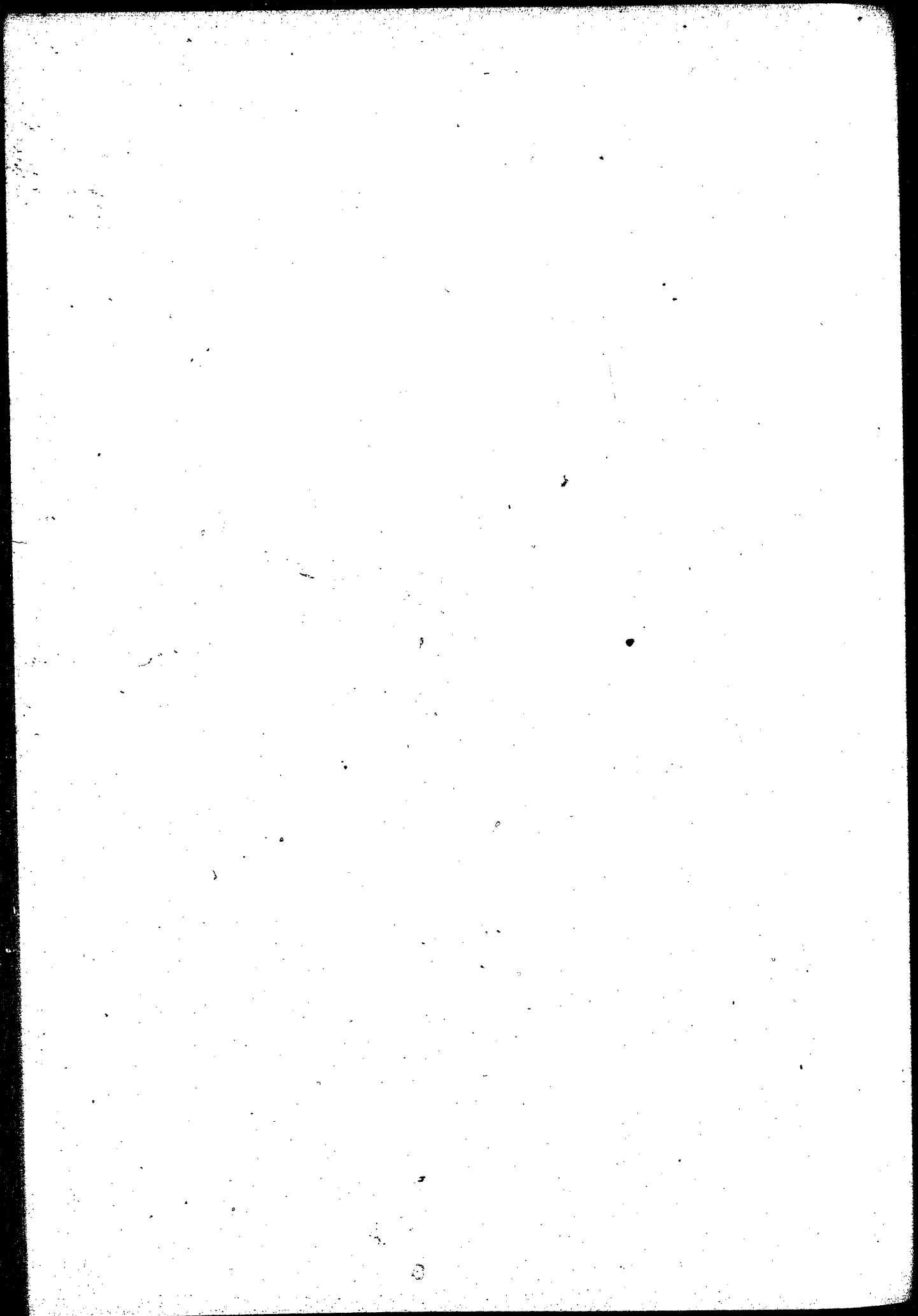
Mr. Davis: New beams were put in, I see by the report, was there any, and if so, what difference in the size? A The new beams were 12 by 16; the broken floor beam where it was broken was 12 by 16, but the remaining parts of the beams were 12 by 18—the old beams.

Q Except that they tapered a little at the ends where the hangers were? A They were sized down where the hangers went on; It was not at the tapering—it was on the length of the beam where the hanger went through and 30 the plates went on, and it was the depth between the taper and plate, 16 inches, and the new beams were 12 by 16 all through.

Q Was there any change made in the hangers at the time the new beams were put in? A The first beam that was broken, some of the hangers were put back again, and put back in the same way.

Q With reference to the hangers, some of the hangers were put back, but what changes were made? A There were stirrups put on. 40

Q That is, the iron was widened out and went round outside of the beam instead of through? A Round outside of the beam.



Q You heard your evidence read there, Mr. Wilmot? A Yes.

Q That is correct, is it not? A Yes.

Q I believe McIntosh was the other man who did the repairings? A Yes; he put in the floor beams he did the other repairing the floor beams—and the new floors and stringers.

Q McIntosh was acting under your instructions? A Yes.

10

MR. WILMOT, being recalled, on the second day of trial (21st May, 1897), on behalf of the defendant, testified, examined by Mr. Taylor:

Q You are already under oath, Mr. Wilmot. You examined this 20 broken beam? A I did.

Q Did you find an augur hole in it? A No.

Q Did you examine for the purpose of ascertaining whether there was or not? A I did.

Q How long a time did you spend on that examination? A Long enough to examine it thoroughly.

Q Who was with you? A Mr. Bell.

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Q Did two of you examine it together? A Yes.

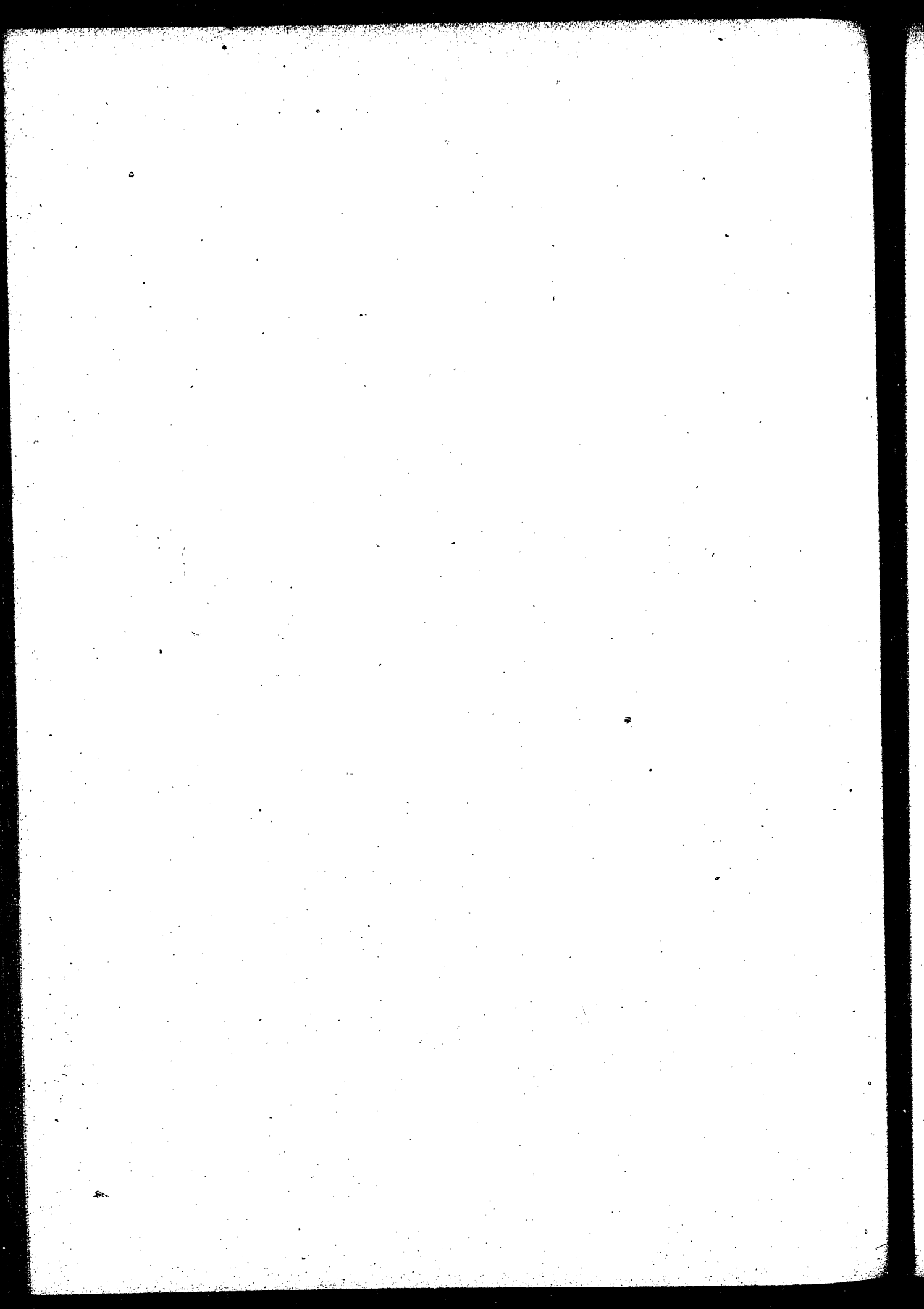
Q And you did not find any augur hole? A No.

Q You examined the whole beam? A We examined the two pieces.

Q The two pieces? A Yes.

Q Well, you have heard what has been said about the break at the 40 hanger irons; were the two pieces there complete? A Yes.

Q That is to say, could they have been joined together and make the



complete beam? A Yes.

Q Were the marks of the hangers at all in any piece of it? A Yes; there was marks of the hanger in the beam.

Q On which beam? A On the long end.

Q That would be——? A On the main beam; not the piece that was broken off.

Q On the main beam? A Yes. 10

Q That would be the south end or the end next to Victoria, the long end? You saw the marks of the hangers? A Yes.

Q You said a half-section of the hanger went through it? A I do not know a half section, but there was a distinct mark of the hangers.

Q The iron? A The iron.

Q You also examined the short end that was broken off? That was the sidewalk end on the Gorge side? A Yes. 20

Q Was there any auger holes in that? A I did not see any.

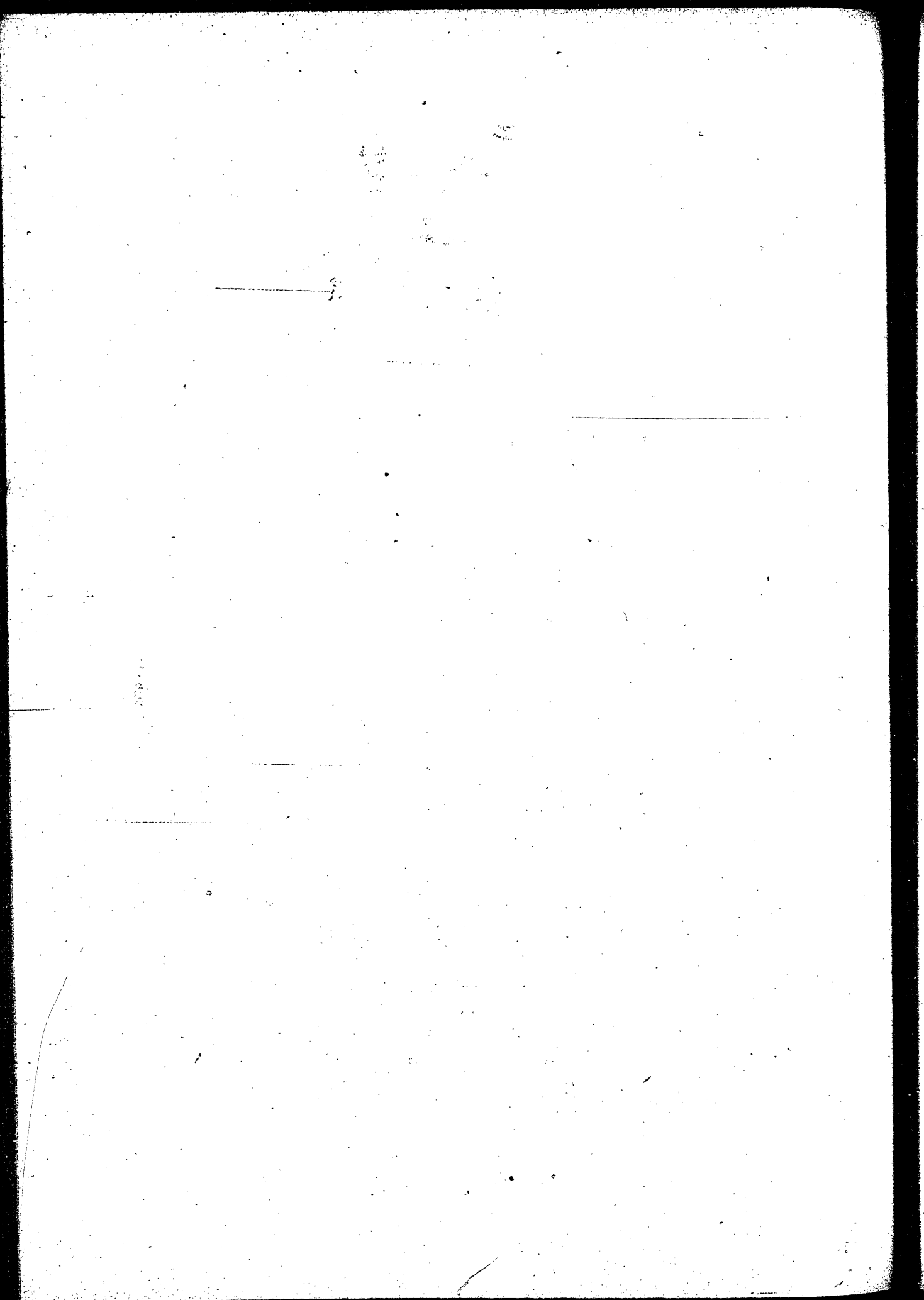
Q You did not see any?

Mr. Davis: Apparently from this examination my learned friends intend to dispute the boring of that auger hole. When that was proved by Mr. Cox they did not cross-examine. As the result another witness who saw the hole, and who we have here, we did not call. If they intend to contest that point, I ask now to have that witness called. We had him here and have him here. 30

Court: There was no suggestion in the cross-examination that you intended to dispute the fact.

Mr. Cassidy: The point, my lord, is that Mr. Wilmot was called and then Mr. Cox was called afterwards. The first suggestion we had in this case that there was going to be anything of that—— 40

The Court: I am speaking of the cross-examination of Cox. Would it be more convenient to you that this other witness who Mr. Davis speaks of



should be recalled now, or in rebuttal ; I think you are entitled to have him called now.

Mr. Taylor : Whatever your lordship thinks is proper.

Court : It is fairer for a defence, I think, to have the case of the plaintiff completed as far as possible. As far as this witness has gone you have put no new witnesses in the box, you have simply recalled some of the plaintiff's witnesses. It is fairer, I think, to complete the plaintiff's case. You had better put in your witness now. 10

Mr. Davis : He is not here just now ; we have sent for him. We will either put him in when he comes here, or put him in the first thing in the morning.

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CROSS-EXAMINED BY MR. DAVIS.

Q Mr. Wilmot you instructed Mr. Cox to bore those beams in 1892, did you not? A Yes.

Q And he brought you the borings just as you stated? A Yes? he brought me some borings and samples of wood. 30

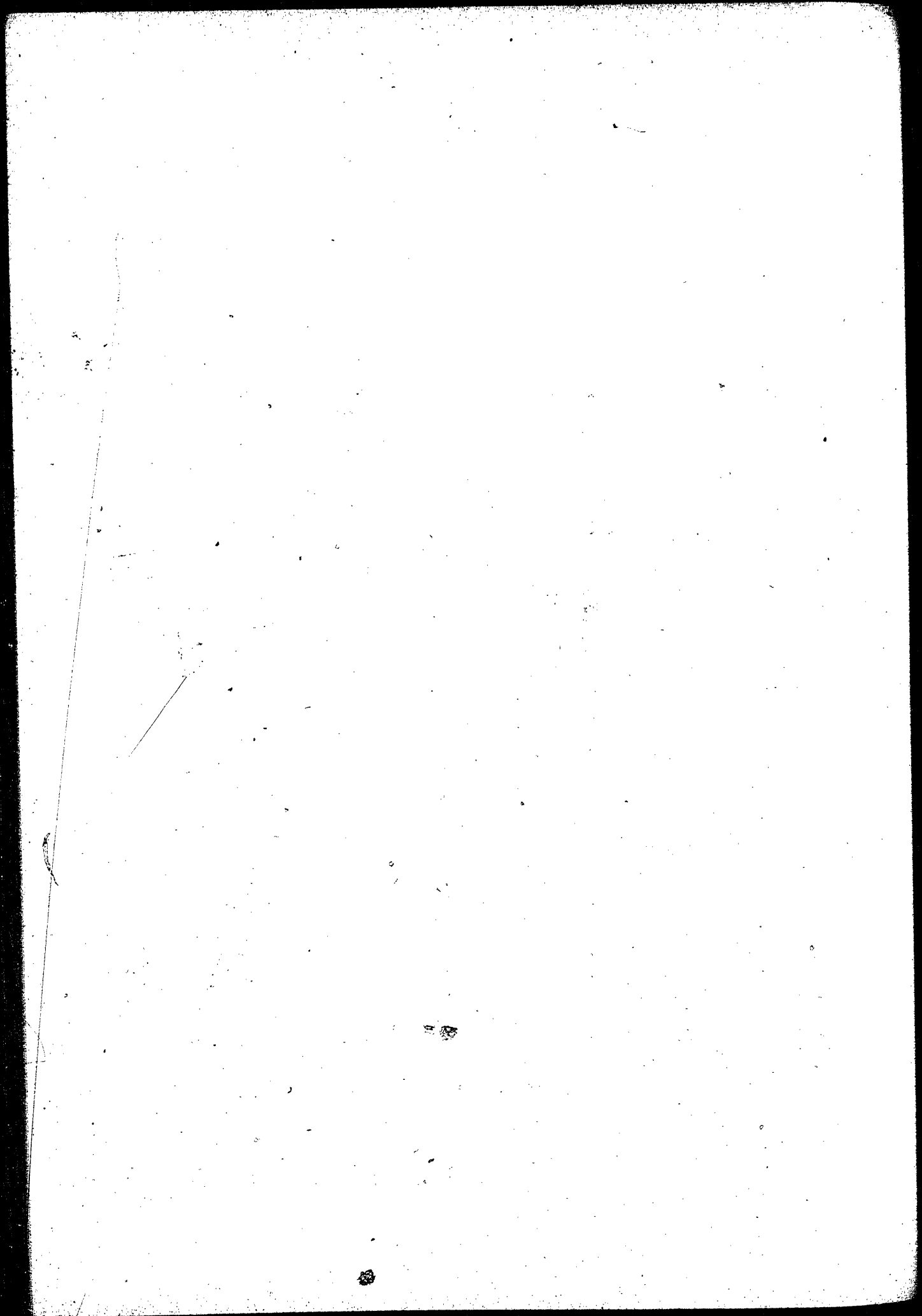
Q He brought you a number of them? A Yes.

Q It would be his duty under his instructions to bore that old beam?
A To bore all the beams.

Q You have nothing to say against Mr. Cox's character? A I think not.

Q You would not think him a man that would be guilty of perjury?
A No; no reason for that. 40

Q When did you examine this broken beam? A Shortly after the accident.



Q How long after? A I should say about two days—two or three days.

Q Two or three days. Now that beam was to a greater or less extent completely rotten, was it not—that is, portions of it was completely rotten and soft? A Portions of it were rotten, yes.

Q And it was splintered and broken by the breaking, was it not? A It was broken, yes.

Q Do you mean to say that it was impossible for an auger hole to have been there and you not to have found it? A I would not say it was impossible, but I went specially to see if it had been bored. 10

EXAMINED BY THE COURT.

20

Q Mr. Wilmot, what became of that broken beam? A It, with a lot of other timber of the bridge, was left in the arm above the bridge in charge of an Indian living there—an Indian, I think, or a half breed. It was put in a boom together.

Q Left by whom? A Well, by the city.

Q By yourself? A No, I did not give the direction. 30

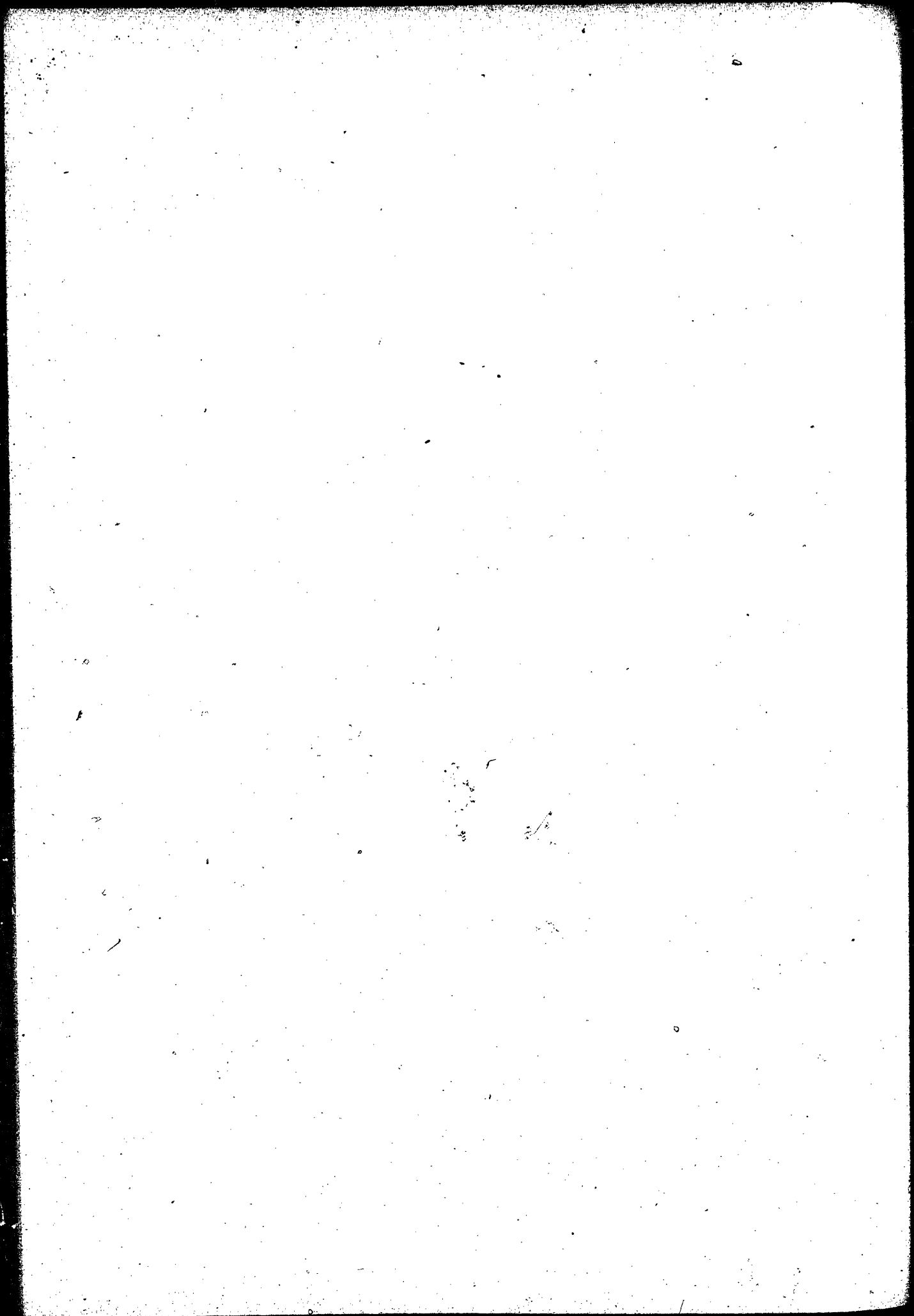
Q Do you know who did?

Mr. Taylor: I will tender Mr. Yorke, who is very familiar with the debris there.

Court: No, I just want to ask— A No, I gave no direction with regard to the disposal of the debris.

Q When did you see the broken beam there? A I said, to the best of my recollection, it was two or three days after the accident. 40

Q Have you any knowledge of where it is now? A No.



Witness stands aside.

Examination of Edward Ashley Wilmot, City Engineer, 10
before the Deputy Registrar, in the action of
Lang v. Victoria.

Monday, 26th July, 1897, 10 a. m.

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Mr. Macdonell appearing for the plaintiff.

Mr. Mason appearing for the defendant.

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EDWARD ASHLEY WILMOT, being duly sworn, testified: Examined
by Mr. Macdonell:

Q What is your occupation, Mr. Wilmot? A Civil engineer.

Q Are you in the employ of the city of Victoria? A Yes.

Q As what? A City engineer.

Q When were you employed by them? A In April, 1892.

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Q What were your duties? A Well, the duties were not defined, but it
was to look after public works generally.

Q Including streets and bridges? A Yes.

Q Are you hired by the year? A No; paid by the month.

Q Have you performed those duties ever since April, 1892? A Yes.

Q For the city? A For the city.

Q Any one over you? A No.

Q Any one under you? A Occasionally; sometimes I have an ^{or} assistant.

Q Who? A Well, I have had several.

Q In 1892? A In 1892 Mr. Parr was assistant.

Q Any one else? A Well, do you mean assistant engineer or subordinates?

Q Subordinates? A Well, yes; then there is the inspector of streets and ²⁰ bridges.

Q Who was he? A Mr. Wilson. And the inspector of plumbing.

Q Was he inspector of streets and bridges in 1892? A No.

Q I am talking about 1892; who was in 1892? A There was no one inspector of the streets. There were three foremen who looked after the streets; and the city carpenter looked after the bridges and sidewalks.

Q Who was the city carpenter? A John Cox. 30

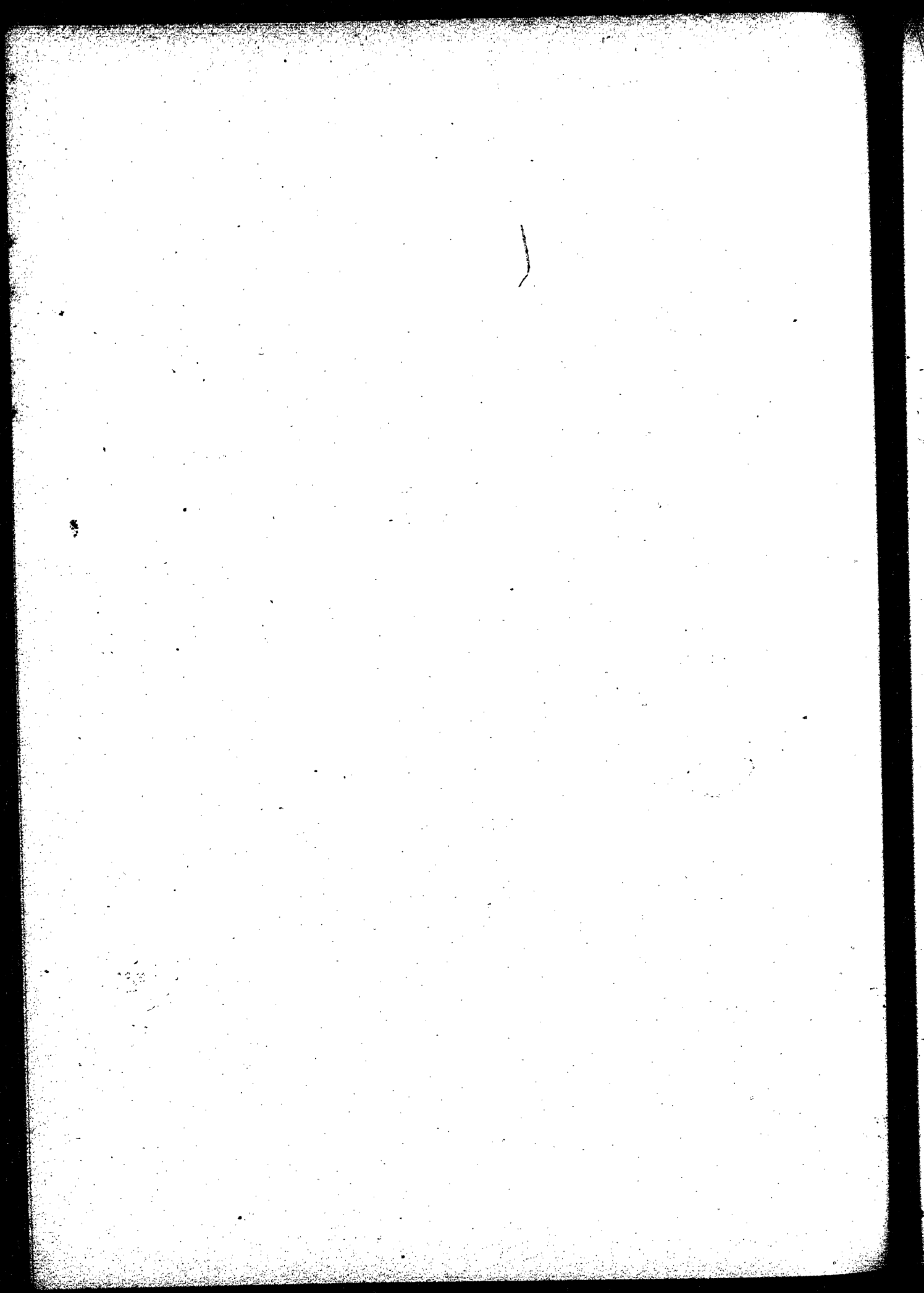
Q Was he in the employ of the city? A Yes.

Q Hired by them? A He was engaged by them before I came on.

Q Paid monthly? A Yes.

Q And his duties were what? A To look after the streets and sidewalks—at least bridges and sidewalks. 40

Q Did he perform those duties? A Yes; he was acting in that capacity.



Q Under your direction? A Yes; generally.

Q And reported to you? A Yes.

Q And you reported then to the city council? A Where occasion required.

Q When did you first inspect Point Ellice bridge as city engineer? A I think it was in May, 1892. I think it was in May.

Q Do you know when the city limits were extended so as to include Point Ellice bridge? A No; I think it was the year before; but that was before I came on the city. 10

Q Well the bridge then was within the city limits when you took office
A Yes.

Q And was it inspected by you the same as other bridges; did you look after it the same? A Yes; any repairs that were required were done by the city. 20

Q You had the same control over that bridge as you had over any of the other bridges? A Yes.

Q Have you ever heard the statute read defining the limits of the city—the boundaries defined? A Yes.

Q From that, is this site included within the city limits—the bridge?
A I should say it is within the area described.

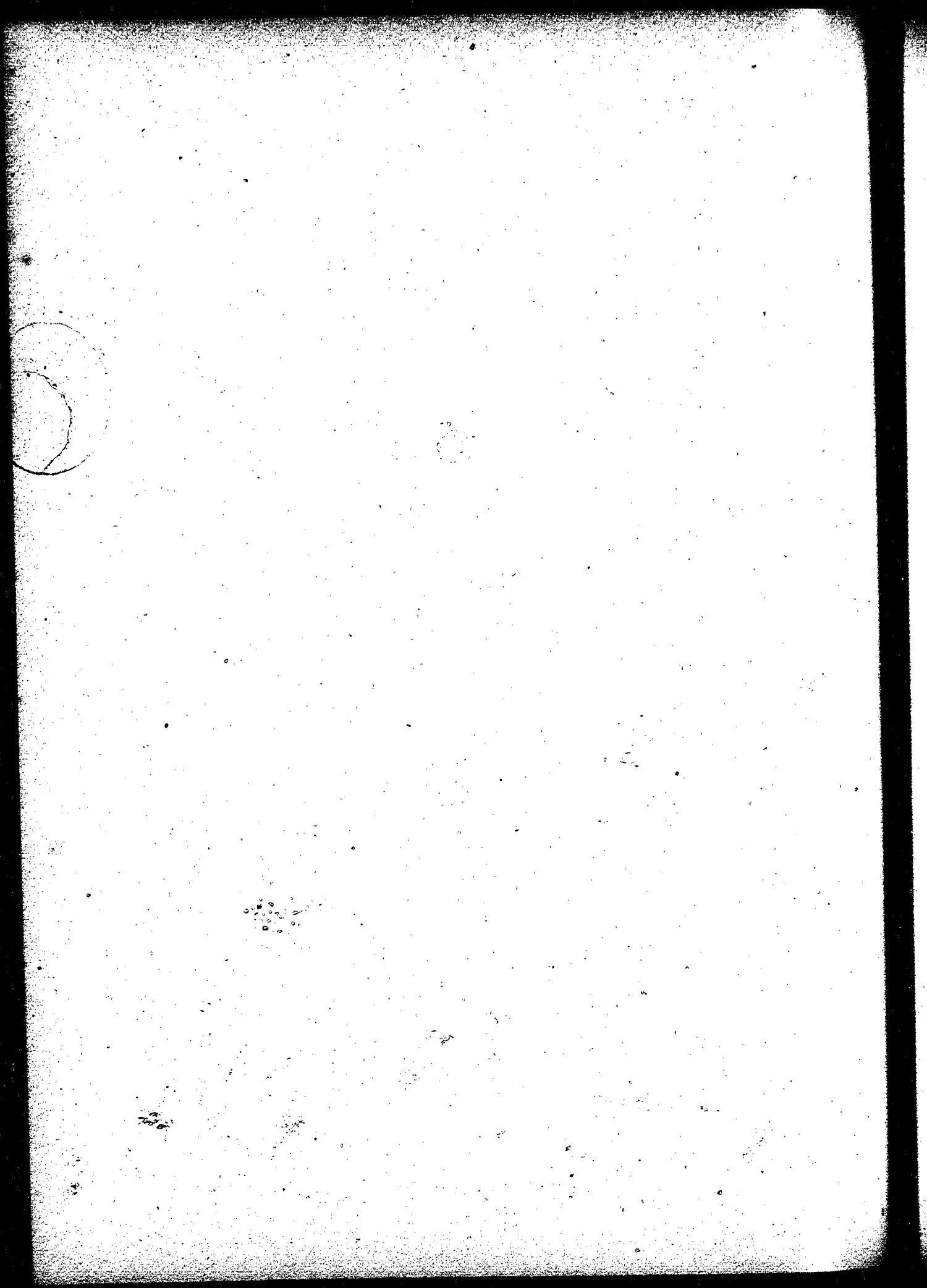
Q The area described, which is covered within the limits of the city, extends so as to take in Point Ellice bridge. What time in 1892 was your attention called to the Point Ellice bridge? A At the time the floor beam broke. 30

Q Can you give me the date of that? You have a memorandum of that?
A (Looking at memo book.) It was on June 9th.

Q 1892? A 1892. That was when the beam broke.

Q How was your attention called to it? A There was one of the floor beams broke. I don't remember now who first told me of it; I went over immediately after. 40

Q As part of your duties you went over? A Yes; I went over there.



Q Well, that was part of your duty to look after it? A It was not a defined part of my duty.

Q But generally? A I considered it so; yes.

Q You considered it part of your duty, and you went over there and looked after it. Did you give instructions for its repair? A On consulting the street committee; yes.

Q That was part of the council, the street committee? A Yes. 10

Q And did they direct you how to have it repaired? A Not the details how to have it repaired; but they agreed to renew the floor beam—the floor beam that was broken.

Q Now can you tell me what floor beam that was or what span it was in?
A No.

Q Well, do you know what span it was in? A I cannot possibly say now what span it was in. 20

Q If I draw your attention to it—it was repaired by Clark? A Yes.

Q And it was in the span that went down? A I think probably it was, but I could not say.

Q And it was number five floor beam? A The one that was repaired then; no, I don't think it was. Number five floor beam, as I remember it now, number five floor beam was the one that was broken in the last accident.

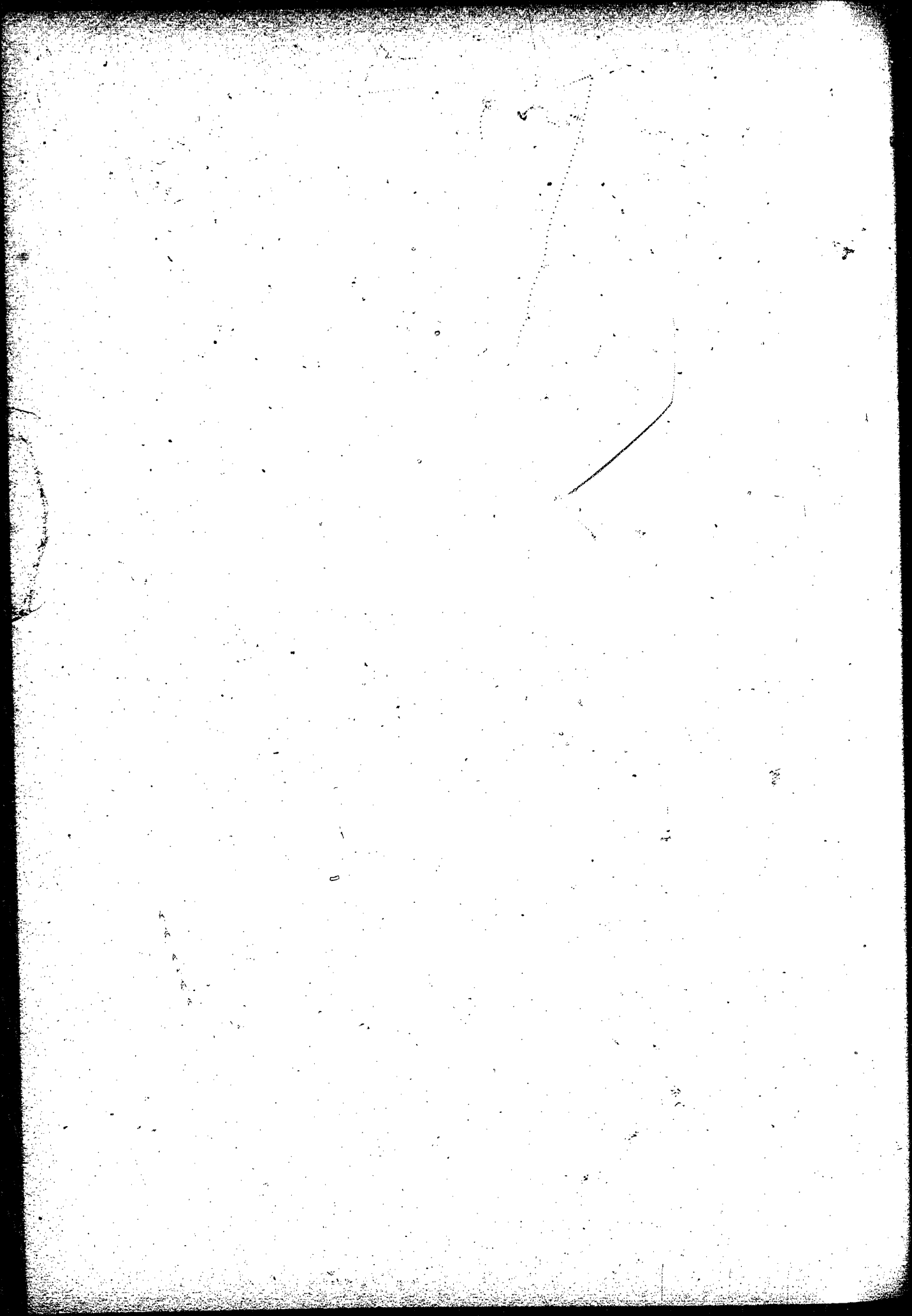
Q No; number three. A Oh yes. 30

Q Now wouldn't it be number five that was broken then? A Yes; it may have been.

Q It may have been number five that was broken, and repaired by Clark?
A Yes.

Q Now how was that one broken—number five? A It was broken off short where the hanger went through. 40

Q Was it broken off or did the hanger pull through it? A It was broken off.



Q I believe the number three that broke at the last accident, the hanger pulled through. A No; it did not.

Q There is a difference of opinion upon that. The beam then was broken off just by the hanger? A Broken off shortly just where the hanger went through.

Q Was it very much decayed? A Yes; very much decayed.

Q The car passed over it safely that time? A Yes.

Q Can you give a reason why the car went over safely that time? A The end of the beam did not drop down. 10

Q The other end? A The end that was broken did not drop down.

Q It dropped some? A It dropped some.

Q You qualify that. How far do you think it would drop then? A On looking at it since I don't think it could drop more than about a half a foot. The beam is considerably below the floor, but I don't think that it actually 20 dropped more than about—I should say not more than six inches or a foot.

Q It dropped far enough to take all strength away from that particular part? A No, it was supported.

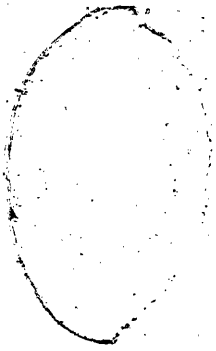
Q Well, now, what would support it, now? A The lateral rods—the lateral braces that go through it. They pass through between the hangers, and they go out to the outside of the beam beyond the hangers, and they did not draw through the hangers—the wood on the outside of the nuts prevented them drawing through; and although the beam was broken, still it went through a 30 portion of the beam and held it, that is from going down.

Q The longer portion of that beam—I am not talking now about the shorter portion—after it broke do you mean to say that it was any support to the bridge? A It was not a support to the bridge, but it did not go down.

Q It was no support to the bridge after it broke? A Yes; it held the car after it broke.

Q That beam? A Yes; or else the car would drop right down. 40

Q But there were stringers? A No, there were no stringers; the stringers were not put in until after.



Q No; there were the short stringers—the joists? A Well, the floor did not hold it up.

Q Well, the jury say it did. Tell me where the strength was in that bridge as to the broken beam? A The beam, the part that was broken, was held from going down by these lateral rods that went through the end; if these rods had broken the thing would have dropped right down.

Q Now, then, are the lateral rods a strength to the bridge? A Yes; their purpose is to prevent lateral motion. 10

Q Swaying? A Yes, that is their purpose. And there is no vertical bearing on them except in a case of this kind where the beam broke.

Q You say they were a strength on account of the vertical bearing? A After the beam broke.

Q After the beam broke? A Yes, they held it.

Q Are you giving that as an opinion as an engineer? A Yes, from what I saw. I saw the beam there suspended, held in place by those lateral rods. 20

Q And you swear positively that that beam did not go below the lateral rods? A Yes.

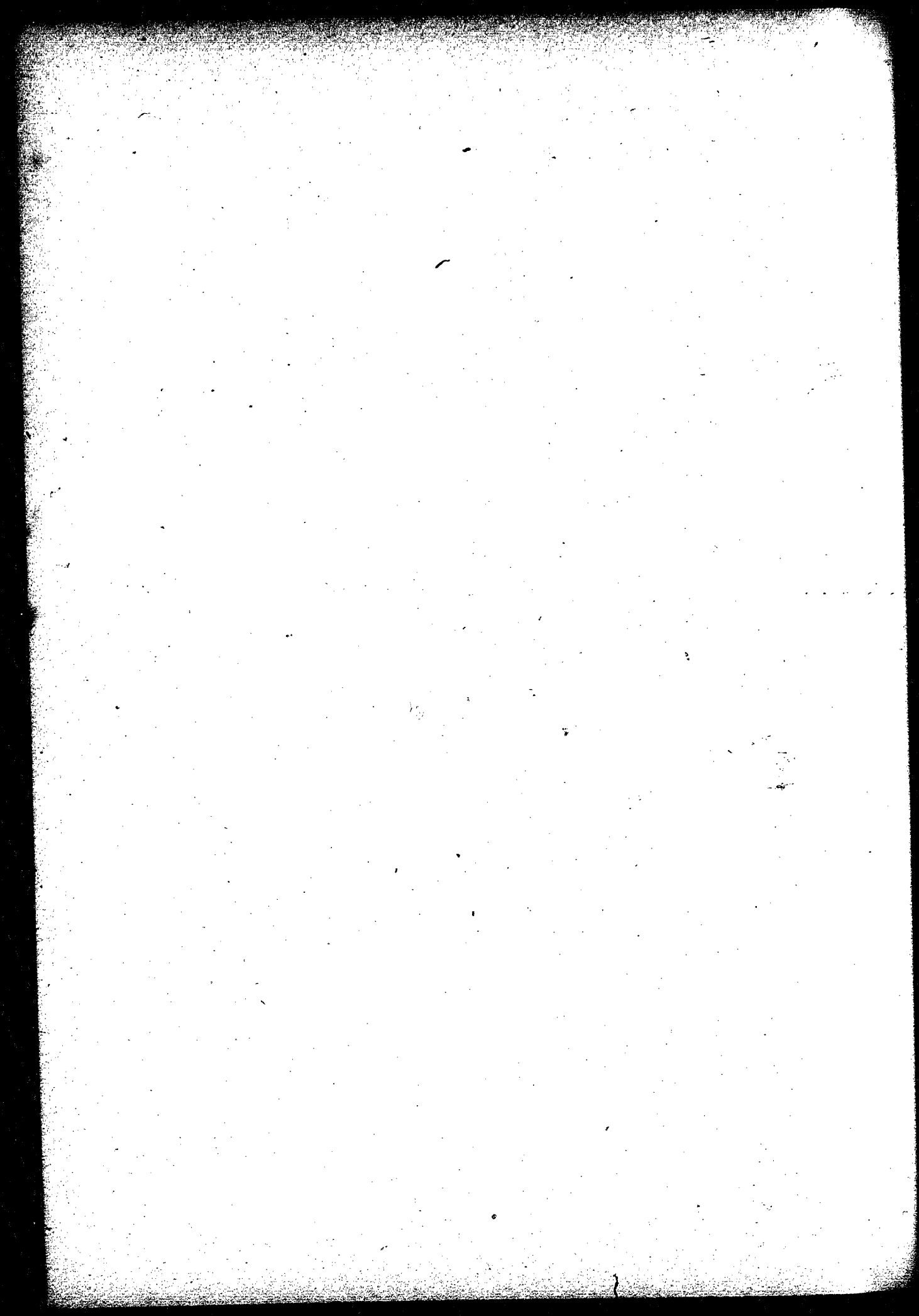
Q Were the lateral rods through the longer part or the shorter part of that beam? A Through both. They were in the longer part and went right out through the shorter part.

Q Then the lateral rods must have been some vertical support to the bridge? A After the break. There is no weight on them when the beam is intact; they pass through it, and there is no vertical pressure then on them at all. 30

Q William Clark was the man who replaced it? A Yes, he is the man who replaced it.

Q Did you see the beam before he did? A Yes; that is unless he happened to go out at first. I saw the broken beam before I saw him in connection with doing the work. 40

Q Yes, and you instructed him how to repair it? A To replace it, yes.



Q Yes; and that was done? A Yes.

Q Did you tell him how to put in the hangers? A I don't remember giving the detailed instructions.

Q Do you know if the hangers were put in identically the same as they were before? A Yes, I believe they were.

Q The same hangers? A The same hangers were put in.

Q The same as before. Then did you report to the council after the repair of that accident in 1892? A Yes. 10

Q A written report? A Yes.

Q Did they do anything in pursuance to that written report, or report? A Well, there was no further action to take on that particular beam; after I examined the others I found they were defective.

Q I am talking about the particular beam. You made a report to the council of the beam being repaired, did they do anything in pursuance of that report? A No; not that I know of. 20

Q When did you examine the rest of the bridge? A Well, shortly after that.

Q Well, why did you examine it? A Well, to see how the other beams were.

Q And did you report that examination to the council? A Yes, I reported—yes, I reported what was wanted. 30

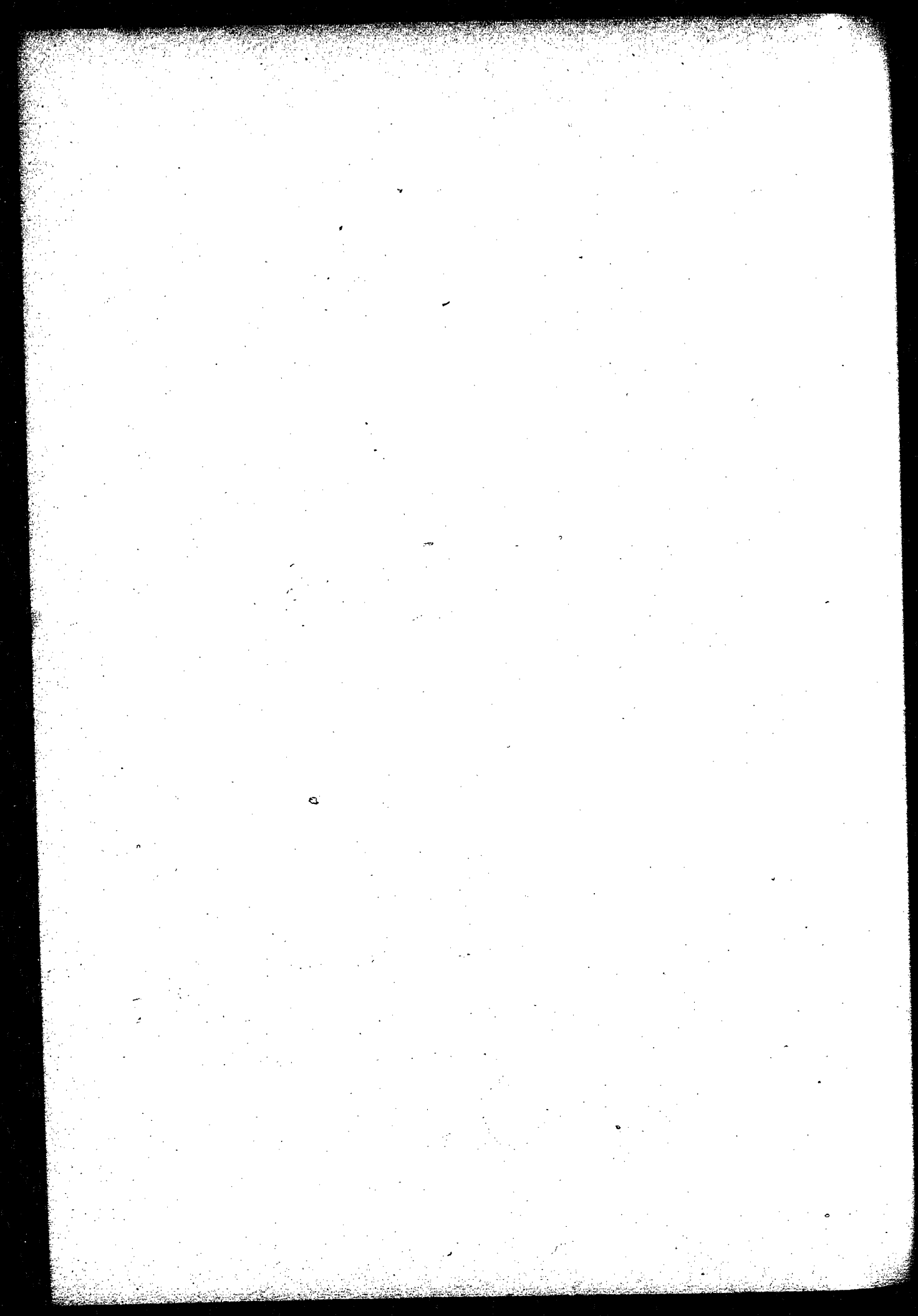
Q Did they give you any instructions after that? A No definite instructions, no.

Q Any indefinite instructions? A Well, they gave me instructions to replace the wooden beams.

Q I believe you recommended iron beams? A Yes, I suggested putting in iron. 40

Q And they disregarded the suggestion? A Decided to put in wooden.

Q And in pursuance of that what did you do? A Put in the wooden.



Q Who did you instruct? A McIntosh—Robert McIntosh.

Q Did they instruct you in any way to inspect the bridge? A No.

Q When did you inspect that after it was broken first in June, 1892? A Well, it was inspected—all the bridges were inspected every year by the city carpenter; there was no special inspection of that.

Q Do you know of any special inspection of that bridge that was made in June, 1892? A June, 1892? 10

Q Yes? A Yes, there was a special inspection made immediately.

Q By whose instructions? A By my instructions.

Q To whom? A To McIntosh; and to Cox first.

Q John Cox? A Yes.

Q What instructions did you give to John Cox? A When I saw that some of the other floor beams showed signs of decay—I could tell by inspecting from the top—I told him to bore them all and to report on the condition of each. 20

Q Do you remember the date of those instructions to him? A I could not say the date, but it was between the 16th of June and the 29th.

Q Yes. You gave him instructions. Now, do you know if he followed your instructions? A I believe he did, yes.

Q Did you see him? A I saw him; I was on the bridge when he was at work, but not the whole time. 30

Q Was anyone with him? A He had one or two men.

Q Do you know who they were? A No, I don't remember who they were.

Q They were employed by him? A Well, I could not say how they were employed; by the city; he was the only permanent carpenter, I think. 40

Q He had the power, I suppose, to get assistance? A Yes, if necessary.

Q Do you know if he bored any of the beams? A Yes.

Q I suppose you saw him boring? A I saw him boring, yes; I saw him boring. He brought in the dust—the borings.

Q The borings, and reported to you direct? A Yes.

Q And did you report them to the council? A Yes.

Q The result of his report? A Yes; the number of beams that required renewing.

Q Now during the time that he was doing this inspection, was the tram traffic stopped on that bridge? A Yes; it was stopped part of the time. 01

Q Who stopped that? A I gave notice to the tramway company and to the council that the bridge was unsafe.

Q And did they stop the traffic? A Yes.

Q The traffic was stopped? A Car traffic was stopped—the passenger traffic was at any rate. I have got a memorandum here: Thursday, 16th—
Notified the tramcar company not to carry passengers over the bridge. This is the first note I have got of calling their attention to it. 20

Q Well, did they obey that notice? A I believe so.

Q How long was the traffic stopped on the bridge? I am not particular to a day, Mr. Wilmot. A I have got a memorandum. July 14th Point Ellice bridge was completed, excepting planking between the rails. That is July 14th; but I have not got a memorandum here when they stopped.

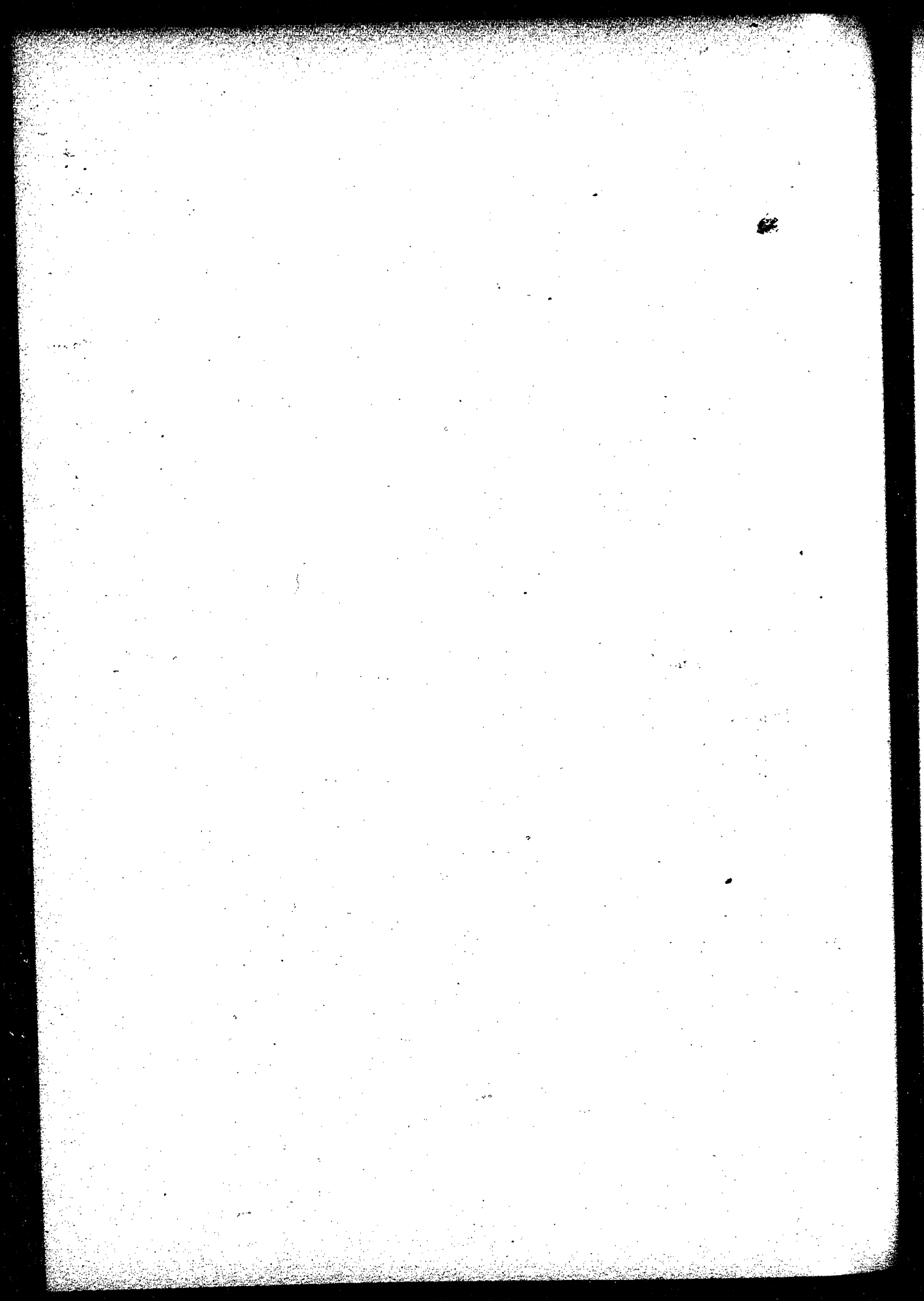
Q It was stopped for two or three weeks at any rate, or ten days? A I should say it was stopped for ten days. 30

Q Now during the time that Mr. Clark was repairing, was traffic stopped? A Yes; tram car traffic was.

Q And, by the way, was that an ordinary car that broke down in 1892? A I believe it was the same car that went through—a heavy car. I know there was an excursion, but I don't remember personally the size of the car; but there was an excursion that day, and I understood it was a large car. 40

Q In fact it was number sixteen? A Number sixteen.

Q That was stopped at that time only a day or two? A Yes.



Q The first repair. On the last repair it was stopped for some time?
A Stopped for some time. The track was taken up and stringers were put in.

Q And a notice was then published after that that it was open for traffic?
A I don't remember whether a notice was published that it was open for traffic, or just the notice taken out.

Q You reported then to the council it was fit for traffic? A Yes.

Q And in pursuance of that notice they opened it? A Yes; traffic commenced. There was no form of opening the bridge. For instance, if a bridge is closed for repairs a notice is put in the papers; then when the bridge is repaired the notice is simply taken out and there is no notice that it is repaired. 10

Q And that is the usual custom with regard to other bridges? A Yes.

Q When they are repaired. Was Mr. McIntosh given any special instructions by you how to repair? A Yes.

Q Did he carry out those instructions? A Yes; so far as I know. 20
Yes; I believe he did.

Q Under your supervision? A Yes.

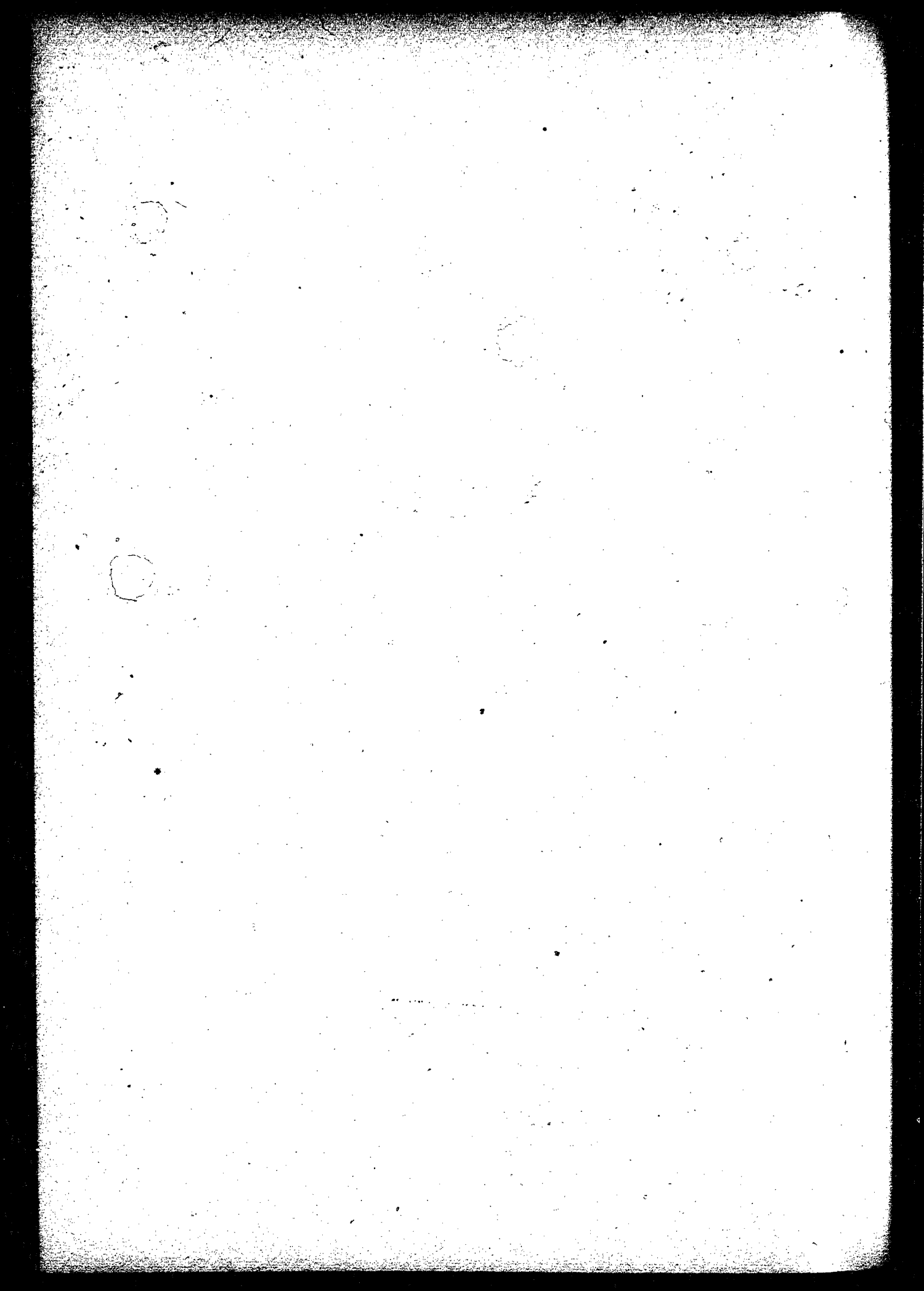
Q Now do you know when he started to work? A Yes; I have got a memorandum that he was engaged on June 29th.

Q And when did he finish? A Well, he—the bridge was completed, all repairs and painting and everything, on Friday, the 22nd; but that included the scraping, the piers and painting those. I am not sure whether he was engaged in that or not. Any way, he was engaged up to the 16th July. 30

Q Did he employ his own men who assisted him or did the city?
A The city employed the men that he had in repairing the bridge, that is, putting down the new floor; but the stringers were put in at the expense of the tramway company by him.

Q Under your supervision? A Yes.

Q You supervised that. I think they allowed something like one hundred dollars, did they? A I could not say now. 40



Q Well, the total amount Mr. McIntosh received was about sixteen hundred dollars, I understand ; what he did for the city ? A That is what the repairs cost at that time ; yes.

Q Well, were you there all the time? A Off and on.

Q Off and on? A I was not there continuously.

Q But you were not away from it any length of time ? A No.

Q Did the tram company have their engineer there looking after it? A No, they did not have their engineer; the foreman of the tramway looked after the laying of the rails. 10

Q That is the T rails? A Yes.

Q You had nothing to do with it? A Mr. McIntosh was working for them in laying down these stringers.

Q Were the stringers laid down to your satisfaction? A Yes. 20

Q The flooring was the last that went down? A Yes.

Q That was paid for by the city? A Yes, the flooring was paid for by the city; new flooring put down.

Q And paid for. Was Mr. McIntosh engaged by the city specially for this work— A Yes.

Q —or was he an employee? A No; he was engaged specially for that. 30

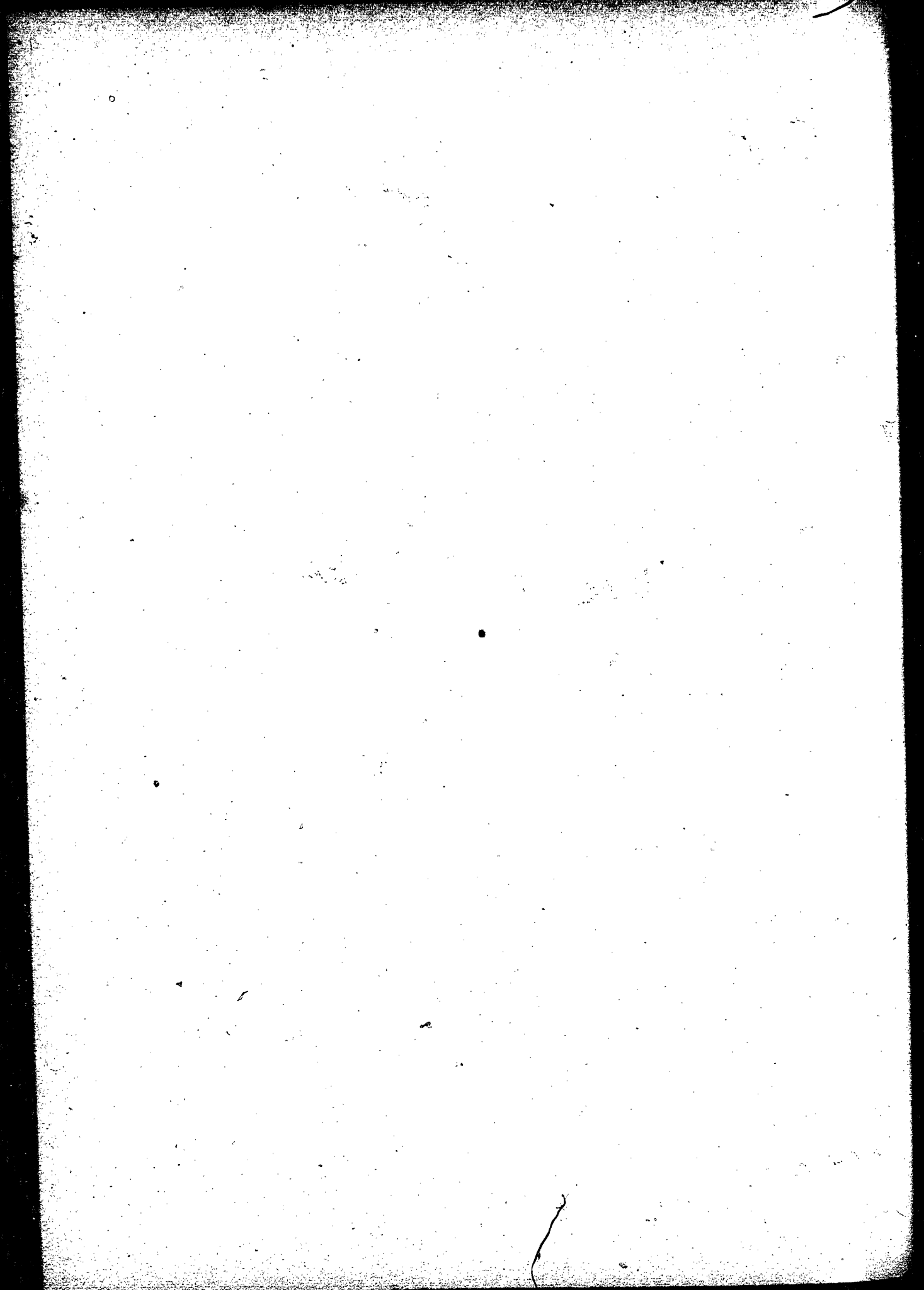
Q Specially for this work. After it was completed did you report to the city? A Yes.

Q And McIntosh was paid by the city for his work? A Yes, with the exception of what was done for the tramway company.

Q Then what became of the old timbers or flooring of that bridge? A It was rafted up above. Most of it was rafted above the bridge, but some of it was brought down here with the iron. 40

Q I am talking now of the repairs in 1892, Mr. Wilmot? A Oh.

Q Were they sold—the old timbers, the planking? A I don't know



whether they were sold or stolen.

Q Did the city do anything with them? A I don't think they utilized them.

Q I understand they were sold by the city? A I know I recommended selling them, as I did not think they were worth bringing in and using again; but I don't remember whether they were sold.

Q You recommended the city to sell them? A Yes; the old flooring. 10

Q Now, after Mr. McIntosh made those repairs in July, 1891, when next was that bridge repaired? A I think it was repaired in 1895.

Q 1895. A 1895.

Q It was repaired by a man named Elliott? A Yes; Thomas Elliott.

Q Thomas Elliott; by the city? A Yes.

Q You continued to look after it from 1892 till 1895? A Yes. 20

Q In fact until the present time? A Yes.

Q Now, between 1892 and 1895, were there no repairs done to that bridge? A I don't remember of any. There may have been an odd plank or some stick of timber here and there that was attended to, but no general repairs.

Q Was there any sort of repair made to the bridges? A Yes, the bridges were repaired. 30

Q During between 1892 and 1895? A Yes.

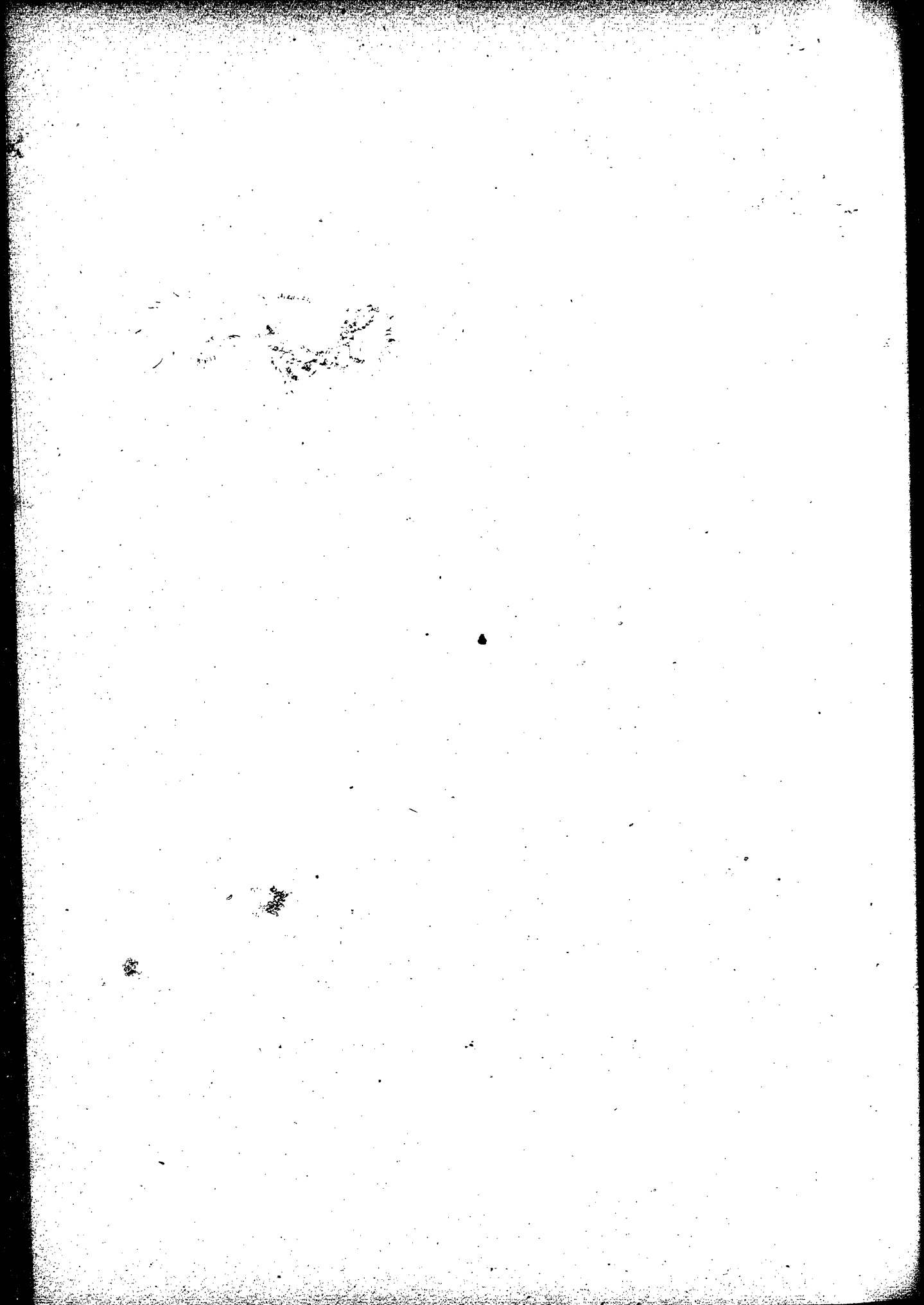
Q An odd piece of planking? A Yes, the sidewalk.

Q Something like that? A Yes.

Q So that it was looked after by the city? A It was looked after by the city, yes.

Q Now, did you ever get any notice of its being out of repair? A No, 40
sir.

Q I don't mean official notice, but any general notice? A No.



Q Ever asked by Mr. Grant or informed by Mr. Grant? A No.

Q Do you know if the city took any precautions to prevent heavy traffic on that? A No, I do not.

Q Or furious driving? A Nothing more than the ordinary by-law that provides against fast driving over any of the bridges.

Q Do you know of your own knowledge that that was ever enforced?
A Not of my own knowledge. 10

Q Do you know that notices were ever placed on that bridge as to that by-law? A There is the notice there now.

Q Your attention then was never drawn to that bridge being out of repair?
A No; not otherwise than by the officials.

Q That was in 1892? A I say not otherwise than by officials, Mr. Cox, when some renewals were required.

Q That bridge connects the highway between the Victoria side and the Esquimalt side of the Gorge, I believe? A Yes; it connects the Indian Reserve with bridge street. 20

Q The name of that street is Work street, is it not? A Work street.

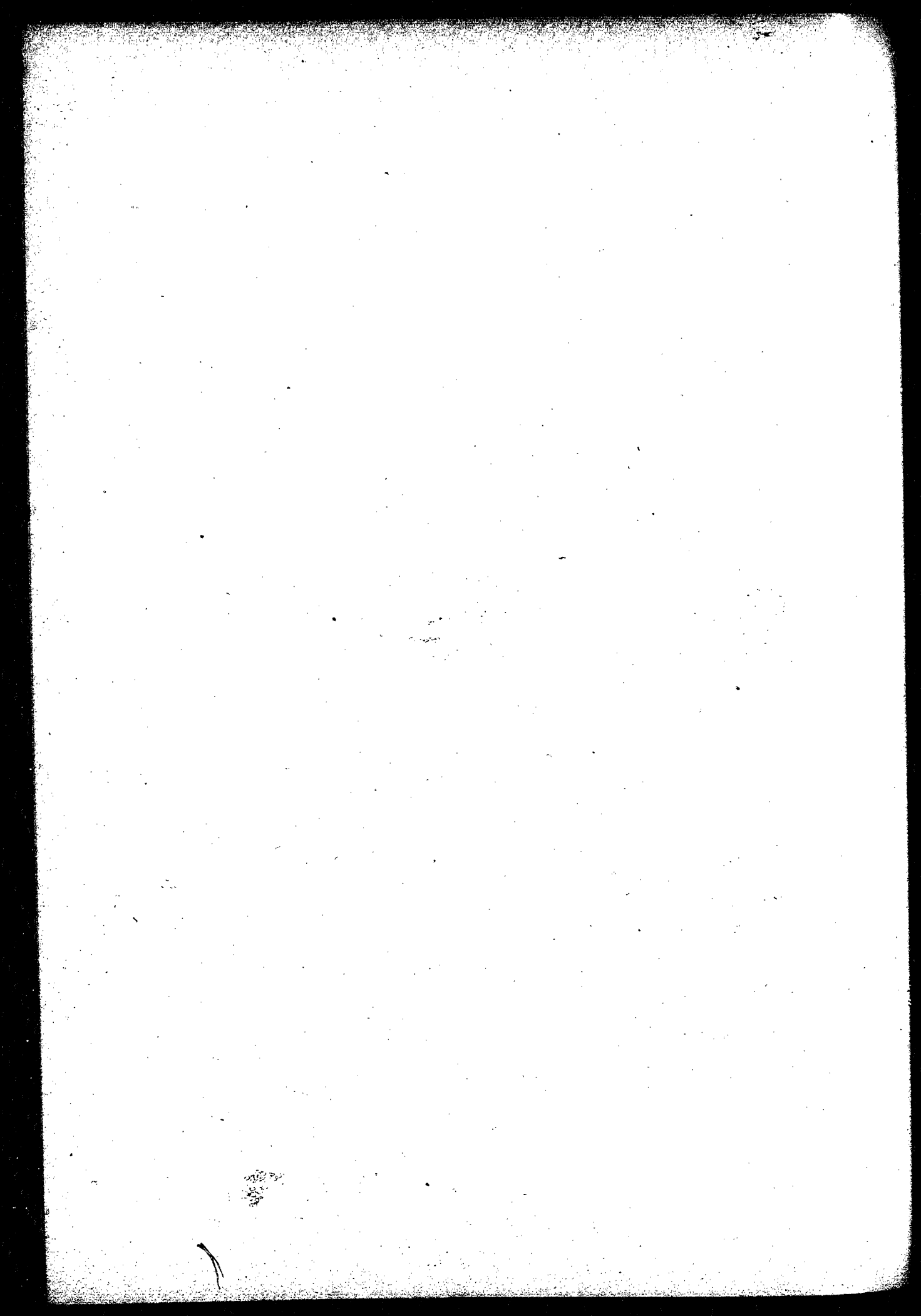
Q It is a continuation of Work street? A No, it is not a continuation of Work street; the bridge connects it with Work street; it is Work street this side of the bridge and the Esquimalt road on the other side, I believe.

Q It is the main road to Esquimalt? A Yes, the main road to Esqui- 30
malt.

Q Now, after the bridges were repaired, Mr. Wilmot, did you report that to the city? A I don't remember whether I reported that to the council or not; they were only slight repairs.

Q Well, now, was there any special funds set apart for the repair of bridges? No; there was a certain amount voted for streets, bridges and sidewalks, and there was a provision made for any special work that was required. 40
But there was no special funds set apart.

Q All money that was expended on the bridges was expended out of the



general fund? A General revenue, yes.

Q Set apart for bridges and roads? A Yes.

Q And sidewalks? A Yes, and sidewalks.

Q It was drawn on that fund? A Yes.

Q Now, after Mr. Cox inspected in 1892, did he inspect afterwards? A Yes, he inspected all the bridges.

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Q That was part of his duties to inspect all? A Yes.

Q This one not differently from the others? A This one just the same as the others.

Q Just the same as the others, it was part of his duties. You relied on his inspection? A Yes, I did.

Q He had the special control and the charge of the inspection part? A Yes, repairs were made from time to time on all the bridges, as he reported they required.

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Q As he reported. Have you any reports in writing, Mr. Wilmot? A Well, the last one is the only one that is published, the 1896 annual report.

Q That is the report of 1895; but have you any other? A No, I have not. He had a memorandum book.

Q Now, the supplies that he required for repairs, did he obtain those on his own requisition? A The supplies?

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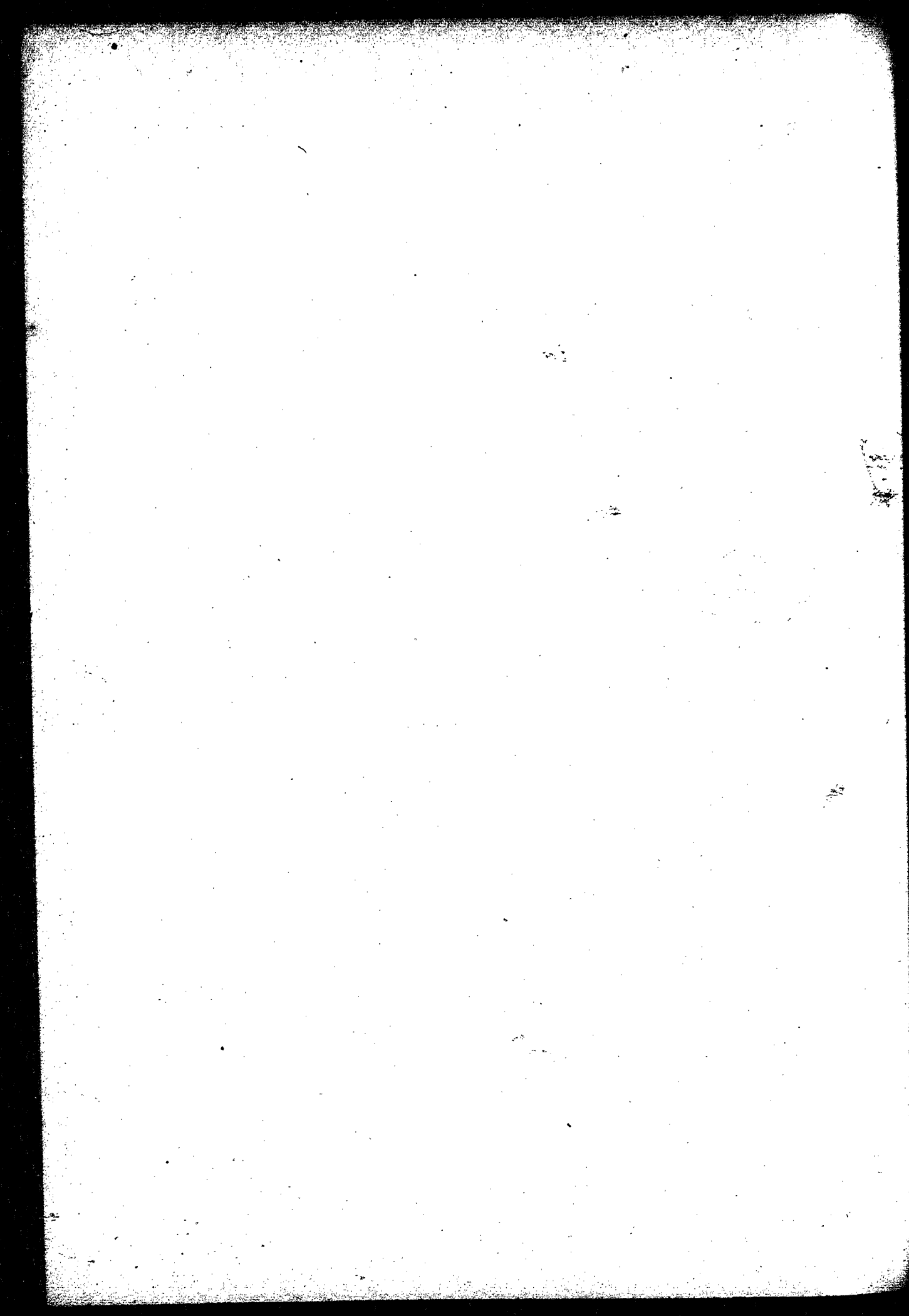
Q Yes? A He reported what was wanted, a requisition was made out for them.

Q And the men that were hired, did he send in their names to the council and the council pay? A As a general thing there were two men working with him all the time; they were paid by the day, and on a special occasion he would hire one or two men more.

Q And he had the power of hiring those men, had he? A Well, it was not customary to hire them himself.

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Q Do you know what men he usually hired, or worked for him? A No,



I don't remember now who was working with him then.

Q Is there any way of finding out what men were working for him in 1892? A Yes, I think the accounts would show.

Q In the city treasurer's? A In the city office.

Q Would that be in the hands of the city treasurer? A Yes, I am not sure whether he would have the vacation under which they were paid, but he would have the names of the working men. 10

Q Where could I find out the names and the duties of the men that Cox hired, and who were working for him? Do you know where that could be found? A Since 1892 they got a record of it in the city engineer's office. At 1892 I don't remember whether there was a record kept then or not.

Q Now who keeps them? A I have a clerk who keeps a record of all the employees, and what they were engaged in.

Q But you cannot tell as to 1892? A I am not sure, I could not say 20 from memory.

Q Where do you think they would be? A They would be there.

Q In whose charge? A In the charge of the—well it would be in my charge, in the city engineer's office.

Q In the city engineer's office. A The system has been altered since—the system has been altered since of keeping the accounts, of keeping the records. 30

Q Since 1892? A Yes.

Q After the bridge gave way in 1896 what became of the material? A Well, it is—most of it was rafted above the bridge, that is the wooden members; and the iron was brought down to the city wharf, and a few of the floor beams.

Q Why wasn't it all brought down? A Well, I understood that the Provincial police took charge of it up there? 40

Q Who instructed them to take charge of it? A I don't know; Mr. Beaven instructed Mr. Yorke to bring it down; that is what I understood; and

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Mr. Yorke, in going for it, was told by the Provincial police that they would take charge of it.

Q Why, under what authority? A I don't know. But it was rafted there.

Q Why would they take charge of part and not all? A Well, it was very nearly all, nearly all the timber; there were just a few sticks brought down on the scow that the iron came on, and very probably because the iron was attached to them. 10

Q Do you know the name of the Provincial police who had charge of it? A No, I do not.

Q Did you see some of it in charge of the Provincial police? A I saw it up there; I don't know whose charge it was in.

Q You inspected it? A Yes.

Q And this number three beam, you saw it? A Yes. 20

Q And I suppose you saw the end that was not broken? A I saw both ends; I saw the whole beam.

Q Was the iron in the end that was not broken at the time you saw it? A I don't remember that.

Q Well, the hanger did not pull out of the end that was not broken? A No, of the other end there. 30

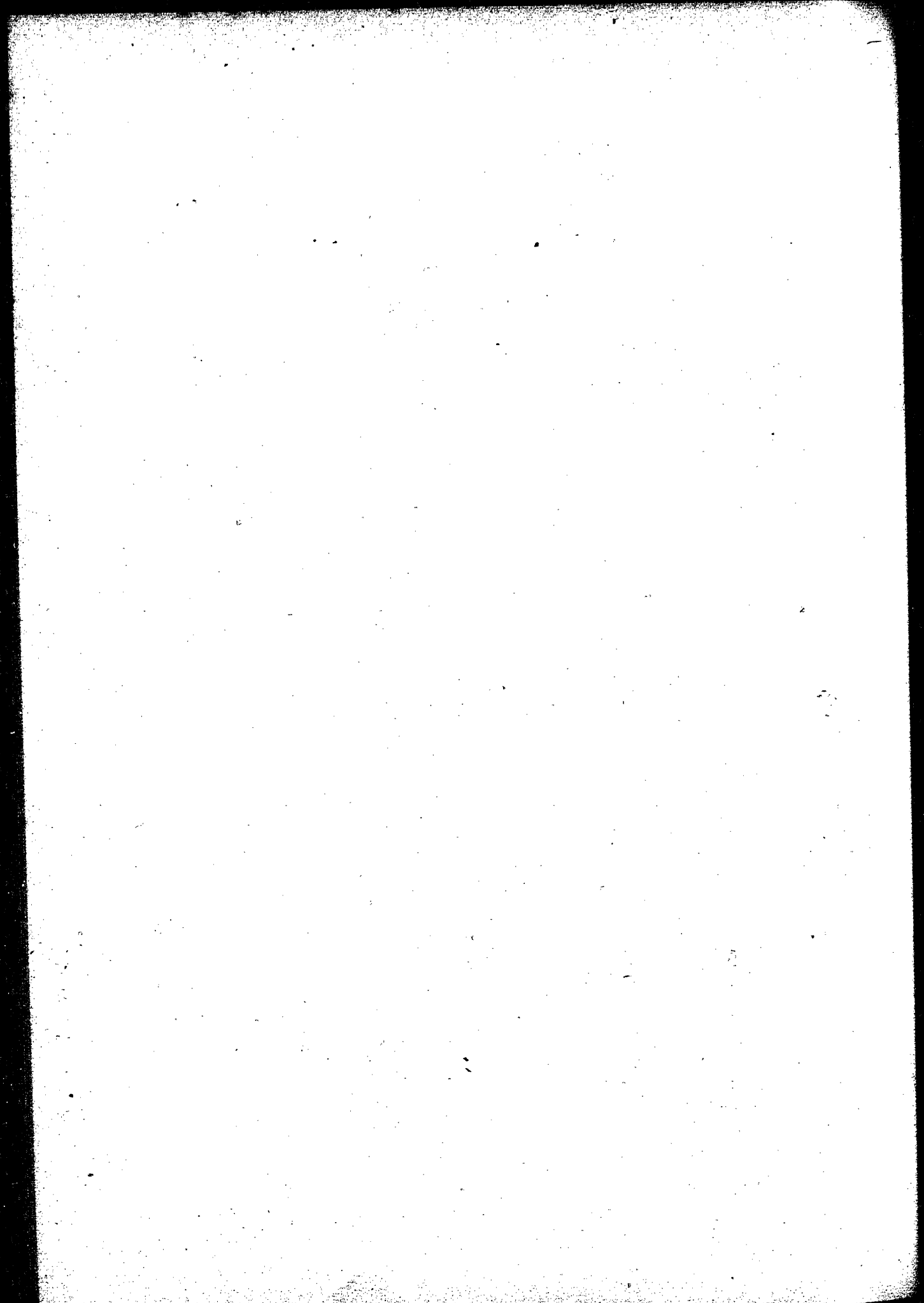
Q It was out at the other end? A It was out, yes; it was broken.

Q The other end was broken, and the hanger was out of that? A It was off.

Q It was not out of the others? A I think the hanger was out of all—not out of all, but out of many. They had to take the hangers off in order to get the diagonal braces separate.

Q Who had to do this? A The wreckers in taking apart to get the iron work—some of it; they put some back and some they did not. 40

Q Why would they put some back? A I don't know.



Q Who were the wreckers? A Yorke had charge of them.

Q Well, as I understand you, that is the reason that the provincial police kept some of the beams and some of the timbers was that the iron was out of them? A No, I don't think that had anything to do with their keeping them; they kept them to prevent them being lost.

Q Why did they keep some and not others? A Well, I say I presume they kept it there to prevent it from going adrift and getting lost; and the others, there was a small quantity brought down with the iron—all the iron was brought down. In getting the iron separate from the timbers, in a good many cases they had to take the hangers out and the pins apart. 10

Q Did they bring any or the beams down that had no irons in? A No, I don't think they did; I think the irons were in all that were brought down. I would not say positively, but I think.

Q Now, this number three beam, when did you see it last? A I don't remember. 20

Q Give me the dates as near as you can? A Well, I was up there several days through the summer. I did not make a memorandum of it at all.

Q The accident happened on the 26th of May; how long after the accident? A Well, I could not say; there is no use of my guessing.

Q Would it be a month after the accident? A Yes, I saw it a month after the accident.

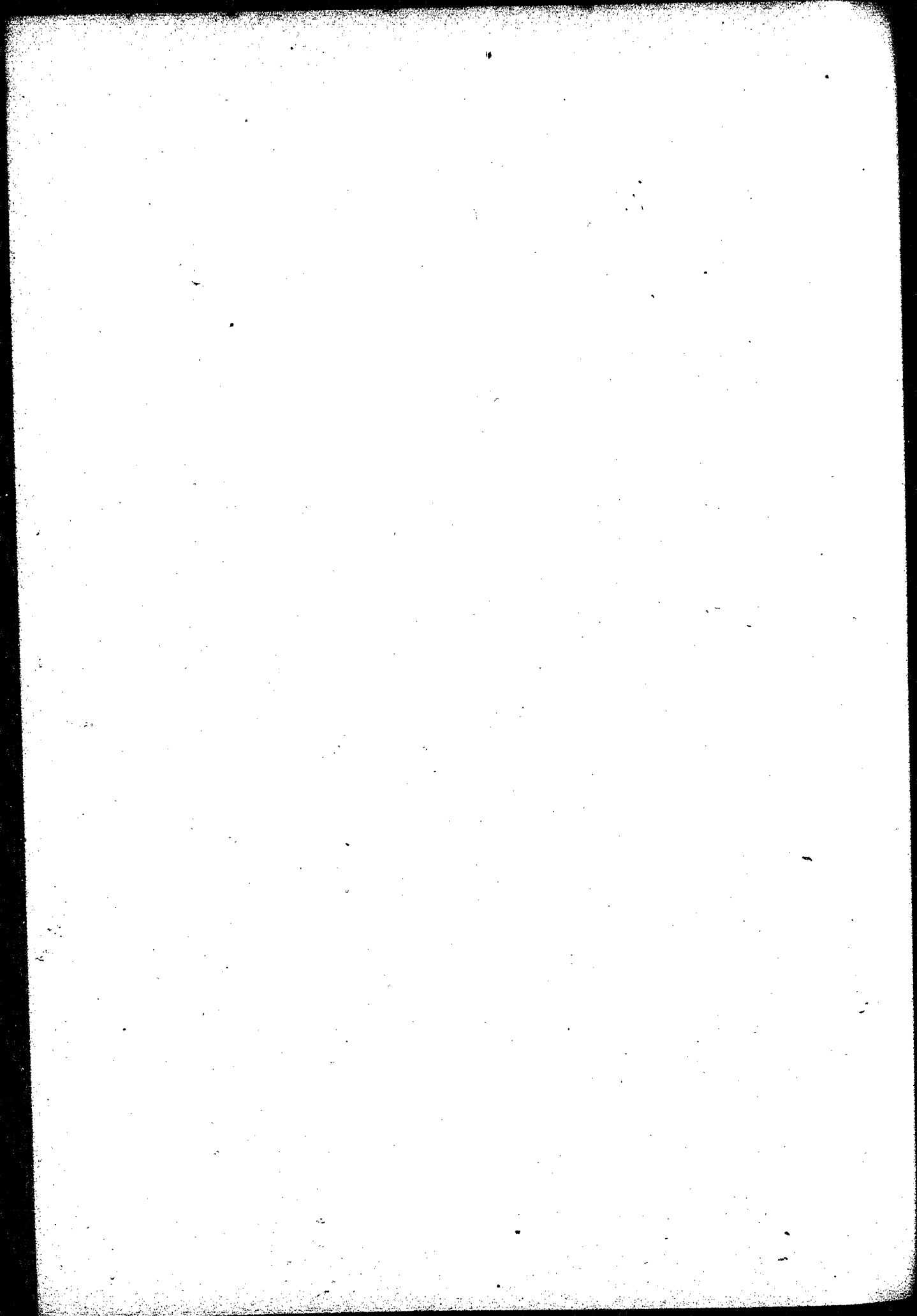
Q Might it have been two months? A Yes, I might have seen it two months afterwards. 30

Q In whose charge was it then? A It was in a boom. There was a boom made of the upper chord principally, they were fastened together, and all this timber was inside of them, and there was an Indian up there.

Q What Indian was that? A I don't know.

Q Have you any idea of his name? A No, I don't remember his name at all. 40

Q Did you speak to him at all? A Yes; I have seen him there.



Q Did you ask him to take charge of the timber? A No, I did not instruct him to take charge of the timber.

Q Why didn't you bring them down then with the rest of the timber?
A Well, I did not take any action in connection with the matter at all.

Q You knew there was a suit likely to go on? A Yes. I thought it was as safe there as anywhere else.

Q And you knew that the greater part of it had been taken down? 10
A No, a very little of it had been taken down; the greater part of it had been left up there.

Q And you took no precautions to have it preserved? A I took no particular precautions; no.

Q You were not instructed to. A No.

Q And you have no idea of the Indian's name who had charge of it?
A No. 20

Q You knew it belonged to the city? A No, I would not say that—whether it belonged to the city or government. I knew it was part of the bridge.

Q Certainly the beams that were put in by the city belonged to the city?
A It was all part of the bridge.

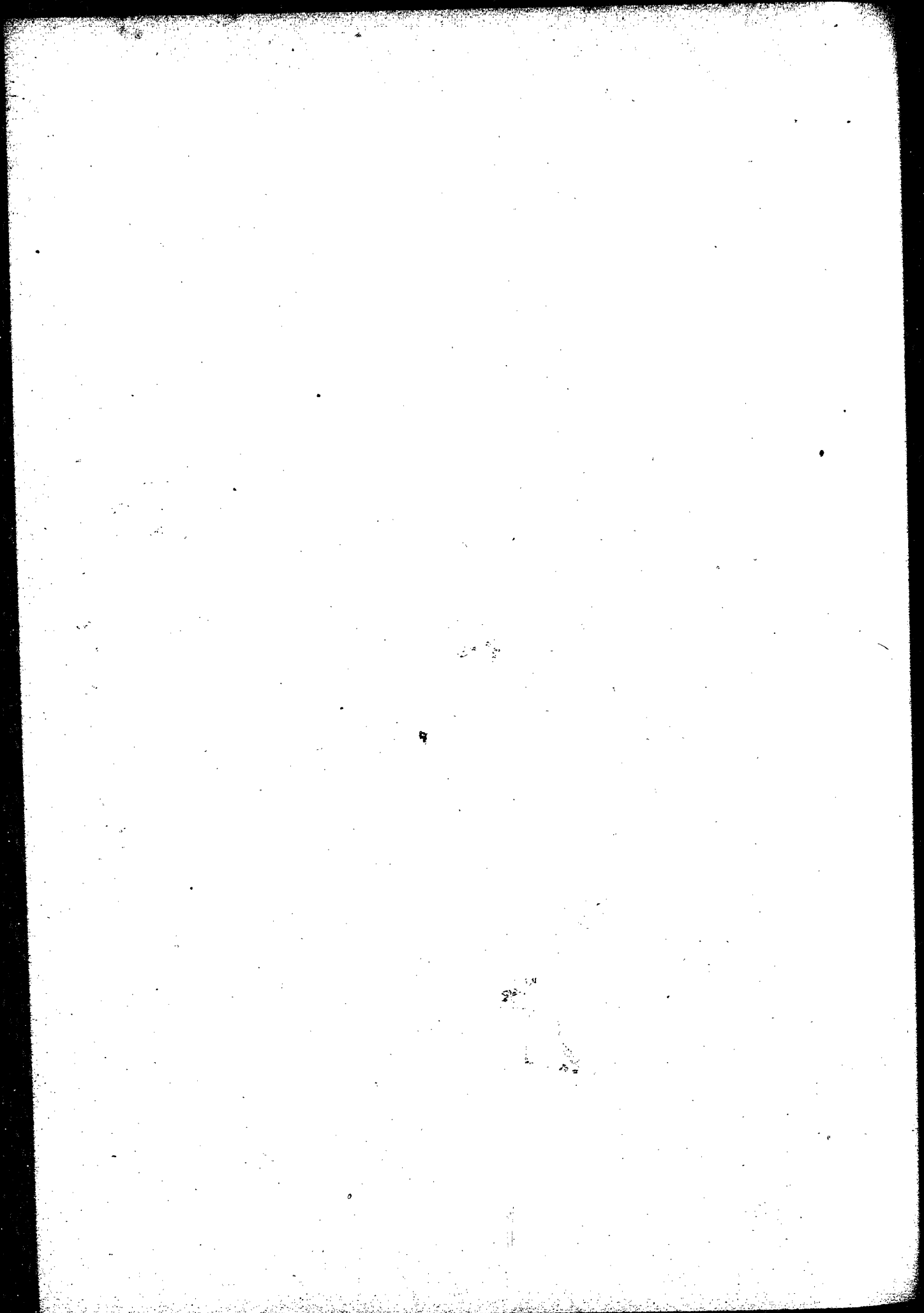
Q And you knew that the beams that were put in by the city belonged to the city? A Yes; I knew that they were part of the bridge. 30

Q Still you took no precautions to preserve it? A No; I took no precautions to preserve it, in particular, myself.

Q Do you know what was done with that timber? A No; I believe it was burned.

Q By whom? A I could not tell you. I was up there this summer and they said it was nearly all gone. By whom I could not find out.

Q Mr. Wilmot, why do you differ from Mr. Gore in saying that the beam was broken instead of the hanger pulling through? A Because in examining the break you could see where the mark of the hanger was in the 40



beam, and if it had been pulled through the hanger coming through would tear the hole so that it would not leave—it would obliterate the mark of the hanger itself.

Q You differ from Mr. Bell, too, in that? A No.

Q Mr. Bell, I understand, says it broke when it hit the water. A It may have broken.

Q He says it broke when it hit the water? A He was of the opinion 10 that the hanger pulled right through.

Q But he says that what broke the beam was it hitting the water?

A Yes; I remember.

Q You differ with him on that? A Well, I form no opinion as to that.

Q You form no opinion when it broke? A No.

Q Well, what would be the most likely time for it to break, before it hit the water or when it hit the water? A Well, if it broke when falling it 20 would be when it hit the water.

Q I am asking you what is your opinion of when it broke? A Well, I say I have formed no opinion at all as to when it broke.

Q Well, what is the probability? A Well, I could say.

Q Now, were the new beams broken at all? A No; there were none of them. 30

Q No other beams broken except number three? A No, that is that one that is broken.

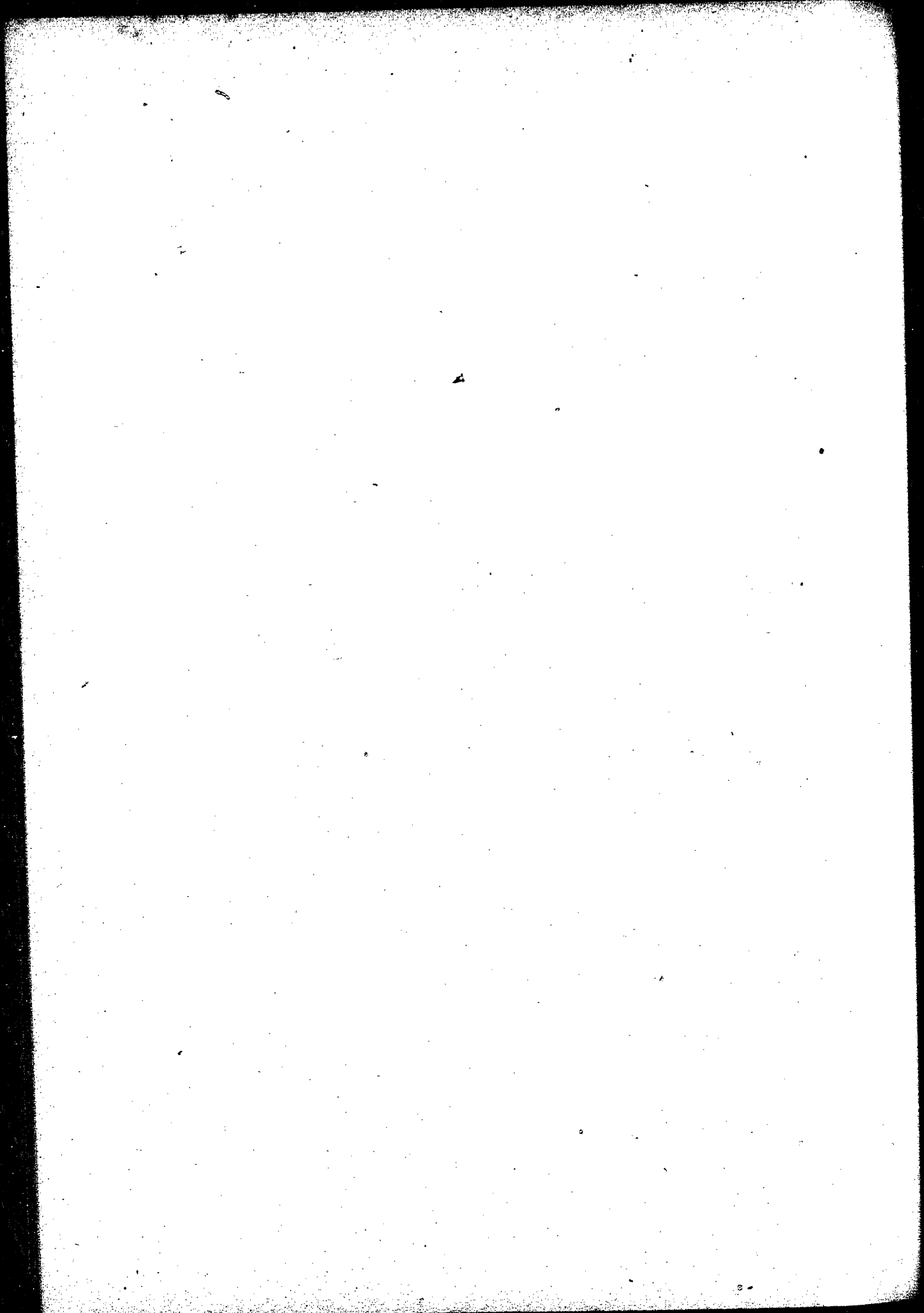
Q How many new beams were in the span that went down? A There were five; five new ones.

Q And how many old ones? A Two.

Q One old one you have? A Yes.

Q And one old one has been lost? A Yes. 40

Q The old one that you have is much decayed? A It shows signs of decay.



Q Much or little? A Well, considerable.

Q I understand it was not broken? A No.

Q Can you place the position that beam was in the bridge? A It was under the hjp-vertical.

Q On the side next to Victoria? On the side next to Victoria. Number seven.

Q Number seven. It was not broken at all? A No. 10

Q The irons all perfectly sound in it? A Yes; well, the irons were cut off, the vertical rods were cut off. Yes; they were sound.

Q I suppose you have the same opinion now—at least, you have no better opinion now than when you were examined at the trial and examined by myself as to the cause of the accident? A No.

Q You have no opinion or have formed no opinion since the trial? A No. 20

Q You have no further data? A No; nothing more than the evidence I have heard.

Q Does that give you any further information as to the cause? A No.

Q Do you differ from Mr. Bell as to the cause? A That the iron—?

Q Yes. A Well, no; I have not formed an opinion as to whether it was the iron or the wood that gave way first. 30

Q You have not formed an opinion? A No.

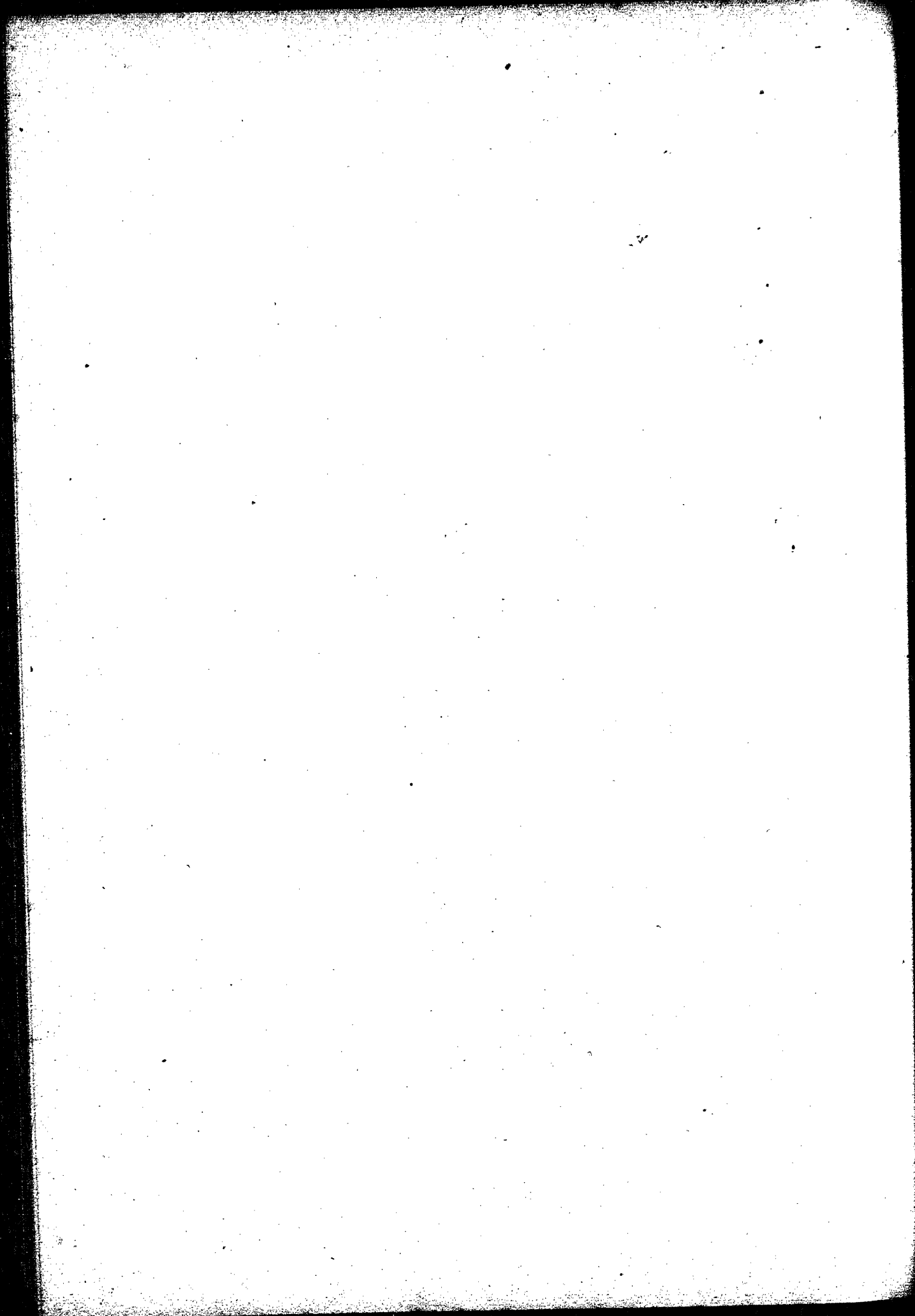
Q You did not form an opinion before and you have not formed one yet?
A No.

Q And you have received no further data on which to form one? A No.

Q Did you ever see the specifications of this bridge? A No; I never saw them before. 40

Q Did you know where they were—informed where they were? A No.

Q Did you know that they were in the hands of the Government? A



No, I had no information with regard to them at all.

Q No information at all.—As to the strain sheet? A No.

Q Did you ever know where they were? A I saw the plan there after the accident occurred; I think I saw the plan in Mr. Gore's office, but I did not see him.

Q You saw a plan of the bridge in the Provincial Government office, in Victoria? A Yes.

10

Q After the accident? A Yes.

Q I suppose it had been there from the time they built the bridge? A I presume it had.

Q Were you ever instructed by the city to obtain it? A No.

Q I suppose it was then open for inspection—the plans and specifications?
A I presume they would.

20

Q Have you ever figured the strain-sheet at all? A No.

Q You have never figured it—either before the accident or subsequent to the accident? A No.

Q Did you ever see the strain-sheet? A No; I have never seen it.

Q You do not know that it was in court in the Patterson case and the Gordon case? A I do not remember seeing it. I never went over it.

30

Q Have you any idea of the weight of the car? A The weight of the car is about ten tons.

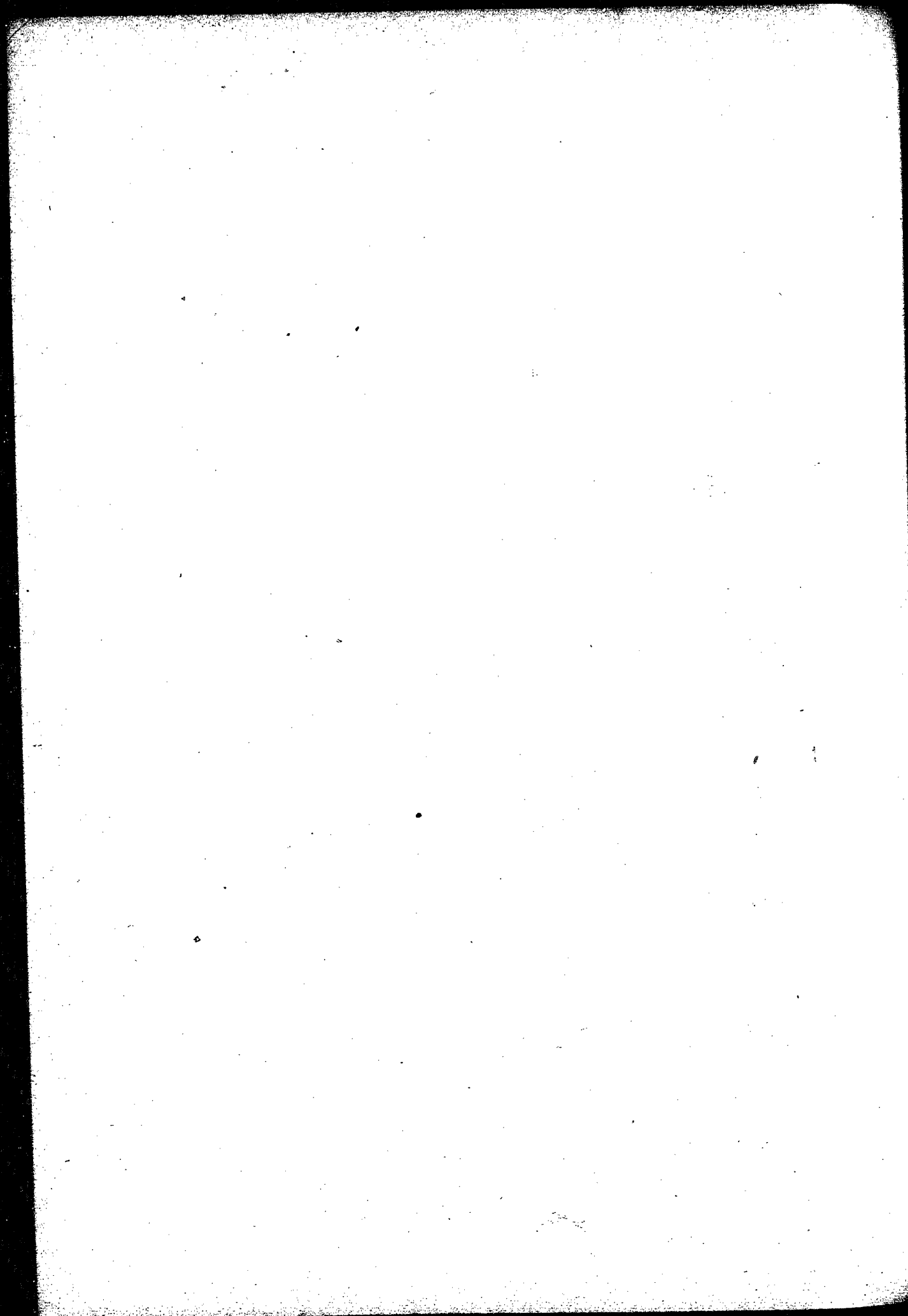
Q About ten? And her weight with her load of passengers? A Well, it was estimated to be about eighteen tons.

Q With car loaded? A With car loaded.

Mr. Mason: Do you know that of your own knowledge? A No.

Mr. Macdonell: You form that from the evidence you have heard since?
A Yes; from the number that were on board.

40



Q What is the natural life of wood in a bridge, Mr. Wilmot? A Well, it depends on two conditions—the wood and the position it is in.

Q Well, the most favorable; taking it in a bridge such as this and under conditions such as this was? A Well, about—well, from seven to ten years.

Q Seven to ten. It would not be safe to be in the bridge after ten years? A Well, it might be; but it would not be safe to trust it.

Q Would it decay faster after it was in seven years than it would before the time up to the seven years? A Yes; it probably would. 10

Q It probably would decay a little faster—that is, it would decay faster for the three years from seven to ten than it would from four to seven? A Yes; I think it would.

Q Have you inspected the timbers that are now in the span now standing? A No; not since.

Q They were nearly all new? A There were five new in it. 20

Q All except the hip verticals? A The hip verticals.

Q They were old timbers? A Yes.

Q And four in the other span that went down? A Five.

Q Nine new ones? A There were ten altogether new ones; there were nine put in the second time—by Mr. McIntosh. There are fourteen floor-beams altogether and there was only four old ones. 30

Q In the span that went down one hip vertical was old and one hip vertical was new? A Yes.

EXAMINED BY MR. MASON.

Q You say that when the first beam broke the end that broke did not drop down because it was supported by the laterals? A Yes.

Q Did the same thing occur in 1896? A I could not tell you. It was broken very much the same way.

Q Would they afford the same support in 1896 as they did in 1892? A Yes; I should think so.

Q The same, and no more and no less? A I should think so; it would depend on the break.

10

Q You say the floor did not hold it up in 1892? A No.

Q What is your reason for saying that? A The floor did not extend over the course.

Q The floor did not? A No.

Q It did not extend over the course in 1892? A No.

Q Do you know that of your own knowledge? A I know it to the best of my recollection.

Q Now you say Mr. Cox followed out your instructions in 1892? A Yes; so far as I know.

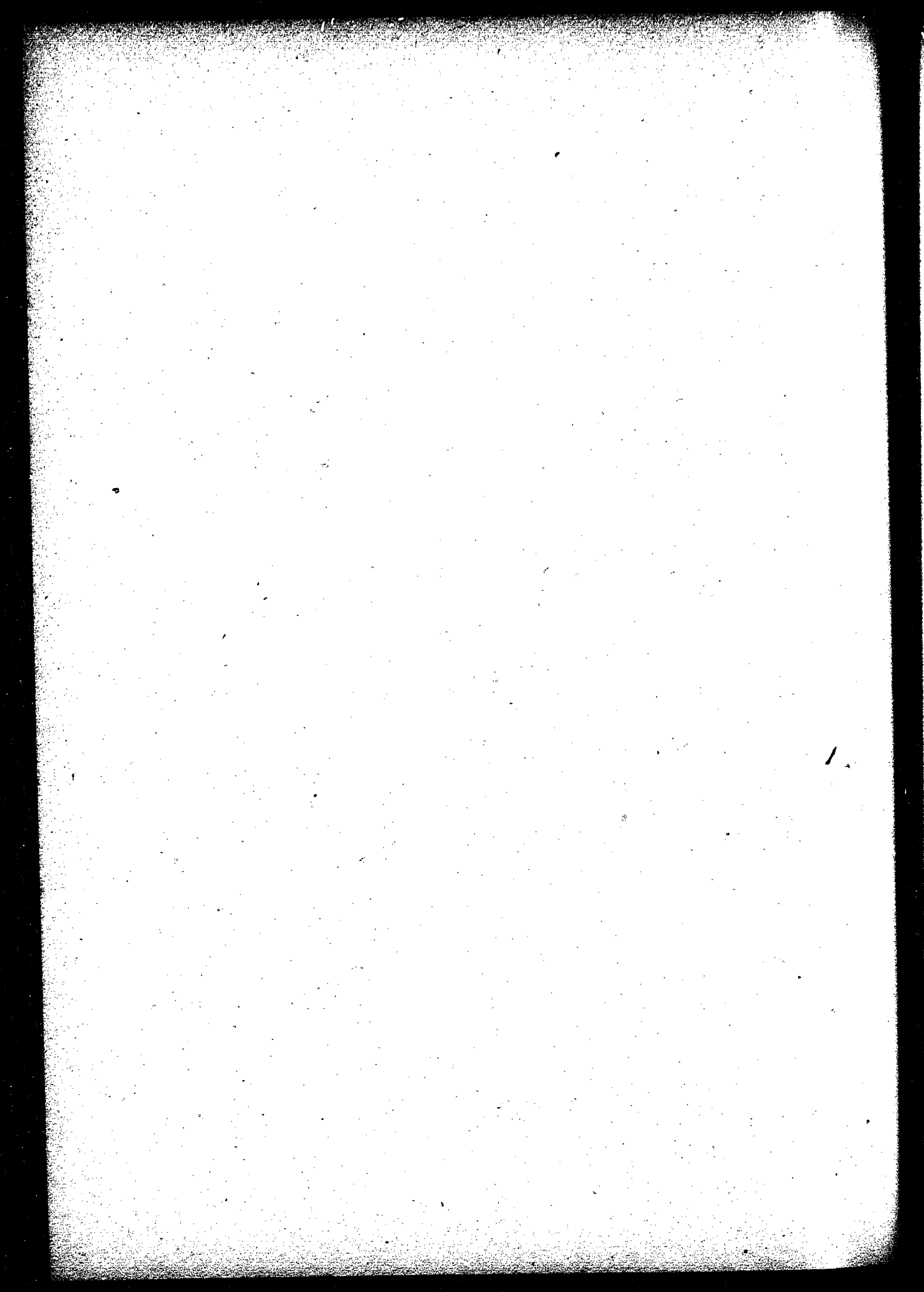
Q Well, how were those instructions given? A I gave him a memorandum.

Q You gave him a memorandum? A A list of the floor beams to be examined, and he marked after each the condition in which it was.

30

Q And did he return you that memorandum? A Yes.

Q The same piece—the same memorandum that you gave him? A He gave me a memorandum of the floor beams.



Q But I say that was the same memorandum on which you had given him his instructions? A I don't remember now : but he gave me the memorandum of the condition of the beams.

Q Well, you say Mr. Cox has a book. What book was that? A He had a memorandum book of the work that he did.

Q For the city? A Yes.

Q Who made the entries in that book? A He did himself.

10

Q Did you make any of them? A No.

Q Well, didn't he have another book in which you put instructions calling his attention to work that was required to be done? A There was a memorandum book in the office with instructions to different employees.

Q What has become of that book? A That is in the office.

Q It is? A Yes.

20

Q Had not Mr. Cox a special book—an instruction book? A No; not a special instruction book.

Q Well, do you remember what instructions you gave him? A In 1896?

Q No; in 1892? A Well, I gave him instructions to examine all the floor beams and report on the condition of each, which he did; and it was on the strength of that report that the old ones were taken out and the new ones put in.

30

Q Well, did you give him instructions as to the boring? A Yes, I told him to bore the beams and plug up the holes.

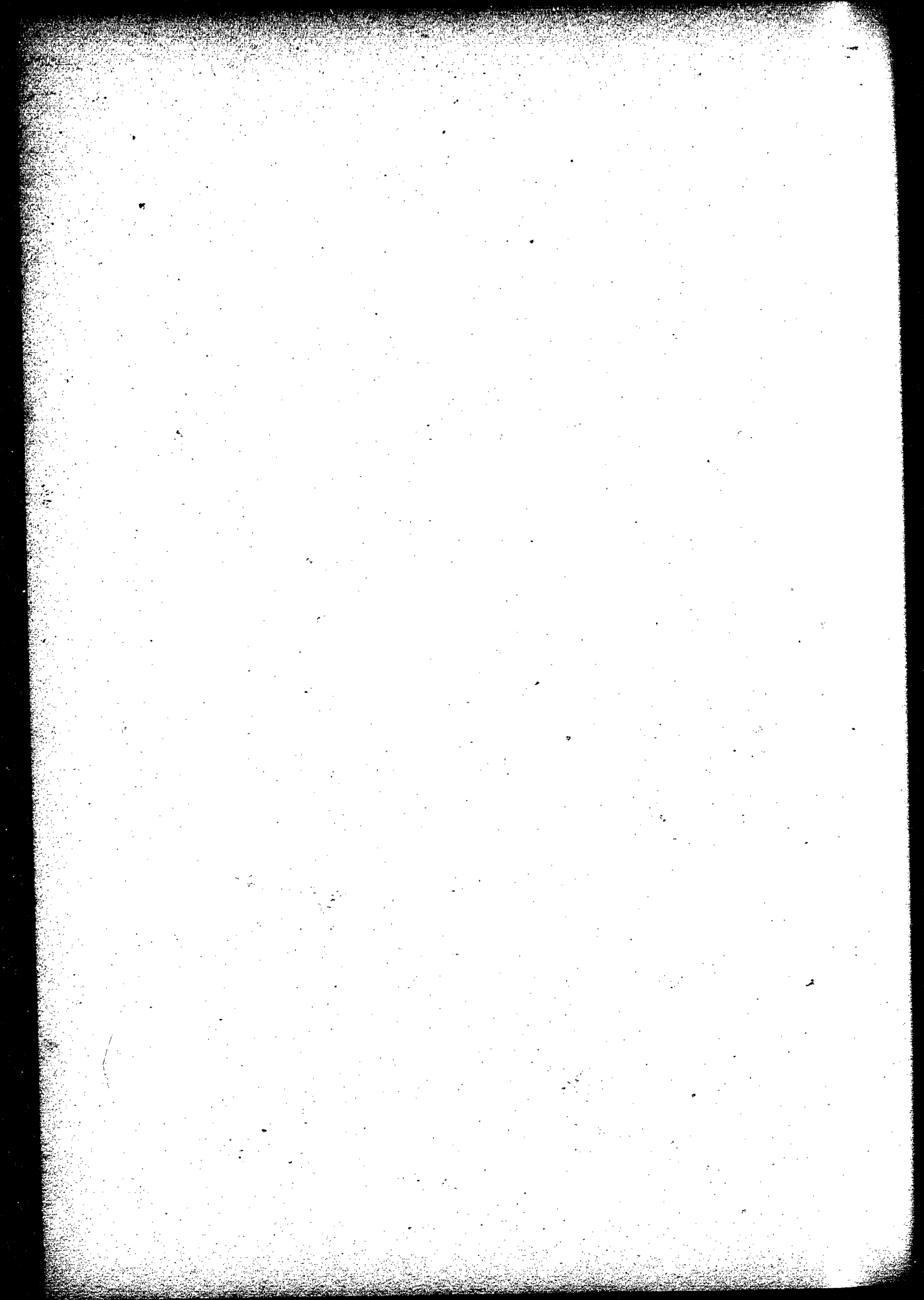
Q You say you saw him boring? A Yes; I saw him.

Q How was he boring? A He was boring near the end of the beam.

Q Which beam? A I don't remember now which one it was; somewhere near the middle of the bridge.

40

Q How many did you see him bore? I don't remember seeing him bore but one.



Q And you don't remember which one that was? A I don't remember which one that was.

Q What size hole was he boring? A I should say from one-half to five-eighths of an inch.

Q Well if you did not see him bore all the holes, how do you know whether or not your instructions were carried out? I followed his report.

Q You followed his report? A Yes; all the beams that he pronounced were not perfectly sound were replaced. There were just four of the fourteen that were pronounced perfectly sound. 10

Q Did he state how he bored them? A I don't remember whether he stated so or not.

Q You say that he reported this beam number three perfectly sound? A He did, or it would have been renewed. I don't remember the particulars now that he did report, but all that he did not report perfectly sound were renewed. 20

Q You say you relied on his inspection? A Yes.

Q Is Cox working for the city now? A No.

Q When did he cease to work? A Oh, I think a little more than a year ago.

Q That would be about when? A Well, I think it was May last year.

Q May, 1896? A Yes. 30

Q Previously to that was he paid by the day instead of by the month? A No; previously to that he was paid by the month, and then he was changed from monthiy pay to daily payment.

Q Yes? A And he left.

Q Well, did he express to you the reason for leaving? A No; I don't think he did. Q What was his reason for leaving do you know? A No, I could not say. It may have been for that or it may have been to obtain other employment. 40

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Q Now, do you know how it was that some of the wreckage of the bridge in 1896 was taken to the Indian reserve and some to the city wharf? A Well, as I just stated, the iron was all brought to the city wharf, and as I understood the mayor gave instructions to Mr. Yorke to bring all the lumber down. He went up there, and the provincial police had charge of it. That is all I know about it.

Q Mr. Yorke brought some of the lumber down to the wharf? A Some of it; yes.

10

Q Where did he get that lumber from, do you know? A It was part of the wreckage.

Q Well, the police stated that they were going to take charge of the lumber on behalf of the government? A So Mr. Yorke said.

Q Well, now, do you know whether the lumber was carefully examined by the coroner and jury on the inquest? A They were up there. I could not say how carefully they examined.

20

Q Didn't you go up with them? A No.

Q Are you sure of that? A I did not accompany them over the—up to the bridge.

Q Well, they went there several times, did they not? A I believe they did; yes.

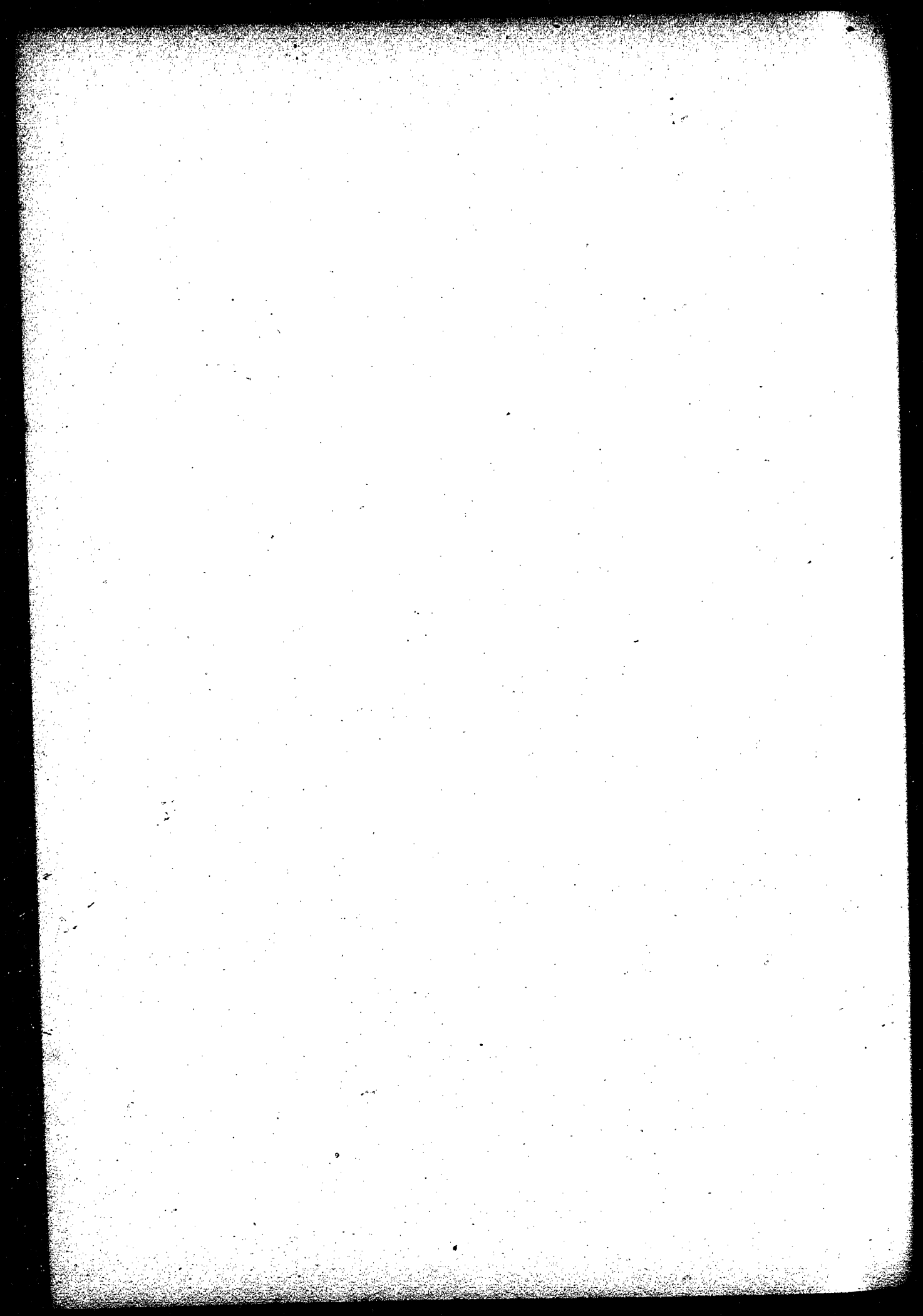
Q And as far as you can remember most of the expert witnesses visited the wreck, both at the reserve and on the wharf? A I don't think there was any brought down to the wharf at that time. It was all up there. 30

Q All the timber was up there? A Yes.

Q When was the timber brought down to the wharf afterwards? A The experts were up there immediately after the accident.

Q Yes. A And then they were several days getting the iron free from the wood and getting it separated and hauling it up, and it was during that time the experts were up. And after they got all the iron they brought it and some of the wood down. 40

Q Then the lumber that was on the reserve was chiefly lumber that was



free from the iron wreckage? A Yes.

Q How long did that inquiry last, do you remember? A I don't remember.

Q Now you say you saw number three beam on the reserve. You saw the mark of the hanger? A Yes.

Q And you saw the mark of the hanger and you were satisfied that it did not tear through, otherwise that mark would have been obliterated? 10
A Yes.

Q Did you examine the two prices carefully to satisfy yourself to that? 10
A Yes.

Q You did? A Yes. I was satisfied from my examination that it did not pull through; that the gib-plate at the bottom had not gone quite through.

Q And the hanger mark was clearly defined? A Yes. 20

Q Well, did you see any other mark anywhere near the hanger of the boring, or anything of that kind? A No.

Q Would you have seen it if it had been there? A I would have seen it if it had been bored at the top; yes.

Q You say if it had been bored at the top; explain it. A The beam was laying on its side. It might have been bored on the side that it was lying on, and I would not have seen it. 30

Q Which side would that be? A Well, it is not the upper side, but I would not be sure what side it was on.

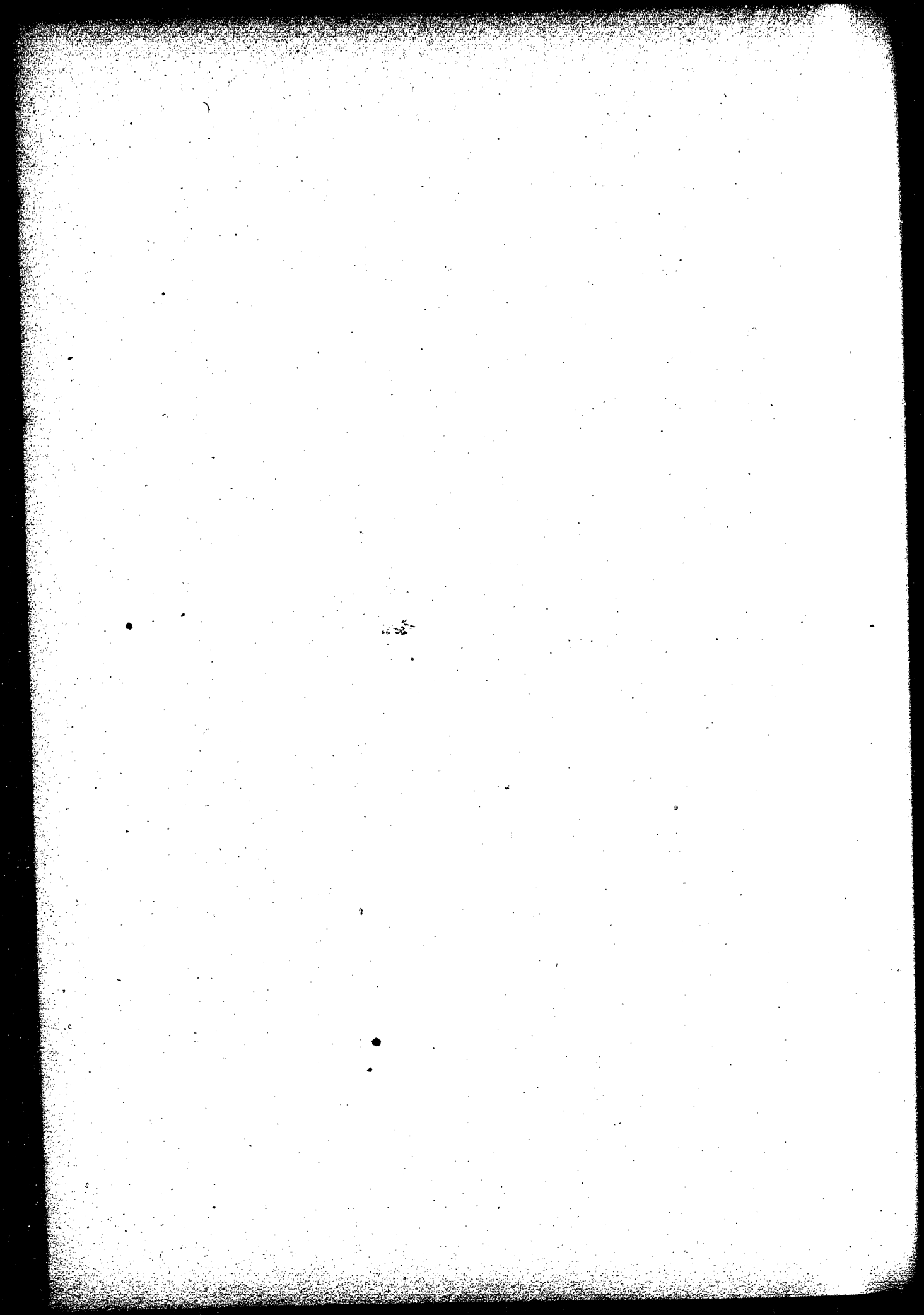
Q But you are sure it was not on the upper side? A Yes.

Q Well, with regard to the boring, I think you stated you did not give any special instruction as to the boring? A Except to plug up the holes.

Q Did you tell him to plug up the holes? A With wood. 40

Q You did not state what size the holes were to be bored? A No.

Q Are you positive as to that? A I don't remember of stating it.



Q But you are certain you told him to plug them up with wood?
A Yes; I told him to bore them and plug them with wood to keep the water from getting in.

Q Then you say there is a notice on the bridge at the present time. Do you mean the bridge that broke? A Yes.

Q Or the new bridge? A The old one.

Q What notice is that? A I don't remember of reading it; but there is a notice, a painted notice, similar to the notice they generally have up on bridges, notifying people not to drive fast. 10

Q That is an old notice, is it not? A Yes.

Q Put up by the government? A I don't know who it is put up by.

Q Was it there when you first took the bridge in? A I couldn't say that; it is there now.

Q Do you remember what formal notice you gave to the tramway company in 1892 that the bridge was unsafe? A I wrote to the managing director to that effect—Mr. Higgins. 20

Q Well, was it a warning or notice? A To the best of my recollection it was a notice—a written notice that the bridge was unsafe.

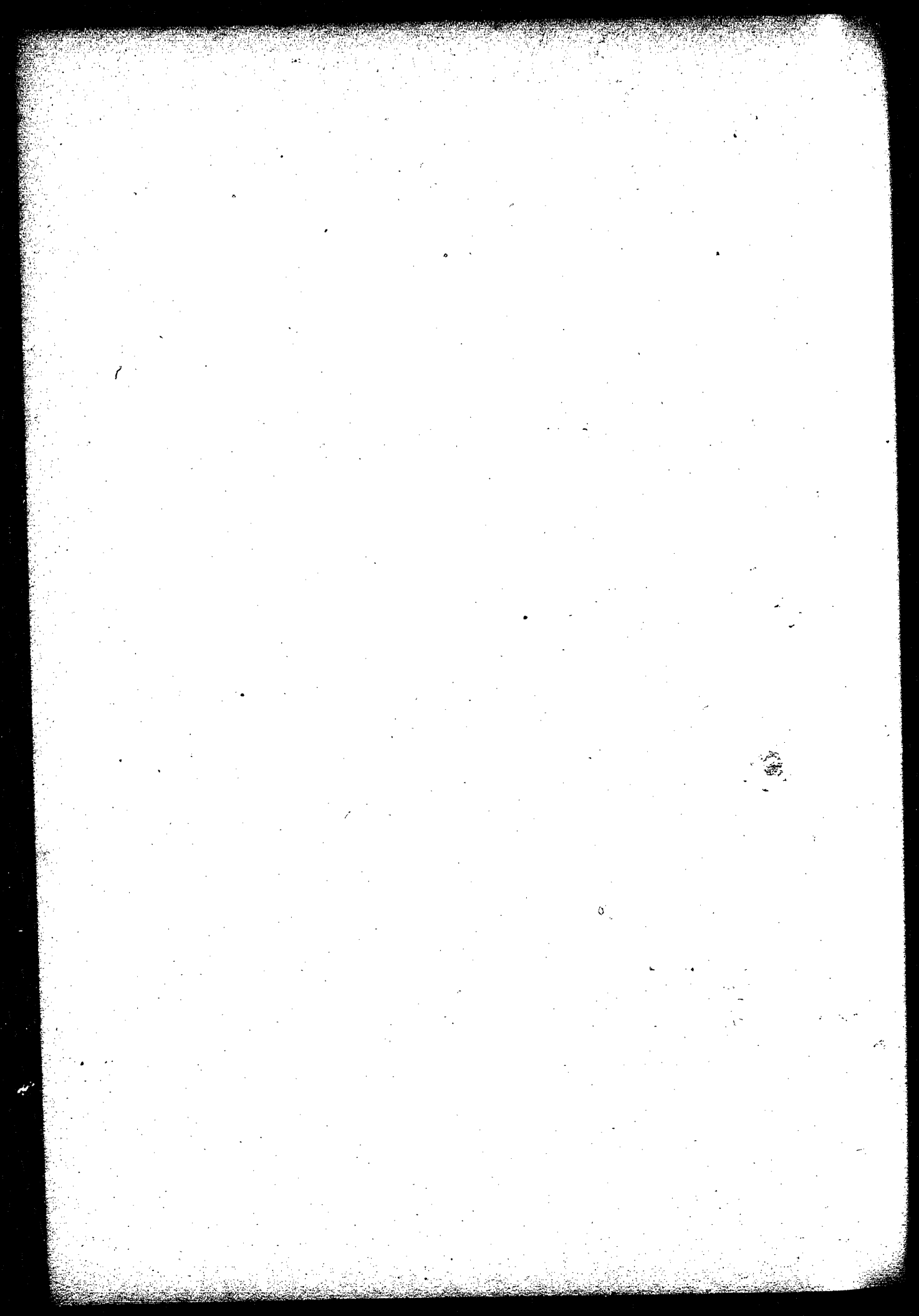
Q To the effect that the bridge was unsafe? A Yes.

30

EXAMINED BY MR. MACDONELL.

Q You speak of a memorandum book which is on file, Mr. Wilmot; when did you see that memorandum book? A That is a memorandum of work to be done by the foreman. 40

Q Well, where is it now? A Up in the office? •



Q Your office? A Yes.

Q The city engineer's office? A Yes.

Q And is it signed by Cox? A No; it is not signed by—it is a memorandum that I put down in the book, and the foreman sees it there every morning, for any work that requires to be done.

Q The memorandum that Cox gave you, you don't know what became of that? A I don't know what became of that; no. 10

Q You don't know where that is, good, bad or indifferent? Now, Mr. Wilmot, I asked you in the examination before, in the Patterson case—I asked you this, "Did you give him"—meaning Cox—"any instructions how to inspect?" and your answer to me at that time was this, "At that time; yes. (Q) What instructions did you give him? (A) To bore and to see—when I found that more than one was unsound, then I had them all bored.

(Q) By whom? (A) "By him, and any that were unsound were renewed?" A Yes. 20

Q Now was that correct? A Yes.

Q Now, are those the instructions that you gave him to bore the beams? A Yes.

Q Those were all the instructions that you gave? A All that I remember of giving; yes—boring and plugging.

Q Now wait. In the Patterson case, before Mr. Cox gave his evidence, 30 Mr. Wilmot, you say nothing as to plugging; you simply say "My instructions were to bore"? A Yes.

Q Now, that is correct? A Well, that is what I meant, as far as testing the wood is concerned, to bore.

Q Bore? And if Mr. Cox says that all the instructions you gave were to bore, I suppose that would be right, you say? A Yes; to test the wood.

Q Now, Mr. Wilmot, since 1892, that is a long time? A Yes. 40

Q And I suppose you have forgotten and do not remember any better now than you did three or four months ago when I examined you before, do

you, as to the instructions that you gave him? A Yes; well, in giving the instructions for the testing—I was referring only to the instruction for ascertaining what condition the wood was in.

Q I suppose Mr. Cox was a practical man, was he? A Yes.

Q Competent? A He was supposed to be.

Q Supposed to be? A Now isn't it natural, Mr. Wilmot, to say simply, "Here, Mr. Cox, go and inspect those timbers by boring, and see if they are all right"? You gave instructions in about that way? A Yes and I spoke about plugging.

Q Now, be careful? A Yes; I did.

Q Why would you give details to a competent man? A Because, as I say, to prevent the water getting in.

Q But he knew; he was a competent man? A Well, I did not know much about him then; I had only come in only about a month or two. 20

Q You did not know whether he was competent or incompetent?
A That was only a month or two after I first came in.

Q A competent man would not require that rider to be added to the instructions? A He should not.

Q Not if he had been a competent man; yet you consider you said to him that he was to plug; you think you remember that? A I think I remember that. 30

Q But you would not be sure as to how they were to be plugged?
A With wood.

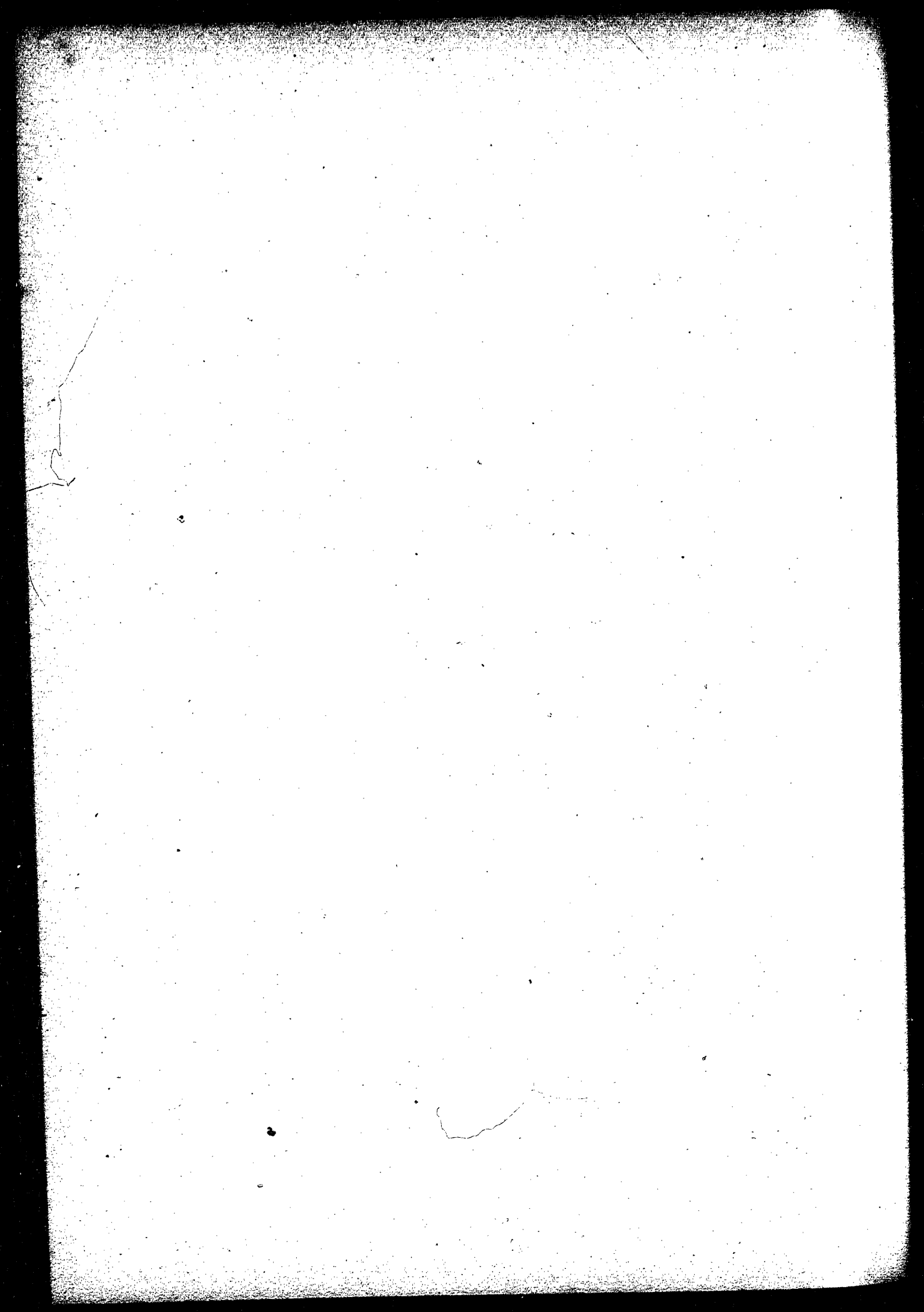
Q And you would not be sure about that? A As to whether they were to be plugged with wood?

Q Yes. A Yes; I always have them done so.

Q By him before? A There was only one bridge that he bored before. 40

Q Where was that? A On the Gorge road.

Q How did he do that? A Bored it and plugged it.



Q With wood? A Yes.

Q Then why was it necessary, Mr. Wilmot, if he did that before to repeat the instructions again in this? A He bored the one before, but I am of the opinion that it was in the second one that I was very particular about giving him instructions to plug them with wood, because they were bored in the top, and I don't remember now whether the other one was or not—the old Gorge road bridge that was reported unsound, and he bored it; but I don't remember now whether he bored the stringers from the top or the bottom. If he bored them from the bottom there would be no necessity of plugging them to prevent the water from getting in; but boring from the top—the reason that it convinces me that it was there that I told him to plug them with wood is because he could only get at them to bore them from the top in the Point Ellice bridge, but the others he could bore them underneath on the ground. 10

Q That is the reason you think you told him to plug them with wood?
A Yes, because they had to be bored from the top.

Q And that is the reason you think you remember now that you told him to plug them with wood. Do you know what became of the auger that he bored with? A I do not. 20

Q Was it a corporation auger? A I could not say that; he had these tools; they were corporation tools that he had.

Q Do you remember what kind of a handle there was to the auger he had? A I do not remember.

Q Do you know if there was a wooden handle? A No. 30

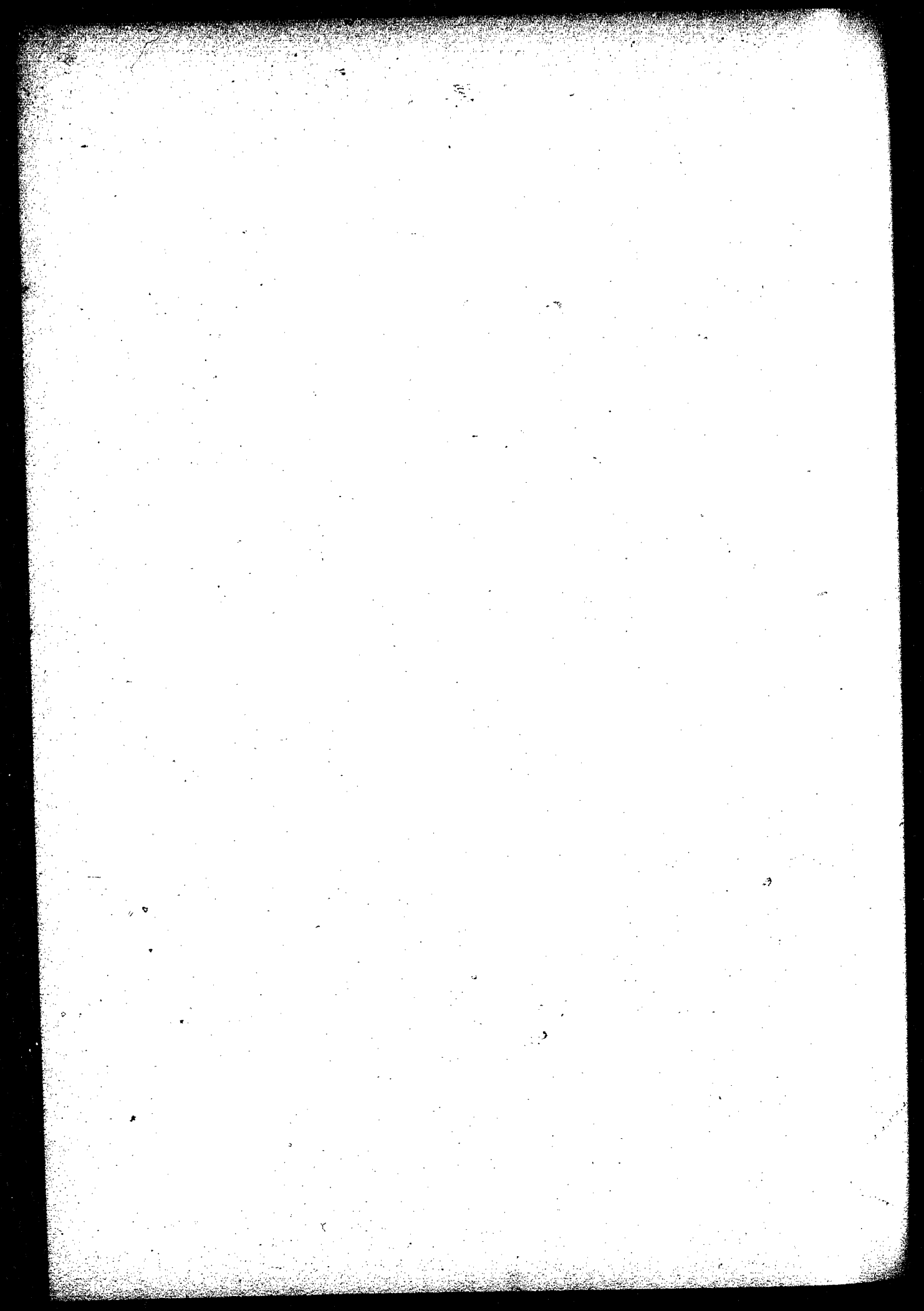
Q There is an auger called a reach auger? A Yes.

Q Do you remember whether it was that kind of an auger? A I cannot remember.

Q You have remembered the size? A Yes.

Q But do you remember the kind of handle? A No; I do not remember the kind of handle.

Q Whether it was a reach or one with a wooden handle? A No; I do not. 40



Q But you had no complaint as to the auger at all? A As to the auger; no.

Q And kind of auger? A No.

Q Was Mr. McIntosh there during the time he was boring? A No; Mr. McIntosh—at least, he was not engaged by the city; he was not engaged until after Mr. Cox made his report; he was engaged then to renew these beams.

10

EXAMINED BY MR. MASON.

Q You say that the auger was corporation property? A I presume it was; I never heard that the carpenter found his own tools. 20

Q You do not know whether he found the auger, or the corporation? A No, I could not say of my own knowledge.

Q If it was corporation property he should have returned it? A Yes, I should think so.

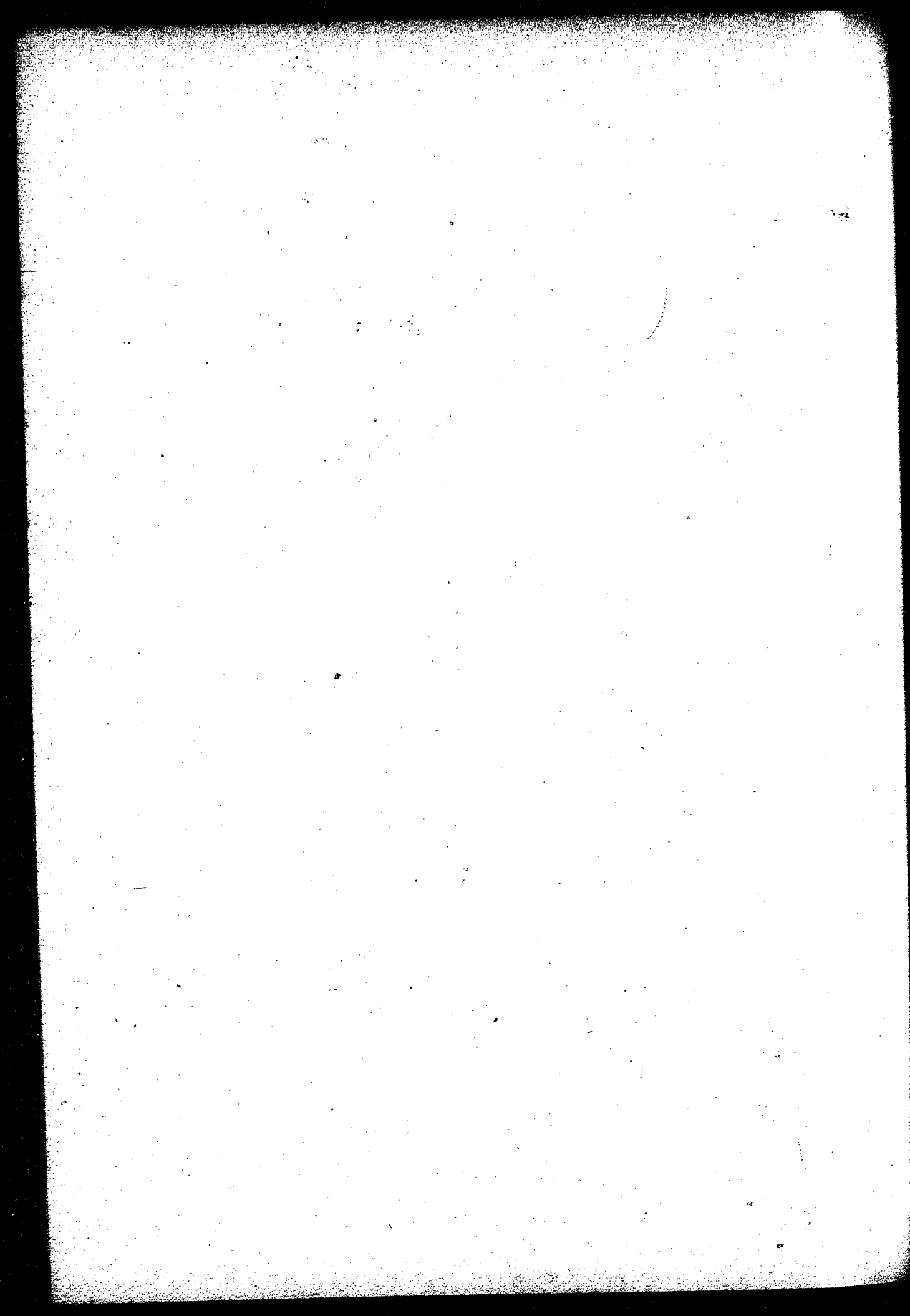
Q Well, since the accident you have examined some of these beams with auger holes, have you not? A Yes. 30

Q Have you found any? A Yes.

Q Which beams have you found them in? A Well, there is the old beam number 7, that is down at the wharf. And there are the two floor beams that are in the span that is still standing, that were bored.

Q In No. 7, what size auger hole is that? A Well, when I examined it the plug had not been cut off, well, not any more than three quarters of an inch. 40

Q And the plug was in it? A The plug was in it.



Q What kind of a plug was it? A Wooden plug. The head was brooded a little.

Q What do you mean by that? A Bruised a little, and it was a little larger than the size of the hole.

Q And it was in good order? A Yes.

Q The other two beams, you say, were bored? A Yes.

Q What size of a hole are they? A About the same size—about three ¹⁰ quarters.

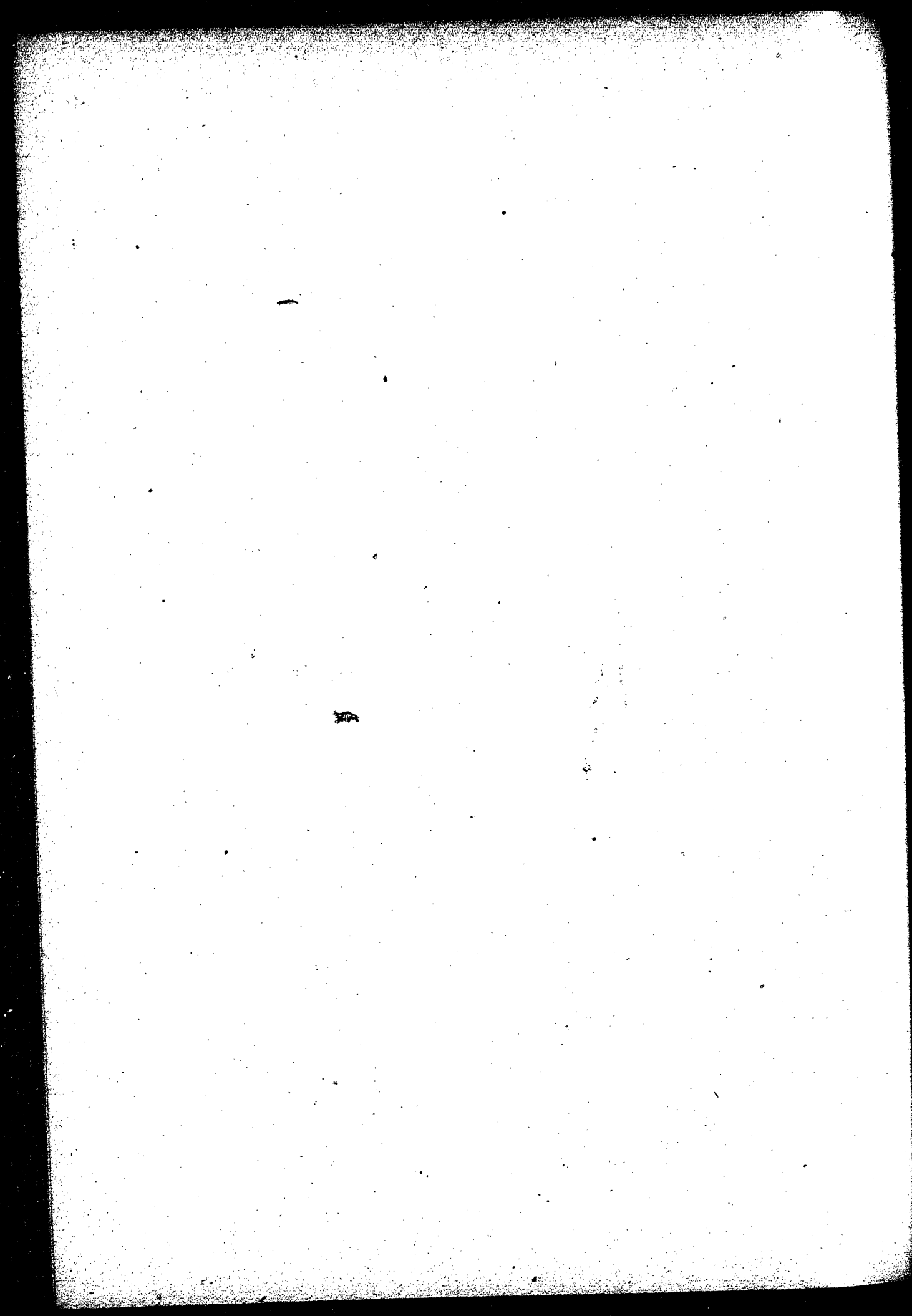
Q Not more? A One certainly is not more, and the other I could not tell on account of the head of the plug being bruised.

Q Were the plugs well driven? A Yes.

Q And sound? A Yes.

Q Did you find any oakum plug-in these. A No, I did not see any. ²⁰

The examination here closed.



Evidence of Wellington J. Dowler in
Patterson v. Victoria

FIRST DAY OF TRIAL.

10

WELLINGTON J. DOWLER CALLED AND SWORN.
EXAMINED BY MR. DAVIS.

Q What is your name? A Wellington Jeffries Dowler.

Q You live in the city of Victoria, Mr. Dowler? A I do.

20

Q You are the city clerk, I believe? A Yes.

Q How long have you been city clerk of the city of Victoria? A Since October, 1888.

Mr. Davis: I wish to file the plan of the city of Victoria which was filed in the Gordon case; the registrar, I think, has it there.

Court: Just mark them again. It will be sufficient at the same time to identify them. Plan of the city of Victoria.

Court: The best way will be to call these exhibits by the numbers in the other suit. You tender in evidence, Mr. Davis, exhibit five?

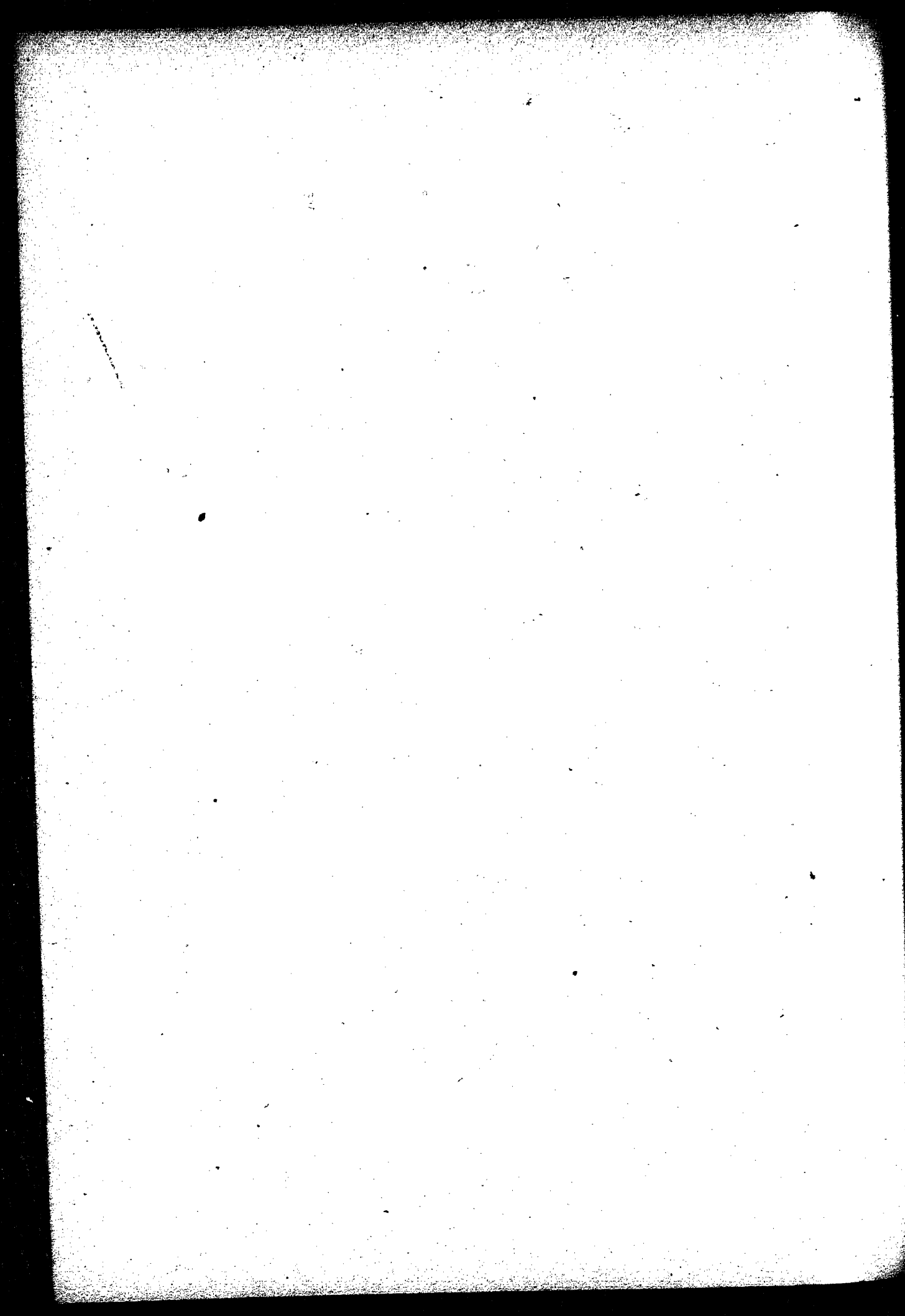
Mr. Davis: Is there any objection to that?

Mr. Taylor: I don't see any objection to this, particularly.

(Marked exhibit "A.")

40

Mr. Taylor: I see, in looking at this, that it is not an official map, and, therefore, I do not wish to be concluded by it.



Court: No; not if you can show any inaccuracy in it.

Mr. Taylor: Well, if that point is reserved—

Court: It is not necessary to reserve it. Admission does not preclude you from showing any inaccuracy.

Mr. Davis: I also file the British Columbia Gazette of January 8, 1891, containing the proclamation extending the limits of the city of Victoria.

Court: Do I not take judicial notice of that—the proclamation? 10

Mr. Davis: I don't think so, my lord, under our rule.

Court: "B" is Gazette, January 8, 1891. I am taking it down as an exhibit, but it is my impression that it is not necessary to prove that. You prove it by producing it, the same as an act of parliament.

Mr. Davis (to witness): You are familiar with the city of Victoria—streets, bridges, and so on? A Yes. 20

Q Look at that map and follow the limits as described in this statute of 1892. I have no doubt you can do that without even looking at the map.

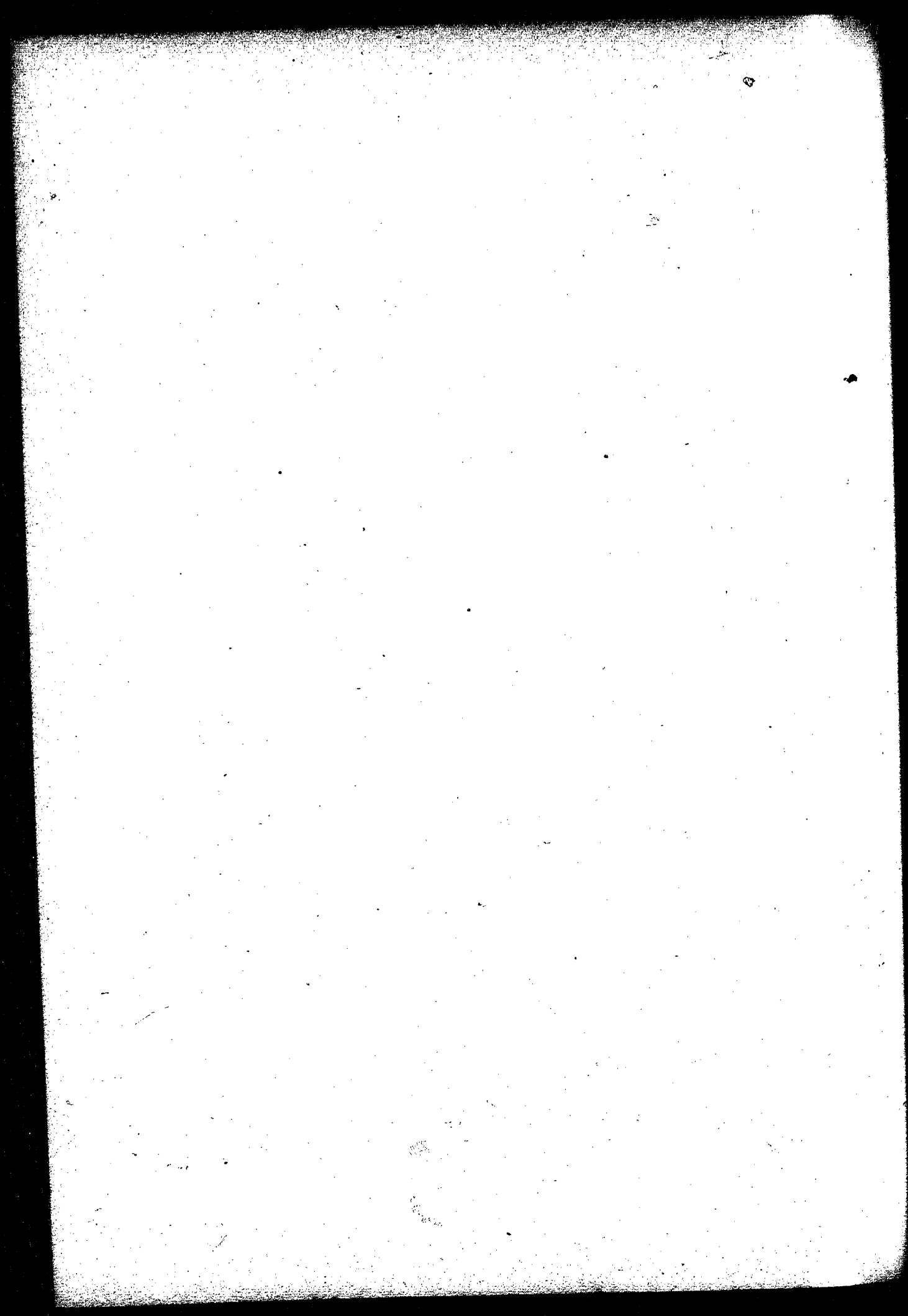
Court: It is not necessary, because the terms of the proclamation expressly include the Point Ellice bridge by name; so it cannot be necessary for you to go further.

Mr. Taylor: And we go a little further than that—there is no doubt that within the territorial area of the limits as described as extended this bridge is included. 30

Court: You need not anticipate any possible question that way; but, as I pointed out, the terms of the proclamation include the bridge, but with the other question we are not concerned just now.

Mr. Davis: I tender in evidence a resolution of the council of June 20, 1892, which is an exhibit in the other case. (Copy of resolution in the Gordon case, 16, marked exhibit "C.") I notice the date of that in the copy is wrong. It is a month out. It is dated the 20th June; I think it should be the 20th 40
July. I put in also for the purpose of having the two read together—

Mr. Taylor: Before my learned friend goes on I desire to record an objec-



tion to that; there is no evidence to show that the bridge belonged to the city, and, therefore, that resolution—

Court: That is an objection to the admission of it; the effect of it is another thing. This is a copy of the resolution, and if material in any way it goes in, but how far it is relevant is a question.

Mr. Taylor: Possibly your lordship might be right. I simply wish to record the objection.

Mr. Davis: I put in a letter of Mr. Wilmot to the city, dated July 20, 1892, and then I will have these two read together. (Exhibit 15 in the Gordon case marked "D" in this case.) 10

Court: Exhibit "D" is 15—nothing more and nothing less; with anything more at present we are not concerned.

Mr. Cassidy: I think with one word we might understand all this and no further objection need be taken at all. The only objection we have to the admission of any of these documents, or of any conduct on the part of the council, or the servants of the city, going to show that they supposed that the bridge was the city's in dealing with it, is based on this, that we say that the liability, if any, for any conduct of that kind is personal—that the city never owned the bridge at all, and that it ought not to go to the jury as indicating any dealing with it on the part of the city. 20

Court: I will make this ruling, which will effectually preserve your position: I shall admit any evidence, documentary or otherwise, relating to any action taken by the defendant in respect of this bridge. I admit it as relevant without expressing any opinion, which is entirely premature now, as to what the effect of that evidence in law is. That effectually guards your objection, and it is not necessary to renew your objection. The two things are as distinct as light from darkness. 30

Mr. Davis: I put in the British Columbia Gazette of June 13th, 1892: (Marked exhibit "E.")

Mr. Davis (to witness): Now, Mr. Dowler, prior to this accident which took place in June, 1896, was there any by-law of the City of Victoria purporting to regulate in any way either the weight of cars passing over Point Ellice bridge or the number of passengers on the cars of the Consolidated Railway Co.? 40
A Not that I am aware of.

6.7

Q There was a by-law, was there not, regulating tramways and inter alia regulating the rate of speed at which tramcars should travel within the City of Victoria? A Yes; there was.

Q There is also a by-law regulating the vehicular traffic? Yes; the ordinary vehicle traffic.

Q Subsequent to the accident of May, 1896, was any by-law passed by the City of Victoria regulating the weight of cars and the number of passengers on the cars of the Consolidated Tramway Co. within the City of Victoria? 10
A Yes.

Mr. Cassidy: We object to that on the ground that it is sought to fix us with an impropriety beforehand by showing that we did something afterwards.

Court: There is another objection. (To Mr. Davis): You ought to produce that.

Mr. Davis: My lord, I am going to.

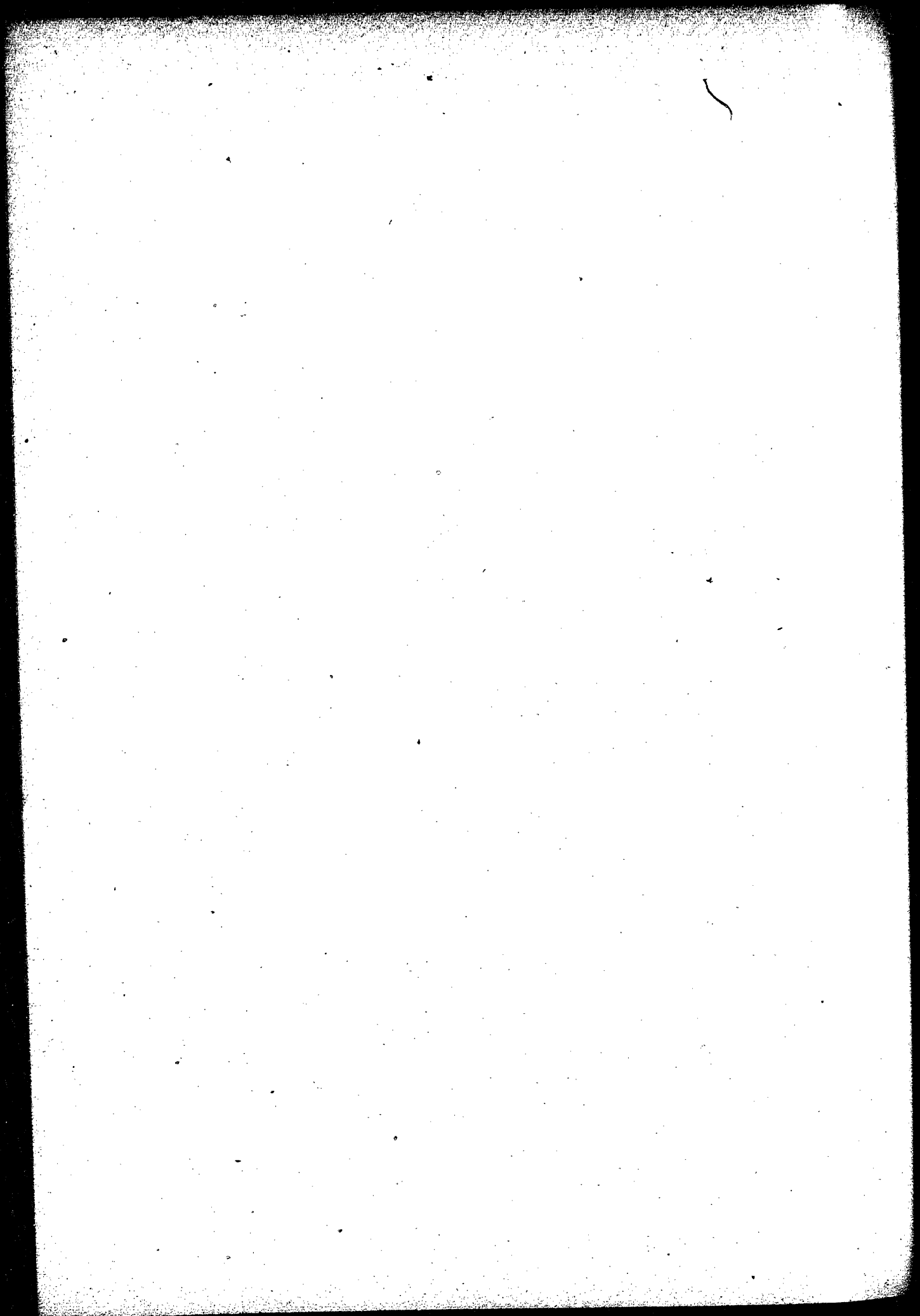
Court; Well, the objection will be more proper when it is produced. 20

Mr. Cassidy: There is no action against the corporation for not passing a by-law.

Court: Mr. Davis has only gone so far as to identify a particular by-law that is in existence. No evidence of its contents can be given without its production. I will reserve leave, if you require it—if you are not ready.

Mr. Davis: The by-laws I refer to are numbers 265, 266, and a number 30 my learned friend is unable to give me at present; but is a by-law repealing 265; but I will let that go—I will not put that in. The last one I do not put in, my lord.

Court: I admit those for this reason, that unless it appears that some change in the legal position of the city occurred between the time of the accident and the time of the passing of these by-laws such as that they would derive an authority which did not exist at that time; these by-laws of themselves show what, from the point of view of the city, was their control over this bridge, and for that purpose only. Have you copies to put in, Mr. Davis? Leave reserved to put in these two by-laws, which will be exhibits "F" and "G." 40



Mr. Davis : That is all I want just now (to witness) ; but do not go away, as I shall want other documents to be produced.

10

Evidence of F. G. Richards in Patterson v. Victoria.

FIRST DAY OF TRIAL.

20

F. G. RICHARDS, CALLED AND SWORN. EXAMINED BY MR. DAVIS.

Q What is your name ? A Francis Gilbert Richards.

Q You live in the City of Victoria, I believe, Mr. Richards ? A Yes, sir. 30

Q Were you at one time in the employ of the Provincial Government ?

A I was:

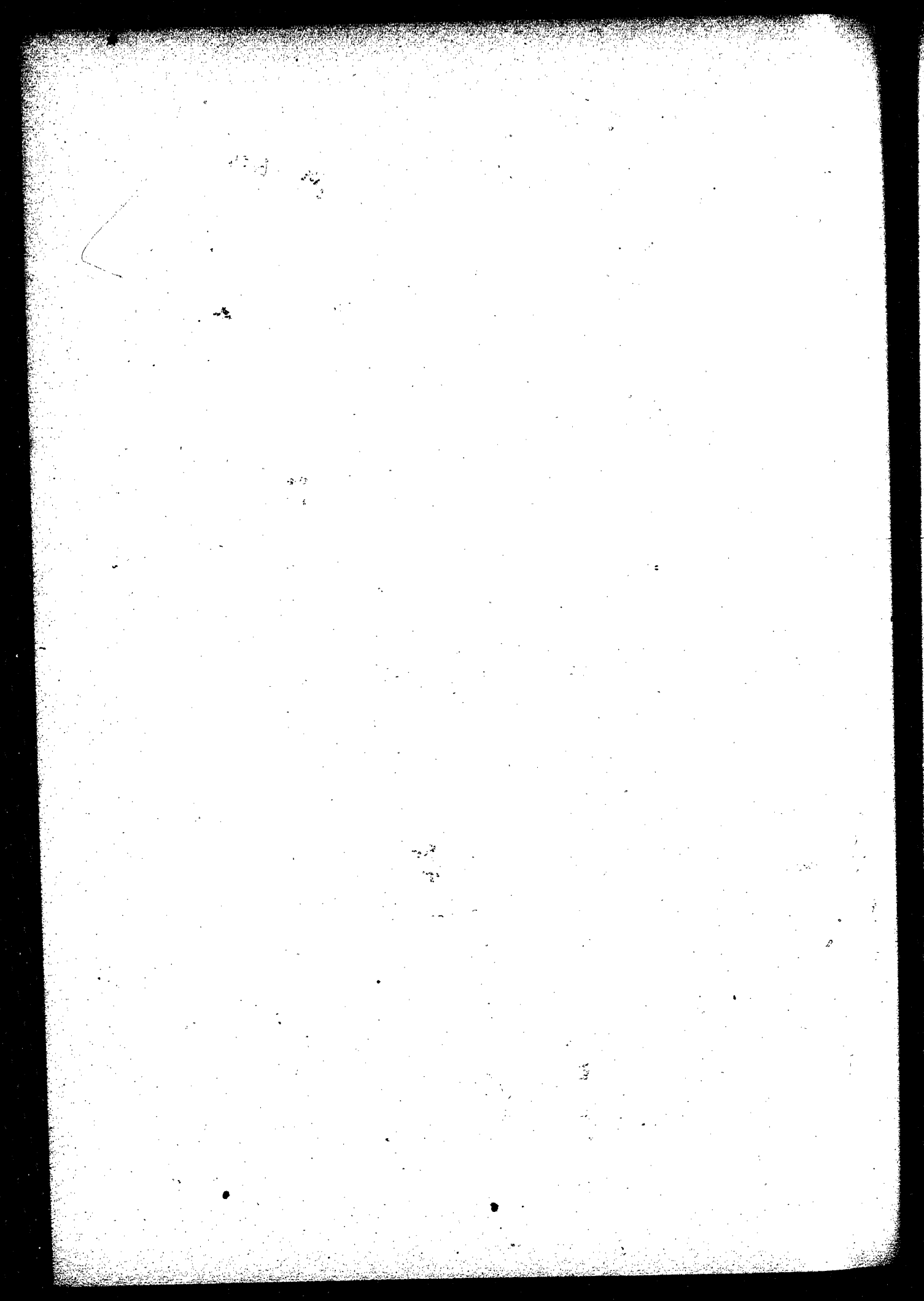
Q In what capacity ? A Chief draughtsman.

Q In whose office ? A The Lands and Works department.

Q What year did you leave there ? A 1886.

Q Were you there at the time the Point Ellice bridge was built ? A I 40
was.

Q That was built in what year ? A 1885.



Mr. Davis: I tender in evidence the plans and specifications of the bridge filed in the other (Gordon v. Victoria) case.

Court: Any objection?

Mr. Taylor: No, your lordship.

Mr. Davis (to witness): At the time the bridge was built, Mr. Richards, was any tramway traffic contemplated—was the bridge built for that purpose?

A It was not built for that purpose; it was built for ordinary traffic.

10

Q You were a member of the council of the City of Victoria, I believe, in the year 1891? A I was.

Q During that year, as has been shown, the city limits were extended, taking in this Point Ellice bridge? A The limits were extended in 1890.

Q The proclamation was in 1891. Did the city get any sum of money from the government in that connection? A It was arranged between the government and the city that they should receive—

20

Mr. Cassidy: My lord, we object to this as not being the best evidence of any such arrangement.

Court: Receipt of money may be proved for any purpose outside of any document under which its receipt is shown.

Mr. Davis (repeats question): A I believe so—\$4,000.

Q For what purpose was that received?

30

Court: If Mr. Cassidy objects that that was received under a written document—

Mr. Davis: I am going to ask for its production. (To witness) Was that by virtue of a verbal or written arrangement? A Written arrangement.

Mr. Davis: I would ask the defendants to produce the correspondence between the city council and the government bearing on this point, including the mayor's report in 1891 and resolution passed in consequence of it.

40

Mr. Taylor: We will undertake to produce it.

Court: In a matter of this kind, which is somewhat unusual, the other side

express a willingness to produce it. Won't your purpose be served by leave being reserved to put it in, and note their undertaking to produce it ?

Mr. Davis: But in all probability it will be necessary for me to ask this witness a number of questions in connection with it.

Mr. Taylor: We have it here, now.

Mr. Davis: Is that all?

Mr. Taylor: Excepting the resolution of the council. 10

Mr. Davis: I want all the correspondence; this is only one, and it is not either of the things that I asked for.

Court (to Mr. Davis): Have you given notice to produce, with dates ?

Mr. Taylor: No.

Mr. Davis: The mayor's report with reference to this is mentioned, and was the only one. 20

Court: This was not put in in the other case ?

Mr. Davis: They did not object in the other case; they were a little more liberal. There is no dispute about this matter.

Court: What do you say?

Mr. Taylor: We have no objection to the correspondence at all; they did not give us notice to produce it specifically. 30

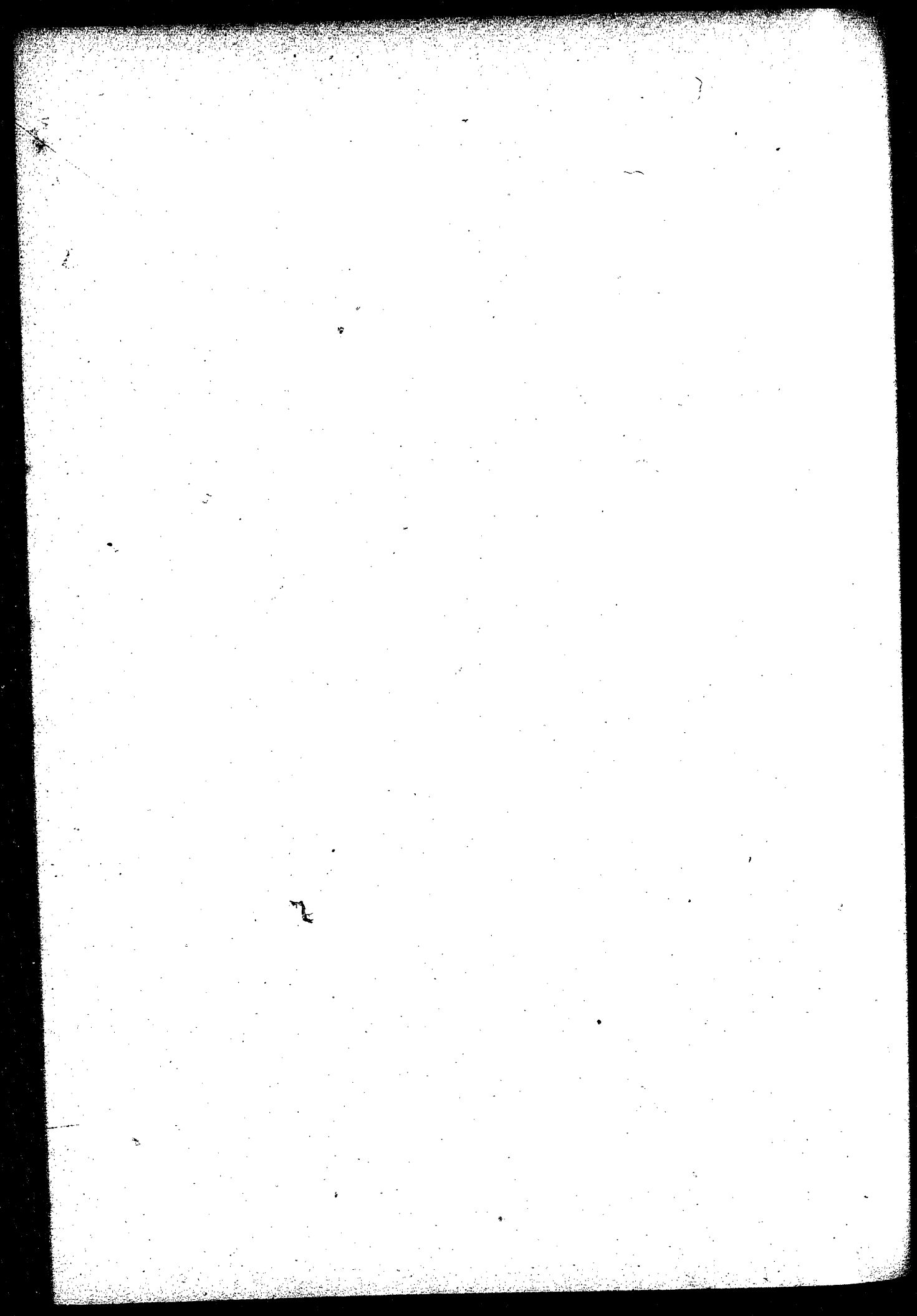
Court: Prove your notice; there is no necessity for any friction.

Mr. Davis: I file this in the meantime. This is a letter from the deputy commissioner of lands and works of May 9, 1891, to the city clerk of Victoria.

Court: Now prove your notice.

Mr. Davis: Well, they do not dispute the notice, I understand. This I propose to put in. (Document marked exhibit "I.") Now I wish the exhibit 40 read, and I produce the notice to produce. (Exhibit read by registrar.)

Mr. Davis: And this is a further notice to produce in the same matter.



Mr. Taylor: Here is the resolution, if my learned friend desires it, acknowledging that.

Mr. Davis: Yes; but there is more than merely one; there is the mayor's report.

Court: File your notice, and I admit secondary evidence. "J" and "K" will be the notices to produce. If you think it will suit your purpose as well as having the original documents—copies. That is for you to say.

Mr. Davis: Of course, my lord, they do not produce them and I cannot get them; so I am bound to submit the secondary evidence. 10

Court: It is for Mr. Davis to say whether he will give secondary evidence or take your undertaking and postpone the time till the afternoon; but if he gives secondary evidence—

Mr. Davis: I am content, my lord; I will give secondary evidence; I do not wish to break this up now.

Court: My ruling is that secondary evidence can be given. The question of the receipt of the original documents or certified copies afterwards, I reserve to my own discretion. 20

Mr. Taylor: I beg to point out that there is no particular report pointed out.

Court: I rule, rightly or wrongly, the notice is sufficient. Now, get on.

Mr. Davis (to witness): Was this Point Ellice bridge on one of the trunk roads referred to in that letter of Mr. Gore's? A I did not hear that letter read distinctly. 30

Well the Gorge roads are mentioned here. That means more than one road. The Point Ellice bridge is on the road leading to the Gorge, only in a different direction to what is known as the Gorge road proper.

Q What took place as a result of that communication from Mr. Gore in the council? A Those trunk roads were taken over by the city council and were operated or maintained by the city council, including Point Ellice bridge. 40

Q Were you in the council in 1892, Mr. Richards? A In the early part of 1892.

Q Do you know with reference to this accident that happened on the bridge in 1892? A No; that was subsequent to my term of office.

Q Did you have any personal knowledge outside? A I knew that it had happened.

Q Were you down at the bridge? A No; I was not at the bridge. I knew of the circumstances.

10

CROSS-EXAMINED MR. TAYLOR.

Q Mr. Richards, there is only one place called the Gorge road in Victoria, is there not? One road? A Well—

20

Q Say "yes" or "no"—you know? A I know that there is one road known as the Gorge road now but previous—

Q The road leading over this bridge is called the Esquimalt road? A Let me explain. Previous to that other road being built—the present Gorge road being built—that was known as the Gorge road.

Q When was it built? A I think in 1875.

30

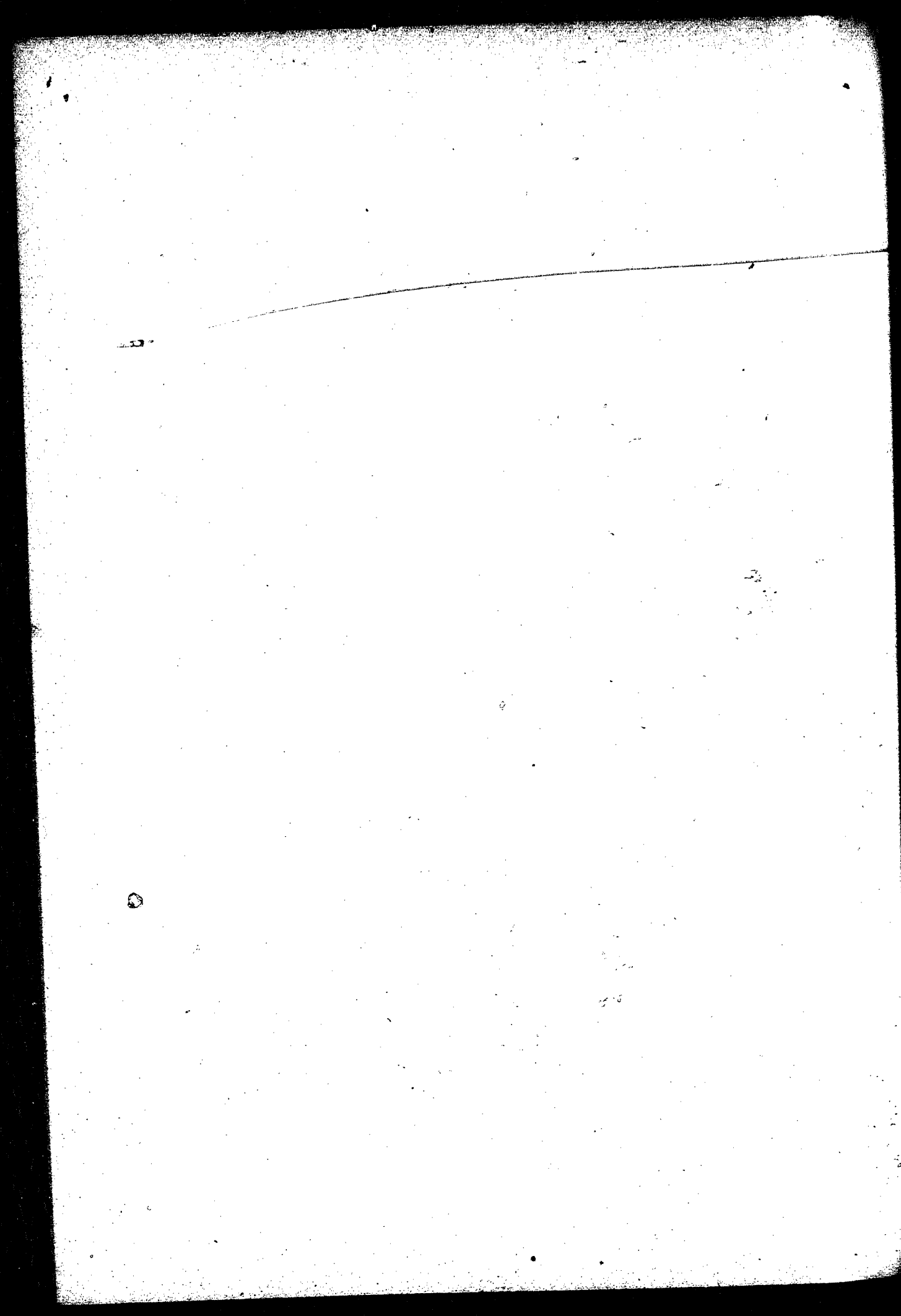
Q And this was 1891. For pretty nearly twenty years it has been called the Gorge road? A Yes.

Q What does this letter say—"Saanich, Cedar Hill, Cadboro Bay, Burnside and Gorge roads." Does not that road refer to that new Gorge road, and not in the plural? A It might.

Q Isn't that what you understand by it? Is that not so? A It reads that way.

40

Q And you understand by that the Gorge road proper is not this Esquimalt road? A The Gorge road proper; but this road leading to Esquimalt was taken over as a trunk road.



Q Twenty years ago? No; I am speaking of 1891, and leads to the Gorge.

Q Will you swear that the road that went over the Point Ellice bridge was ever called the Gorge road within the last ten years? A No; I won't swear to that.

Q It has not been called the Gorge road for ten years; there has been another road, though, called the Gorge road? A Yes.

Q And that is in a different part of town? A Yes. 10

Q And this letter refers to the Saanich road. That didn't go over Point Ellice bridge? A No.

Q The Cedar Hill road didn't? A No.

Q The Cadboro Bay road didn't? A No.

Q And the Burnside road didn't? A No. 20

Q And the Gorge road, as it has been called for the past ten years, didn't? A No; but previous to that it was known as the Gorge road.

Foreman: How many bridges are there on those roads—"bridges" is mentioned in the plural?

Mr. Taylor: "Bridges" is not mentioned there.

Mr. Davis: Oh, yes. 30

Mr. Taylor: This part of it: "I beg to call your attention to the condition of the bridges over the large ravine on the Gorge and Burnside roads." (To witness): How many are there on the Gorge road? A On the Gorge road?

Q Yes, over the ravine? A There are two bridges on the Gorge road, but one, I think, is within the old original limits of the city before the extension.

Q What do you mean by the large ravine on the Gorge road? A That is one just about the limit of the extension. It comes over a portion of the Victoria Arm. 40

Q That is a considerable distance away from Point Ellice bridge?
A Oh, yes.

Q There are two bridge structures over the ravine on the Gorge road—a large and a small? A Yes.

Q Take the Burnside road? A There is one on the Burnside road; but I am not certain whether that is within the extended limits or not.

Q At any rate, it is a mile or two from the Point Ellice bridge? A Yes. 10

Q Both structures should be replaced by new ones at an early date. There is no reference in those to the Point Ellice bridge? A No, not by name.

20

RE-DIRECT BY MR. DAVIS.

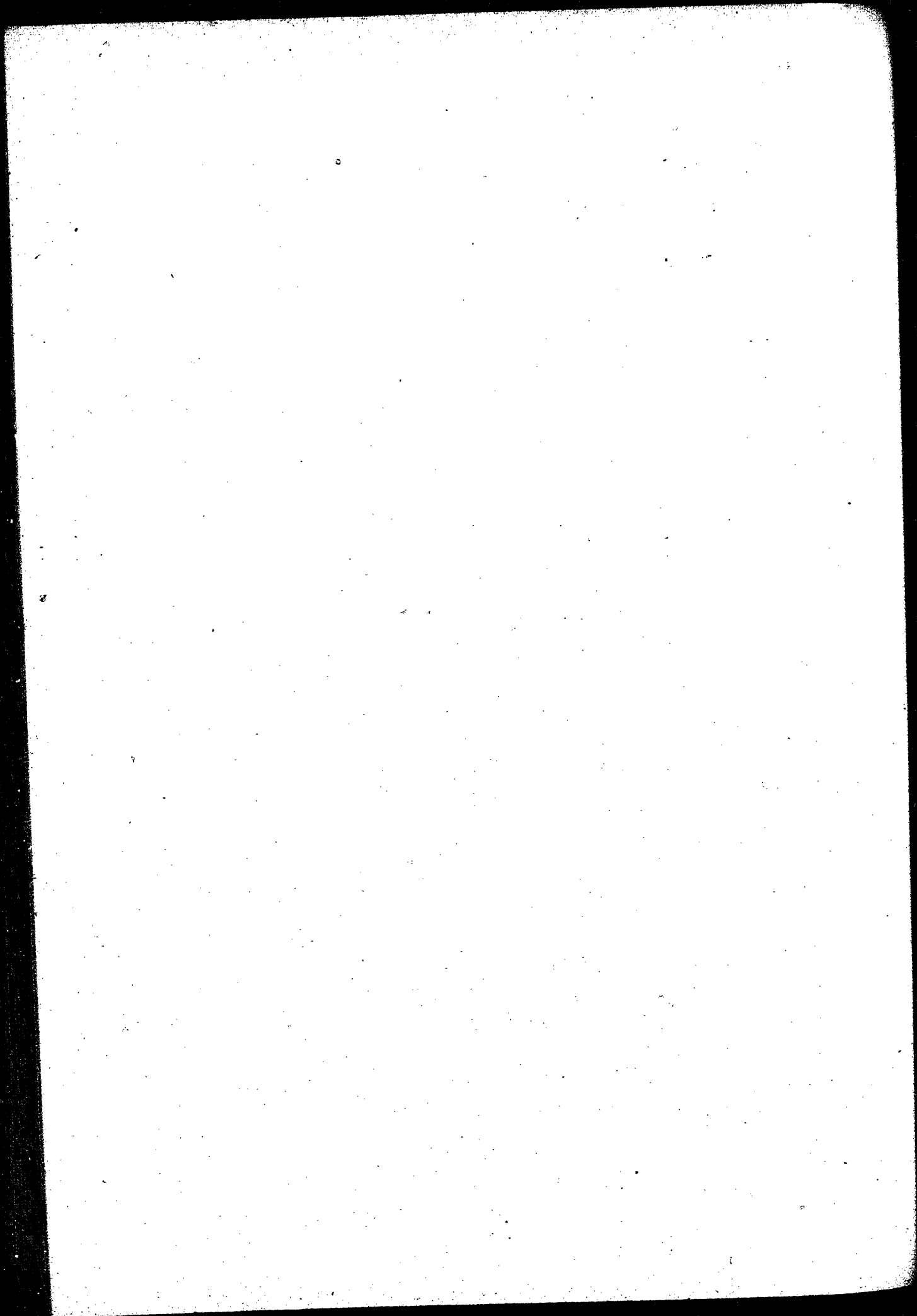
Q This letter we have been looking at is one document out of a series of documents in connection with the matter. As a matter of fact, was the Point Ellice bridge one of the bridges a part of the added territory taken over under this arrangement you have spoken of by the city? A It was.

30

Mr. Taylor: I take it that that is a matter of documentary proof.

Court: I have ruled that secondary evidence may be given. If there is to be any order in the proceedings, and in the way they are to be conducted, you must take my ruling for one moment.

40



Evidence of F. M. Yorke in Patterson vs. Victoria.

FIRST DAY OF TRIAL.

10

F. M. YORKE CALLED AND SWORN. EXAMINED BY MR. DAVIS.

20

Q What is your name? A Francis M. Yorke.

Q You live in Victoria, Mr. Yorke? A Yes, sir.

Q You remember this accident of May 26th? A Yes, sir.

Q I believe you had something to do with the wrecking after the accident?

A Yes, sir.

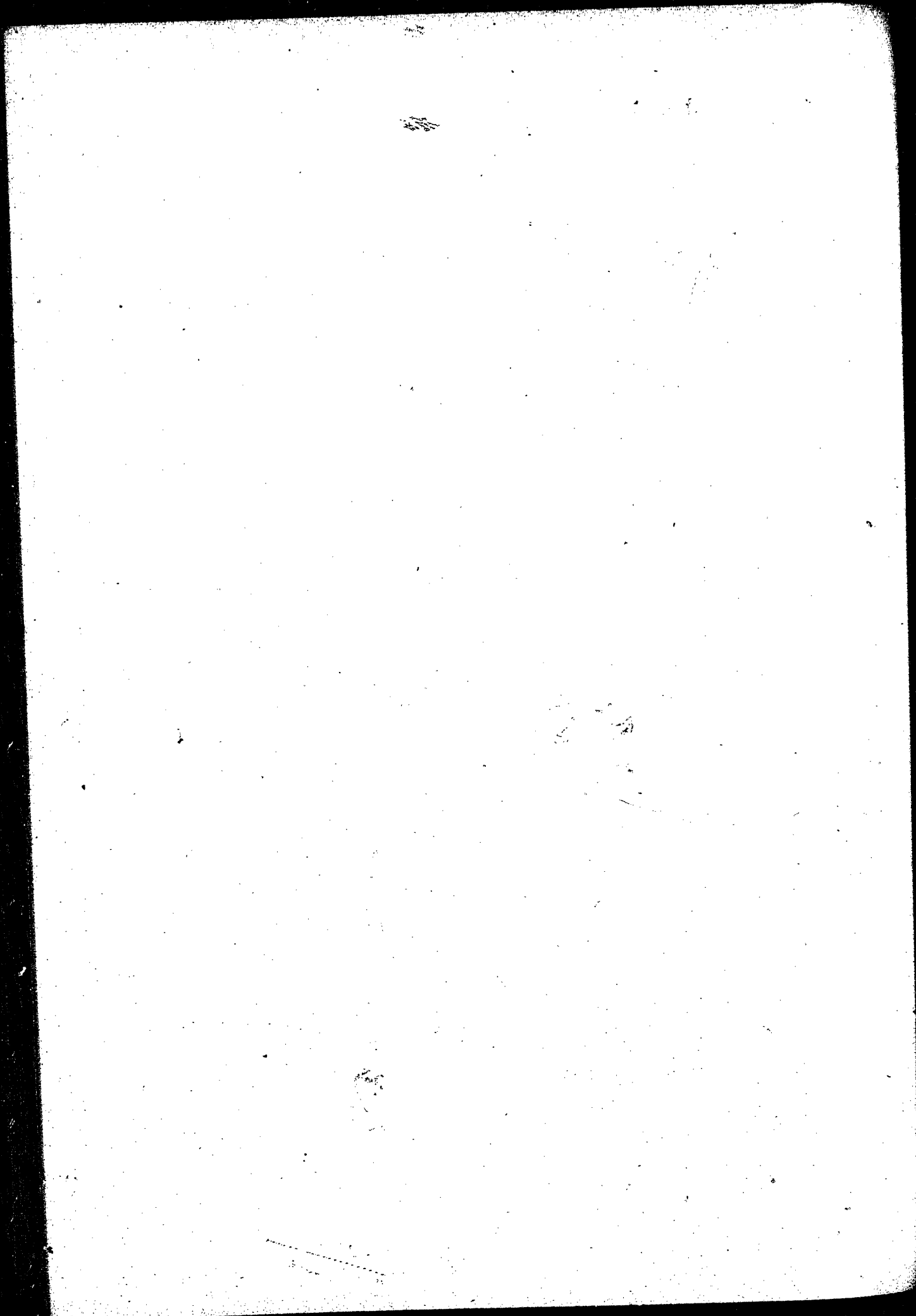
Q Did you weight the car which went through the bridge? A Yes, sir. 30

Q What was the weight, including trucks? A 19,847 pounds.

Q I believe there were a few things gone—the dashboard and a few other things? A The top of the car and the trolley, and the cushions and a little of the back part of the car.

Q That was roughly—I believe it was only arrived at roughly—the estimate of the weight of the car, people, rigs and everything on that particular panel on which the car stood; the rough weight? 40

Mr. Cassidy: You have not proved that he knows anything about the people.



Mr. Davis: You know by the total estimate? A No; I was not there, sir.

Q You don't know anything about it? A No, sir.

Q What was the length of the trucks—that is, from the rear end to the front end, what would be the length? That is, on how many feet of the car would the weight of the car rest? A I don't think we measured that, sir.

Q You don't know anything about that? A No.

10

(No cross-examination.)

Juror: How did you arrive at the weight of the car? A I weighed it, sir, on the city scales; weighed the trucks separately and the car separately. I have got the weight of them separate.

Mr. Davis, There is just one question, with the permission of your lordship. Although he says that he does not remember that they measured the length of the trucks, I would ask him this question—Whether the entire weight would rest within one panel length? because it is evidence which he gave when he was examined before.

Court: How is that? You recollect that?

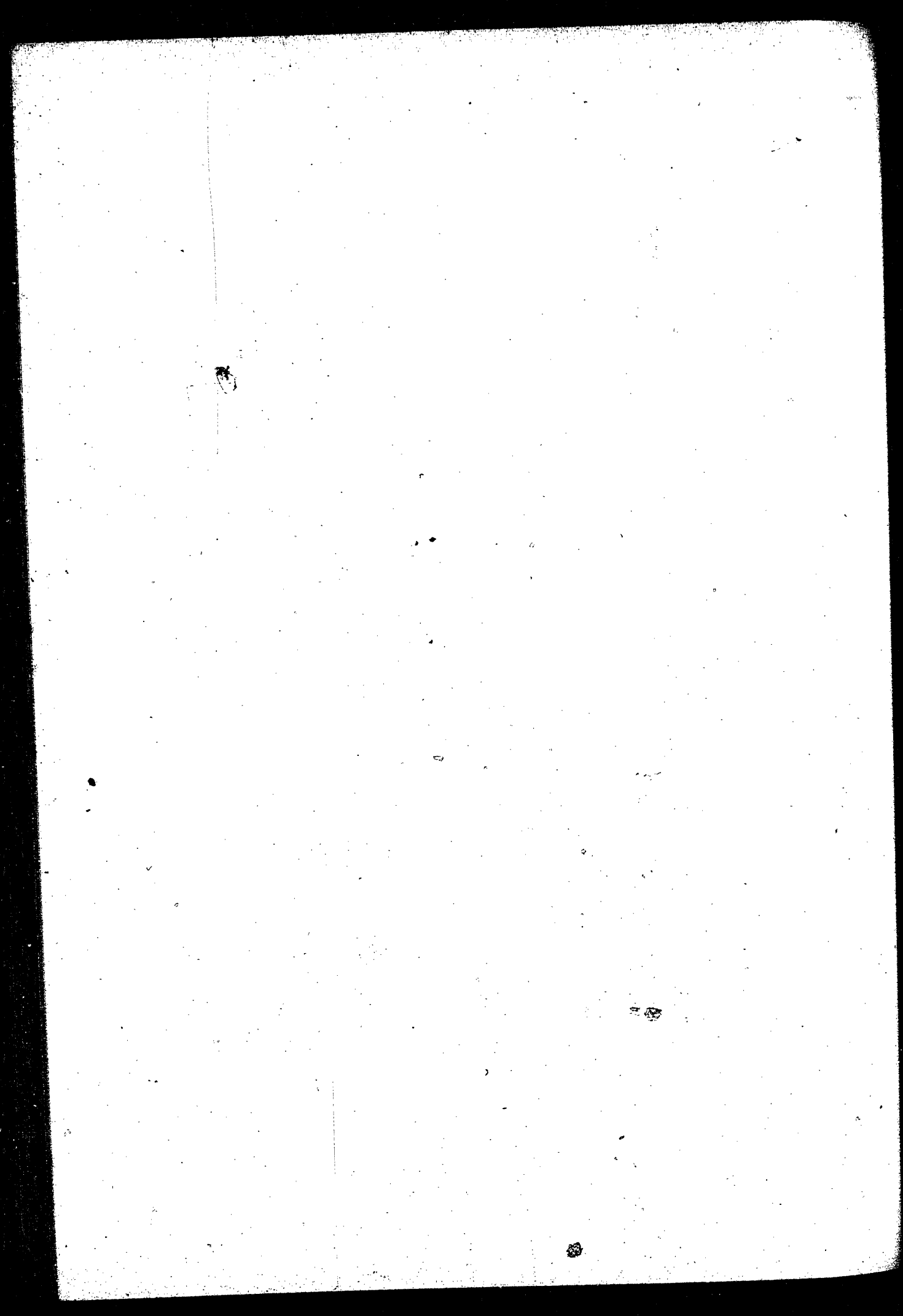
Mr. Davis (to witness): You stated, when examined here before, that the trucks would rest on a single panel—that the length of the trucks was shorter than the length of the panel, which was 18.9 inches. Is that correct? A Yes, sir; that is correct.

30

Q Do you know where the Gorge road is?

Court: I think we have the facts as to the differences between the roads, if that is all.

40



Robert McIntosh, Bridge Carpenter, in Patterson v. Victoria.

FIRST DAY OF TRIAL.

10

CALLED AND SWORN. EXAMINED BY MR. DAVIS.

20

Q What is your name? A Robert McIntosh.

Q- You live in Victoria Mr. McIntosh? A Yes.

Q You are a carpenter, I believe? A Yes.

Q Bridge carpenter and that sort of thing— In 1892, I understand from Mr. Wilmot, that it was you who did the chief part of the repairs on the Point Ellice bridge, after the accident there? A I did the chief part; yes. I didn't do them all.

30

Q No; there was one floor beam had been replaced before by a man of the name of Clark? A By same person.

Objected to by Mr. Cassidy. Objection sustained.

Mr. Davis (to witness): There had been someone put in a floor beam before? A Yes.

Q And what work did you do on the bridge? A I put in some of the beams and some stringers for the tramway company.

40

Q And what else? A Replanked the bridge; renewed the planking of the bridge.

Q Outside of the one floor beam which had been put in before, that you have mentioned, you put in all the new floor beams at that time? A Yes.

Q How did the planking run which was down on the bridge before you replanked it? A Diagonally.

Q And what length were the planks? A In one length across the bridge diagonally.

Q They ran from one end (side?) of the bridge to the other? A Yes. 10

Q What instructions had you from the city as to the new flooring which you put in?

Objected to by Mr. Cassidy as leading.

Mr. Davis: Mr Wilmot said he instructed Mr. McIntosh.

Court (to Mr. Cassidy): How can you say "what instructions" is leading? He had instructions. 20

Mr. Cassidy: Not instructions from the city.

Mr. Davis (to witness): Who instructed you to do that repairing?
A Mr. Wilmot, the city engineer.

Q Who paid you for the work which was done? A The city and the tramway as well paid a portion.

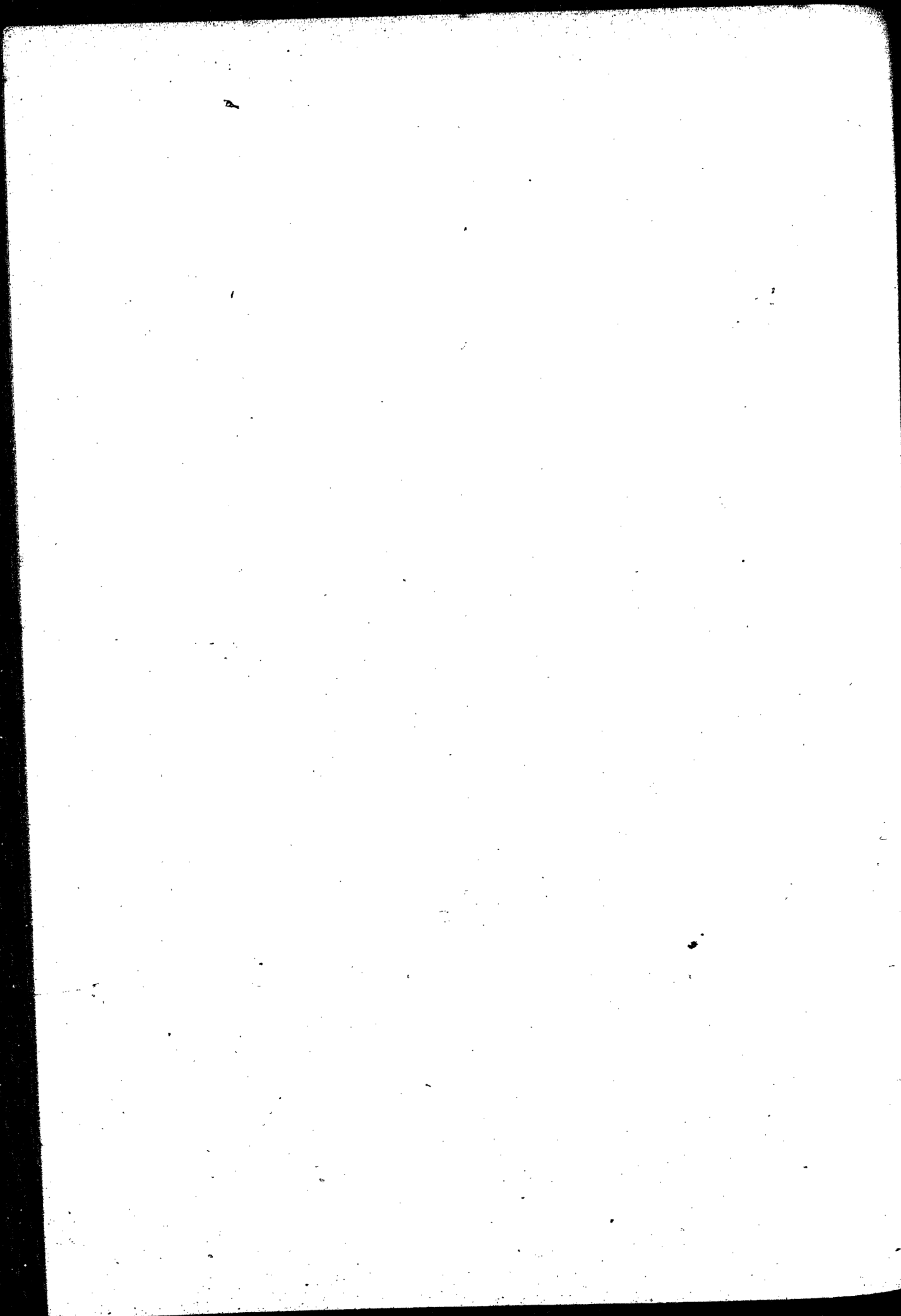
Q The tramway company paid you for the stringers? A Yes. 30

Q For that other work who paid you? A The city.

Q What instructions did you have from Mr. Wilmot with reference to the way in which this new floor should be put in? A It should be cut on either side of the T rails which should be put in.

Q That is, formerly there was a flat rail on top of the planking? A Yes.

Q And when the repairing was done, a T-rail was put in running on two new stringers? A Yes. 40



Q The tramway—you said, put in those two stringers, and the floor was
ut open to make it in three length? A Yes.

Q One length up to the upper side of the tramline, one length to the
flooring between the rails of the tramline, and one length below? A Yes,

Q That is correct? A That is correct.

Q What was the size of the stringers put in by the tramway company?
A Ten by twelve. 10

Q What was the size of the beams put in by you? A The floor beams?

Q Yes. A Twelve by sixteen.

Q What effect, if any, on the strength of the bridge would cutting the
floor beams have, so far as your opinion goes? A Cutting the floor beams?

Q I don't mean the floor beams—the flooring? A It would lose the
entire carrying strength of the flooring itself. 20

Q What change was made, if any, in the hangers of the beams which you
took out and replaced? A They were changed so as to go round the stick
instead of going through it. They were changed from the original way by
being placed round the stick instead of holes being put through the floor beams.

Q Could you draw something that would show?

Court: That is what you call a stirrup?

Mr. Davis: Changed from hangers to stirrups. 30

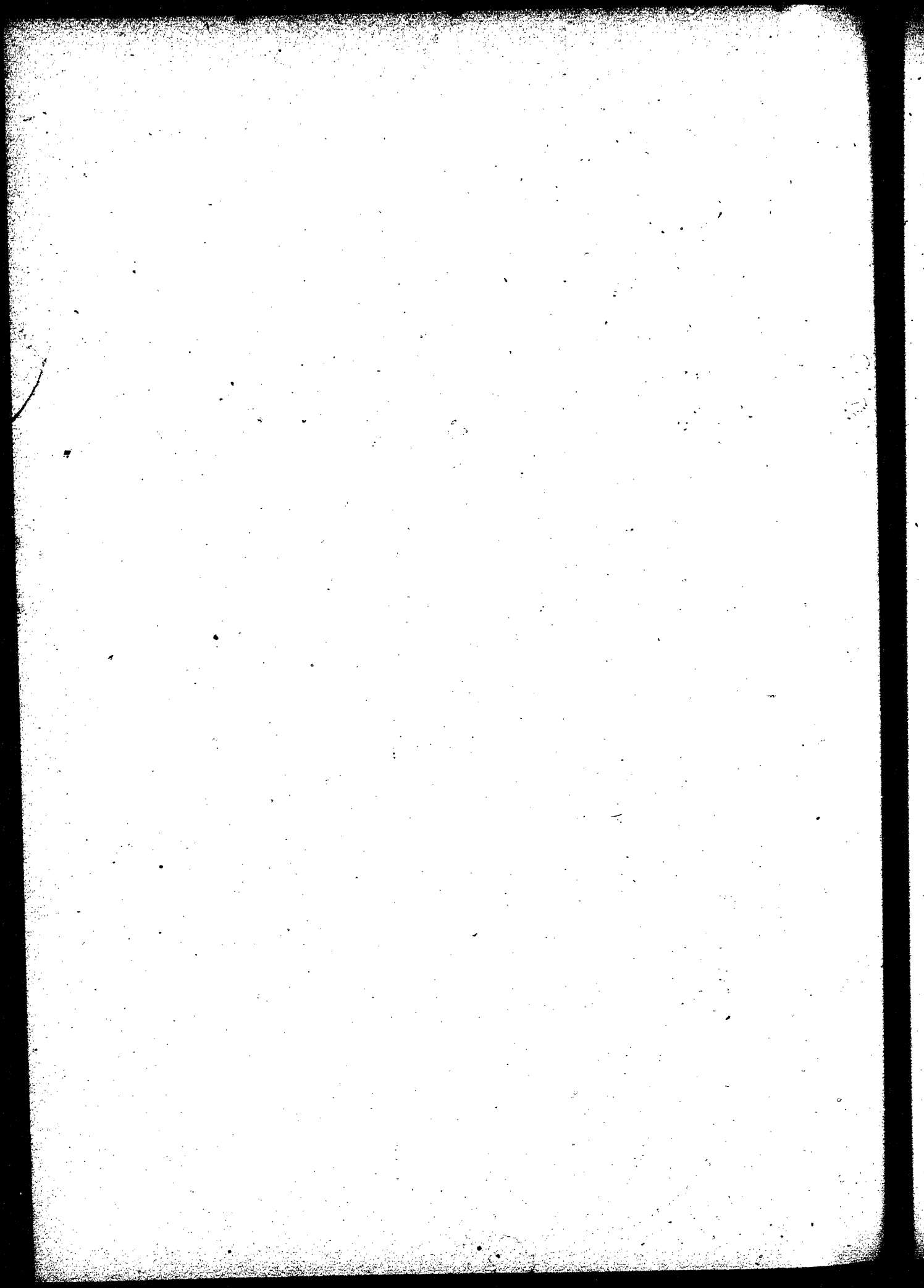
Mr. Cassidy: No; yokes to stirrups.

Mr. Davis: Well, we will not quarrel about words. I may say in con-
nection with this, I will put in another witness who will explain it thoroughly.

Mr. Davis (to witness): Which is the old style? A This (indicating on
sketch).

Q This one—and that (indicating) is the way you left them? A Yes. 40

Q Describe to the jury the difference between those? A This is the
floor beam, and this is the floor beam, also; you are looking at the end of the



floor beam now, you understand. These were large holes bored through there to admit this 1 1/4-inch iron; they were changed. Instead of going through the stick they were spread out at the top, and of course when spread out they would not reach as far as when they were going through; and there were pieces welded in—the same iron.

Juror: How wide would that iron be? One and a quarter inch square; they would turn over the pins that connect the main counter braces.

Mr. Davis: You mean a new piece of iron was welded in each side? A Yes, that is four welds in each piece, and the thread was cut off each so as not to interfere with it, and not to have to re-thread it again, the thread was cut off.

Juror: Was there a plate across the bottom? A Yes.

Q What was the size of those bolts in diameter? A One and a quarter inch square iron, a 2-inch hole bored through this originally, and when the plate if it was screwed up, the water would keep in there all the time, and my idea in changing it was that there should be no water to prevent the beam from rotting.

Mr. Davis: The plate was put on and the nut screwed on. And so as to save the thread they cut it off, and welded it in a new piece? A Yes.

Juror: Those are separate rods? A One rod is bent over this pin at the top. I did not take time to draw it very accurately. You understand, when it spread at the top, it shortened them and they had to be each welded in to bring them down and get the nuts on. The gib beam ran out underneath the sidewalk, but not where the hangers were.

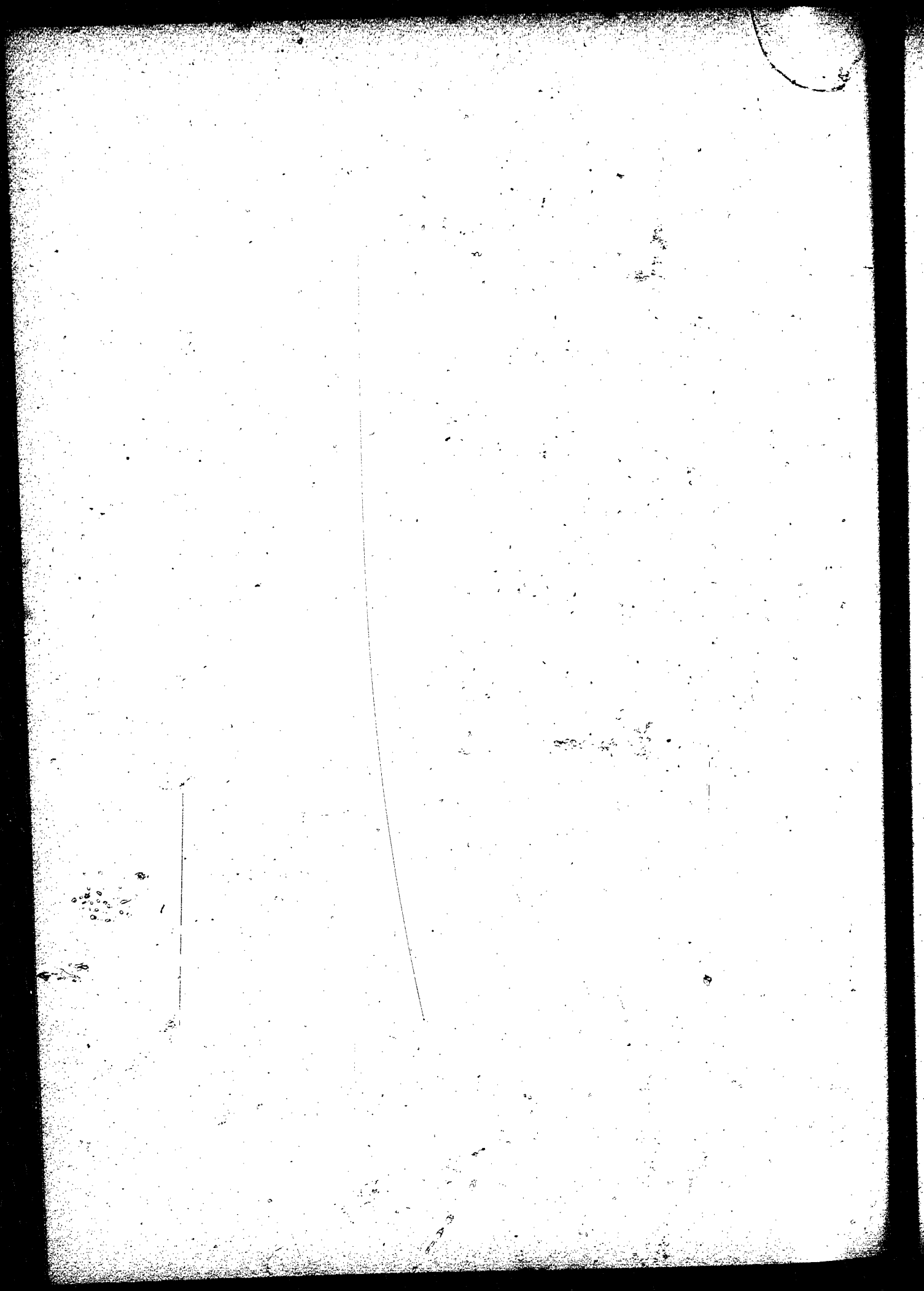
Q And that is the beam 12 by 16? A Yes.

(Sketch by witness marked exhibit "S".)

Mr. Davis: Is that (exhibiting model) a correct model of the bridge, of the floor part of the bridge as it stood originally, showing the stringers underneath, and the floor and the way it ran diagonally? A Yes.

(Model of flooring of bridge, marked exhibit "T".)

Q This (indicating) being the Gorge side of the bridge, we will say, show about where the tramline ran? How did that planking run diagonally? Would that be the Gorge side, or this? A Well, you can make either side, it



all depends ; if you are going out of Victoria, this (indicating) would be the Gorge side.

Q Show about where the rails ran, and mark it in lead pencil? (Witness indicates and marks) somewhere about in that proportion.

Q What was the change when the floor was put down? A Those.

Q The two stringers—joists we will call them—those lying underneath the tramway rails—were taken out, and two new joists which you call stringers 10 were put in instead, they being 10 by 12? A Yes.

Q The old ones being 3 by 12? A Yes.

Q And the rail instead of lying on the floor as it did before, was placed directly on top of one of those two new stringers—is that correct. A Yes.

Q And what about this floor then? What effect did that have on the floor? How was the floor changed? A There was 4 inches—the floor was cut—came up to that rail. 20

Q To the lower rail we will call it, continuously, from the edge of the bridge? A Yes.

Q And then it was cut at the lower rail? That is, the lower rail divided the old part of the floor between the rails? A Yes.

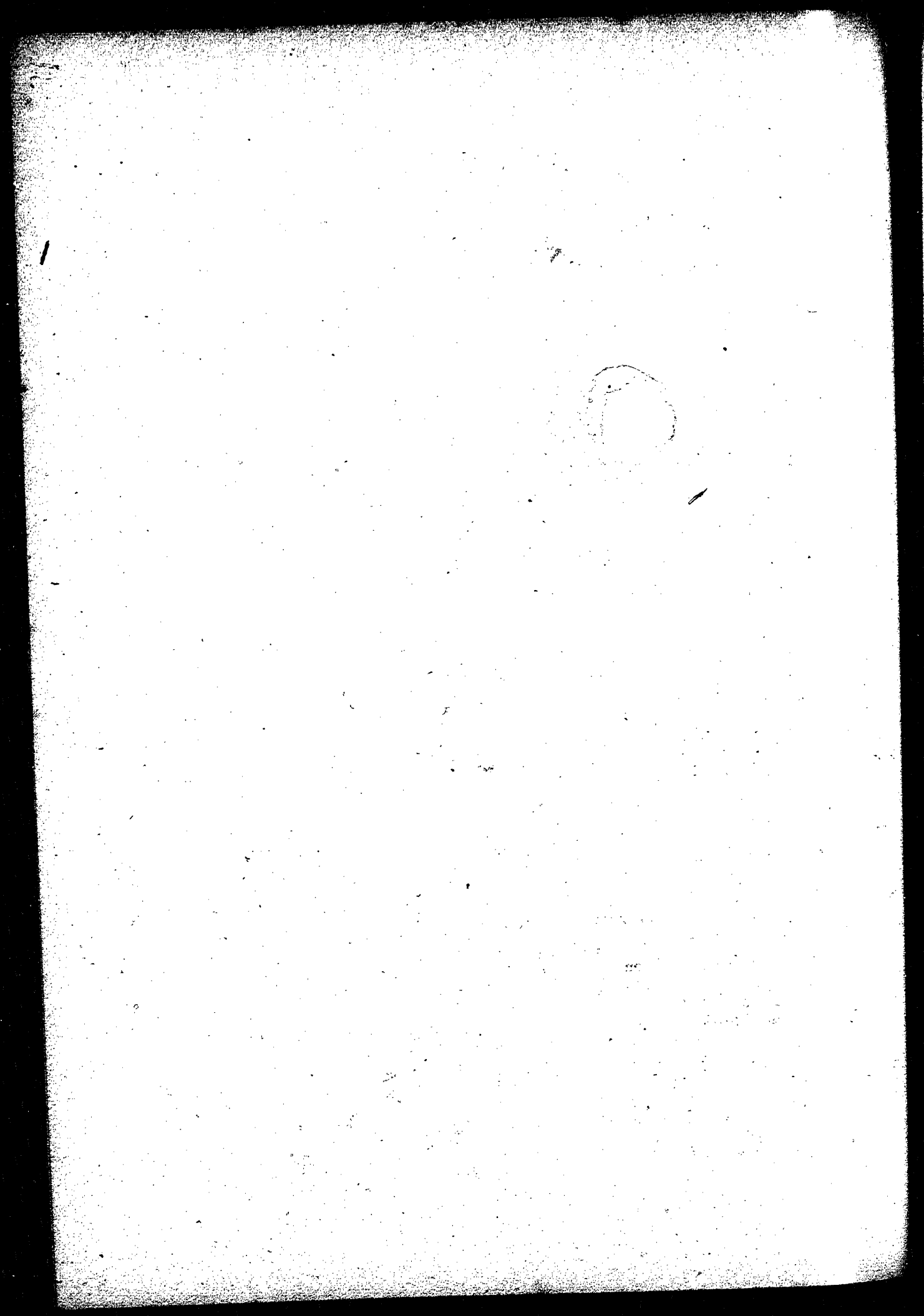
Q And they cut again at the upper rail? A Yes.

Q That is, instead of being one continuous piece of flooring, it was 30 divided into three? A Yes, exactly.

Juror: About what was the width of the flooring? A Four inches, about at the bottom. I think the rail was a 4-inch rail; of course it sloped off in between here somewhat to allow for the flange of the wheel.

Mr. Davis: How did the new stringers that were put down across, lap or about on the floor beams. I see the old stringers ran across—overlapped. How was it when the new stringers were put down? A They abutted right on those floor beams, on the centre. 40

Q The stringers were 36 feet long? A That is, each stringer would catch three—one reached from the centre of this to the centre of this.



Q And they broke joists in this way—two would abut on that beam, and the next two on this? A No. The right hand side one we would say would abut on this one, and the left hand side would abut on this one.

Q They would abut alternately, but no two would abut on the same beam? A No.

10

Cross-examined by Mr. Cassidy.

Q You were employed by the day, Mr. McIntosh? A I was.

Q You are a carpenter? A Yes.

20

Q You had nothing to do yourself with the inspection of the floor beams, or deciding what beams were to come out? A No, I had not.

Q You know that there was an inspection made by a man called Cox? A I believe so, yes.

Q It was indicated to you by Mr. Wilmot, the engineer, which particular beams you should take out? A It was.

Q In putting those stringers for the rails to rest upon, were you doing that work for the City of Victoria, or for the tramway company? A The tramway company.

Q Who paid for that? A The tramway company.

Q I notice these old joists which held up the floor—those are 3-inch boards, are they not? A Three inch by 12, yes, I think so.

Q Put on end? A Yes; I am not positive; they might be 4-inches. As far as my memory serves me, it is 3 inches.

40

Q I noticed that they pass from one floor beam to another. That is to say—that each of them covers only one of these panels? A Yes.

Q This is a panel? A Yes.

Q Panel is the distance between one floor beam and another? A Yes.

Q I notice these joists overlap each other—were they bolted to each other at the point of overlapping in any way? A No.

Q They were just laid that way on the beams? A Yes.

Q Now, do you know what the purpose of substituting heavy stringers was? A No, I can't say that I know. 10

Q These stringers at all events were 10 by 12? A Yes.

Q Timbers? A Yes.

Q And they were so laid that each of them covered a length of two panels? A Yes.

Q And each of them rested upon three floor beams? A Yes. 20

Q And the rail that was laid on the top of that, that was a heavier rail, was it not? A I could not say whether it was a heavier rail or not, as far as the weight goes per foot, it stood higher.

Q The old rail at all events that was laid on top of the floor was what is commonly called a?—A Flat rail.

Q And these other rails are more in the nature of ordinary railway rails? A Yes, T-rails. 30

Q Much stiffer? A Yes, vertical.

Q When you speak of cutting this floor and leaving a space for the tramway rails, what you really mean is this—the whole floor was removed, and condemned as it stood? It was condemned? A It was worn out—yes.

Q And removed? A Yes.

Q And when what was done with this—I call these joists—that is correct, isn't it? A Yes. 40

Q No joists were removed, except such as were in the way of putting down the new stringers? A That is all.

Q When these new stringers were put down, the new floor was nailed down on top of the old joists, and also nailed down on top of the new stringers?
A Yes.

Q That is to say the whole of the floor out to the stringers here was nailed down on top of the stringers all the way along? A Yes.

Q And similarly on the other side, on the other stringer? A Yes.

Q I notice that the floor here is simply laid on the top of these joists and not nailed down or fastened to any of the heavy timber anywhere along here?
A No.

Q So that the position of affairs is this—as far as that floor was concerned it consisted of a number of joists simple of 3-inch boards placed on end across here, and then simply nailed down to it—it was just simply resting on the floor beams? A Spiked down to them, yes.

Q Spiked down to the top of the joists? A Yes.

Q Do you mean that the floor was spiked on to the top of the joists? A Yes.

Q As to the space between the rails, the floor was laid transversely instead of diagonally?—that is to say—straight across? A I am not positive.

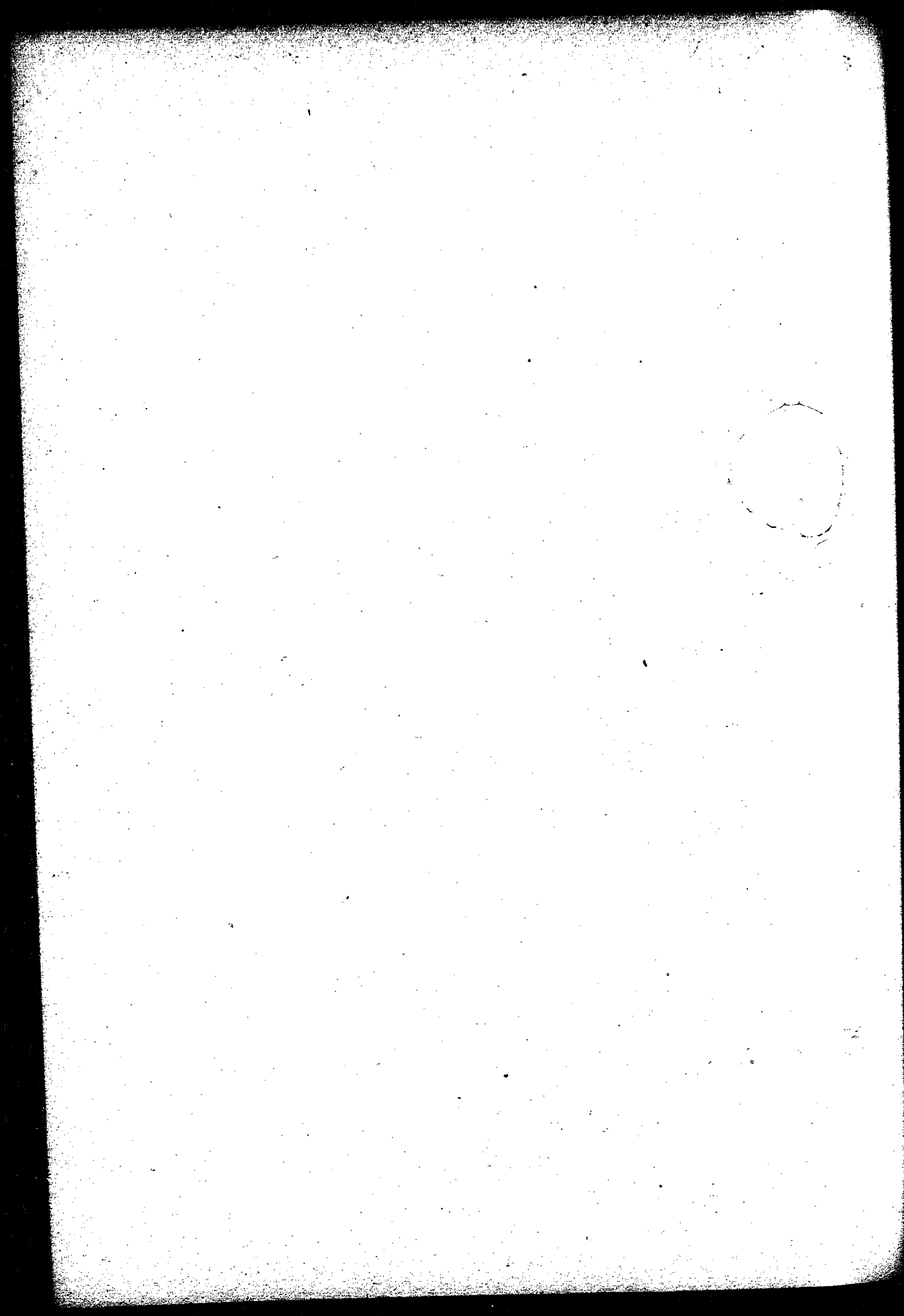
Q At all events, whether that piece of floor was laid in between the lines in that way, or not, the planks were similarly spiked down to the stringers?
A Yes.

Q So that we have this, at any rate, the new position was, we had heavy stringers, the floor spiked down to the stringer at the side here, the floor in the centre spiked down to each stringer, and the outside floor similarly spiked down. and then the rail would be laid on the top of the stringer, so as, I suppose, just to appear above the level of the floor? A Yes.

Q The purpose of that was to prevent undulation in the bridge, in the car passing over it, and in order to distribute the weight of the car over a greater area? A I don't know whether that was the purpose, or not.

Q You are not an engineer? A I am not a bridge engineer.

Q And you do not know then whether the floor of a bridge enters into



the triangulation of the system ?

Court : When he says at once that he is not a bridge engineer, is it worth while taking up time crossing examining him upon expert evidence.

Mr. Cassidy (to witness): About these hangers: The old form of hanger going through the floor beam is called yoke hanger, is it not? A No.

Q It is not? A No.

Q Whatever you call it, at any rate the old form went through in the way you have stated? A Yes. 10

Q Was the new plan an improvement in your opinion? A It was, in my opinion, yes.

Q Who did the blacksmithing work? A It was done in Mr. Robertson's blacksmith shop.

Q You saw the job when it came back? A I did, when it came back. 20

Q Was it a good job? A It appeared so on the surface of it. Q I want to ask you another question. Where is that little sketch that the witness made. This iron here—the hanger that originally passed through the floor beam, when it was readjusted you spread it out so as to go round the floor beam? A Yes.

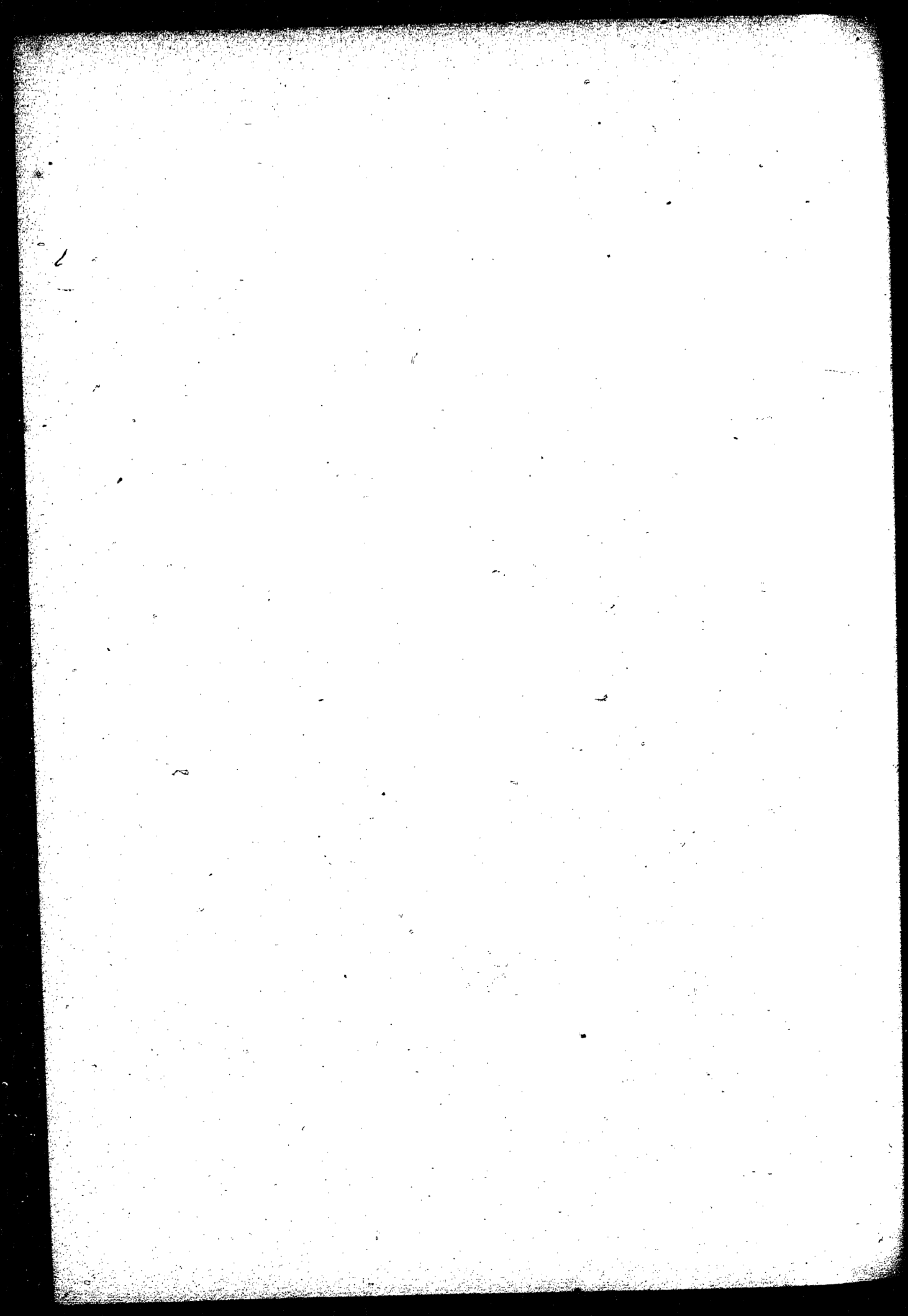
Q You did not alter this arc at the time you got the additional widening by putting in a converse arc, like an "S", taking the arc round to there? You made another one, at least, there was another one? A Slightly, yes. 30

Q In order to get the additional width required to pass the hanger around the beam, another curve is made like that, converse to the first curve? There is originally a curve, and then there is another one made round in that way (illustrating)? A Yes.

Q I want to ask you the question direct, Mr. McIntosh. Will you swear that there were welds put as you stated in any of the converted hangers? A Yes.

Q You will swear that? A Yes. 40

Q How do you know? A I seen the first one that was done.



Q You did not see the work done? A Only one of them.

Q Will you say that entirely new iron was not used in those hangers?
A Might possibly be in one or two of them, but it was not in the greater number of them.

Q I would ask you this question: Do you know these new floor beams that were put in and these hangers that were converted in this way, they were applied not only to the span that went down, but also to the span that is still standing? A Yes. 10

Q Do you know what proportion of the new beams and the new hangers went into the span that went down? A I don't remember exactly.

Q At all events, they were distributed over both? A Yes.

Q Do you know whether any of the new stirrup irons broke? A I don't know; I have not seen the bridge since the accident, that is, closely.

Q Do you know whether any of the floor beams that you put in, broke? 20
A I do not.

Q Did you consider it was a good job that you did, with the floor beams?
A As far as it went, I considered the workmanship was good.

Q Were the old floor beams painted? A I think on three sides. I think they were not painted on the top.

Q Did you paint the ones that you put in on the top? A Yes.

Juror: All the work that you did, whether for the tramway or the city, was under the supervision of the engineer, was it not? A It might have been, but I didn't recognize the city engineer as having anything to do with me when I was doing the tramway company work; he may have had. I was under contract from the tramway company, and no person came there to object when I was doing the tramway company work. I didn't know of anybody supervising it. 30

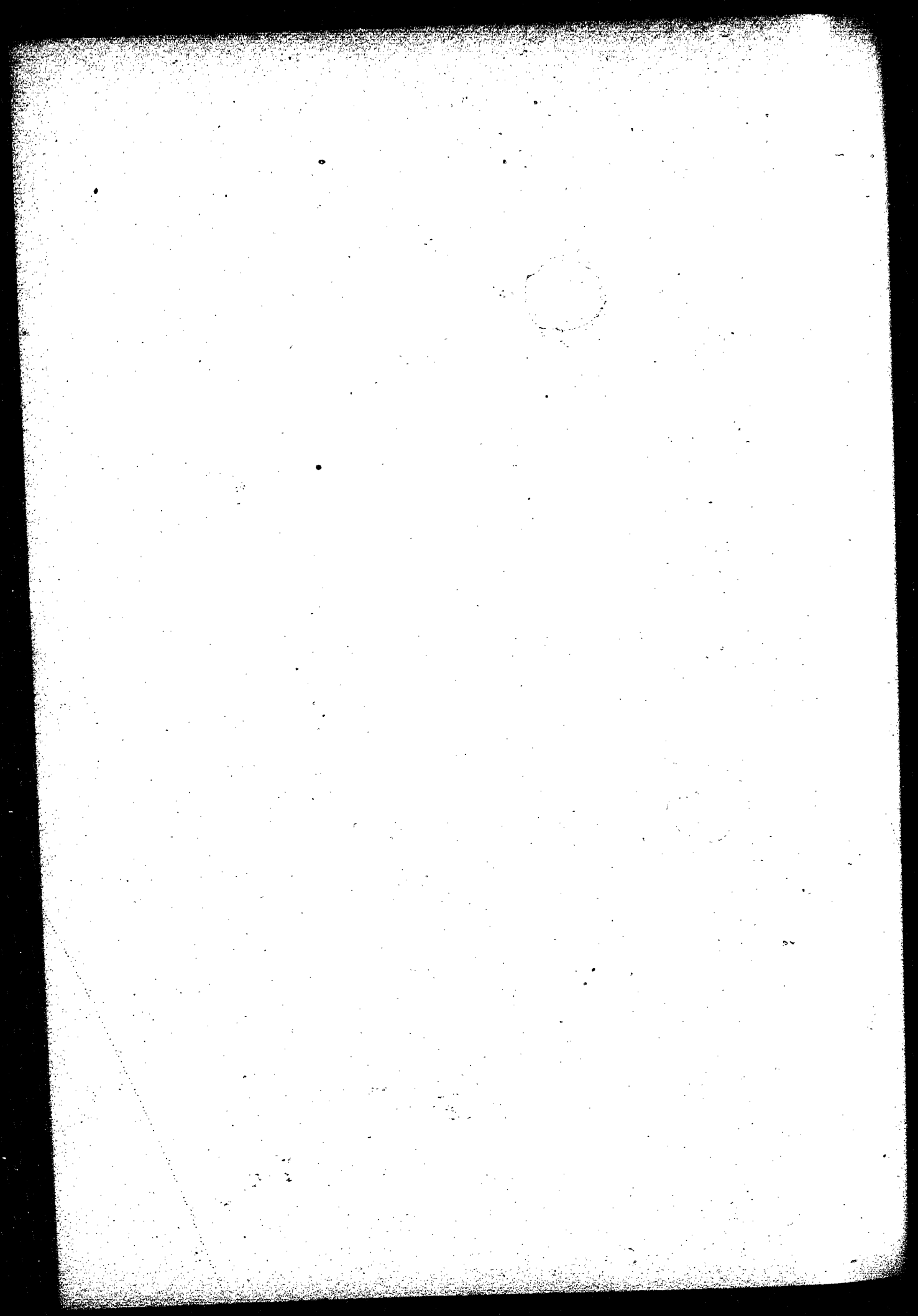
Q Did you have a contract with the city? A No. I had a contract with the tramway company for the stringers. 40

Q And what you did for the city was day work? A Yes.

Q And you mean to say the city engineer did not supervise the whole thing? A I didn't recognize him in the contract I had with the tramway.

Court: He does not know what arrangement there might have been between the tramway company and the city which authorised the tramway company to come in and do the work. You see, he would not necessarily be in a position to know anything about that. It really makes nothing, one way or the other, as far as this witness goes it does not affect the position at all.

10



GEORGE GORDON BIGGAR CALLED AND SWORN, EXAMINED
BY MR. MACDONELL.

10

FIRST DAY OF TRIAL.

Q What is your name? A George Gordon Biggar.

Q You live in Victoria, Mr. Biggar? A Yes, sir.

Q Were you on the car that met with the accident on the Point Ellice bridge in May last? A I was. 20

Q What part of the car were you standing on? A I was standing on the hind end.

Q Whereabouts did you get on? A On Campbell's corner.

Q Stood there all the time? A No, sir.

Q Were you on the car when it went on the bridge? A Yes. 30

Q How far had the car got on the bridge before anything happened? A It got on a little way over half—about half way on the bridge.

Q Do you mean the span or the bridge itself? On the—well, I didn't—on the span, I mean.

Q Just come here a second. Was it the first or second span of the bridge, coming from Victoria, that went down? A It was the first span. 40

Q How many spans are there on the bridge? A There is two.

Q One towards Victoria? A And the other toward the Gorge.

l

Q Take this as the span you went on—Which is the Victoria end? A This (indicating).

Q And that is the road going on to Esquimalt. Here is the end of the span, the other end commencing here? A Yes.

Q Where about do you think the car was on that span when it went down? A About here. (3) I should judge.

Q Whereabouts was the end where you were? A Well, it would be 10 back, I think, thirty-three feet from there.

Q The hind end of the car would be about figure what? A If the car was 33 ft. long, if the distance between that end and there was 33 feet—

Q The distance between those two is 18.9 inches? A Yes, the length of the car, whatever it was.

Q The front part of the car, where would it be? A The front part of the car would be about here—a little past post three; just about there (3). 20

Q How far past 3 would the front part of the car be? A Well, you might say two feet.

Q How could you identify or locate the position of the car? A Well, I was standing right on the hind end of the car, and I was speaking to the people on the bridge, I had just turned here—I was speaking to Mr. James, who was killed on the bicycle, I said to Mr. Potts: "Don't run over this man."

Q Who was Mr. Potts? A The gentleman who was driving a black 30 horse.

Q The horse that was killed? A Yes, I said: "Look out, Potts, you might strike his bicycle." So Mr. James on the "bike" turned round and came right behind the car, he was riding to the left of the car going towards Esquimalt. I had just spoken to young Marati, of Seattle; I said: "The old man rides well," and he says: "yes." I was turned around that way (illustrating). I was standing this way, and just as I turned round I heard something break. It appeared to be like just a piece of rotten timber, wood, or something, and it kind of startled me for a moment, and all at once the car 40 tipped round right just about like that. It threw me off, and I went to catch myself, and it was just like something large breaking—some timber after that first noise—it could not have been two seconds, and I said: "My God, people,

the bridge is gone,"—just like that, and there was about 20 people all round, in the door of the car and on the platform ; and I went to catch for something and could not, and we struck the water. I struck my head first, and as the car went I could not catch my wind, and I struck the front part of the car with my breast, and I was hit on the back and it made an impression on my back, and I was hit on the head and went under the water, and I didn't remember anything till I came to.

Q I suppose as she went down, she went a little more to the Esquimalt side? A She made a run so fast that I could not keep my feet. The car would cant I should judge going—running that way—would cant two feet and a half or more. I went to steady myself and hadn't anything to catch on to ; and people were standing here (indicating) and here, and right around me and the Miss Smiths, two young ladies. I went to catch something and just about then the timber broke, and I seen then the bridge was gone, and the car immediately descend. The first break was just like some timber breaking. 10

Q Do you know the weight of the car? A Well, I don't know from my own information. only I have heard it is something like 10 ton. 20

Q Could you tell about the number of people there would be on that span about the time it went down—a rough estimate? A Well, I guess there was over 100 people.

Q Were there any horses or vehicles? A Three horses.

Q Could you give an estimate of the weight, in round figures? A Well, I should judge the weight would be over 20 tons ; something along 20 tons, roughly estimated. 30

No Cross-Examination.

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IN THE
Supreme Court of British Columbia.

BEFORE McCOLL, J., AND A SPECIAL JURY.

BETWEEN

MARION PATTERSON, THE ADMINISTRATRIX OF THE GOODS
AND CHATTELS OF JAMES T. PATTERSON, DECEASED,
PLAINTIFF,

AND

THE MUNICIPAL CORPORATION OF THE CITY OF VICTORIA,
DEFENDANTS.

Reprint of the Evidence of the Experts Messrs. Warner and Lockwood,
as Reported by the Official Stenographer.

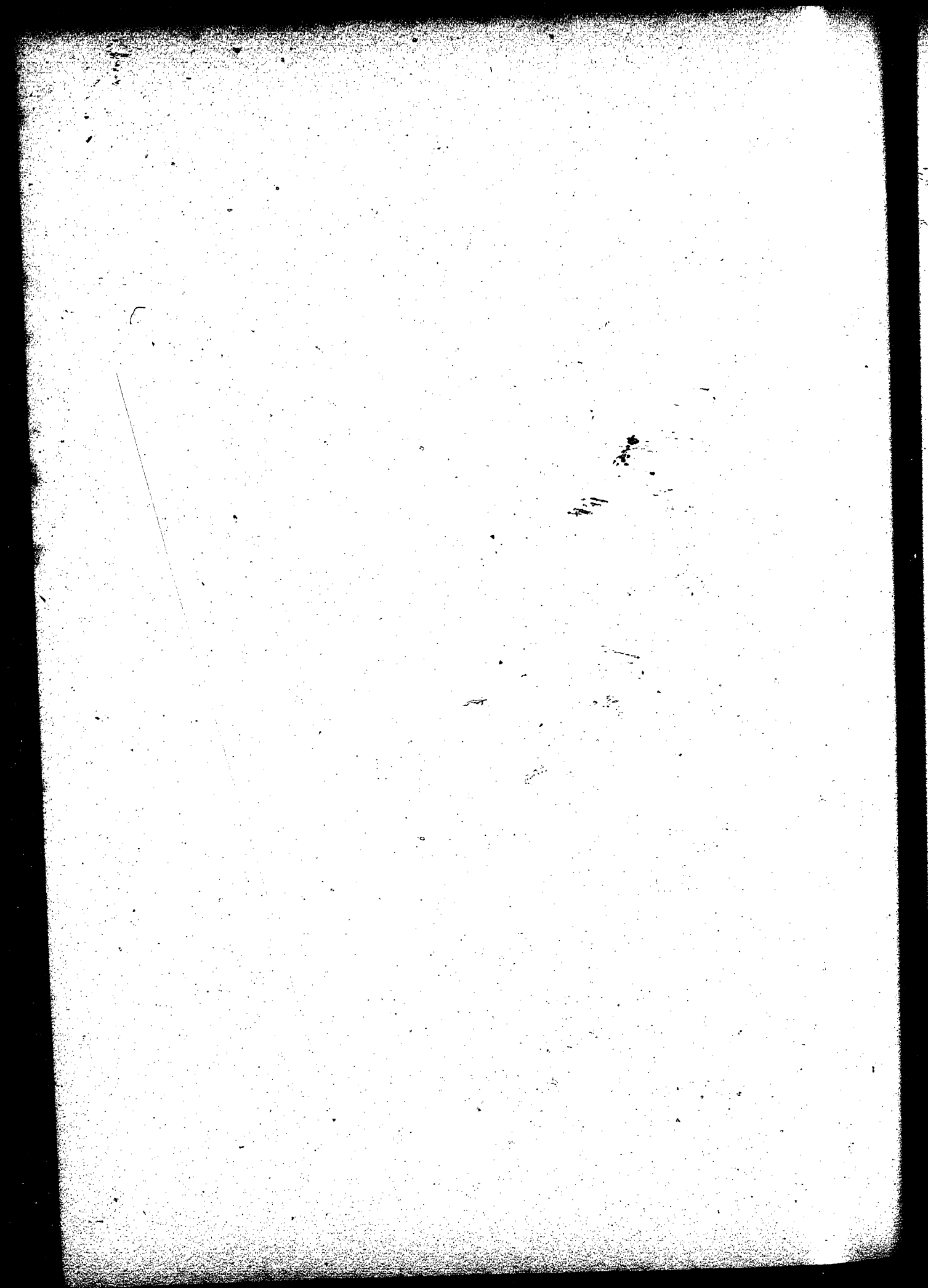
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FIRST DAYS' PROCEEDINGS. 20TH MAY, 1897.

EDWIN HALL WARNER CALLED AND SWORN. EXAMINED
BY MR. DAVIS.

Q. What is your name? A. Edwin Hall Warner.

Q. Where do you live, Mr. Warner? A. Seattle.

Q. What is your profession? A. Civil engineer

Q. How long have you been engaged in that business?
A. Seventeen years.

Q. What were your qualifications to commence with? A. I
was educated in the college of the city of New York. I am a
member of the American Society of Civil Engineers.

Q. Is your practice at the present time a general practice as
civil engineer, or are you acting for any special company?
A. General practice.

Q. During your 17 years' experience have you been acting
for any companies? A. Yes.

Q. What companies and in what capacity? A. In various
capacities, from simply assistant to assistant chief engineer.

Q. For what company? A. The Seattle, Lake Shore and
Michigan Ry. Co.

Q. In the course of your practice have you had occasion to
deal, and if so to what extent, with bridges? A. I have had
occasion to design and construct bridges; I have done both for the
Lake Shore Rd and approved the designs, and I have constructed
about \$100,000.00 worth of trusses.

Q. I believe you have examined this bridge—this span which
collapsed? A. Yes.

Q. In May, 1896? A. In June, 1896.

Q. Just tell us how you came to examine it? A. I was
called to Victoria by Mr. Gore on the part of the Provincial govern-
ment as expert.

Q. For what purpose? A. To examine the bridge and
testify before the coroner's jury, both of which I did.

Q. Did you when you came to Victoria examine the remains
of this collapsed span carefully? A. Yes.

Q. You have, I presume, your notes of that examination with
you? A. Yes.

Q. Before we go into the details, I would like to ask you a question or two generally. I suppose you have examined, of course, the strain sheet? - A. Yes.

Q. And the plans and specifications of the bridge? A. Yes.

Q. Was it built originally for tramway traffic at all? A. No.

Q. What was the weight that it was intended to carry—that is, the utmost weight? A. The specifications called for a thousand pounds to the running foot live load, and 600 dead.

Q. That would be 1,600 pounds altogether? A. Yes.

Q. Now, was the dead load increased subsequently to the specifications being made? A. Yes.

Q. It was increased, I suppose, by the sidewalks, for instance, that were put on? A. I fancy so.

Q. At any rate the dead weight, speaking roughly, was increased by about how many hundred pounds? A. About 250 pounds.

Q. I suppose these T-rails and stringers increase it still more? A. Still more.

Q. That would increase it so far as the dead weight is concerned? A. Yes.

Q. The factor of safety in the bridge was originally, I believe, 5 to 1? A. That is my recollection.

Q. And that would be decreased by the increase in the dead weight? A. Yes.

Q. So that at the time of the accident what would be the strain which one of these panels, some 18 feet long, would carry with safety, supposing the bridge was in as good a condition as when it was built—that is, of the ordinary traffic over it? A. Well, it was designed for 1,600 pounds, with a factor of safety of 5.

Q. Taking from that some 900 pounds would leave 700? A. Yes.

Q. So on the 18-foot span, supposing the bridge to be as good as originally, would be something like 12,600 pounds? A. Something like that.

Q. Seven hundred times 18—that is 12,600. I am not speaking now of the factor of safety, but of the carrying capacity, in the sense that that is understood. It is unnecessary, I suppose, to ask you if the wood was in any way decayed or weakened, of course that carrying capacity would be decreased that much? A. It would be diminished just so much.

Q. What is the life of that timber—the average life? A. It should be good from 7 to 10 years, according to the condition.

Q. Eleven years would be beyond its life, would it not? A. Probably.

Q. Two of the beams, the evidence shows—two of the original beams were in there at the time this span collapsed. Coming down to details, Mr. Warner, you have said that you examined the wreckage of the bridge. Did you find all or nearly all of the material of the bridge there? A. Yes, the great majority was found; some of the parts were missing.

Q. We will take first No. 7—did you find floor beam No. 7? A. I found floor beam No. 7.

Q. You might perhaps explain to the jury how you are able to identify these particular beams, because some of them possibly like myself are not bridge men, and would not understand otherwise? A. The method generally is this: Between the floor beams there are rods which vary in size for each panel. Consequently, when I found a floor beam with a certain size rod running in one direction and a different size in another, I was able to locate it as either one of the corresponding panels each side of the centre. For instance, the rods in floor beam No. 2 would be identical with floor beam No. 6, but the of the railway (?) stringers on the floor beams showed the direction in which they ran, and the position in which the floor beam was in the original bridge. Hence I could locate definitely by that means whether it was 6 or 2, or 3 or 5. That was the case in all except one beam, No. 2; there was nothing to definitely locate that, but every other floor beam had been located, hence that must have been No. 2.

Q. Beginning at 7—did you find floor beam No. 7? A. I found floor beam No. 7.

Q. What are your notes with reference to that? A. Floor beam No. 7: One piece 12 by 18; old and painted; has two 2-inch by 1½ verticals on either end cut, and pieces of 1½ and 1½-inch laterals. The laterals, I was satisfied, were cut in wrecking the span; verticals removed from north end, beam rotten in hanger and lateral holes.

Q. With reference to this floor beam 7. You have heard all the evidence given in this thing so far, I believe? A. Yes.

Q. Was that beam No. 7 one of the original floor beams in the bridge, or was it one of those put in during the repairs you have heard mentioned? A. It was one of the original floor beams.

Q. And that was decayed only where? A. Rotten in the hanger and lateral holes.

Q. To what extent was that—speaking generally, in what condition was that beam? A. It simply showed rot around the holes.

Q. Would you call it in a fairly good condition, or very bad, or in an excellent condition, or how would you specify the matter?
A. Well, I should not call it in a fairly good condition.

Q. Tell me how much rot there was about these hanger holes? A. My recollection is simply that it showed rot in the hanger holes.

Q. But outside it did not? A. Outside it did not show rot.

Q. We will pass to No. 6 on that span—what did you notice about it? A. Floor beam No. 6: 12 by 16, new; outside hangers removed, beam was sawn nearly in two near the centre; $1\frac{1}{2}$ lateral in south end of beam.

Q. In what condition was that beam? A. It was evidently in good condition; I have made no note.

Q. You say it was new? A. By "new" I mean not one of the original floor beams.

Q. I understand you to say you mean there were only two original floor beams left in the span? A. Yes.

Q. And this was not one of those two? A. No; it was 12 by 16.

Q. And speaking from recollection and looking at your notes, in what condition was that? A. In good condition, apparently.

Q. Speaking about 5? A. Twelve by 16; bored for yoke hanger, one broken yoke hanger in the north end of beam, apparently sound; south end shows dent in top, evidently caused by post shoe.

Q. What is meant by that? A. The posts have a shoe, have a wrought iron shoe to hold them at the panel points.

Q. However, 5 is one of the original beams, or is it one of the beams put in by the city?

Mr. Cassidy objects to the form of question, which should be "one of the original beams, or new beams?"

Court: If you object, probably Mr. Davis will avoid putting it, though as regards technical evidence it is not usual to object to leading questions; with an expert a certain amount of leading is necessary.

Mr. Davis (to witness): Was this one of the old beams, or was it a beam put in by somebody else? A. It was not one of the old original beams.

Q. Just describe how the hanger was there, because this beam we will identify? A. The hanger was in the north end, there, broken.

Q. I mean, was it one of those that went round or through?
A. It went through.

Q. What did you find at No. 4? A. Four: New, 12 by 16, outside hangers both removed, apparently sound, 2 $\frac{1}{2}$ lateral in the south end.

Q. Was that one of the old beams or put in by someone else? A. That was not one of the original beams.

Q. No 3? A. No. 3: Old, 12 by 18, yoke hangers both removed, beam sheared off at hanger on the north end, section entirely rotten except thin shell on part sound wood; the other end shows dent where brought against post shoe when north end gave way; bottom of beam at south end was chopped into, evidently to get at the hanger nuts which had been forced into the beam when the bridge fell; the wood at this end is rotten, and around hanger and lateral holes.

Q. Would you explain a little more fully to the jury the condition of that beam at 3? A. The condition of that beam at 3 was one of extreme rottenness, apparently the paint on it had held it together; that is about all that remained. It was simply a very thin shell perhaps in spots an inch all round (sound)? and the balance was rotten wood that you could shove your finger into. That was the condition I found that beam in at that end. At the other end there was decay round the hanger holes and the holes for the lateral braces.

Q. How did the end which was sheared off, which is this end, this represented No. 3—about where was it sheared? By sheared you mean broken? A. Yes.

Q. About where? A. The beam sheared off at the hangers on the north end broke right through the hole.

Juror: Was it rotten? A. Oh, yes; as I say, it was completely rotten; there was nothing else but a shell.

Mr. Davis: How did the condition of the beam up here compare with the condition of the beam anywhere else? A. Well, the only part of the beam that was open at all except here (indicating) was at the other end, and the hanger holes, and where the lateral rods go through.

Q. And was that end in us had a condition as this? A. No, the wood was rotten around the holes.

Q. You spoke I think about posts—at 3 vertical posts? A. Vertical posts at 3, I have a note here—of posts, three in good condition, two sawed off, one piece broken at the sway connection, this probably No. 3, perhaps No. 5.

Q. So that you think as far as you can locate it that the sway post at 3 was broken? A. Yes, that post at 3.

Q. Going on to 2 to finish these floor beams, what did you find about that? A. No. 2, 12 by 16, new, outside hangers both removed, apparently sound, no particular marks to place it; all others have been located so it must be numbered as above.

Q. That was not one of the original floor beams of the bridge?
 A. That was not one of the original floor beams of the bridge.

Q. No. 1. what about that? A. Floor beam No. 1. new beam, 12 by 16, laterals all removed. One end has two by half inch verticals (?) broken under nuts on top of beam; other end has one 2 by 1/2 broken under nut on top of beam; other vertical broken 11, this is relating to the iron by the way.

Q. Never mind about that? A. Beam was chopped at one end by wreckers at the lateral rod connection, shows wet rot.

Q. Was that one of the original beams or not? A. No.

Q. Had that beam broken in any way? A. No, it had not.

Q. So that of all the seven floor beams of that span which collapsed there were only two of the original floor beams in at the time it fell? A. Yes.

Q. And of those two, one, No. 7, was not broken? A. Was not broken.

Q. The other one, No. 3, was broken at the Gorge end, where Mr. Cox said he bored—is that correct? A. Yes.

Q. You have examined of course the iron work in the bridge and also the specifications of the iron work? A. Yes.

Q. As well as the wood work and the specifications for the wood work? A. Yes.

Q. In that bridge, first speaking generally, which had the greater factor of safety, the woodwork or the ironwork, as it was originally built, that is, when all was new? A. The iron had the higher factor of safety.

Q. The factor of these iron stirrups were I believe, 11 to 1?
 A. Yes, 11.

Q. The highest factor of safety of the wood when new was—?
 A. Four.

Q. So that, *prima facie*, it would be almost three times as like—likely the woodwork would give way first than the ironwork?
 A. Why, there is no doubt about that.

Q. Now, iron is affected in what way by—we will say 11 years—having been in use that time—the time that the bridge was built, if known to be all right in the first place? A. If it was good iron in the first place and left unpainted, it will rust and scale off slightly.

Q. You saw the iron on this bridge? A. Yes.

Q. How was the iron in that at the time of the collapse of the bridge, as compared with its original strength? Was there any appreciable diminution so far as you could tell? A. No; there was apparently no diminution.

Q. And speaking as an expert, as one whose business it is to have a knowledge of the life of iron in that connection, ought there to be any particular diminution at the end of 11 years—any serious diminution? A. No.

Q. Now, speaking as to the floor beams 3 and 7 which had also been in there 11 years, of course we know what you found, so I won't ask you about that, but speaking as an expert from your knowledge, what would be the diminution, if any, in the strength of those fir floor beams which had been in 11 years? A. It would simply be criminal folly on the part of any engineer to allow them to remain in.

Q. And so far as this floor beam at 3 was concerned—I do not want appear humorous or anything of that sort, but what would be the factor of safety of that floor beam in that condition? A. Well, you can't take the strength of rotten wood any more than you can arrange rotten wood so that it will stand.

Q. You have heard the evidence of Mr. Biggar and Mr. Peatt, as to about where that car was—Mr. Biggar puts it two feet over there—I do not suppose anyone can be sure to a foot—at any rate on the panel between 3 and 2, and the first truck it was about six feet, Mr. Peatt said, from the front of the car, and there would be 20 feet from the front of the car to the back—to the rear car wheel. It would throw the whole of that car upon a panel between 3 and 4, that being 18.9 in. long. Now, where I understand some of the ironwork was broken. You might now give us that iron that was broken? A. First note. Chord beams zero to 2, and 6 to 8. Found 7 beams in good condition, one broken 8 inches from the eye, fracture was smooth, no knocking down or reduction of area; sharp break as if member in tension and suddenly struck; one of the links, that is, two on each truss and two on each end, making 8 in all, 7 in perfectly good condition, other was broken as if it had been suddenly strained in this direction and then suddenly struck; 2 to 3 and 5 to 6, 8 pieces, 3 inches by 1 inch by 18.9 in. long, one bar slightly cracked, badly bent at one end 11½ inches from the eye; 3 to 4 and 4 to 5 were 16 pieces in all in good condition. Then of the web members from A 1 and G 7, 7 pieces 2 in. by ½ in., 25 feet, one missing; this is the condition: One unbroken, two cut, four broken, the head of the missing bar is still attached to A or G fracture indicated breaking by bending backward and forward. A 2, G 6—eight pieces in good condition, and A 3 and G 5 there were eight pieces, 7 in good condition, one has been cut off near the bottom end. B 4 and F 4—5 pieces in good condition, two cut off at the top end, one near the centre—evidently been done in wrecking the bridge. When I say that, I mean gathering up the wreck. C 5 and E 3—3 pieces with turnbuckle; condition: Two are still fast to pins E 3 and are cracked at eye, in the eye at E six are broken and cut, some in several places, evidently done in wrecking. D 2 and D 6—eight pieces ½ths, round iron, 45 ft. long with turnbuckle, all bent and broken, those were ½ths in. square or round. Do you care for anything more?

Q. That represents practically all the ironwork? A. With the exception of the castings.

Q. I do not care for those. You have not yet mentioned the hangers, and that will cover the ironwork? A. One $1\frac{1}{2}$ square yoke hanger still on pin No. 8; one piece $1\frac{1}{2}$ square yoke hanger still in floor beam, but broken; one piece $1\frac{1}{2}$ yoke hanger badly bent, cracked half across at the eye; one $1\frac{1}{2}$ yoke hanger missing, four outside hanger or stirrups in good condition, two stirrups missing out of the ten hangers to be accounted for, seven are here and three are lacking.

Q. With reference to those, there are two—one broken and one cracked—and three are missing? A. Yes.

Q. We will take the one broken, what is that—is that one of the original—? A. That is one of the original hangers.

Q. And the three missing, what are they? A. One is one of the original hangers and two of the later type of stirrups.

Q. These changed? A. Yes.

Q. That covers practically all the ironwork? A. That covers all the ironwork.

Q. What about that vertical post you spoke of a while ago—was that broken? A. Well, that is, I found one piece 8 by 8 broken at the sway connection.

Q. Which end would that be? At what I think you said the Gorge or the southern end? A. That is impossible to determine. I believe that is—my notes say this is No. 3 probably.

Q. I want to ask you a general question, Mr. Warner, before going into reasons for it and that kind of thing, what in your opinion was it that gave way first in that bridge? Was it some of the woodwork or some of the ironwork? I am only asking generally now? A. The woodwork.

Q. You have shown that there was some of the ironwork which was broken. How in your opinion was that broken? A. It may have been broken in the falling.

Q. Supposing the woodwork gives way and the bridge collapses for any reason, could it go down without breaking the light ironwork in connection with the bridge? A. No.

Q. It would be absolutely impossible? A. Why, I should fancy so.

Q. Would the fact of some of the ironwork being broken necessarily be the slightest reason for supposing that that iron which is found broken was the part which gave way first? A. It would not follow at all; and in view of that—of the condition of that beam, there is no question in my mind at all as to the iron being all right and the wood not.

Q. This hanger which was found broken was at what floor beam? A. The broken hanger is in 5.

Q. It being your opinion that it was some of the woodwork which gave way first, I now want to ask you which portion of the woodwork it was, and thus caused the collapse of bridge? A. I think it was this floor beam.

Q. That is floor beam No. 3? A. That is floor beam No. 8.

Q. Which broke at the Gorge end? A. Which broke at the Gorge end, and the rest of the truss followed.

Q. If that vertical post you spoke of was at 8, as at the time you thought it probably was, does it bear in any way upon it anything at all to corroborate or refute your opinion? A. The idea I formed at the time was this, that the floor beam broke due to its extraordinary load, and as it lowered, the broken part came down like that and forced the shoe, or rather forced the post which vertically above it—forced that out, you see, buckling out like that (illustrating), bracing it and allowing the rest of the truss to fall. It seems to me, after the full examination I made, as if that was the only rational conclusion I could come to—in fact, it was the only conclusion I could come to.

Q. I believe you gave evidence at the inquest in this matter; you have stated already at that time you did not know about this auger boring? A. I had not heard of any auger holes.

Q. Did you find anything else as to the broken woodwork of the bridge which corroborates the opinion you formed that it was the first thing which broke, that gave you that impression? A. I found one of the 10 by 12 stringers broken.

Q. What stringer was that? Were you able to locate it? A. I was able to locate that on the south side; that is to say, it was one of the inside stringers, and it was either 2 or 4 that broke.

Q. Just describe it? A. In other words, it was a stringer extending from this floor beam.

Q. From floor beam No. 1? A. From No. 1 to No. 3, or from No. 3 to No. 5. It was broken either over 4 or over 2; at the break there is a large pitching out.

Q. And how was the wood apart from the knot, was there anything the matter with the wood? A. One piece 19 feet long broken across the edge of floor beam as shown by a dent, break is very ragged, slivered, and the edge pitching out taking up two-thirds of the area of piece.

Q. That stringer breaking as you have described it, either one or the other broke either over the floor beam 2 or 4, does that either corroborate your view as to the breaking of the floor beam 8 being the original cause, or does it have the opposite effect? A. I believe that the floor beam broke at No. 8 on the Gorge side, that threw the weight on the stringers one of which was continuous from 2 to 4; the other was a butt joint, a broken joint on that floor beam, so that it left this stringer without support at all and the weight of

the cars simply went down through it and breaking the stringer either at that point or that (indicating).

Q. That is either point 2 or 4? A. Breaking the stringer at either 4 or 2—either of those breaks would take place if that floor beam fell. In other words, it is a matter of no importance to be able to definitely locate it at 2 or 4, because it cannot be done. It can be located in one or the other of these places, however.

Q. What is the principal enemy, if I may so term it, of a wooden beam such as this, so far as its life is concerned? A. The ordinary rot due to moisture.

Q. And what is the cause of the rot? A. Moisture—alternately drying and being wet.

Q. If you took a piece of wood like that and cased it up in copper sheathing, we will say, or anything which was air-tight, what would be the life of the wood? A. Well, the life of the wood would be, enclosed in any air-tight concrete, for instance, it would last indefinitely.

Q. The effect of the air on it is due to moisture—that is, the air is injurious because of the moisture derived from the air? A. Yes, deriving some moisture from the air.

Q. Is there anything, outside of fire, or cutting, or something of that sort, which would have such a serious effect on the life of a piece of wood like this, as letting water into it in any way? A. No, nothing that I know of; that is under conditions similar to those of bridgework—except the teredo might enjoy himself, perhaps.

Q. The evidence is there was an auger hole that size, 7 inches deep, in the particular beam we are discussing here, and that it was only plugged up by having some oakum poked into it with a stick; this was done in '92. What would be the effect of poking oakum into it with a stick—make it water tight? A. It would not keep the water out.

Q. As a matter of fact, would it have any effect so far as water was concerned? A. Oh, it would retard the entrance of water for a short time, but it would also prevent its evaporation.

Q. By the last, you mean this—after the water got in there, it would be worse than if the oakum was not there? A. Yes.

Q. That auger hole was there, as the evidence shows, for four years within a very short time—from June, 1892, to May, 1896. What would be the necessary result of such a hole as that?

Objected to by Mr. Cassidy as leading.

Court: The question is quite permissible in that form.

Mr. Davis: What would be the necessary result of such a hole as that remaining in the way the evidence has shown for four years, especially in a wet climate? A. It would increase the deterioration—the rottenness.

Q. And when so increased, would you mind telling the jury to what extent, if you can so express it—whether a slight or great, or immaterial or material degree? A. It would be a great increase.

Q. You have stated already that in your opinion the first thing that gave way in that bridge, and which was consequently the cause of the bridge collapsing, was the breaking of that floor beam. You also stated in your opinion the cause of the breaking was its rotten condition. Now, I ask to what in your opinion was due the excessively rotten condition of that floor beam? A. Well, I can answer that simply by the result—they bored a hole in this end—it was badly rotten; they bored none in the other and it was rotten round the lateral hole—the hanger hole; and again, in comparing it with number 7, which was put in at the same time, the note I have of its condition is: Beam rotten in the hanger and lateral hole. It follows then that the capacity for damage of this hole was very great.

Q. The car, of course the evidence shows, passed over floor beam 7 that day. You say, as compared with floor beam 7, this one was very much more rotten—there is no question about that? A. Yes, absolutely rotten; not a question of decay—it was absolutely rotten.

Q. You have given your various reasons for coming to the conclusion—of course it is patent what your answer must be, but still I wish to have it on the notes as to your opinion. What in your opinion was the excessively rotten condition of that floor beam due? A. It was due to furnishing the opportunity for very rapid decay by boring holes in the beam and not properly—and furthermore, not properly plugging them up.

Q. Which hole are you referring to? A. I am referring to the remarkably large sized auger hole—1½ inch hole—which was used by Mr. Cox.

Q. Put it in another way: To judge from all the evidence you have heard and from your examination, so far as your opinion goes, having seen what happened, with reference to floor beam No. 7, if that auger hole had never been bored there, would or would not on that particular day that floor beam have broken? A. Well, that is a hard question to answer—what would have happened or what would not.

Q. It is a matter of opinion I am asking you now; I am not asking you to swear to any fact, but your opinion, considering that 7 was the same age and was not bored, and carried the car—the same load, all right? A. If No. 3 had been in the same condition as No. 7—you wish to know whether—?

Q. Well, give your answer that way? A. I should say that the car would have passed over it with safety.

Q. To what do you attribute the difference in the condition of the wood in floor beams No. 3 and No. 7 at the hangers? A. As

I said before, it is due to the increased opportunity for decay furnished by the hole which had been bored in the—

Q. There are the same holes in the other beams that there are in this? A. No.

Q. Outside of this hole? A. Yes.

Q. The same holes are in this beam as were in the others?
A. The conditions were the same in the two beams, with the exception of this.

Q. That exception being the one hole made by Mr. Cox? And is it to this hole you attribute the difference in the condition of the beams? I attribute the difference in the condition of the beams to that hole.

Q. The one bored by Mr. Cox? A. Yes.

Q. Now, Mr. Warner, just one other thing I want to ask you about. How far below the surface of the floor were the bottom chords—those iron chords. You might explain to the jury what they are? A. This is known as the bottom chord, which is made up of two and sometimes three bars.

Q. How large are the iron bars? A. In that case they are 2 by $\frac{1}{2}$ inch up to 3 by $\frac{1}{2}$, I believe, and they have an eye in each end and a pin goes through connecting them, so they are very much like a bicycle chain—the links are very long, they are connected at each point with the verticals—with the diagonals.

Q. They run along there the same as parallel to the floor?
A. Yes.

Q. How far would this floor of the bridge have to drop down before—we will say the Gorge end, in case of the floor beam breaking? Say that the floor dropped down; how far would that floor have to drop before the ends of the flooring—I am speaking now as the floor was originally before it was cut—before the ends of the floor would rest upon those bottom chords? A. It would drop about 6 inches.

Q. If the floor ran right across as it is there—as it was in the old bridge, what would be the effect or would there be any effect at all on this flooring dropping down on the floor beam and breaking as it did in '92 and striking the bottom chords? A. It would give a slight measure of support; it would simply act as a thin sheathing and give a certain slight measure of support.

Q. Which would give way first, suppose you went on continuing the strain—the floor or the chords? A. Oh, undoubtedly the floor.

Q. Whatever the support might be, it would be greater than what would be required, because the floor would break before the chords? A. I should fancy so, yes.

Q. In fact, at the panel point. I mean by that, say at 3, the strength of these iron cords on either side of that would be as great as the strength of the floor beam itself? A. Yes, that is the panel point.

Q. The weakness of the chord would be where it was on the point and for some little distance on either side, the strength of those chords would support the floor or anything else that came on, it would be at least as great? A. Yes.

Q. Would that floor running across this way be of any use in preventing a tramcar or whatever load happened to be on the bridge at the time, from going through, in case of one of those floor beams breaking, if it ran right across the full length as it was, originally? A. It might have supplied that small access of strength necessary to carry it across, and again it might not, knowing nothing of the physical conditions at the time.

Q. But it would unquestionably add some strength? A. It would unquestionably add some strength.

Q. And the test of what that strength would be would be just the same as the test of what these 3-inch planks would bear? A. Yes.

Q. And that is to be considered from the standpoint of the planks running diagonally that way across these stringers, and reaching as they would, as you see them here, would that give additional strength—that is, distribute the weight? A. Yes.

Q. So as to carry it away from the broken floor beam? A. Yes, it would.

Q. Supposing that floor is cut—this is one piece now (indicating), this is a second piece, and this a third piece. In the case of the floor beam breaking, as it broke in 1896 and 1892, would there be the same chances after that floor was cut of the car getting off as it did in 1892, as there would be if it ran right across? A. Certainly not.

CROSS-EXAMINED BY MR. TAYLOR.

Q. If I understand you then, Mr. Warner, you mean to convey this impression, by reason of that rotten floor beam at point, this accident was caused? A. Yes.

Q. You are clear about that point? A. Yes.

Q. And you say the life of wood is from 4 to 7 years? A. No, I said 7 to 10 is my impression.

Q. This beam had been put in, you know, in 1885?
A. Yes.

Q. This accident happened in 1896? A. Yes.

Q. That was 11 years? A. Yes.

Q. So in the ordinary course of time that beam would have been rotten anyway? A. It should have been—

Q. Taken out? A. —taken out several years before.

Q. And it should have been rotten too, as it was rotten?
A. Yes.

Q. These hangers you have spoken about, Mr. Warner, they are square pieces of iron, aren't they? A. Yes.

Q. Put into round holes? A. Yes.

Q. Bored with a large auger? A. Yes.

Q. The result of which is, water can get down into those holes? A. Yes.

Q. Comparing that with the stirrup iron, the piece that is put round outside of the beam, which is the more likely to rot first, the stirrup hangers or with yoke hangers? A. Well, that would depend on what they have underneath them; if they have complete closure, say round iron, it acts as a well, why of course the chances for rot are greater.

Q. But they have a square piece of iron put into a round hole? A. I am speaking of complete closure at the bottom so that the water stands round the bow; I say in that case the chances for rot are much greater than if there is a chance for the water to go into the hole and out again.

Q. Well, that is only a question of degree—whether they are tight at the bottom or not? A. It is a question of degree.

Q. But as comparing them with the stirrup hangers?
A. Oh, the chances for rot are less with an outside stirrup.

Q. Than it is with the yoke hanger? A. Yes.

Q. This was a yoke hanger that had been in there for 11 years? A. Yes.

Q. And the water could get down this yoke hanger into this beam? A. Yes.

Q. You speak of this floor beam at 3 being in an exceedingly rotten condition? A. Yes.

Q. You also say that it broke just at the yoke hanger? A. Yes.

Q. That is just where the holes were bored through and this square piece of iron put in it for the yoke hanger? A. Yes.

Q. That you would infer, I take it, was the rotten part? A. Yes, it was absolutely rotten—there is nothing else you can call it.

Q. That is the only part you looked at—just where it broke open? A. The only part I looked at was the broken end, and in addition I looked at the other end.

Q. You looked—that is the far end. These two holes represent where the yoke hangers went through? A. Yes.

Q. And here (indicating) is where it broke? A. Yes.

Q. This piece came off? A. Yes.

Q. In addition to these two yoke hangers that went through, there were two more side rods—lateral sway braces? A. Lateral rods.

Q. And for what purpose—where they there? A. To retain the floor beams in their proper position.

Q. To prevent swaying? A. Yes.

Q. And they went through them—took out a certain area from this floor beam also? A. Yes.

Q. And allowing a certain opportunity for moisture to lie there? A. Yes.

Q. All of which would accelerate the decay? A. Yes.

Q. They go through this floor beam according to the original design. Now, where are they fastened? A. Underneath, at the bottom.

Q. But are they fastened into the floor beam simply, or are they part of the lower chord of the bridge? A. This hanger which comes here is the means by which it is attached to the pin at the lower panel point.

Q. And they go through this hanger? A. Yes.

Q. So that the wood might rot and fall away and they be preserved? That is, they would not fall with it—the sway braces? A. Oh, yes, they would. It would loosen them here; they would fall down, having nothing at that end.

Q. Perhaps I have not made myself clear. The hanger goes through here (indicating) and is hung on a pin here with a plate underneath, and this beam is held up that way. These tie rods come and go through the centre? A. I understand; what you mean is by reason of the lateral rod coming through here, that it might rest on the hanger, and still remain, if everything else was rotted away? Oh, yes, it might happen.

Q. It is not likely to, or the whole structure would go down?
A. Very likely, as it did.

Q. As it did. With all these opportunities for decay, you do not mean to tell us that this little auger hole up here caused this beam to rot? A. Reasoning by analogy, it must.

Q. What is the size of these auger holes? A. I don't remember.

Q. You were down there and measured them? A. Inch and 8/ths, I think.

Q. And they went down for a distance of 16 inches? A. Yes, 18 inches.

Q. Those were only 16 inches at the end? A. At that point it was outside of that hanger.

Q. Then that is 18 inches. Then there were two holes there of 18 inches and they were how much diameter? 1 5-8ths? A. 1 5-8ths.

Q. And what was the size of this hole for the lateral sway? A. I don't remember; probably the largest one 1 1/2 in.

Q. And there were two holes? A. I can tell you closely what that one was. Let me see, No. 3, it was probably a 1-in. hole.

Q. They had been in there from 1885, those large holes in which the water could get in, there was just a square piece of iron put in each one of those holes and these sway rods passed through here—the centre? A. Yes.

Q. That had a tendency to bore out a large portion of the sectional area of this wood? A. It did reduce the area.

Q. Then you mean to say this harmless little hole of about 1/2 inch is what caused the rot? A. I mean to say this: Having the same reduction of area in the other end of the beam, that the difference in the condition of the beam—

Q. —was entirely attributable to this little auger hole?

Mr. Davis: I submit that my learned friend has no right to interrupt the witness in the middle of an answer.

Court: The trouble greatly arises from your all being bunched up together. I do not see how it can be avoided, but then it leads to some irregularity.

(Witness returns to box, and Mr. Davis asks that the answer be finished without interruption.)

Court: There is some difficulty in cross-examining experts; as you are very well aware, they are very apt to stick very closely to the particular lines which they have adopted. I do not say they

do so intentionally, but they do not quite answer the question, sometimes.

Mr. Davis: But this is a question he was answering.

Court: As far as that is concerned, the mischief is done. I will watch it, and you will have an opportunity of clearing it up in re-examination. (To witness.) Do you want to add anything to that, Mr. Warner? You have heard the answer read. Do you think yourself you want to add anything to that? A. Yes, I would like, my lord, to finish the remark. I wish to say this: Here was a beam, and bored at both ends; one has an extra hole in it; the end in which there is an extra hole is completely rotten at the other end. Twenty feet away the beam is simply rotten round the hole—the lateral rod holes and the hanger holes—and it is a natural inference then that the damage must be attributable to the increased boring.

Court: Presupposing in other respects the condition of the two beams was precisely identical? A. I beg your pardon, my lord; not two beams—the one beam.

Court: Well, presupposing the two ends were in other respects precisely in the same condition?

Mr. Taylor (to witness): Were they? A. Must of necessity.

Q. What did you mean a moment ago when you said it would depend upon how rapidly it would rot, the wood around those hangers, whether they were tight at the bottom, or loose? A. I meant this: If you have a hole completely through the wood and then close it at the bottom, any water that enters there will remain until it has evaporated. If, however, there is a way for the water to go into this hole and through, then it does not depend upon evaporation for relieving it of water. This condition you have in this beam: you have bored an auger hole in the bottom, allowing that accumulation of water and decay that has ensued. In the other case you bore holes completely through the beam, and the decay has not been so rapid.

Q. You attribute that entirely to the auger hole, do you? A. I see no other reason.

Q. Let me see if I can give you one. You say that the plate on the bottom of it may be tight or loose? A. Yes, so far as holding water is concerned.

Q. So according to whether is tight or loose, it will rot rapidly or slowly, is not that so? A. Yes.

Q. Did you examine these plates before the accident? A. No, I could not; no one ever examined it.

Q. You cannot say now whether the plates that were upon this rotten beam 3 were tight? A. Or loose; no, I cannot.

Q. Either at one end or the other? No.

Q. But you do say that had broke right at the junction of the yoke hangers? A. Yes.

Q. And as it turned up, you examined the ends? A. Yes.

Q. It was not broken at the auger hole? A. I don't know anything about an auger hole.

Q. You don't know whether there was an auger hole there?
A. Simply from the evidence submitted.

Q. But you examined it and you did not find the auger hole?
A. I did not find an auger hole; it may have been there and still my not find it.

Q. There was no break except at the yoke hanger? A. That was all.

Q. Did you examine how deep that rot penetrated? A. Nothing more than shoving my hands into it.

Q. Both sides? A. Yes.

Q. One side had an auger hole and the other hadn't. How do you account for the fact that the rot was equal? A. Water coming into the auger hole simply starts that rot and it might pass half a dozen of those holes.

Q. Wouldn't that apply equally to this yoke hanger if it started there? A. If the conditions were favorable for retaining the water.

Q. Were not the conditions favorable in that piece of square iron in a round hole that got all the rains from '85 to '92 in the ordinary course of things? A. My dear sir, you do not have to go back for seven years. You find that condition favorable for rotting in 4 years—some of your own new ones.

Q. This square piece of iron had been put in this round hole in '85? A. Yes.

Q. And you say it is very apt to rot in 5 years—start to rot?

Q. I see rot has started in 4 years under similar conditions.

Q. Wouldn't you think under ordinary circumstances it would begin to rot in 7 years—to '92? A. Yes.

Q. So the probability is in your opinion that it had begun to rot in this hanger previously to '92? A. It may have.

Q. You would think so, wouldn't you? A. Yes, I should say it may have begun; I can't say that it would.

Q. As a matter of fact, it is an opinion you are giving now—not evidence? A. It may have begun after 7 years.

Q. At any rate, you found the rot as far in on one side as you did on the other? A. Yes.

Q. And you did not find any break in this little auger hole, if there was one there? A. I don't know, as I say, anything about an auger hole, because I didn't find it. The chances are, however, from the condition in which that stringer was, you could have knocked six inches off the rotten end of it, and wiped out the auger hole completely; it may have done so.

Q. It would have been in a very bad state to have done that much, would'nt it? A. You do not understand what I mean—

Q. See if I do, now. When this beam broke apart at the yoke hanger, it was so rotten that you could have knocked off six inches on either side, and have done away with the auger hole? A. May have done that.

Q. Did you hear Mr. Cox say that the auger hole was 8 inches over there? A. Yes.

Q. You could hardly have wiped that out? A. No, I am completely innocent of any auger hole.

Mr. Davis: I understand my learned friend to make the statement that this auger hole was 8 inches from the hangers; if he made that statement, he is in error, and it is my duty when I hear him making a wrong statement of that kind to interpose. He (Cox) bored 7 inches deep; that is what he did say.

Mr. Taylor (to witness): Supposing it were 8 inches and it broke at this yoke hanger, you hardly think the auger hole would cause the rot on both sides? A. Yes, I can readily understand the auger hole starting that rot in a large degree and passing other auger holes. In time it is very possible for water to have entered that auger hole starting the rot, and the rot continue for the 20 ft. across the beam. Do you see what I am getting at?—that the presence of the auger holes within a short distance of this one that was bored does not imply that the rot must stop there, nor must any rot beyond there be attributed solely to the hanger hole.

Q. I don't understand when you say this auger hole should be more likely to produce rot than these two large holes? A. I say simply from the observed fact that at one end you have an auger hole and an extreme case of rottenness is the result; on the other side you have the same conditions minus that auger hole and the condition of rottenness is not anywhere near what it showed at the very badly decayed end, and the natural deduction must be that it was due to the boring of that auger hole.

Q. You have already explained that? A. I thought I had.

Q. Does not that assume that the conditions were precisely similar at both ends of the beam at the time it was put in? A. Yes.

Q. And you don't know whether or not they were? You have already explained about the question of whether these plates were tight or not at the bottom of this beam? A. What do you

mean by similar conditions? I assume that the general conditions were the same.

Q. But you say the condition of the plate makes a difference whether it holds moisture? A. Yes.

Q. But you do not know the condition? A. But I know this: it is very rarely a gib plate will hold the water and make a well on any auger hole. It might do so. I don't know whether it did or not in this case.

Q. Can you state now, as a matter of fact, whether or not there was an auger hole at all in that end that was rotten? A. My dear sir, I told you I know nothing about an auger hole.

Q. Will you tell me something about this factor of safety of 4? What do you mean? A. I mean that the ultimate strength of the material is four times that of any load that would be put on it. In other words, if you assume a certain load, you dimension your parts for four times that load.

Q. Suppose that 10 tons was what you call the load of that span, and when you say a factor of safety of 4, do you mean 40 tons might pass safely over it? A. It means 40 tons is the extreme limit.

Q. Would pass safely? A. Well, I should not say safely; the ultimate strength of that iron used was 50,000 lbs., I believe. That means that a square inch of iron would sustain a load of a tension that would break at 50,000 lbs.; hence, for safety, the bridge would not be loaded to a greater extent than one-fourth of that, or 12,500 lbs. per square inch of iron.

Q. To bring this down into everyday language, have I this correctly from you? When you speak of the factor of safety, you mean the number of tons that could safely pass over it? A. Yes.

Q. You speak of a bridge with a certain carrying capacity, and a factor of safety of 4. That means four times that amount might pass over it? A. Yes; that it would break at four times the other amount.

Q. Anything less would not break it? A. That is it.

Q. In your opinion what number of tons might have passed over this span, assuming all the materials to be in perfect condition—the iron and the woodwork? A. As a regular thing, you mean to say—the daily use of the bridge?

Q. Yes? A. From 10 tons to 12 tons I should say would certainly be the limit.

Q. What would have been the limit that you think would safely go over this span?—what would you permit, say, under special circumstances? A. With especial precautions, I might pass once an 18 to 20 ton load.

Q. And then you think it would be unsafe to attempt it again?

A. It would not be wise. If that were the only way of getting a 20-ton load to Victoria, why matters could be arranged so that the bridge would not suffer by the passing of that load, but it would not be wise to repeat it.

Q. How do you mean, matters could be arranged? A. For instance, a 20-ton load on four wheels would break through the floor.

Q. You would, you mean to say, distribute the 20 tons fairly and evenly over the face of the floor? A. Yes, I mean to say by such an arrangement as that. I do not mean by strengthening the truss, but to provide for the breaking through of the floor or something of that sort, why, if that was done, a load might be safely passed.

Q. You have heard the witnesses here to-day as to the position of this car, the number of passengers in it approximately, and the number of vehicles on the bridge. Do you think it was safe, under the most favorable conditions, to permit that load to be on that span—something over 20 tons, I think Mr. Yorke said? A. No, it was not.

Q. Having once permitted a load of that weight upon the bridge, would it be safe to repeat it again? A. No, it would not be safe to repeat it again.

Q. What do you understand by the term fatigue of iron? A. The fatigue of iron is this: All metals are elastic, iron particularly so. You can draw out iron as you will a piece of rubber and it will return, although not so perceptibly as a small piece of rubber, to its original position. There is, however, a point where, if you strain it beyond, your iron will not return; that point is called the elastic limit. When you have passed that elastic limit the continuously doing so, the metal becomes what is called fatigued.

Q. If it is once stretched beyond the elastic limit? A. Yes.

Q. What proportion does its elastic limit bear to its whole tensile strength? A. For wrought iron, somewhere in the neighborhood of 50% or one-half, approximately.

Q. So if the carrying capacity of the span, we will say, was 10 tons, and they were iron trusses with a factor of safety of 4, 30 tons might pass over that? A. Yes.

Q. Once? A. Yes.

Q. But would not that stretch the iron beyond its elastic limit of recovery? A. It might or it might not.

Q. Wouldn't it have that effect from what you have just told me? A. No; I can't say that it would.

Q. Well, if the iron could only stretch so as to carry 40 tons, that is the tensile strength of it? A. Yes.

Q. You say its elastic limit is one-half—that would be 20 tons? A. Yes.

Q. If you put 89 tons on it it would stretch the iron beyond its elastic limit? A. Yes, that is true—you are right.

Q. So a dose of that kind repeated on the bridge would have a very bad effect on it—the weight, rather? A. Yes.

Q. It would be stretching it beyond its elastic limit? A. Yes.

Q. What do you say was the original carrying capacity of one span of this bridge? A. Ten to 12 tons.

Q. And that had a factor of safety of 4, did you say? A. I think 5 for the iron.

Q. How much did you put it at? A. Four—no, a factor of safety of 5 was the lowest; from 5 to $5\frac{1}{2}$. That was for a 12-ton load.

Q. I want to know, first of all, if you know what the factor of safety called for in the specifications was in this—in this bridge? A. Yes.

Q. What was that first? A. It ran, for the iron, up as high as 7.

Q. And of the wood? A. And for the wood, as high as $4\frac{1}{2}$.

Q. I do not suppose that any part of it is stronger than its weakest factor of safety, is it? A. No.

Q. That would be about $4\frac{1}{2}$, wouldn't it? A. Yes.

Q. Four and a third, you said, rather? A. Yes.

Q. When you speak of that factor of safety as $4\frac{1}{2}$, or any other factor of safety, that assumes that all the materials are first-class? A. That assumes that the material is of a certain grade, yes.

Q. No inherent or latent defects in it? A. No.

Q. This specification called in this particular structure for weldless iron? A. Yes.

Q. Was the iron originally put in welded or weldless? A. Welded.

Q. I suppose a perfect welding is as good as weldless iron? A. Yes.

Q. Assuming it is a perfect weld? A. Yes.

Q. If not perfect, of course it is not so good? A. No.

(Adjourned till 10 a.m., May 21, 1897.)

SECOND DAY. 21ST MAY, 1897.

E. H. WARNER. CALLED. CROSS-EXAMINATION BY MR. TAYLOR
CONTINUED.

Mr. Taylor: You just heard the last questions read, Mr. Warner, in which you said a perfect weld was as good as weldless iron, and the imperfect not so good. The eyebars in this bridge, as originally constructed were all welded? A. Yes.

Q. And the specifications called for iron that was not welded?
A. Yes.

Q. So in that respect, it did not comply with the specifications?
A. In that respect, it did not.

Q. You found a broken eyebar, didn't you? A. Yes; one broken.

Q. Will you explain a little more fully what you mean by calculating the strain sheet. There are a lot of technical terms here, and I would like to get them into ordinary everyday English, if you don't mind, because I understand them better that way and so do some of the jury, perhaps? A. Shall I use the diagram?

Q. No, just explain? A. Simply this, that all those members are in a certain condition of strain under load; a strain sheet is simply a skeleton of those members, and shows the amount of force along each one under given conditions.

Q. I want you just to follow the question I am going to ask as closely as you can, and see where I have got the correct idea. When you calculate the strain sheet, you mean you measure up the sizes of all the timbers and iron used in the bridge, and then you estimate how much of that material when put together will carry—how much of a load? That is the effect of a calculation of a strain sheet?
A. That is the effect, although you have stated it just the reverse; that is practically the effect of it.

Q. And that is based on the supposition that all the material is first-class? A. Yes.

Q. With welded material, is it possible to tell from simply looking at it, as to whether it is a first-class weld or not, always?
A. Not always, the general appearance.

Q. It will give you some idea, but you cannot tell exactly?
A. You can tell if the weld is a bad one.

Q. So if there was a flaw in any part of the material, that would make a material difference in the strain sheet, in the result of your strain sheet? A. It would make a material difference in the result of putting a load on the bridge. In other words, it is weakening a member.

Q. That is what I mean. To put it shortly, your strain sheet is calculated upon first-class material, and if there happens to be some that is not first-class, it makes a difference in the reliance to be placed on the strain sheet? A. On the bridge, not on the strain sheet.

Q. The strain sheet is supposed to be a representation of the bridge? A. If you mean the bridge when you say "strain sheet."

Q. That is what I mean. I don't want to quarrel about terms; I simply want to understand it. So any material that did not come up to the regular standard, would have a very serious effect on the ultimate strain on the bridge? A. It would have an effect by whatever is lacking.

Q. What is the effect on a bridge such as this was designed for—highway traffic—of permitting trams to run over it? A. Well, you are increasing the load for which it was designed.

Q. That must have an injurious effect on the bridge, mustn't it? A. It may, if that load is in excess.

Q. In other words, that would have a tendency then to—what shall I say?—knock the bridge to pieces sooner than it would otherwise? A. Well, it is wear on the bridge that was not intended for it.

Q. Therefore it would get out of repair and good order quicker when trams are running over it than without? A. Yes.

Q. You always have, I understand, a higher factor of safety for a railway bridge than for an ordinary highway bridge? A. Yes—no, it is just the reverse.

Q. A lower factor of safety for the railway bridge? A. Yes, that is the ordinary railroad bridge possesses a lower factor of safety than that of a highway bridge.

Q. How do you reconcile that? I do not quite understand what you mean. You say that was built for a highway bridge, and the effect of permitting trams to run over it would make it get out of repair even if used for railway purposes, and yet you say you have a lower factor of safety with a railway bridge? A. The explanation of that is very simple; your traffic is fixed. In other words, you can assume a load as far as a railway bridge is concerned, with greater exactness than you can for the highway bridge. Hence, you can dimension your railway bridge to a less factor of safety.

Q. That is to say, if I understand the effect of what you say now, and you can correct me if I am not right—you build your railway bridge stronger in the first instance than for the highway bridge? A. No.

Q. You build it weaker? A. I can make it clear to you, Mr. Taylor—a little clearer to you, I think. You take, for instance, the tension rods in a railway truss. The factor of safety of those under ordinary conditions is four. We can dimension to a factor of safety of four for the reason that we possess reliable data as to what loads will come on the structure, and how they will come on; whereas, with

a highway bridge you may have a single carriage passing over, and you may have a crowd of people looking into the Gorge, for instance.

Q. An uncertain weight? A. The uncertainty.

Q. To get at this matter clearly—would you construct a bridge of this kind for this tram traffic passing over it? A. You mean by "this kind" that bridge?

Q. Yes? A. I would not.

Q. For the purpose for which it was used—for tram traffic. Why? Was it not heavy enough? A. It was not heavy enough for tram traffic.

Q. And the fact that originally it was not heavy enough for it, and the tram traffic put upon it you have already told us would have a tendency to shake it to pieces quicker? A. Yes.

Q. And as a result of that, the life of the bridge would be shorter? A. The life of the bridge would be shorter, or perhaps better, it would require more repair—better inspection.

Q. Shake to pieces quicker; we won't quarrel about the term I use. Has there been any material increase in the last few years in the weight of tramcars? A. A very material increase. In fact, in 1890 was the beginning of the development of the commercial side of electric railways; it has been going for the past three or four years. The first idea in applying electric power to railways was simply to take the old style street cars.

Q. That was a light car? A. That was a light car, put on motors and simply increase the weight by two or three tons, but since 1890 —

Q. Excuse me—just while you are on that—that would make a car about how much?—putting a motor on the ordinary form of horse car? A. Perhaps eight or ten tons.

Q. You mean the new car? A. A car and load of eight or ten tons.

Q. That is to say, that the old fashioned car and motor loaded would weigh from eight to ten tons? A. I should say so.

Q. And the new fashioned car? A. They run as high as 22 tons, the latest development of street railway equipment, it is very heavy—so much so that they are using 70lb. to 80lb. rails to carry them, and that is a rail fully as large as for the ordinary railway carriage traffic.

Q. The tendency is to increase the weight of the cars and, of course, the amount of passengers the cars can carry? A. Yes, increasing the load is the general tendency.

Q. That has occurred, you know, in this instance, do you not, from the investigation you have made? They had originally light cars? A. They had originally light cars, but the one that nearly

broke through in 1892 was the same that broke through last year; that is a larger car.

Q. They put on a larger car and that broke through in 1892?
A. Yes.

Q. And then a larger car still went through? A. No. I understand it was the same car that went through in 1892 and 1896.

Q. That is what I understand you to answer. At any rate, the effect of this extra heavy car was to break the bridge? A. Yes.

Q. I would like to put this as straight as I can, in order to get a short and concise answer. Do you think that bridge, as constructed there, leaving out for the moment the question of repair—was it a safe bridge to carry the weight that was on it this day? A. No; it was not designed for that traffic.

Q. And it was not safe for that traffic? A. Well, the fact that for 7 or 8 years it carried that traffic —

Q. Did it carry that traffic? A. I can't say that it carried that traffic safely.

Q. You know, as a result of your investigation, that this was a public holiday and crowds of people were crossing over for the review? A. Yes.

Q. It was an unusually heavy load? Yes.

Q. Just for a moment, to go back to what you testified to before: without going into your technical figures, what was the safe carrying capacity of the span? how much weight would you put on it safely and carry it over? A. Well, the dimensions show that the web members would have carried 20 tons with a factor of safety of 2.

Q. Does that include the floor? A. A weight of 20 tons.

Q. That would be one-half of the entire weight that could be put upon it? A. Yes.

Q. Forty tons, then, would break it down? A. Twenty tons broke it down.

Q. Twenty tons with a factor of safety of 2 means 40 tons would be the breaking strain? A. Yes.

Q. If all the materials were new and first-class? A. Yes.

Q. That weight of 20 tons would stretch the iron to its elastic limit? A. Probably.

Q. What would be the effect of stretching to that limit once all the 20 tons, and then putting another weight of 20 tons on after that? A. The effect of it would be simply an additional damage to the bridge, and perhaps its destruction.

Q. In other words, after the iron has once been stretched to its elastic limit it is not so good? A. No.

Q. The factor of safety is reduced? A. That is true.

Q. And the oftener you put on that weight the weaker the iron becomes? A. That is true. Yes.

Q. So the factor of safety is constantly getting less according to how you are constantly stretching it up to its elastic limit or not, in the bridge? A. Yes.

Q. Then the number of times that this weight had been put upon it would keep continuously reducing its strength? Yes.

Q. That factor of safety, calculated the way you say, is based on the assumption that the weight is evenly distributed over the floor of the bridge? A. Part of it.

Q. This car track, as the result of your investigation, you found to be about two-thirds to one side? The car track was not in the centre of the bridge? A. It was not in the centre of the bridge.

Q. It was about two-thirds of the way on one side? A. Yes.

Q. The Gorge side? A. Yes.

Q. I understand that it broke on the Gorge side? A. It broke on the Gorge side.

Q. It was even closer than that, if I remember. The near car rail was about a foot from the chords, or two feet. Give us first the rail nearest to the Gorge? A. Well, I can measure it in a moment. My recollection is that it is 5 ft. and 4 in. to the centre of the track, that was broad gauge—4 ft. 8½. That would make it about 2 ft. It is about 2 ft. from the centre of the trucks; that is my recollection of it. I would prefer to measure it there, if you don't mind.

Q. How far was the nearest rail of the track from the hanger? A. It is about 2.6 in. from the hanger.

Q. That is the rail nearest the Gorge? A. That is the rail nearest the Gorge. This is the rail on the plat.

Q. You might measure then, Mr. Warner, while you are there. Take the outer rail of the car and measure over the other hanger? A. That would be about 11 or 12 feet. The total distance between the two is 20 feet; that is a little over 2 feet. It would be approximately 13 feet from that rail.

Q. The bridge, of course, was supported on each side at the hangers—that is, the floor? A. Yes.

Q. And that sidewalk running out there was also supported by the hangers? A. Yes.

Q. Was that in the original specifications? A. I believe not. I have heard that the —

Q. You have seen the specifications? A. Well, I do not recollect that point.

Q. That was an addition, putting the sidewalk there afterwards. That would be an increase of weight added to the floor, whatever the sidewalk weighed? A. Yes.

Q. On each side; and that would reduce the carrying capacity by just that much? A. Yes.

Q. I think you calculated before, Mr. Warner, if you remember, what that sidewalk weighed. Just see by your notes, if you did? A. I think not. My recollection is I calculated the total dead weight, 850 feet.

Q. How much would that be in tons on the whole span? A. It is an increase of about 50% in the dead load over what the original specifications called for.

Q. You said a 20-ton car was based on this assumption—that the floor weighed 5 tons. That is, the floor without those sidewalks on each side there? A. Yes.

Q. And you calculated the whole thing at 45 and subtracted 5 for the weight of the floor and then put on a 20-ton car, and you had a factor of safety of 2? That is, it would take 40 tons to break it down? A. Yes.

Q. And that factor of safety was still further reduced by the addition of this floor? In other words, so much weight added to this floor? A. Yes, any addition of that sort.

Q. Just see if you calculated what those weighed—the addition of sidewalks? A. I am satisfied that I did not. I have not a memorandum of it.

Q. Do you remember how wide they were? A. I believe they are 5 feet.

Q. That would be another space of 10 feet added to the width of the floor? A. I have the total dead weight of the span, 840—that includes the sidewalks.

Q. What does that amount to, in tons? A. That is 15,750 lbs.

Q. That is 7½ tons, isn't it?—a little over? A. Yes.

Q. Instead of being 5 tons weight, there were 7½ tons total dead weight of the floor? A. The total dead weight of the span was 7 tons approximately to the panel.

Q. Then instead of subtracting 5 as 45, you subtract 7½? A. You mistake me; this 7½ tons is not the weight of the sidewalk alone.

Q. And the floor also? A. It is the weight of the sidewalk and the entire floor system, including floor beams, stringers and everything.

Q. That is what I understand; but you subtract that amount then from the 45? A. From what 45?

Q. You spoke of a 20-ton car on that, having a factor of safety of 2; that is, it would take 40 tons to break it down? A. Yes.

Q. And I understood you to arrive at that calculation by saying that the floor weighed 5 tons; that you proceeded on that assumption, making 45 tons in all would be supported by the truss before it would break? A. I cannot say where you got your idea of 5 tons. My calculations were based on that $7\frac{1}{2}$ tons of dead weight, and then in addition a car of various weights—cars of different weights; this 20 ton car is in addition to the dead weight of the bridge.

Q. Then a team of horses or several teams of horses upon that, with some vehicles and passengers, would greatly increase the danger, then, of collapse? A. Yes.

Q. You know, as a result of your investigation, that there were some teams on there? A. Yes.

Q. You attended at the inquest and heard a greater portion of the evidence adduced, and the weight was put at an estimate there of 22 tons; there was one two-seated vehicle with four passengers, and another vehicle with five passengers, each with a horse? A. I don't remember it, but undoubtedly you are right.

Q. That would make it over 22 tons, including the car at 20, and the weight of the passengers was calculated on some table of weights you produced? A. I suppose so.

Q. Either you or another expert, and you agreed with it or did not disagree with it, and you do not now say that a weight of 22 tons would be such a weight that the bridge could not stand? A. Why, certainly, it shows that it fell.

Q. According to your calculation, if the material were good it could not have stood the weight? A. It would be highly hazardous to attempt to put a weight of that sort on it.

Q. So, as a matter of fact, it was too much weight for a design of that sort anyhow? A. Undoubtedly.

Q. Tell me about these top chords—were they continuous or jointed? No, they were jointed between each two of the uprights.

Q. They butted over? A. Yes.

Q. Is that as good a design as a continuous bar? A. No, not as good.

Q. It is more apt to give way? A. Perhaps, yes.

Q. In other words, these ends abutted on to one another, and upon any disarrangement of the structure they will either go out or come in? A. Yes.

Q. And if they did, the whole structure would go? A. Yes.

Q. They are held by compression? A. Yes.

Q. And the lower chords by tension? A. Nevertheless, that is the conventional form of building those highway bridges.

Q. Not a railway bridge? A. No.

Q. Will you calculate for me the difference in strain of those hangers by reason of the fact that the car was away on the side of the bridge? A. Would not this answer the same purpose? I have the regulation 12 ton car, with a 6 ft. wheel base.

Q. Is it a very elaborate thing to do to calculate that? A. It is not elaborate; the total weight is 20,000 lbs. It is simply a question of proportion; of the 20,000 lbs., 14,660 lbs., or approximately two-thirds, go to the hanger nearest it—approximately.

Q. So, of the total weight there was about two-thirds of it resting—? A. On one hanger.

Q. Nearest the car rail? Q. Yes.

Q. Now, this 20 tons you spoke about was not based on an assumption of that kind, was it? It was based upon a fairly even distribution over? A. No, it was based on that assumption.

Court (to witness): Based on the existing state of things? A. Based on the existing state of things. For instance, there are two trusses in there; suppose one takes two-thirds and the other one-third, on the 20-ton basis I calculated the strain on the truss.

Mr. Taylor: That would increase the strain very materially on the hanger? A. Just to that extent, yes.

Q. And this hanger is subjected to shock when these loads move over it? A. It is subject to the ordinary shock of a wheel passing on a rail; yes, there is a shock at the joints.

Q. That has a tendency to weaken the iron in time? A. If it is sufficiently great, yes.

Q. Would not the shock of a load such as this, away beyond the capacity of the truss, have a tendency to shock it? A. Oh, yes.

Q. Here is a question that has occurred to me: I would like to have you explain it. You have seen these cars go along the street? They go bumping and bobbing up and down? A. Yes.

Q. Supposing they bobbed up a little—would not that increase the shock? A. Clearly.

Q. And that going up in that way a little—bumping and bobbing—would double it? A. Not double it, it would increase it.

Q. Very materially? A. Yes.

Q. When did you first find out about this floor beam being bored? A. Yesterday, for the first time I heard it in evidence.

Q. You originally came over to Victoria out of curiosity to see this bridge, I understand? A. No.

Q. Or as an engineer? A. I went to Victoria on business, leaving Seattle the night that the accident happened; I went out to look at the wreck, simply, as thousands of others had done.

Q. At any rate, being an engineer, I suppose your attention was particularly attracted to it, and you examined it particularly?
A. Yes.

Q. Subsequently you had a talk with the government officials and you examined it for them? A. Yes, for them.

Q. In conjunction with Mr. Lockwood, who is an engineer on behalf of the Bridge Co.? A. He was at the time.

Q. You went down specifically then to examine for the purpose of ascertaining the cause of the accident? A. For the government.

Q. You took your notebook with you? A. Yes.

Q. And how long a time did you spend there? A. To the best of my recollection, 3 days.

Q. And taking notes of all the points you saw? A. Yes.

Q. And the results of that investigation you put down in a note-book? A. Yes. You are referring to this note-book? These are a copy.

Q. You put them in a note-book? A. Yes.

Q. And what you testified to yesterday you practically read out of that note-book? A. Certainly. That is a memorandum made at the time.

Q. You critically examined every beam and piece of iron, measured them up, and examined their condition? A. Yes.

Q. And the result of your investigation was embodied in a book of many pages, roughly? A. The pages cover—7 or 8 pages.

Q. Pretty elaborate notes? A. They were read yesterday; they are complete.

Q. As a result. They are complete? A. They are a complete account of the wreckage as we found it.

Q. And you of course took that account for the purpose of testifying? A. Yes.

Q. At the inquest, on behalf of the government? A. Yes.

Q. And you did testify there? A. Yes.

Q. And you assigned the cause of the break in the bridge at that time? A. Yes.

Q. Do you remember what it was you assigned, then? A. To the breaking of the floor beam I assigned the cause of the disaster—to the extreme rottenness of the floor beam.

Q. It is only fair to read you this—p. 248 of your testimony before the coroner: "There is a broken hanger which Mr. Lockwood said he was not able to locate definitely, but it was somewhere in the middle of the bridge. That broken stringer which may have come

on 4 or 5 was very pitchy and a very serious knot. But the question of precedence in breaking, that is whether the hanger or a good beam failed—whether the rotten part of the floor beam of the old floor gave way, or whether the stringer gave way, it is impossible to determine now." A. Pardon me; the question asked me was to determine which failed first, the hanger, the stringer, or the floor beam. I had previously testified that the extreme rottenness of the floor beam was the cause; that I could not, nor did I believe anyone could, assign the order of precedence of the breaking of anyone of those three parts..

Q. That is what I understood. It is difficult to assign the order of precedence? A. Clearly impossible.

Q. As a matter of fact, even in the best condition they could not have supported this load of 22 tons that was on it? I believe also you testified to this effect (see if I have the substance of your evidence): That the truth of the matter was, there had been absolutely no maintenance of the bridge, and that that was really the cause of it? It had been allowed to get into a shockingly bad condition of repair, and now the heavy weights put upon it were the cause of the disaster? A. I put it even stronger than that, if I recollect right. I said it was the most criminal piece of maintenance I had ever heard of.

Q. In other words, no maintenance? A. The bridge was not maintained.

Q. So we start on that assumption that the bridge was not strong enough for tramway traffic? A. I agree with you.

Q. Not heavy enough to carry the weight. In the next place, it was not maintained at all and got into a bad state of repair, and it was absolutely impossible to hold up this load? A. They had even gone further than that.

Q. See if that is right? A. Yes. I was going to say they had even gone further than that; they had split up the floor into three pieces after the accident of 1892, and still further lessened the chance of its carrying any load that might come on it.

Q. Did you say at the inquest that had any effect upon it?
A. What?

Q. Splitting up this floor? A. That question was not raised, if I remember; that is my recollection.

Q. Well, I will see whether it was.

Court: Of course, it is for you to say; but how is that material? You might ask him now. Put it to him now, how far it affects his opinion.

Mr. Taylor (to witness): How far is that material to the stability of the structure? Here is what you said:—A. Shall I answer your question first?

Q. Well, I will ask you: P. 252: "You don't like that style of bridge with the floors like that, do you? A. There is no objec-

tion to it. Q. Isn't it more liable to accident by having a floor like that than another bridge would be? A. I think not, providing you take care in your connection. The stability of all truss bridges, in fact, most structures, depends upon the proper adjustment of its various members." A. Pardon me; that remark applies to the style of the floor beams being suspended from hangers as this one was.

Q. Was that what was asked you? A. Yes; that was the subject under discussion.

Q. Now, was it—the floor was the question? A. My dear sir, if you read those questions.

Q. What material difference does it make? In my opinion it made this difference: in 1892 it was probably that extra strength given by the plank flooring which carried the car out of danger.

Q. You do not think that the bridge was in any better condition in 1892 than it was in 1896? A. It was undoubtedly in better condition. That is, I should fancy it was; simply a question of age.

Q. That truss gains nothing of any strength or integrity by the floor? A. The truss itself does not.

Q. The floor is simply a weight that the truss has to carry? A. Yes.

Q. So that the floor might break down on one side and fall away like a trap door from the truss, or it might break on both sides and the truss remain intact? A. If you break it in the middle as you did in two places, it would fall like that. If it was continuous, as it was in the first place, and the floor broke as it did, it would fall on to the chord bars; the floor—the planking, would rest on the chord bar like that, and —

Q. How far did the planking go over these chord bars? A. I don't remember; it went over the chord bars, I believe.

Q. Do you know whether it went over at all? A. Yes, I know that it did go over.

Q. Are you quite sure? A. I am positive in this way—that in examining the present span, the duplicate span of that —

Q. It is only fair to say to you you never saw it? A. The original, no. I am speaking from the duplicate span.

Q. Here is a representation of it as originally laid, (exhibit T). Were these particularly heavy beams there, on it, the original design? A. I understand that beam is to represent the position of the chord bar.

Q. There is no such beam as that on the original floor as laid? A. No.

Q. Then that is not accurate, and the same thing applies to this side? A. Certainly, you may say —

Q. In other words, this should not be wood? There is no such piece of wood on the floor.

Court: It was not put in for that purpose. Witness: To show the relative position of the iron and the floor?

Mr. Taylor (to witness): Suppose these are joists? A. Stringers—joists, yes.

Q. You put another joist in here—that is what?—8 by 10?
A. Ten by 12.

Q. To carry the car rail? A. Yes.

Q. That would have a tendency of itself to stiffen the floor—putting that in? A. It would add a certain element of strength, not to the floor system, but to the stringer itself.

Q. That would be a certain element of safety in carrying cars?
A. Yes.

Q. It would have the effect of distributing the weight over a greater space? A. Yes.

Q. On the same principle that you walk on the sidewalk—your weight is not on the board that you step on, but distributed by reason of the scantling underneath over a large area? A. Yes.

Q. And the effect of putting these 10 by 12 stringers to support the car, would have the same effect of distributing the weight?
A. Over the three floor beams.

Q. That would be minimising the danger to the cars, or rather, reduce—probably that is the better term. It would distribute the weight better over the whole floor system? A. Yes.

Q. Of that panel? A. Yes.

Q. We take these boards and spike them into the stringer?
A. Yes.

Q. How is that going to alter it? A. When you remove support from the stringer you have removed the strength due to the planking which is connected with the stringer.

Q. What support did the planking give it? A. The planking originally gave a support by reason of its continuousness from one side to the other.

Q. The planking is supported by joists? A. Yes.

Q. The joists are supported by the floor beam? A. Yes.

Q. So that you come down to the floor beam? A. Yes.

Q. Then by putting these long stringers through, you distribute the weight over those floor beams? A. Yes.

Q. More than it would have been before? A. No, not more than before.

Q. Why not? A. For the reason that these same stringers or joists were continuous, were here before, and you have got the same measure of support for your floor so long as the floor beams are in place, from the small joists that you —

Q. Have the same measure of support? A. Yes, so long as the joists were broken joints; for instance, they extended from one to the other in that way, and supported the floor.

Q. But they would not be as stiff and give the same stability to joists 3 by 12 as to timber 10 by 12? A. No, of course not.

Q. Were these joists what you commonly call broken jointed? A. They were built, I presume as that is.

Q. That is to say, these joists are all jointed? A. All break on the same floor beam.

Q. And what I understand you to mean by broken jointed is that if you run one piece from this floor beam, to here, you put a joint there and run your next stringer? A. The 18ft. stringer here on one side, and —

Q. You mean by broken jointed that these stringers all break on the same beam? A. Break on alternate beams.

Q. And that has an element of strength in it as compared with breaking on the same beam? A. Yes.

Q. It distributes the weight more evenly? A. Yes.

Q. And the old floor joists all broke on the same beam? A. So I understand, yes.

Q. And the new stringers did not? A. Did not.

Q. They were quite a proper thing to put in there? A. Yes, quite a proper thing to put in there; yes.

Q. Could they have made that floor any other way and put those in? A. Yes; they might have put those stringers in and replaced the floor exactly as it was before and had the rail on top.

Q. Raised it up? A. Yes; it might have been inconvenient, but that was one method of doing it.

Q. They would have to have a flat rail then? A. They might have put on a T-rail; they could have put in any form of T-rail; it would project above the surface—it might be slightly inconvenient to people going by.

Q. Would not this T-rail they put in also have an effect of stiffening it? A. A T-rail would stiffen a structure.

Q. And by that you mean distribute the weight? A. Yes, make a stronger support—that covers it.

Q. In order to prevent any swaying motion of these floor beams they had some diagonal rods underneath? A. Yes.

Q. You call them——? A. Lateral rods.

Q. Were these the things we referred to as diagonal braces?
A. I think so.

Q. That means the same thing? A. Must be.

Q. They were put there to prevent any lateral swaying of the floor?
A. Yes.

Q. And these holes represent, in this model here, where they go through?
A. Yes.

(Referring to exhibit "U.")

Q. And they are attached to the lower chord of the bridge?
A. The sway braces? No, they are attached to the floor beam.

Q. Wouldn't it be a much better way to attach them to the chord?
A. It might be. That is a conventional method of sway-bracing; it has been in use for a great many years.

Q. You would not put them that way, though, in a bridge to carry tramcars?
A. I can hardly say what I would do; I can simply say it is an ordinary conventional form; there is a better form, it is true.

Q. What is the better form?
A. There is a variety of ways. Shall I go into——?

Q. Just shortly?
A. You can fasten them to the chord, if you wish—to the pin connection.

Q. And that would have a better effect than fastening them into the boor beams simply?
A. Yes.

Q. So that part of the design could be improved on?
A. Yes.

Q. Materially?
A. Yes.

Q. These diagonal sway braces were part of the triangulation of the bridge—of the truss?
A. No.

Q. They were not? What were you referring to just now, when you said "Yes, Mr. Cassidy?" (Witness having caught at undertone remark by Mr. Cassidy.)
A. Mr. Cassidy asked if it were not better they should be part of the truss, and I said certainly that would be the better way. Now, I say, this is not part of the truss. I presume you were referring to the present structure.

Q. They are not part of the triangulation?
A. They are not part of the triangulation of the truss.

Q. Explain what you mean by triangulation?
A. I don't know what you mean by triangulation. I am trying to answer your questions as you mean them. What you mean is the laterals. Are they part of the truss?—they are not part of the truss.

Q. Was it part of the scheme—of the original design of the tri-

angulation—though you don't know what that means? A. No; I don't know what it means in connection with the bridge at all.

Q. Well, that is one for you—I don't either. Ordinarily, in building these bridges, you have the material that goes in them inspected? A. Yes.

Q. How is that usually done? A. In large structures the material is inspected at the works; there are engineers who make a business of doing that.

Q. That is, ordinarily, the contractor who has to get the iron—to furnish it—he has a man at the works where the iron is turned out? A. If it is large enough to do it—yes.

Q. How is it in cases of smaller contracts? A. Take it on trust—the name of the manufacturer; the Albion Iron Works, for instance, was supposed to be all right.

Q. You know, as the result of hearing the testimony and your investigation in this case, that is what was done here? A. Yes.

Q. The material was not inspected; it was taken on trust originally; so if there were any defects in it, it might have got in without notice? A. Yes; any serious defects would be noticed by the bridge inspector for the government, provided they had an inspector.

Q. Here is another question that was asked. I think it was by the coroner or else by Mr. Cassidy, p. 268:—"Now, Mr. Wilson asked you a series of questions directed to the point, of the first member that gave way, and he asked you whether it was likely that it occurred, the car passing from Victoria to Esquimalt, that it would have reached point 3, and point 3 given way before the hanger at point 5 gave way from a tension strain, and the car passing over it, or considering what you have said already as to the absence of diminution of diameter, whether it occurred from a sudden shock? A. It is impossible to have been suddenly broken; that is the opinion I formed.

Witness: That is undoubtedly correct.

Q. "And you noticed enough to indicate that it had been pulled apart from a heavy tension strain, or in other words that it had been insufficient for the purpose of sustaining the strain which went over it at that point 5?"—to which you answered "Yes." A. Yes, I see no reason to change any of that.

A. You still adhere to that? A. Yes.

Q. So it was insufficient to support the weight that went over it at 5? A. Yes.

Q. It would have given way, anyway? I will read you another question or two—a question I asked you on the same page: "You were asked whether you approved of the design of this bridge? and you said 'for some purposes, yes,' and then you defined that purpose to be a highway bridge; do you approve of the design for a railway bridge? A. For what traffic? Q. Calling this tram line a

railway? A. For limited loads, yes; for limited loads I would consider it safe. Q. And you place that limit at 10 tons? A. Yes.

Q. And for anything over that, you would not approve of the design for a railway line? A. I would not deem it wise to run anything

— Q. You know perfectly well what I mean—would you approve of the design for a railroad bridge carrying a load of ten ton cars or over? A. I say that the limit would be 10 tons, if you were

— Q. Then may I take it that you would not approve of it as a railway bridge? A. If I were building a railway bridge, I would adopt another type." Q. You put it at 10 tons? A. I expect that evidence is correct; that is my opinion.

Q. That 10 tons was the safe limit? A. Yes.

Q. And you say yourself you know, as the result of your investigation, they have 20 or 22 tons? A. Yes.

Q. So by no possibility could that structure have sustained—? A. It did sustain it once, and it passed over barely by the skin of the teeth, and the second time that the same application of that heavy load was made it failed.

Q. The application of the first heavy load you speak of, it would not be able to stand that again? A. It evidently did not stand it again.

Q. But the application of that heavy load of about twice as much as could be safely put on it rendered that structure much weaker? A. It failed under the load.

Q. But while it could stand one load, it could not stand two? A. I will not limit it to two; it would not be wise to impose that load often.

Q. But the more often it was imposed, the weaker the structure would get? A. Yes; it was imposed once, and it stood it in a way; the second time it failed.

REDIRECT BY MR. DAVIS.

Q. My learned friend read to you a few lines from your evidence at the inquest, and he stopped very short. I am going to read the next three lines (p. 248): "There is no question at all, that simply from viewing the condition of the timber it is natural to suppose that the floor beam at No. 3, if the car were able to get any weight on it, would break." That is correct? Witness: That is correct.

Q. Coming to the capacity of the bridge, which my learned, it seems to me, has left not quite as clear as it might have been originally. The capacity of that bridge, as built, was 1,000 lbs. per lineal foot of live weight? A. Yes.

Q. And what is meant by that is that it is built to carry a thousand pounds per lineal foot, entirely apart from the structure itself, of dead weight? A. That is what it means, exactly.

Q. And the only addition to the dead weight, after the bridge was first designed, were the sidewalks? A. Yes.

Q. And the weight of the sidewalks is this 243 lbs. you put in?

A. Yes.

Q. That is the original dead weight—600 lbs.? A. Yes.

Q. So the only amount to be deducted from the figures as shown by the original strain sheet would be this 243 lbs. per lineal foot? A. Yes.

Q. The factor of safety of the bridge as designed was 5?

A. Yes.

Q. The length of that panel is something over 18 feet?

A. Eighteen feet 9 inches.

Q. That would, roughly speaking, be 19,000 lbs. of the regular weight less 19 times 240 for the extra weight of the sidewalks, which is about 4,700 lbs.; that would leave about 15,000 lbs. to the panel, with a factor of safety of 5, would be 75,000 lbs.? A. Yes.

Q. That is making all allowances for dead weight that are to be made? A. Yes.

Q. When you were speaking of the factor of safety of 2, you arrived at that 2, did you not—

Objected to by Mr. Taylor, as leading.

Mr. Davis (to witness): How did you arrive at the factor of safety of 2? A. By taking the calculated weight, and calculating the strain, and comparing it with the area of the different members.

Q. In making that calculation where do you place the tram line on the bridge? As it is shown.

Q. That is what reduces, in other words, the factor of safety to 2? A. Yes.

Q. It was 5, but when you reduce it to 2, you are making allowance for double the weight or more being on, on account of that tram line being so near one end? A. Yes.

Q. In what part of the bridge would it reduce that factor of safety to 2? Would it be in the floor or the truss? A. It would be in the truss—in the web members; that is, the diagonals.

Q. Look at your notes with reference to that, Mr. Warner? A. "Factor of safety of 2 in the floor beam;" the web members—I was mistaken when I said that.

So the reduction of the factor of safety on this account—this reduction would be in the floor beams and not in the hangers? A. Yes.

Q. What is it under those same circumstances in the hangers?

A. Five and three-fourths.

Q. So that with the load as it was—with the tramline as it was, the factor of safety of the floor beams would be 2, but the factor of safety of the hangers would be 5½? A. Five and three-fourths, yes.

Q. Under those circumstances, which would in all human probability break first? A. The weakest part.

Q. Which is the floor beams? A. Yes.

Q. And that is assuming that the floor beams are as they were originally? A. Yes, assuming good material fibre strain, 1,350 for Douglas fir.

Q. If the floor beams have been decayed, by weakening your factor of safety, it would be reduced so much more? A. It would be reduced so much more.

Q. Would the iron be subject to the same deterioration in the same time? A. No.

Q. You told my learned friend that you did not notice this auger hole in the beam? A. I did not.

Q. Would it follow from that at all, that it was not there? A. No.

RE-CROSS-EXAMINED BY MR. CASSIDY.

Q. Speaking of what you say in regard to the hangers—a hanger is a part of the floor system, is it not? A. Yes.

Court: I think we have had all that, Mr. Cassidy.

Mr. Cassidy: I just want to ask him about this difference of $5\frac{1}{4}$ and the floor beam.

Court: Well, I cannot allow any extended examination. If you have any short point you wish to bring out, do so.

Mr. Cassidy (to witness): The incidence of the weight caused by the tramline being put close to one side of the bridge would be equally heavy on the hanger which holds up the floor beam, and the floor beam at that point? A. Yes.

Q. Why do you say then that it reduced the factor of safety in the floor beam, and does not reduce the factor of safety similarly in the hanger? A. What is the difference, do you remember, Mr. Cassidy? That is, the relative difference.

Q. It was two-thirds of the weight on one side of the bridge and one-third on the other? A. I don't mean that.

Q. What I want to make out is, the hanger is part of the floor system, and holds up the floor beam. The additional strain on the hanger where it holds the floor beam would be equal to the additional strain on the floor beam at that point? A. Yes.

Q. Why do you not then reduce the factor of safety of that hanger similarly to the factor of safety of the floor beam, by reason of the additional weight? A. If you will permit me a moment, I will find out what that difference is.

Q. I am on the question of principle; do you make a distinction? A. Do I?

Q. Yes; you told my friend by putting the tramcar over on one side it reduced the factor of safety of the floor beam to 2, but the factor of safety of the hanger was $5\frac{1}{2}$? A. Yes; well, what is the relative difference?

Court (to witness): You see what counsel means? A. I see what he is trying to get at.

Q. Give your explanation in your own way: Why do you make allowance in one case and not in the other? Answer that in your own way. A. What I would like to do is to see whether that does exist. If he says they are not relatively reduced, I say I do not know—I have not the details.

Mr. Cassidy: You said already to my learned friend that by putting the car track to one side it reduced the factor of safety of the floor beam, but not of the hanger? A. I did not say that, sir.

Q. I took it down? A. I did not intend to say that—that the factor of safety of the hanger was not reduced.

Q. Similarly to the floor beam? A. Yes, it should be.

Mr. Davis: We are really only talking about a misunderstanding, because the original factor of the hanger was 11; the original factor of safety of the floor beam is something a little over 4; he reduces both of them equally.

Court: In fact, the witness is so clear that I am astonished. I can understand so much about it.

J. B. C. LOCKWOOD. CALLED AND SWORN. EXAMINED
BY MR. DAVIS.

Q. What is your name? A. James B. C. Lockwood.

Q. Where do you live, Mr. Lockwood? A. Seattle.

Q. What is your business? A. Civil engineer.

Q. With whom are you engaged at the present time? A. The San Francisco Bridge Co.

Q. That is the company, I believe, that built the bridge in question? A. Yes, sir.

Q. How long have you been employed by them? A. Since 1889.

Q. What is your position? A. Manager of the Seattle office.

Q. What experience have you had in bridge work? A. I followed it constantly for 12 years.

Q. Has that been your sole business? A. Yes, sir.

Q. Did you make an examination of the wreckage of the span that went down, of this bridge, after the accident? A. I did.

Q. How long after? A. Beginning on the 29th day of May and extending for a week at intervals for about a week; possibly a little more.

Q. Before I go into the evidence of this, Mr. Lockwood, I would ask you to go over and explain a few general matters to the jury. Show what that is? I am referring to exhibit 3 of "H" in this suit. A. That is a general drawing showing an elevation of the bridge as it was originally built; also as it appeared at the time of the accident.

Q. Which was the Victoria end? A. It does not seem to be marked for the Victoria end, but apparently that (indicating) is the Victoria end. (Point marked "V.") There is first a short length of trestle beginning at the Victoria end, and then there comes a 120ft. span, and then a 150ft. span, which is the span that failed at the time of the accident, and then another 150ft. span, and then another 120ft. deck span, and then from there on, a little more of the trestle work.

Q. And this first span that failed; this is the same view really that we have in exhibit "R"? A. It is the same view that we have in exhibit "R," except in "R" the truss is showing the other end too; that is, from the other side of the truss.

Q. But it is here the Victoria end, and that drawing is the Esquimalt end. We have had reference to a number of terms during the course of the examination. I will ask you with reference to those that are material. The floor beams—which are those? A. The floor beams are these members just underneath the truss square shown—small square members; they are numbered on exhibit "R" 1, 2, 3, 4, 5, 6, and 7. Seven in this span that failed.

Q. These, as I understand, were duplicate spans? A. These were duplicate spans.

Q. Exactly the same in every respect? A. Yes, sir.

Q. These are wood or iron?—which? A. There were 52 wooden posts.

Q. They run up from the five corresponding floor beams? A. Yes, above the corresponding floor beams; they run from the bottom chord to the top chord.

Q. And No. 1 and No. 7 have what kind of vertical? A. They have two iron bars extending from the floor beam to the top chord, instead of vertical wooden posts, and these two are called hip verticals.

Q. Where are the bottom chords of the bridge, and what are they? A. The bottom chords are shown on this plan horizontally above the floor beams, and just beneath the floor planking; three pieces which constitute the main bottom part of the bridge and carry the load which is placed on the bridge.

Q. While we are at that point, you mentioned the floor distance or at any rate the floor extent in the span which fell—does not that extend over the bottom chords? A. At the time of the accident?

Q. Yes? A. It did, yes.

Q. What is the size of those bottom chords which are of iron? A. They vary; at the end of the span on each side of the bridge, there are two pieces, 2 inches by 1 inch; the next panels are 3 by 1.

Q. That would be between 2 and 3? A. That would be between 2 and 3; there are two pieces—3 by 1, and between 3 and 4 there are 4 pieces—2 of them 3 by $\frac{1}{2}$ and 2 of them 3 by $\frac{3}{4}$ ths.

Q. Where are what was referred to by Mr. Wilmot as possibly supporting the floor in 1892, as the lateral rods? A. The lateral rods are shown on this plan just underneath the bottom chords, and shown by small lines from one floor beam to the next.

Q. Do any of these drawings show those rods? A. Yes, this drawing shows it very much better.

Q. That is 4 of exhibit "H"? A. We here have the bottom lateral rods showing very plainly—these blue lines running from one floor to the next one; that is the Victoria end (marked V). This shows the floor beams much more plainly—shows the bottom chord in detail, the bottom chord pins, vertical posts, hip verticals, very plainly.

Q. While we are looking at the general construction of that plan, you might give a general idea—not too minutely so as to confuse us, but a general idea of the principle upon which that span is built, with a view to showing what would be the effect of a floor beam breaking on the bridge? A. The principal part of any bridge span consists of the trusses. In this particular bridge there are two trusses; this drawing represents one truss, and it is a side elevation, and the other truss is supposed to be immediately behind this one, and is exactly similar to the first one.

Q. By the truss you mean—? A. By the truss, I mean this elevation which is marked on the plan "elevation"; the truss consists of the top chord or this timber—these pieces of timber.

Q. Those are all timber on the top? A. Yes, sir; the bottom chord which is all of iron and which is shown here just beneath the floor, and what are known as the web members, which are all of the pieces in between the top and the bottom chords. The web members are divided again into what you might call two different kinds, which are the timber members, which are the vertical posts at 1, 2, 3, 4, 5 and 6, and the iron or tension members, which consist of the hip verticals and the diagonals, which are shown here in blue. Now, the function of these wooden members of the truss is to take the compression strain—that is, they take the strain caused by pushing together. The intention of the iron members throughout the truss is to take the tension strain, or strain tending to pull the members apart; at either end of this elevation we have an end view of the truss.

Q. Before we leave this, is the top chord connected or not?
 A. Each top chord consists of six independent pieces, which are connected at their ends by means of castings at the points shown on the plan. Each of the bottom chords consists of 16 independent members, connected at the ends by pins, which are also shown on the plan; the vertical members are connected with the chords by means of shoes and bolts and pins to hold them in place, and the diagonals are connected with the top and bottom chords by means of the pins which are shown here on the plan.

Q. The idea of the bridge is the different strains counteract each other? A. Well, the whole idea of any truss is to take a load which is placed on the bridge at any point and carry it by means of these web members—carry that load and eventually distribute it on the pier.

Q. With reference to the floor system, what was the size of these floor beams as put in originally? A. Twelve inches by 18 inches and about 33 ft. long.

Q. What about their being smaller at the ends, as Mr. Wilmot mentioned? Well, the end of the floor beam was tapered off a little for appearance, after the span was put up.

Q. Is that inside or outside of the hangers? A. Outside of the hangers.

Q. So it had nothing to do with the strength of the floor beam whatever? A. No, sir; I might explain that the floor beams were notched slightly at the point where they are supported by the hangers, but that would not affect the carrying capacity of the beam as a beam.

Q. What was the size of these joists or stringers that are shown in that little model? A. 3 inches by 12 inches.

Q. And how did the floor rest on top of those stringers?—describe it? A. Well, the floor was placed diagonally across the bridge as shown in this plan, and was spiked to the stringers.

Mr. Taylor: If my learned friend would permit me to suggest—I understand Mr. Lockwood to speak of these sway braces as coming between them? A. The bottom laterals extend diagonally from one floor to the next one, as shown there.

Q. That is the way it would look if you did not have the floor on it? A. Yes, these are the top laterals and also the bottom laterals.

Mr. Davis: As Mr. Wilmot spoke about the bottom laterals, this shows exactly the relative position and size of the bottom laterals and the floor beams? A. That is right.

Q. If the floor beam were to break off at the end as has been described in connection with No. 3, could that floor beam in falling, possibly strike the laterals? A. No; the floor beam, if it sheared off inside of the hanger would drop clear of the laterals.

Q. Where did No. 3 shear off? A. It sheared off inside of the hanger.

Q. So it could not have rested on the lateral, as Mr. Wilmoë suggests? A. No.

Q. When you came to examine the bridge, were you able to locate the different component parts of the bridge from the debris?
A. Yes, most of them.

Q. Were you able to locate the floor beams, in the first place?
A. Yes.

Q. Did you find the floor beam which belonged to No. 1?
A. I was able to locate all of the floor beams except one, definitely, and that one, of course, belonged in the vacant space, and consequently that was located, too.

Q. How did you find No. 1 floor beam?—in what condition?
A. No. 1 was new floor beam, in good condition; all of the new floor beams were in good condition except some of them showed some signs of wet rot.

Q. What was the size of No. 1? A. Twelve by 16.

Q. That was not one of the floor beams put in originally?
A. No.

Q. Was No. 1 broken? A. It was not.

Q. How did you find No. 2? What was it, in the first place?—one of the original or one of the new beams? A. It was one of the new beams; it was located by the lateral rods; No. 2 was the beam which had no distinguishing marks, and was the last beam, and was placed at 2, as the only vacant place.

Q. In what condition was it? A. Good condition.

Q. Was it broken in any way? A. No.

Q. I think you have already said—I am not sure—that it was one of the new beams? A. Yes.

Q. What about 3? A. Three was an old beam, and was broken off—sheared off at the hanger on the upstream or Gorge side of the bridge.

Q. Inside or outside of the hanger, sheared off, or how?
A. Well, it was sheared off; it does not say here in my notes, but it was sheared off right at the hanger—you could see one of the hanger holes still in the end of the beam, on one of the ends.

Q. What condition was No. 3 in? A. Very rotten.

Q. How was the end where it had sheared off, as compared with the other end? A. It was much more rotten.

Q. How did you find No. 4? A. That is a new beam, and it had been chopped some on one end, and one end had some mud on it

where it had evidently been in the bottom of the bay; it was in good condition.

Q. Broken in any way? A. No.

Q. How did you find number 5? A. No. 5 was a new beam; it was bored for hangers, one $1\frac{1}{4}$ inch hanger still in place; one end of the beam had mud on it; it was located at 5 as the lateral rods and the direction in which they lay; it was in good condition.

Q. Was there any other new floor beam which was bored for hangers? A. No, not any of them.

Q. This was the only new beam in which the hangers were put back in the same way as they were originally? A. Yes.

Q. How did you find 6? A. Beam was in good condition except it had been sawn nearly in two at the centre—seems to be sound. The lateral rods place it as being 6.

Q. Is that one of the original beams, or—? A. No, that was a new beam.

Q. In what condition did you find 7? A. No. 7 was an old painted beam; laterals are still in place; find two of the verticals apparently good; one vertical on the other end broken; beam is rotten at the hanger lateral bolts.

Q. This was one of the original beams? A. This was one of the old beams that was originally put in the bridge.

Q. How did that compare, so far as its soundness or unsoundness is concerned, with No. 3? A. It was not as rotten as No. 3.

Q. What, if any, of the stringers did you find broken? A. I found three broken stringers—one coming from each end of the span, that is a piece of the stringer which went on to the adjoining span at either end, and another broken stringer coming from some intermediate place in the span which fell.

Q. Where did you locate the first stringer you mentioned? A. Two broken ones—one from either end of the span by joining on the next adjacent span, and the third stringer from some intermediate place in the bridge—I could not tell.

Q. So the two that you spoke of first were connected with the three beams running to it? A. Oh, no; not at all; they were clear at the end of this span which fell—of the span, not the panel. The other one I could not locate definitely.

Q. How close can you come? A. The end of this broken stringer must have been over floor beam 2 or 4 or 6.

Q. Are you able to give any opinion as to either, or are they all about equally probable? A. Well, it is very likely located over 2 or 4.

Q. Was there at the place where this stringer broke—was there any peculiarity about the wood? A. Yes; there was a large knot in the stringer.

Q. What one of the hangers was broken? A. I found one broken yoke hanger and one cracked yoke hanger.

Q. Could you locate where the broken yoke hanger was? A. The broken yoke hanger was still in place in beam No. 5.

Q. And could you locate the cracked one? A. No; the cracked one had been taken out of the floor beam, and could not be located.

Q. When you speak of being cracked—not broken sufficiently for the pin to go through? A. It was not separated—only cracked about half way across the inch and a quarter iron.

Q. So that could not have had anything to do with the fall of the bridge? A. Not at all.

Q. I suppose the presumption would be it was broken during the collapse of the bridge? A. Yes, sir.

Q. Would it be possible for a bridge like that to give way and fall without breaking more or less of the iron work? A. I think not.

Q. Which was the weakest portion of that span—the woodwork or ironwork? A. The woodwork had the smallest factor of safety.

Q. The difference being what? A. As originally constructed, the floor—some parts of the floor system had a factor of safety of approximately 4, and the least factor of safety in the ironwork was 5.

Q. Where was that factor of safety applied in the ironwork? A. The smallest factor was in the main diagonals extending from the hips to points 3 and 5.

Q. Could they have had anything to do with the original breaking of the bridge? A. They did not have anything to do with it.

Q. What was the factor of safety of the hangers? A. As originally built, the factor of safety of the hangers was 11.

Q. From your examination of the woodwork of the bridge after the span fell, which was the weakest part of that woodwork? A. The rotten floor beam.

Q. That is at No. 3? A. Yes, sir.

Q. So that the woodwork was the weakest portion of the bridge, speaking generally as between it and the ironwork, and floor beam No. 3 was the weakest portion of the woodwork? A. Undoubtedly.

Q. You have heard the evidence as to where the car was at the time the bridge broke, have you not? A. Yes, sir.

Q. In fact, you have heard all the evidence that has been given?
A. I have, sir.

Q. Including Mr. Cox's evidence with reference to the boring of that hole. What kind of way, in the first place, is that of testing floor beams? A very poor way.

Q. What do you complain about, in it? A. It gives an additional cause for decay and deterioration of the beams.

Q. Is there any necessity for using as large an auger?
A. None.

Q. And would the size of the auger have anything to do with the damage that a hole like that would effect? That is, would it be less if it is larger, or would it be less if it is smaller? A. It would be in a degree less, if it was smaller.

Q. I suppose there are other ways of testing beams, anyhow, than by boring? A. Yes.

Q. What is the usual way? A. The usual practice is to use a sharp pointed instrument of some kind, similar to a carpenter's scratch, and to prod for decay defects.

Q. And can they be tested by tapping them at all? A. Yes, possibly.

Q. But the usual thing is as you have mentioned? A. Yes, sir.

Q. What do you think of the method which Mr. Cox employed of plugging that hole? A. It amounted to very little.

Q. After six months would it be worse, better, or as good as if he had not plugged it at all? A. Well, my opinion is it would be worse.

Q. And why? A. Because as soon as the oil got out of the oakum it would act as a sponge to draw moisture.

Q. What is the chief cause of timber like this weakening?
A. Moisture from the atmosphere.

Q. Or, I suppose, from any other source? A. Precipitation.

Q. What would be the necessary effect of that hole being bored as has been described, and plugged in the way in which it was?
A. It would necessarily cause the beam to rot.

Q. How long a time would it take for that—for a rot caused by a hole such as that, to become serious? A. It is hard to answer that question definitely.

Q. I understand you could not say to a month or anything like that; but of course you know what I am referring to. This one was bored for four years? A. In four years it would probably be pretty rotten, of course considering that it was—that it had been in the bridge at the time it was bored, 7 years.

Q. How would these other holes that were in it affect it as compared with that one? Take, first, the two hanger holes which went through, and you know, of course, how the plate went across at the bottom? A. An open hole would not cause rot to be as rapid as one which is closed at the bottom and retains the moisture.

Q. With reference to these holes, there has been some suggestion that these hanger holes, when the plates were across, had been closed the same as if the hole had only gone partially through the beam—how is that? A. They were open at the bottom.

Q. Except that there was a plate under it? A. Yes, sir.

Q. Still, that plate would not close it? A. It would not.

Q. And if that beam was bored after having been in for 7 years, as Mr. Cox has sworn to, and was found to be sound at that time—would you draw any inference from that as to the water, if any, being able to get in and go through that hole? A. The only inference would be that the water had not stayed in these other holes.

Q. As to these lateral holes, would they be apt to collect much wet? A. If they were open at both ends, the water would naturally run out of them. In fact, very little water would get in there.

Q. Compare a hole bored in the top of the beam with a hole bored either at the side or the bottom—which would the water get in most? A. In the top of the beam.

Q. You have stated that the hole bored in the way in which it was would necessarily cause rot, and that this beam was the weakest portion of the woodwork and the woodwork was the weakest portion of the bridge. You have also heard where the car was. From all the evidence that you have heard, and from your examination of the bridge and from other data which you have been able to obtain with reference to this matter, what in your opinion was the first thing to break in that bridge? A. Floor beam No. 3.

Q. It would follow from that, I presume, that you mean that the breaking of the floor beam No. 3 was the substantial cause of the fall of the bridge? A. Was the proximate cause.

Q. And the breaking of floor beam No. 3 was due, of course, to rottenness? A. Yes.

Q. You have shown that the rottenness in floor beam No. 3 at that end where it sheared off was greater than at the other end, and also greater than the rottenness of floor beam No. 7 which had been in the same time? A. Yes, sir.

Q. Bearing all those matters in mind, what was the cause of this beam breaking at the particular time at which it broke? A. The fact that it had been bored in 1892.

Q. In the way that has been described? A. Yes, sir.

Q. Would you come over to the jury, Mr. Lockwood, and describe fully the difference between the floor system as originally put

down, and as it was after the city got through with it, and whether it was better or worse afterwards, and why? A. This floor illustrates very nicely the condition of the floor system as the bridge was built; this shows two panels of the bridge, three floor beams. On each side we have the small piece representing in a crude way, the iron bottom chord; in between this, we have the 9 stringers 3 by 12, standing on edge. On top we have the 3 by 12 plank which extended in a single length clear across the bridge. In 1892, when the repairs were made, this old plank was all taken off, and all of these stringers which came in the neighborhood of the rails—the tram rails on top of the bridge, were taken out, and in place of them were substituted two 10 by 12. These, instead of running from one floor beam to the next one, as they did originally, extended from one floor beam to the second one, that is, for one length about 37½ ft. On top of those 10 by 12 stringers there was placed a T-rail—an ordinary railroad rail, as you see in railroad tracks in any place, which was spiked down, and then the planking for the roadway and for the teams was fitted in between the side of the bridge and the rails, and in between the rails and spiked down to these main stringers and the intermediate stringers. So that in the first place, the bridge floor had planking running in one length clear across the bridge, and after the repairs were made, it had planking in three lengths extending from the side of the bridge to the first rail, between the rails, and from the second rail over to the opposite side of the bridge.

Q. Just explain whether or not you think the bridge floor cut in that way would make the bridge weaker for tram traffic or not, and explain why you think so? A. The floor cut in that way I think would not make the floor any weaker, until the floor beam or something of that kind gave way. If anything of that kind happened, if the planking ran clear across in one length it would be a great safeguard—a great help towards preventing a serious accident.

Q. Explain how? A. Suppose a floor beam gave way, we now have no support under this floor beam. If that floor beam gave way the weight of the car at this point on the track would depress the floor beam, and after the floor planking got down about 6 inches the ends of the plank would rest on the iron bottom chord which would support a very large weight. If the planking went down considerably, or if the planking should break, the floor planking would go down further and these stringers which you see here, would rest on the bottom lateral rods which you will remember are connected with the floor beam over here at the hanger, and which would not necessarily go down by the floor beam breaking. The lateral rods are connected in between the stirrups and they could not get out until the stirrup would break. If a floor beam should break and go down, the plank would go down until the ends rested on the bottom chord; that might go down still further and the stringers hold on the lateral rods; these two things together would form a very substantial support, and might, in case of an accident happening when a tramcar is on there, carry the tramcar safely over to the next floor beam and prevent a serious accident.

Q. If that floor were cut away in the way it was cut, how would it affect the point you have just been speaking of? A. In case the floor were cut in three pieces and we had a 10 by 12 stringer

under each rail, in case of an accident, the floor beam would deflect the floor going over it, and when the stringers reach the bottom lateral rods that would cause some support—the stringers would help carry the load. These long stringers reaching from one floor beam to the second floor beam would also form a support for the tramcar. Now, if the stringers were strong enough to carry the loaded tramcar, of course it could run across and probably reach the next floor beam in safety. That is, if the stringers and the lateral rods together were strong enough, the tramcar might run on to the next floor beam in safety; but if the two together were not strong enough to carry the load, the planking being cut in three pieces would form no support whatever; it would simply buckle down, and the whole thing fall through; that is, under the new system.

Q. It would be deprived entirely of the support to be gained by the planking resting on the bottom chords? A. Exactly.

Q. You have heard evidence with reference to the accident that happened in 1892? A. Yes, sir.

Q. On which occasion, although a floor beam broke, the car was carried safely over. Now, in what respect, if any, was the bridge in 1896 less able to carry the tram over, assuming the floor beam to have broken, than it was in 1892? A. It was less able from the fact that the floor planks were cut in three pieces, instead of being in one piece as originally.

Q. That is, so far as the support to be derived, and which was derived in 1892 from the lateral chords, there was no difference?—from the lateral rods? A. Practically no difference.

Q. They were still the same. So far as the stringers were concerned, if there was any difference, those larger stringers, I suppose, would make it stronger? A. More favorable, certainly.

Q. But the one thing that was not there was this flooring? A. Yes, sir.

Q. The bridge was built for ordinary traffic—not tram traffic? A. Yes.

Q. You might just state the capacity of the bridge and the factors. You have heard what Mr. Warner said as to the capacity of the bridge? A. Yes.

Q. And the factor of safety? A. Yes; I think I agree practically with what Mr. Warner says.

Q. And what is the ordinary life of this timber—these floor beams? A. The ordinary life of floor beams would be probably 8 or 10 years; it might be longer under certain favorable conditions.

Q. Something was said by Mr. Warner about welded eyebars in connection with that broken hanger. Just describe what an eyebar is? A. An eyebar is a flat piece of iron. To take an illustration, we will say a bar 3 inches wide and 1 inch thick; at each end of the bar it is enlarged to—instead of being 3 inches wide it

would be say 9 inches or it may be 10 inches wide, may be 7 inches wide, and would be circular in form at the end—in the centre of this enlargement—at the end—there would be a hole bored there, 3 inches in diameter, for a round bolt or pin to go through.

Q. Was there any eyebar in connection with these hangers?

A. No, sir.

Q. My learned friend questioned Mr. Warner about welded eye-bars in connection with the broken hanger.

Mr. Taylor: No; you misunderstood me, I asked him if he found some broken eye-bars in the ruins and he said yes.

Mr. Davis (to witness): Where would these eye-bars be? A. The broken one?

Q. Yes? A. There was one broken eyebar extending from the Esquimalt end of the span to floor beam 2; I believe that was the only broken eyebar in the bridge. It would be from 0 to 2.

Q. Can you show what part of the work that eyebar did by referring to the plan? A. It is part of the bottom chord, I can place it. This (indicating) is considered the Esquimalt end of the bridge; this eyebar extends from the pier to floor beam No 2; and it is connected on to this pin at floor beam No. 2.

Q. What was it for, and where was it broken? A. It is one of the main members of the bottom chord of the bridge and it has to support one of the main parts of the truss which carries the entire load—it carries $\frac{1}{4}$ of the entire load which comes on the truss; it was broken near floor beam 2. I will explain that each of the trusses had two of these bars extending from 0 to floor beam 2; there were two trusses, and each truss had two bars; that is, there were four bars at each end of the pier, each 2 inches wide and 1 inch thick.

Q. There were four and this was one of the four? A. Yes, and two on each side.

Q. Could you form any idea how it was broken? A. Well, I am satisfied it was broken when the bridge fell.

Q. At any rate, could it have had anything to do with the original collapse? A. It was not the proximate cause of the accident,—no.

Mr. Taylor: When you speak of two on each side of the span? A. Certainly; two pieces for each truss, as I stated.

Mr. Davis: Was the twin bar, if I might so call it, at that side broken? A. It was not.

Q. If the breaking of that one was the cause of the accident, could that one have broken too? A. No.

CROSS-EXAMINED BY MR. TAYLOR.

Q. In making this calculation of yours, Mr. Lockwood, as to the carrying capacity or the strain sheet, on the car being how far to one side—two-thirds? A. Three-quarters; it is 15 feet; the centre of the track is 5 ft. from the centre of one truss, and 15 from the centre of the other.

Q. Is that the way you figured it? A. Yes, sir.

Q. Does that bring your factor of safety on the hanger 5 and a fraction? A. Yes, sir.

Q. On what basis do you calculate your iron at that—the tensile strength of the iron? A. Fifty thousand pounds to the square inch.

Q. That iron would have 50,000 lbs. to the square inch, tensile strength? A. Supposed to, yes, sir.

Q. But had it? A. Well, that is a thing no one can answer.

Q. Is that a very high percentage to put in a bridge of that character? A. No, sir; it is the ordinary strength of refined iron.

Q. Was that refined iron? A. Supposed to be.

Q. I know—supposed to be; the trouble is there is too much "supposed to be" about this bridge. If it had all been critically examined, we would not probably have had the accident? A. To the best of my belief, it was refined iron. I examined the iron.

Q. You remember it struck you it was all weldless iron at first, after examining it for about a week? A. Yes, I discovered afterwards the bars were all welded.

Q. You were of that opinion until I called your attention to that at the inquest? A. Yes.

Q. Did you make any further examination at the time? A. Of what.

Q. Of the iron, more than to see whether those eyebars were welded? A. Not that I remember of, now. I think I did on that trip. I think I made an examination of one or two of the breaks.

Q. Don't you remember you went down after, to see whether your opinion as to the iron being weldless was correct; and you came back and said it was a mistake—it was welded—this eyebar you explained before luncheon, that forms an eye? A. Yes.

Q. And this piece is welded on to the long piece? A. Yes, sir.

Q. In looking at a weld, can you tell whether it is a perfect or imperfect weld? A. Not always.

Q. Could you tell at all until you broke it apart? A. Well, you can form or pass your judgment on it.

Q. But can you really tell? That is another case of supposing? A. Not absolutely.

Q. You stated before, you could not tell without breaking, is that right? A. You cannot tell absolutely.

Q. That is another supposition? A. Yes, sir.

Q. Now, let us get down to the weight. I think you put the weight that might be passed over that at 9 tons? A. I put the panel load that the bridge was figured for at about 9 tons.

Q. I will try and make this short, Mr. Lockwood, and will just show you what you said before, and see if you adhere to it still. (P. 94 of Inquest.) "A bridge of that description and capacity, is that a bridge suitable for all kinds of traffic? A. No; it is suitable for traffic not greatly in excess of the weight it was figured for; the same as any bridge. Q. What weight was it figured for? A. One thousand pounds per lineal foot that was figured, not to exceed 30,000 lbs.; the strain sheet shows not to exceed 28,000 lbs. on any one panel; that includes the weight of the floor itself, which weighed about 5 tons. Q. Fourteen tons—that would be about 9 tons? A. Yes, on each panel; that is the weight the bridge was figured for, as shown by the strain sheet. Q. That would be 14 tons on the panels? A. Yes; that includes the weight of the floor of the bridge itself; subtracting the weight of the floor, which is 5 tons, would leave a safe load for the bridge, as figured, of about 9 tons per panel." Witness: Yes.

Q. You still stick to that? A. Yes, sir.

Q. You had figured in that 5 tons the sidewalk? A. Yes; as I remember it, I had.

Q. Let us get it accurate, because Mr. Warner said he figured the sidewalk at $7\frac{1}{2}$ tons; the floor proper of the truss, and then there would be the sidewalk? A. No; that 5 tons would not include the sidewalk.

Q. So, whatever the weight of the sidewalk in addition to the weight of the floor would be subtracted from this 9 tons? A. Yes, sir.

Q. You heard him this morning put the total weight at $7\frac{1}{2}$ tons, and you put the weight of the floor at 5, that would leave $2\frac{1}{2}$ for the sidewalk? A. That is right; that is approximate.

Q. You figured it together, didn't you, the two of you? A. A great many things we went over together.

Q. You compared your figures carefully together? So that would be $2\frac{1}{2}$ tons off the 9? A. That is right.

Q. That would leave $5\frac{1}{2}$ tons? A. Six and a-half tons.

Q. Would be about the safe load to go on it; that was about the weight of the original car that went over, wasn't it? A. I don't know.

Q. But I am speaking from the result of your investigation? A. We did not investigate the original car.

Q. But did you see any of the original cars there? A. I saw some small cars.

Q. Five ton cars? A. As I remember it, they were approximately 10 tons—the car and the load.

Q. A loaded car would be about 10 tons; then that would be too much to let go over it? A. Well, it would be a little more than the panel load the bridge was originally figured for.

Q. Listen to this answer then also: (P. 96 of inquest): "What would you consider the outside limit which you could allow on that bridge?" A. Well, a single load—you mean a single load?

Q. Yes, either a tramcar or a dray. If you had authority over that bridge, where would you draw the line? A. Well, I should say if a man came along and wanted to take a load twice the amount, to cross the bridge—18 tons—if he used extra precautions I might allow him to get it across. And if he wanted to run a load like that every day, I should say no. And if the load was much larger than that I should say he had better not take it across at all.

Q. Then there is a subtraction of $2\frac{1}{2}$ tons from the sidewalk in considering that? A. I believe not.

Q. So that would reduce that 18 tons by $2\frac{1}{2}$? A. Possibly.

Q. So about $15\frac{1}{2}$ would be the limit? As the result of your investigation, you found this car and passengers 20 tons, and also ascertained there were two vehicles on the span at the time? A. Some teams and some people.

Q. Is not this the fact, to make it short, that there was one vehicle, one of these buggies that sit back to back—a gladstone—with 4 passengers in? A. I don't know.

Q. You did not follow the evidence on that point? A. No.

Q. But at any rate, with a carrying capacity of only $7\frac{1}{2}$ tons there, and the outside limit $15\frac{1}{2}$, surely the answer to the whole of that is, if you have 20 or 22 tons, it could not stand it? A. You want to remember that not all of that 22 tons was on one panel; it was all on one span, but not on one panel.

Q. You were asked in these questions on the bridge, what would you permit to pass safely over the bridge? A. Yes, sir, that is right; as a single load.

Q. And oft repeated that would weaken the bridge? A. It might under certain conditions.

Q. Is not that the fair inference of all you say? A. Well, you must remember—

Q. Did you not say at that inquest the primary cause of the breaking was that it was overloaded—the bridge, or whatever part you choose to call it, was overloaded? A. At the time of the accident I said.

Q. It was too heavy—the traffic? A. I said the traffic was heavier than the bridge should have been subjected to; there is no question about that. I cannot remember exactly the words, but there is no question the traffic was heavier than the bridge should have been subjected to.

Q. A jurymen asked you this: "I would like to ask you Mr. Lockwood—you have examined all of that ironwork and you have examined the broken parts; as a matter of fact, you have formed an opinion as to the cause of the bridge giving way. Will you let us know what it is? A. Yes, sir; I consider that the primary cause was too heavy a traffic, with the bridge—that is, the bridge was loaded heavier than it should be." That is perfectly obvious it was? A. There is no question about that—heavier traffic than the bridge should have been subjected to.

Q. It was too light a bridge for the work, and there was want of repair; that is about the sum and substance of it? A. Well, that is what it comes to, certainly.

Q. I think at that time you assigned as the cause of the break—the primary cause—the broken hanger; that is to say, that is the thing that gave way first? A. Yes, sir; I did. I gave it in my opinion that—

Q. You were uncertain whether that hanger was at 4 or 5? A. Well, it was—yes, it was a little bit uncertain, still it was almost sure that it was at 5; the chances are very largely in favor of it being at 5.

Q. You have examined the original specifications of the bridge? A. Yes, sir.

Q. Do you mean to tell us, Mr. Lockwood, that these 3-inch planks—the floor of the bridge, weren't they? A. Yes.

Q. Do you mean to say that those 3-inch planks stretching over a little bit to the chord link would support a 20 ton car, or a 10 ton car? A. They would assist very materially.

Q. They would break, wouldn't they? A. They might, and they might not; we have positive evidence that in 1892 they did not break.

Q. Assuming the floor beam broke? A. Yes, sir; which it did in 1892.

Q. Do you know what weight was in it in 1892? A. The car was loaded about as it was at the time of the accident in 1896.

Q. You say that would support it? A. I say that they did.

Q. Did they extend over the chord link? A. Yes, sir; the plan showed that it did. I base my supposition on the plan.

Q. Do you know as a fact that they did? A. Not of my own knowledge. I don't know it. I gather it from the plan which shows the ends go over the bottom chord.

Q. But you do not mean seriously to tell us those three planks would have held up this weight on it, this day? A. They evidently did; they assisted it, a great deal.

Q. I am speaking of the accident of 1896? A. Oh, in 1896 the planks were all cut.

Q. Do you suppose that they would have affected it?—would have saved it in any way if this floor beam had broken as you say? A. Well, they would have assisted it very greatly, and they might have prevented the accident.

Q. How do you account for it when you say there was a great deal more weight than it would carry, anyway? A. I do not say there was a greater weight than it would carry. I said a greater load than it should have been subjected to.

Q. That means the same thing? A. No, it does not.

Q. Seven and a half tons is what will be a safe load for it?
A. Yes, a safe load per panel—not of the entire bridge.

Q. Am I not to infer from that anything above 7½ tons would be an unsafe load for it? A. No.

Q. You could crowd on a load indefinitely? A. Not indefinitely.

Q. Well, the factor of safety means you cannot by any possibility go up to or beyond it? A. No.

Q. It has no meaning then in connection with it? A. No—the factor of safety means the load which you figure the bridge for, ordinarily; you should not strain the members beyond that factor of safety. At the same time, you can strain them beyond to a certain extent, without any great danger.

Q. Do you mean to tell me a bridge with a carrying capacity of 10 tons figured with a factor of safety of 5, which would mean 50 tons? A. Ten tons per panel.

Q. You could put 50 tons upon it without any danger?
A. Certainly not; 50 is the estimated breaking load; that is taking the factor of safety at 5 and the safe load at 10.

Q. That 50 would break it? A. Certainly.

Q. And the elastic limit of iron is a half? A. Approximately.

Q. So if you stretch it up to 25 you reach the elastic limit of the iron? A. Yes.

Q. Beyond that it would not be safe to go? A. You should never load iron beyond the elastic limit.

Q. You put one load then of 25 tons on it on that basis you would have reached the elastic limit of your iron? A. Yes, sir.

Q. If you follow that with a load of 30 tons, you would have got beyond the elastic limit of the iron—isn't that a fact? A. I want to qualify my answer in regard to the 25 tons.

Q. Can you not answer me yes or no to that? A. I don't care to, at present. You pin me down to the question of supposing 25 tons on one panel of the bridge. That placing might strain to the elastic limit only a part or members of the floor system; it might not strain any other members in the truss anywhere near the elastic limit.

Q. (Question repeated.) That assumes a basis of 10 tons plus a factor of 5, or 50 tons. Half of that factor would reach the elastic limit of the iron? A. It might some pieces of iron in the truss, not necessarily all of them; in fact, it was not all of them.

Q. But you do not consider that the truss and bridge are stronger than its weakest part, do you? A. Certainly, the truss as a whole is no stronger than its weakest part or member.

Q. But, having stretched some portions of the iron up to their elastic limit of 25—? A. You might not stretch any limit of the iron at 25 tons.

Q. Is not that the limit you placed on it yourself? A. I said probably there are certain pieces in the bridge which would be strained to their elastic limit much quicker than other pieces. Some members of bridges are iron and some wood.

Q. Do you mean to say you do not understand my question? A. No, I don't say that at all.

Q. Then do try to answer it, because I am not trying to catch you. You are asking me questions which, if I answer you directly, are misleading.

Q. Surely you do not propose to answer me indirectly? A. No; but I have to qualify my answers in order to make it clear.

Q. I have not got an answer. I say, on the supposition of the carrying capacity of 10 with a factor of safety of 5, or 50 tons—
A. On each panel?

Q. The elastic limit of the iron, you have told me already, is about 4½. If you put on a load of 25 tons, would you stretch the iron to its elastic limit? You said yes to that? A. Under certain conditions.

Q. By putting weight on it? A. If you put a weight of 25 tons on each panel of the bridge, you certainly would strain the members of the truss to the elastic limit.

Q. Wouldn't you do that when you passed a 25-ton weight over the span? A. Not necessarily; no, sir.

Q. Would you stretch any of them? A. Any member of the truss?

Q. Yes. Surely you do not mean to tell me that half of the ultimate breaking strain is not the elastic limit of iron? A. Not at all. It is approximately, yes—speaking broadly.

Q. Then suppose you put that weight on it—half of the breaking strain. I won't confine it to the 25 tons, because you won't stick to that? A. You load the entire bridge, certainly.

Q. If you load one part, that is strained; and is it not the same thing? A. No, sir; not by any means; that is where the whole difficulty lies; that is the reason I do not answer your questions to suit you.

Q. Does a weight on the bridge stretch the iron? A. Certainly—any weight.

Q. A weight of one-half the breaking strain would bring it to its elastic limit? A. If you load the truss to one-half the breaking strain.

Q. If you load beyond that you get beyond the breaking strain of the iron? A. Yes.

Q. If you had a load of that weight passing several times a day of the ultimate elastic limit of the iron and followed that afterwards with a load a little in excess of the elastic limit, what would be the probable effect—collapse, wouldn't it? A. Well, not necessarily. If you keep doing that long enough, the bridge would collapse, but not necessarily collapse the second time.

Q. That is really the fair inference to be drawn from all you say? A. That is true.

Q. You don't want to let this out, but it is a fact. Is not the truth of the matter this structure was altogether too light and allowed to get out of repair, and could not sustain all that weight? A. There is no evidence which goes to show that the bridge was overloaded to half its ultimate strength. Half of the ultimate strength of that bridge would be 150 times—taking the strain sheet—taking the actual weight would be 150 times 700, which would be 105,000 lbs.

Q. You think that one of these spans would carry 105,000 lbs? A. I see that is one-half—I made a mistake. Perhaps I had better put it this way —

Q. You had better put it some other way—I am pretty sure of that? A. The breaking load of the span would be 700 times the factor of safety which was 5 times the length of the span which was 150 ft., which would amount altogether to 525,000 lbs. In other words, a uniformly distributed load of 525,000 lbs. would break the bridge.

Court: But you are speaking of the whole bridge? A. Yes, sir.

Q. That is not what Mr. Taylor is asking you.

Mr. Taylor: Did you understand what I asked you? A. I thought I did. In the first place, you were trying to get the strain in

the trusses from a single panel load which you cannot do; that is, you cannot get the strain in all the braces of the truss in one panel load.

Q. I think I have been quite frank with you and have told you what I wanted—I will have to go over it again: What weight can safely be passed over by a car over that bridge—that span—that went down? A. Ordinary traffic, I should say should not exceed 10 tons, or an ordinary car.

Q. You told us at the inquest 9 tons, and qualified that a short time ago by taking off the weight of the sidewalk, 2½ tons, leaving 6½ car weight that you would allow to go over that bridge ordinarily, to consider safe? A. I don't remember that I said that; I don't think I did. I said the safe load per panel; we were not talking about the car at that time.

Q. We will take the car: What weight car would you permit to pass over that panel and consider safe? A. I should consider the bridge was safe for approximately a 10 ton car.

Q. Do you consider in that the 2½ tons weight of the sidewalk? A. Taking the span just as it stood, considering everything in good condition.

Q. The span as it stood; that is, all the material good—that 10 tons would be a safe load? A. Well, yes, a 10 ton car could have been passed over it.

Q. And an excess of that would have been an unsafe load? A. It does not necessarily follow, but it would have been bad to allow a much heavier load over it.

Q. And repeatedly allowing a heavier load to go over it would interfere to a greater extent with the bridge? A. If the load was large enough, certainly.

Q. Say, a load twice that size? A. Yes, it might, evidently.

Q. Wouldn't it, evidently? A. Well, I think it would.

Q. Why don't you say so, when you know? It is no good fencing; I am trying to talk in ordinary language, and do not want to get beyond my depth in technical terms, but it seems to me that I am entitled to a fair answer. Did you testify before that was the inevitable result of it? A. I don't remember that I did.

Q. Wouldn't it be the inevitable result? A. That is, with a load of 20 tons?

Q. Nine. If twice the safe load could be passed over, would not the inevitable result be to seriously interfere with the structure? A. Not till the load got close to the elastic limit.

Q. Let us stick to the load for the present. I am asking you if twice the load that could be safely passed over there were passed over, would not that have the effect of weakening the structure?

Court: Can you answer that question without referring?
A. No, sir.

Court: It seems to me that this is a vast amount of repetition.
Witness: There is no member of the truss itself which would have been strained to anywhere near the elastic limit; still I would consider it a very bad practice to allow traffic of 20 tons to cross the bridge.

Mr. Taylor: Having made that explanation, I will ask you the question again: You said 10 tons could be passed over safely with a car. I say, if 20 tons passed over it frequently, would not that have the effect of seriously interfering with the structure? A. It would, if passed over frequently.

Q. What was the wheel base of those cars? A. Fourteen feet.

Q. The whole weight of that car would be on one panel, wouldn't it? A. No, sir.

Q. At one time? A. It would be in one panel; it would be between two floor beams and would be on two floor beams; it would never all be what we call a panel load.

Q. I don't know what you call it, but as a matter of common sense it would be between two beams 4 and 5? A. What we call a panel load is a load by one floor beam, and you could never get the entire load of that car on one floor beam. It is bound to go to at least two, and sometimes three.

Q. What distance is there between those floor beams?
A. Eighteen feet 9 inches.

Q. Did you hear Mr. Warner this morning speak of the factor of safety of a railway bridge as compared with a highway bridge? He said the factor of safety for a highway bridge would be greater than for a railway bridge. Do you agree with that? A. No, sir.

Q. You put it the other way? A. Yes, sir; the factor of safety would be higher for a railway bridge than a highway bridge.

Q. You found a flaw in this broken hanger that you found—didn't you find a flaw in the iron? A. No, not in the broken iron.

Q. Did you find a flaw in any iron? A. Yes; one broken hip vertical.

Q. That is a material and important part of the bridge? A. It is. It acts as a hanger; it is not a member of the truss system proper.

Q. You found a pretty substantial flaw in that piece of iron?
A. I found a cinder spot where it had been welded; yes, sir.

Q. What is the effect of a cinder spot? Is it a flaw or not?
A. It makes a bad weld.

Q. It is a flaw? A. Oh, certainly it is a flaw.

Q. It was about a third or two-thirds through, wasn't it? A. I don't remember now.

Q. I will just see what you did say. (P. 117 of Inquest). You were asked:—"Q. A slight flaw, nearly half way through? A. Well, "I don't think it was quite half; I don't think it was half through. "Q. Was it a third through? A. Possibly it was; possibly it was; "possibly one-quarter or possibly one-third of a section. Q. From a "quarter to a third is too much to call a slight flaw? A. Well, a "fairly good sized flaw possibly."

Q. That was in one of the original hip verticals? A. Yes.

Q. Which one was it? A. One of the hip verticals at 1. I had better look at my notes to be sure; as I remember it, that is what it was. I do not find anything in my notes about it, but as I remember it, it was the vertical at 1.

Q. What is the factor of safety of that hip vertical?
A. Under 1.

Q. The original factor of safety? A. 7.

Q. That is one of the most important members of the truss, isn't it? A. Well, it is just as any hanger.

Q. It is more important? A. Not at all.

Q. Is there any other member of the truss that is of more importance? A. Yes, one of the main members of the truss would be more important.

Q. What do you mean by main members? A. The bottom chord.

Q. And the top chord? A. Yes.

Q. Now, the top chord you say was butted and jointed up at each one of those uprights—1 to 7, there. A. Yes, sir.

Q. You examined that critically?—you know it was that way?
A. The top chord?—oh, yes.

Q. Was butted over each one of these. Mr. Warner was slightly in error when he mentioned that top chord extended over two of these? A. If he said that, he was mistaken. I don't think he said it, because he certainly understands a truss.

Q. There was no way of fastening those together there, was there? A. They were fast in the cast iron blocks.

Q. Were they fastened together in the original design?
A. No, only from what fastening they got by resting in the angle blocks.

Q. They were held in compression there? A. Yes.

Q. If they got out of line, the whole structure would go together—buckle like a jackknife? A. If they got out of line far enough, the bridge would collapse.

Q. Do you consider those as good as a continuous bar up there? A. Yes, sir.

Q. Would a continuous bar do that? A. If it got far enough out of line, certainly it would collapse under a load.

Q. Wouldn't it have to go further than those butted pieces? A. It might, yes.

Q. And they are more likely to get out of line—those butted pieces, than the other? A. I don't think so.

Q. Why not? A. Why is it?

Q. You see, I am asking you? You don't think so? A. No, sir.

Q. Do you say that it might not have been caused to collapse by the hanger breaking at 4—5? A. I think not.

Q. Is that what you said before? A. That is what I said now.

Q. I find another reference here to what you said at that time: (P. 127 of Inquest): "You found a broken hanger at 5? A. Either 5 or 4. Q. Might that not have been the first thing to go and carry away the floor ahead of it? A. It might, yes, sir. If the broken hanger was at 4 or 5, the probabilities are that the hanger broke first." Q. You do not adhere to that opinion now? A. There are other qualifications placed in there.

Q. None are placed on that answer? A. I don't think the hanger broke first.

Q. You do not adhere to that original opinion of yours? A. No, sir.

Q. That was given at the conclusion of a week's examination, was it not? A. Yes, sir.

Q. In which you took copious notes? A. Yes.

Q. And from which you testified? A. Yes, sir.

Q. Immediately following your inspection. You have changed that opinion yesterday? A. No, sir.

Q. When? A. I changed it since that time; within a week, within ten days anyhow.

Q. Since your connection with this trial? A. Yes, sir.

Q. And you changed that because someone told you about boring this beam, I suppose, with the auger? A. No, sir, not for that reason.

Q. You changed it for some other reason? A. Not alone for that reason.

Q. What was the other reason? A. I have secured additional evidence in regard to the accident, and where the car was at the time of the accident, and where the car was in the water after the accident occurred. If I remember rightly, I based my theory of the hanger breaking first on the location of the car; and I said at the time, if I remember rightly, that floor beam did not fall first because the car had not reached 3. Now, the testimony before the coroner's jury all went to show—at least, most of it, practically all that I heard—that the car had not reached the centre of the span, and if the car had not reached the centre of the span floor beam 3 could not have been the cause of the accident. As a matter of fact, I am satisfied now that the car had passed the centre of the span, and that floor beam 3 was the cause of the accident.

Q. Did you hear Mr. Biggar, I think it was, say that when the car went down it was about the centre of the bridge, and it pitched forward that way? A. I heard so many.

Q. That would be pitching forward towards the Esquimalt end, or towards 1, 2 and 3? A. Yes, sir.

Q. And did you also hear testimony that the car was picked up some 30 or 40 ft. beyond pier No. 1? A. Yes—about 30 or 40 ft., wasn't it, from the pier.

Q. That would put it about 4 or 5 when it broke, wouldn't it? A. Well, that testimony would put it between 3 and 4. I have seen a photograph of the bridge almost immediately after the accident occurred, which shows very graphically right where the car was.

Q. You have seen that photograph that has been sent around, which purports to be a photograph of the actual accident? A. It is evident on the face of it.

Q. You know it is not so, don't you? A. No, sir.

Q. Do you mean to say that photograph is by any possibility accurate?—that the photograph was taken during the actual collapse of the bridge? A. Not during the actual collapse of the bridge, but very soon afterwards.

Q. Taken when everything was under water? A. Just after the bridge went down.

Q. The floor and car went under the water? A. Yes.

Q. How could it give you the direction of the car? A. You can see the people that were on the car when it went down; they are right there at the car.

Q. That would give you the position as to the pier. You say that would place it at either 3 or 4? A. Yes, sir.

Q. If what Mr. Biggar says— A. Just allow me to finish this explanation. At the time I testified before the coroner's jury I was under the impression that the car dropped in the water at some place about 5, and all the photographs I saw about that time showed the people and all the wreckage in that vicinity—that is, very much

nearer Victoria end than the Esquimalt end. Now, if as a matter of fact further evidence goes to show—and I think it does—that the car was nearer to the Esquimalt end, I am satisfied in my mind that the accident occurred near the Esquimalt end of the span, past the centre of the bridge.

Q. You heard what Mr. Biggar said about the car pitching forward? A. Yes.

Q. And the car was running that way? A. Yes, slowly.

Q. Would not that have a tendency, the bridge giving way, to pitch it still further forward? A. Not very much; the bridge floor would slope both ways towards the point where the accident occurred. The car would not go ahead very much after the bridge commenced to-collapse.

Q. Do you remember the testimony of the bridge going down at the Esquimalt end first?—it dropped off the pier? A. I remember hearing some remarks of that kind.

Q. Passengers on the car said that? A. I don't remember that, no; I don't remember any passengers on the car said that the front end of the span went down first.

Q. No, no. Did you hear all the testimony there? A. No.

Q. Did you hear the first part or the last part? A. I was in there a good deal, off and on, up to the time I testified, and afterwards I left.

Q. What would be the effect of any inequality of the rails of the track there? A. Cause a jar every time the car went past.

Q. And the effect of that jar might be to do what? A. It would be more severe on any truss member that is subjected to it.

Q. Might it be doubled? A. It might be.

Q. Under certain circumstances. How long would it take you to calculate from the measurements of that iron you mentioned there, the actual factor of safety in those hangers—while you are in the box, now? A. The actual factor of safety? You can only calculate theoretically; you cannot tell what actual strain will break a hanger. I can figure it theoretically in about a minute.

Q. Mr. Warner put it, I think, at about $5\frac{1}{2}$? A. Which was that?

Q. The hanger—put 18 tons on the hanger? A. On the hanger or on the bridge?

Q. Eighteen tons where it would be when it passed over the hanger? A. An 18-ton car with a 14-ft. wheel base.

Q. Thirteen, two and a quarter, that was the wheel base? A. I figured it for a 14-ft. wheel base, a 20-ton car, inch and a quarter square iron. I have it already figured, right here.

Q. And you make it? A. 5½.

Q. You do not make it 2.7? A. No, sir.

Q. There is just one thing further I wish to call your attention to, as a result of your examination last time. (P. 277 of Inquest): You were asked "What do you deduce from that? A. Well, I am inclined to think as the result of those things that the hanger at 5 or at 4 broke first; that is about what it simmers down to?" Witness: Yes, sir.

Q. "Do you think that was broken and that the hangers at 4 or 5 remained good, that the sagging of that beam would capsize the whole bridge? A. I think not." What do you say to that? "It is plainly shown by the position of the car in the water that the whole weight of the car had not reached 3? A. I think so. Q. So that it is more likely to have gone at this 4 or 5? A. I think so. Q. There is only one broken floor beam? A. Yes, sir. Q. That was at 3. A. Yes, sir. Q. Do you think that was broken and the hangers at 4 or 5 remained good?—that the sagging of that beam would capsize the whole bridge? A. I think not." Do you still adhere to that? A. Yes, sir.

Q. You examined that hanger at 5? A. Yes.

Q. And as a result of that you found it broke from what kind of shock or a strain? A. You cannot tell hardly, from that. There was no reduction of area that I could see.

Q. Do you remember this question: "If the hanger at 5 or 4, as the case may be, wherever it happened to be broken first, broke from a purely tensile strain by the car going over it. It broke from the shock of the load—the excessive load. That is to say, it would be a purely tensile strain? A. Yes." Witness: I agree with that.

Q. And you were asked this further question: "It would be from the application of weight, at all events? A. Yes, sir."

Q. Now, there was more weight on that than it could carry safely? A. It was not strained anywhere near its elastic limit; it still had a factor of safety of 5½.

Q. But it was broken by a pull, apparently—by a weight on it? A. Yes.

Q. You still adhere to that?—that is correct? A. Yes.

Q. I think you have already told us that the floor beam at 7 was also very rotten? A. It was quite rotten at the ends, yes.

Q. Do your notes show any boring in that rotten floor beam? A. No, sir.

Q. All you know about that is the statement? A. The evidence I heard here.

Q. Of Cox, who said he bored it? A. Yes.

Q. But you do not base your whole theory on that fact, do you?—about it giving way there—the rotten floor beam? A. Well, I attribute the primary cause of the accident—that is, the accident happening just at this time, to that hole being bored.

Q. You don't know whether it was, or not bored? A. I have heard the testimony here.

REDIRECT BY MR. DAVIS.

Q. The fact of your not noticing any trace of it, it would not follow, one way or the other, as to whether the hole was there, Mr. Lockwood? A. The hole might not have been there at the time I saw it, the wood was very rotten; it was sheered right out.

Q. And so broken up you could not tell? A. Yes, sir; it might have been there and I not notice it, and it might have been sheered out entirely.

Q. My learned friend has referred to certain evidence taken before the commission, and, very naturally, he did not refer to all. He asked you with reference to the breaking of the hanger, and referred to some evidence that you agreed with Mr. Warner that it was broken by a shock. (P. 277.) "Suppose the car was standing between 3 and 4 and broke the rotten beam at 3, would the reaction, the concussion, or anything, break the hanger at 5? A. No, sir; I think not. It might break the hanger at 4; that would be very possible."

"Coroner: It might break in the general collapse of the bridge? A. It might break in the general collapse of the bridge at 5, but not from the shock of the breaking beam." Is that correct? A. That is right; in fact, any iron might have been broken at that time.

Q. A juror then asks this: "You assume from that that 4 or 5 had broken because the weight of the car had not reached 3, is that it? A. Yes, sir." Now, was that the reason why the expression of opinion as to the hanger at that time, and you give your opinion as to the broken beam, now? A. Yes.

Q. Based on the position of the car? A. I based my theory of the accident at that time on the position of the car, from the fact that the car, as near as I could ascertain, had not arrived at 3, or near 3.

Q. The very next question shows that: "It is plainly shown by the position of the car in the water, the whole of the car had not reached 3? A. I think so." "Q. So that it is more likely to have gone at this 4 or 5? A. I think so." Now my learned friend read this question to you, and asked you if you still agreed to it, and you said you did. (P. 278): "Do you think that was broken, and the hangers—it must be 'if'—Do you think that if that was broken and the hanger at 4 or 5 remained good that the sagging of that beam would capsize the whole bridge? A. I think not." Will you just explain what you mean? A. Well, I mean simply the shearing off of the floor beam would not of itself cause the bridge to collapse?

Q. That is, necessarily? A. It might cause it, but would not necessarily.

Q. And proof of that, of course, we have in '92. Will you just explain what is meant by the answer you gave my learned friend with reference to the hanger breaking with a weight on it. Is that weight necessarily limited to one particular weight?—that is, the car? A. Any kind of weight—any kind of strain—any force that would produce strain enough to break it.

Q. Would such a weight be applied to it in the falling of the bridge? A. It could.

Q. I see at P. 281, with reference to the hanger: Q. If that hanger was at 4 instead of at 5, you think the probability of its having been the first thing to break would be reduced? And your answer is "yes, sir." Will you just explain why you considered at that time, and I presume still consider—at any rate, you considered at that time if the hanger was shown to be at 4 instead of at 5 there was less probability of that having been the first thing to break, with reference to the weight of the car? A. The reasoning doesn't seem just clear.

Q. If the weight of the car was at 5, which hanger would be more apt to break, 5 or 4? A. 5.

Q. The question was: "If that hanger was at 4 instead of at 5, you think the probability of its having been the first thing to break would be reduced? A. Yes, sir." Why do you say the hanger would break in all probability where the weight was?—the car at that time was shown to be at 5. Then if the car was at 5 would it be apt to break the hanger at 4? A. No; if the car was at 5, it could not break the hanger at 4.

Q. This question and answer given at that time show clearly what you based your opinion on. Supposing that broken hanger had been at 3 and the car at 5? A. It would have been still less probable.

Q. But if the car is shown to be, as it has been shown, at 3 and the broken hanger at 5, then what do you say? A. Then I should say undoubtedly that it was the beam that broke first.

Q. With reference to this flooring extending over the bottom chord. Of course, you did not see that span, but did you see the twin span? A. Yes.

Q. How was the flooring in that? A. In three pieces.

Q. As it stands now, how is it? A. As I remember it, it extends part across the bottom chord; that is the ordinary way of putting the floor on it, so it does extend, and the plan shows it.

Q. With reference to this flaw you have mentioned in the hip vertical, which you say was at? A. One.

Q. Considering all the facts which you have before you with reference to the breaking of the bridge, could that hip vertical have been the first thing to break? A. Not at all.

Juror: In reference to the time of the change, when they took out two of those 3 by 6 stringers there—joists, and substituted 10 by 12 for them. Then the plank was in three pieces, afterwards? A. Yes.

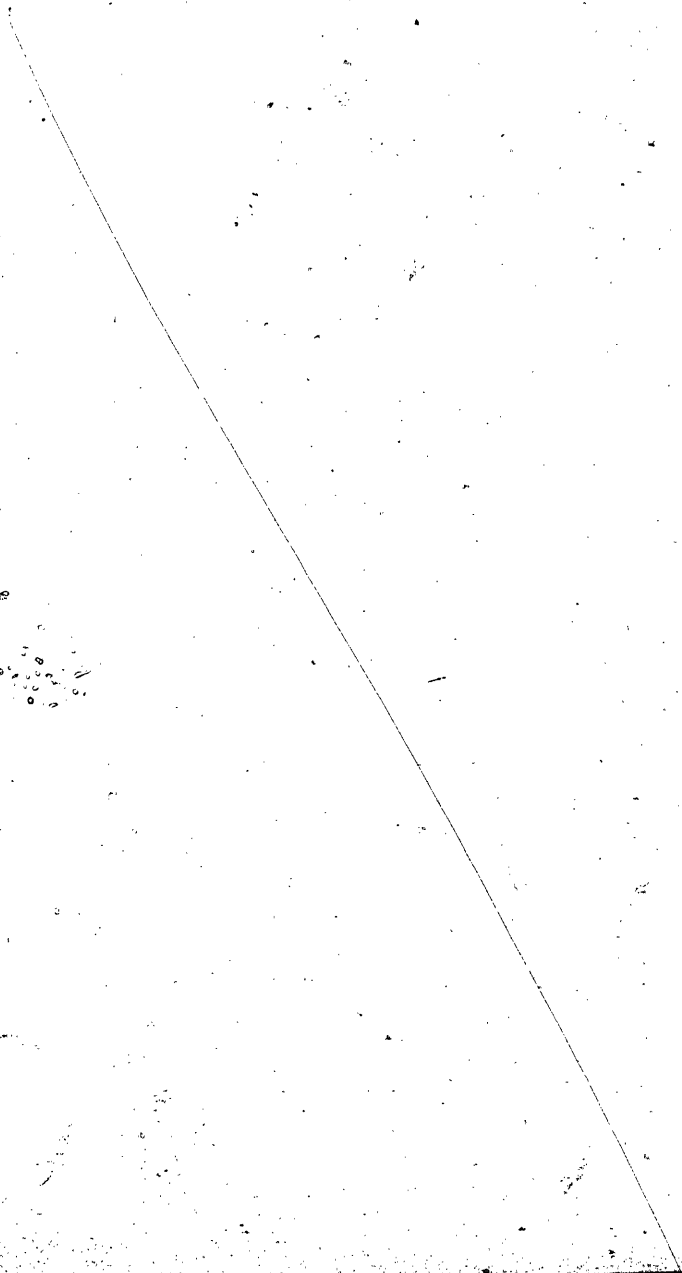
Q. Do you think by bringing those 10 by 12 would make up for the loss of strength in cutting the plank in three pieces? A. No, sir; not by any means.

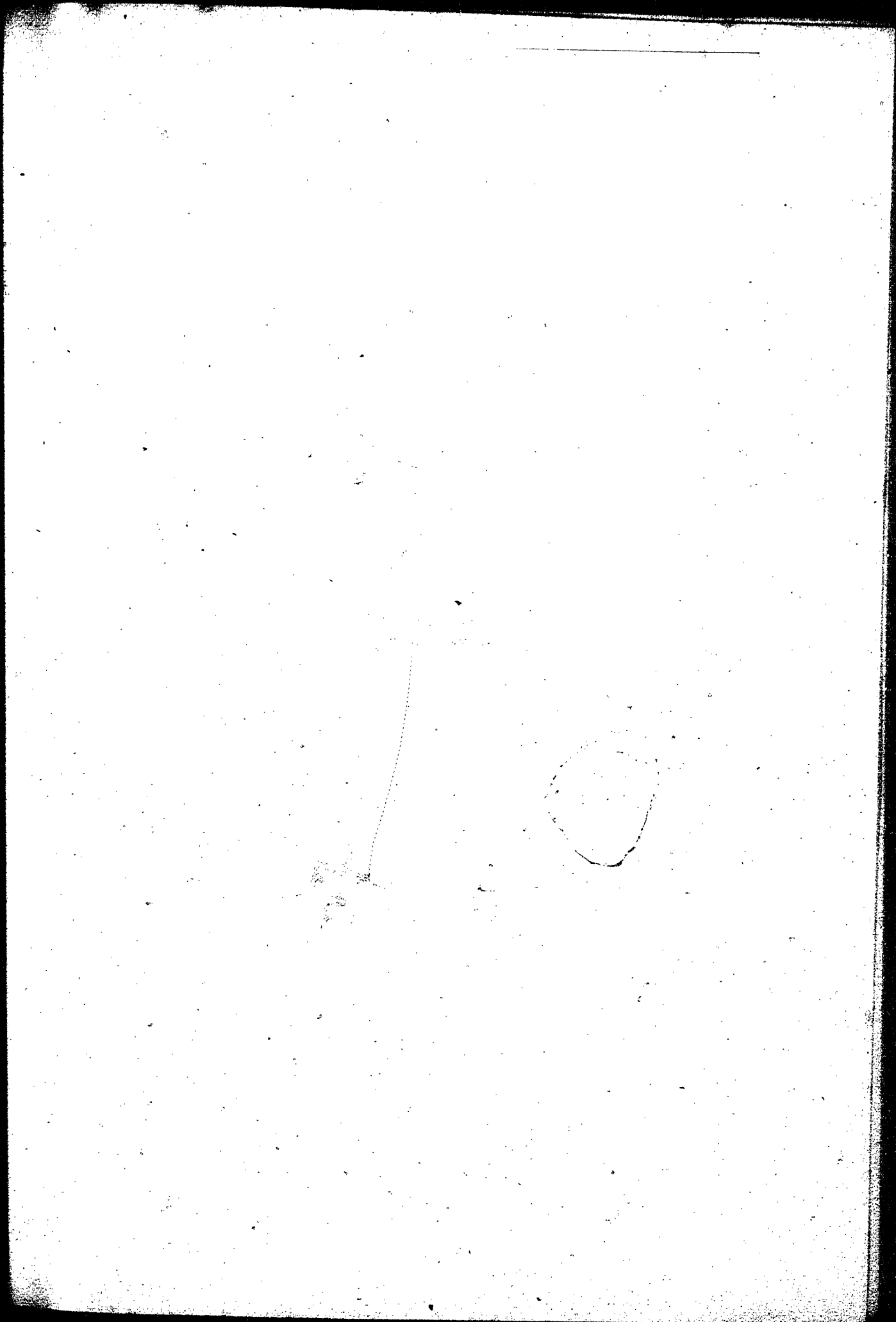
Mr. Taylor: Does the floor add anything to the strength of the structure, anyway?

Court: You went into that very fully; it is no use opening it up again. (To Witness): What do you say? A. The floor certainly adds strength to the structure.

Mr. Taylor: To the truss? A. No, not to the truss. There is a difference between the truss and the structure.

Court: I am not going to exclude anything, if you really press it, but I think you went into that very fully—as to the double effect of it—one favorable and the other prejudicial.





B. W. MURRAY, CALLED AND SWORN, EXAMINED
BY MR. DAVIS.

SECOND DAY OF TRIAL.

10

Q What is your name? A Bernard William Murray.

Q You live where? A Victoria.

Q What is your business? A Inspector and Superintendent of bridges and general construction.

Q For what length of time have you had experience in inspecting bridges? 20
A As a boy, I started in '57 for the Midland Railway Company, in Derby, England.

Q And you have been connected with that sort of thing ever since? A Yes, sir,

Q I understand you are not an engineer? A I am not.

Q Simply a practical bridge master? A Just a practical constructor.

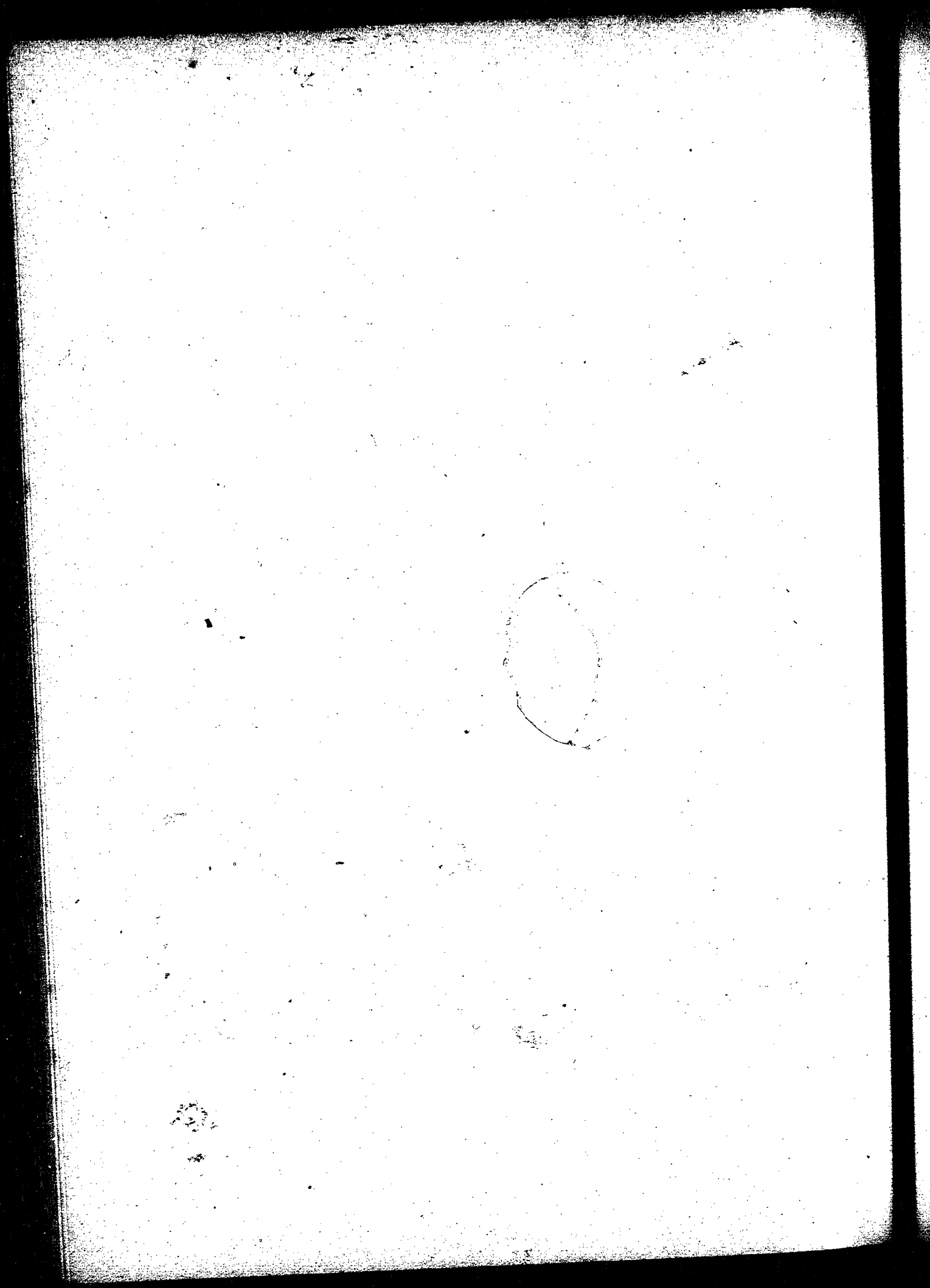
Q Did you see floor-beam 7 of that span which is gone? A I could not say as to the number of the beam. I seen one of the old beams. 30

Q Describe it? It was one of the old beams that were originally put in?
A Yes, sir.

Q Could you tell whether it was in the centre of the span or towards the end? A I could.

Q In what way? A By the lateral rods and the counter pin; it would be either the beam at this end or the beam at the other end. 40

Q Then it would be a beam at one of the hip-verticals? A Yes.



Q And the beam at the other was a new beam. In what condition was that beam? A Well, I found it rotten around the hangers—the hanger holes, rather, and the verticals partly rotten.

Q You did not see beam 3, or did you? A I did not.

Q No. 7, you say, was examined by you. Did you examine it specially?
A I did.

Q For what purpose? A I was sent for that purpose to examine the 10 beam.

Q In order to see what? A To see whether it was rotten or had been bored in any part.

Q Had No. 7 been bored in any place? A No, sir, with the exception of the regular holes.

Q Where the hangers went? A Yes, sir.

Q But I am referring to the same kind of boring as Cox did; had it been bored for the purpose of testing? A No, sir. 20

Q Beam 3 you were unable to find? A I could not find it, sir.

Q That is the broken beam? A That is supposed to be the broken beam.

Q Did you search? A I did, from the bridge to Deadman's Island.

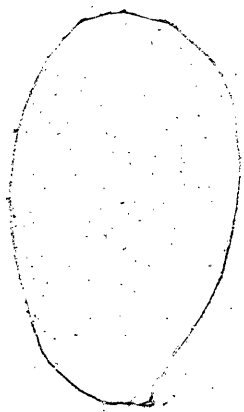
Q Did you make enquiries? A I did. 30

Q Were you able to find that beam high or low? A I was not able to find the beam.

Q You have heard pretty much all the evidence, in fact, all, I think?
A I have heard a part of it.

Q Have you heard the evidence with reference to the beam being bored—Cox' evidence? A I have. 40

Q And the evidence as to the strain sheet—of the wood being weaker than the iron and with a lower factor? A Yes.



Q You have heard the evidence of the condition of beam 3? A I have. 10

Q First of all, in reference to that flooring. Would the flooring put down the way it was finally put by the city—that is, instead of running right across as it does here (referring to model) cut in three pieces—up here, and here, and here, again. Would that have any effect on the chance of the bridge, in case a floor-beam broke, going through or not going through? A I say it would make it much weaker; it would have the effect—

Q Just describe shortly how it would strengthen, the state of the timber, after the floor-beam was broken? A By the planks going right through, and the rail being on top—of course, it is usually a flat rail, or even a T rail—this would be much stronger for the reason if you take the plank this length, supported underneath as it is by the stringers and then on the floor-beams, it will have a greater resistance than if you cut it in three parts. The reason is, when you cut this you make this so much shorter; this being where the car is it is shorter still, and more liable to give way. By being cut so, it would not have the resistance; consequently, the shorter the pieces, the less the resistance, and the more liability to let the car down. 20

Court: Like a short or a long plank on thin ice? A The same thing, your Lordship.

Mr. Davis: You heard it described how the ends of the planking if it fell six inches would rest on the lower chord? A I did.

Q Would that be, or would it not be a material factor? A It would while the plank is in full length, but if the plank is short, it would certainly fall down. 30

Q What would be the necessary effect of an auger hole—the size of that one there—being bored in a floor-beam, some oakum poked in, and then the thing left there for four years? A In boring an auger hole in there would make a receptacle for water.

What would be the result? A The water would cause rot.

Q Evidence has been given that that end was more rotten than the other end, and also that that beam was more rotten at the end than the No. 7 beam. To what cause would you attribute that difference? A I attribute the cause to the boring of the beam and allowing the water to follow the fibre. 40

Q Now, Mr. Murray, have you heard the evidence of Mr. Lockwood and Mr. Warner? A Partly.

Q All the material parts. As a practical bridge man, although not an engineer, having heard the statement that the factor of safety of the iron was some three times greater than that of the woodwork, which part, in the first place, would be more apt to give way—the iron or the woodwork? A I would rather not go into it for the reason that is an engineer's standpoint, it is not from construction standpoint; the constructor is supposed to follow the plans and specifications given to him. 10

Q The rotten condition of that beam as compared with the beam No. 7, and the rotten condition of the Gorge end of that beam as compared with the other end, you attribute to the boring of this auger hole? A I do.

20

CROSS-EXAMINED BY MR. TAYLOR.

Q In this original design, if a floor-beam gave way here (indicating), the ends of these planks, if they were long enough, would come down on the lower chord? A Yes.

Q You see these are all jointed here—at least they all rest on the floor beam? A Yes. 30

Q And they are not fastened together, are they, in the original design? A I believe not.

Q You believe not? A I am not sure.

Q So that if a floor-beam gave away there, the whole thing would buckle in together there, wouldn't it? A The whole thing would buckle in together; it would come down as far as the chords. 40

Q You mean to say that these planks just nailed to these joists here would stop it—two light nails? A There is no man can tell, I think it would be a great factor in stopping.

Q You think the nails in the planks would hold the planking? A No, it is not the nails; the planking would come down on the chord.

Q There is nothing to support it underneath, and there would be an area of how much? A If there was nothing else to support it you would have the whole length of the bridge.

Q Wouldn't it have the tendency of this, Mr. Murray, that when you put long stringers with the joists broken, they would distribute the weight then, that would come on these other sound floor-beams? A If the stringer is over three beams, that is half way over two beams and over the other one, if you broke the beam in the centre and the joist was over the beam that gave way, it would cause the car to go down, and tip over. 10

Q And if it were not, it would have a tendency to strengthen it? A Yes, it would have a tendency to strengthen it?

Q You do not know in what condition they were there? A I do not.

Q That seems to me common sense, Mr. Murray, that must be so. 20

Court: It must necessarily be a source of strength or weakness, according to the place of the break.

Mr. Taylor: And no one knows where that was.

Court: That is another question.

Mr. Taylor: When you speak of a joint you mean— A I mean where the joints abut on the floor-beam. 30

Q And no two abut on the same one? A And no two abut on the same one, no, sir.

RE-EXAMINED BY MR. DAVIS. 40

Q Now, Mr. Murray, as a matter of fact, that floor with the joists under it, after coming down and striking the chord, cannot go very much farther;

that is, there would only be a distance of six or eight inches above it to the beam? A Yes.

Q Isn't it true that they have a great deal of wet weather in Victoria?
A They do have it.

Mr. Taylor: About half what they have in Vancouver? A I cannot say what they have in Vancouver.

Juror: Q Would not that stringer come on that broken beam on one side, it must come on that? A Yes, sir.

Q It necessarily must come on one? A Yes.

Q And there was nothing else to support it when the beam gave way? A There was nothing else to support it when the beam gave way.

Mr. Taylor: Q That assumes that the joint of the stringer was over the beam that gave way? A Well, if it went down it would certainly let the car go down. There would be a joint on either one stringer or the other; on one side or the other there would be a joint?

Q But it would make a difference which side it was on? A Oh, yes

Witness stands aside.

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ROBERT BALFOUR CALLED AND SWORN, EXAMINED
BY MR. DAVIS.

SECOND DAY OF TRIAL. 10

Q What is your name? A Robert Balfour.

Q Where do you live, Mr, Balfour? A At Langley.

Q What is your business? A Bridge builder.

Q How many years experience have you had in bridge-building? A 20
Twenty-three or four years.

Q Just tell the jury some of the work you have been engaged on in the
last ten years or so? A Well, the principal work I have been engaged on in
the last ten years I expect has been in connection with the construction of the
Canadian Pacific through the mountain sections.

Q You built the bridges through the mountain sections of the C.P.R.?
A I superintended the construction of the bridges.

30

Q You also built bridges, I believe, on the Calgary and Edmonton
branches? A Yes. Through the South Saskatchewan; the Red Deer and
Bow River.

Q You have been in Court, have you not, during this trial, from the
time it commenced? A I have.

Q You have heard all the evidence? A I have.

Q Now, I want to ask you, first of all, just putting it shortly—because I 40
do not want to go through it at any great length again—the effect of the
change that was made by the City in the flooring of that bridge. It was
originally like that model, it was then changed as you have heard described;

it was cut into ~~three~~ pieces, so that—what would be the effect, to your mind, of that?

Court: You can put it that way, and Mr. Taylor cross-examine.

A It certainly destroyed the continuity of the floor, that is across the bridge, it made a break in it, so that when the floor and the floor-beam—there would be no assistance from the planking when it was cut; after it was cut the floor planking gave no assistance to carry it over the broken floor-beam, which I consider that planking does to a certain extent. 10

Q And how would it be if the flooring fell so as to get a support from the bottom chords, that is, as it was originally? Would that be of any assistance to it? A It would be of considerable assistance, especially at the pannel point, where the chord has sufficient strength to withstand the pressure.

Q The chord at the pannel point. And how would it compare with the floor beam? A The chord at the pannel point originally had to carry the floor-beam; consequently it was as strong. 20

Q The chord, at any rate, would sustain the floor-beam? A It certainly would at the pannel point.

Q Now, with reference to the effect of this auger hole which was bored in the wood; have you or have you not had occasion in your work as superintendent of bridges on the C.P.R. and other places, have you had occasion to test floor-beams in bridges? A Oh, yes.

Q What method do you use to do it? A By sounding it with a hammer, or shoving a scratch awl into it, or shoving a knife into it. 30

Q Did you ever bore a hole like that (indicating)? A I never did.

Q What effect do you think a hole like that would have, being there four years? A It would be injurious, in this climate, at all events.

Q Well, would that injury be slight or very material, or what? A Well, it is a receptacle to collect moisture, and which would cause decay in time. 40

Q How would four years be, as far as the time is concerned? Would that be time enough to rot the beam considerably? A Considering that the

beam was an old beam, practically speaking, in this climate, when it was bored, I consider four years would be ample time to produce further rot, by collecting the moisture.

Q Now, you heard the evidence that the factor of safety in that bridge is higher in the iron than in the wood work? A Yes, I did.

Q And you have also heard the evidence that this floor beam was the weakest portion of the wood work? A Yes.

Q And you have heard, of course, all the other evidence, both as to the facts, and the expert testimony? A I have.

Q Now, from your practical knowledge as a bridge contractor and a bridge superintendent, after having heard that evidence, and also having heard where the car was at the time that the bridge collapsed, which was just over floor beam 3, what in your opinion was a portion of the bridge which first gave way? A I am of the opinion that the floor-beam broke; it was the breaking of the floor-beam.

Q That would be of course floor-beam No. 3. A Yes.

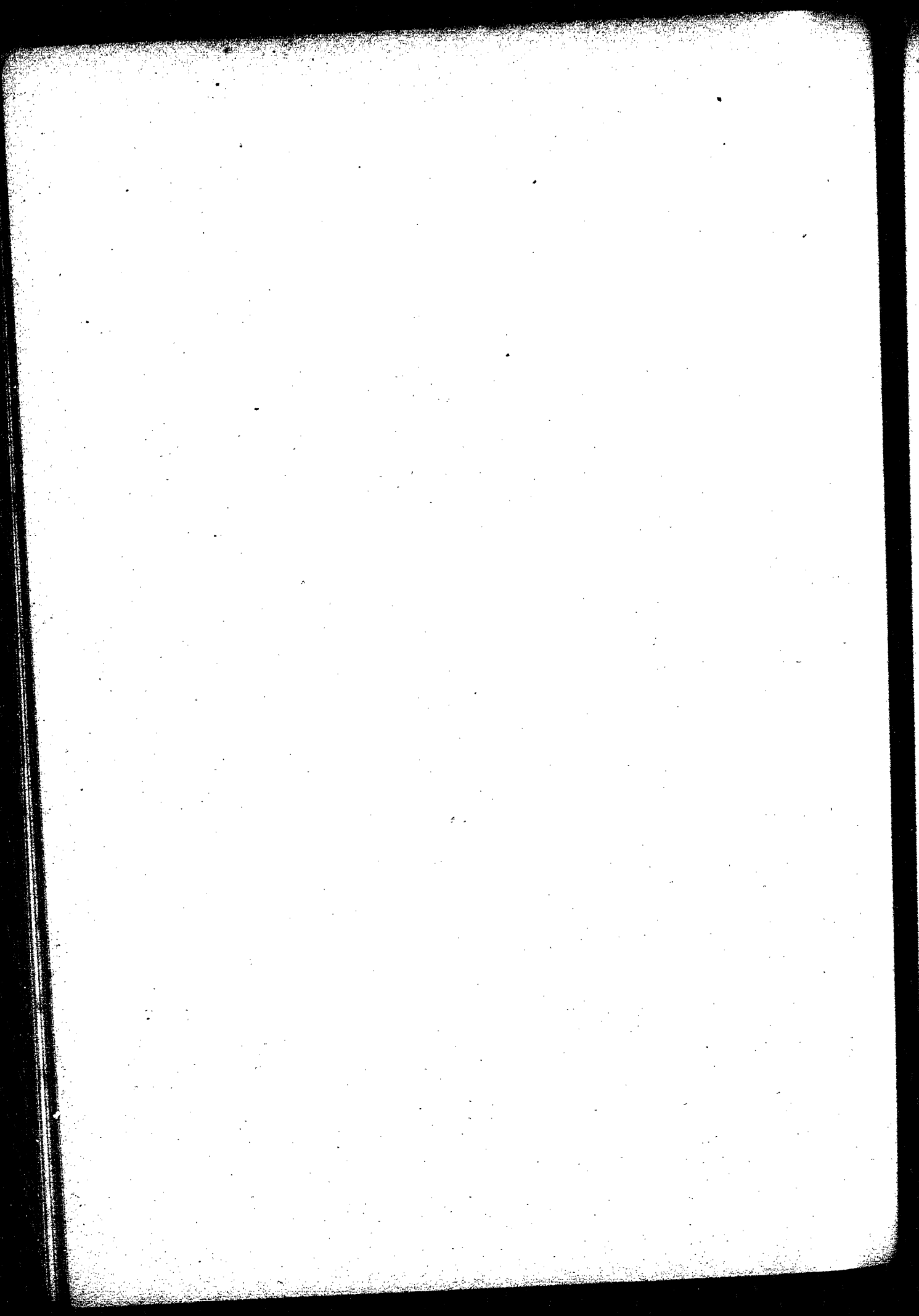
Mr. Taylor: Do not lead him. I ask your Lordship if you think that is quite right?

Court: Mr. Davis will be governed, as far as he can, by the rules of evidence. The way I look upon expert evidence, there is little harm in leading. Experts come in like so many advocates, practically, on one side or the other, and know practically what questions will be put, and what the effect will be. I do not see the harm of leading, particularly.

Mr. Davis: It cannot possibly be leading, because, as a matter of fact there was only one floor-beam broke.

Q Now, you have heard the evidence, Mr. Balfour, that this floor-beam had been in the same time as floor-beam No. 7? A I have, yes.

Q That it was more rotten than floor-beam number 7, that the Gorge end, where this auger hole had been bored four years before, was more rotten than the other end. Now, to what would you attribute the difference between that beam and the other beam, and the difference between that end of that beam and the other one? that is the difference in the rotten condition of the



wood? A I attribute it to the hole being bored—this test hole being bored in this particular beam and the same test hole not having been bored in the other particular beam—the other beam.

CROSS-EXAMINED BY MR. CASSIDY-

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Q Mr. Balfour, you understand from that model there that the joists reach only from one floor-beam to another? A I understand.

Q Yes, and that they are not fastened together in any way at the ends? A I understand.

Q Now, the breaking of a floor-beam, then—of any floor-beam, would let all the joists down, would it not, at once? A If they were not spiked—if the flooring was not spiked to them. 20

Q I see. If the flooring were not spiked down on the top of them, it would let them all down at once; they would all fall down immediately the floor-beam broke? A As far as the floor-beam was.

Q Yes; they would simply tumble. So that the effect after the breaking of a floor-beam, the joists would only be prevented from falling by the nails? A That is all. 30

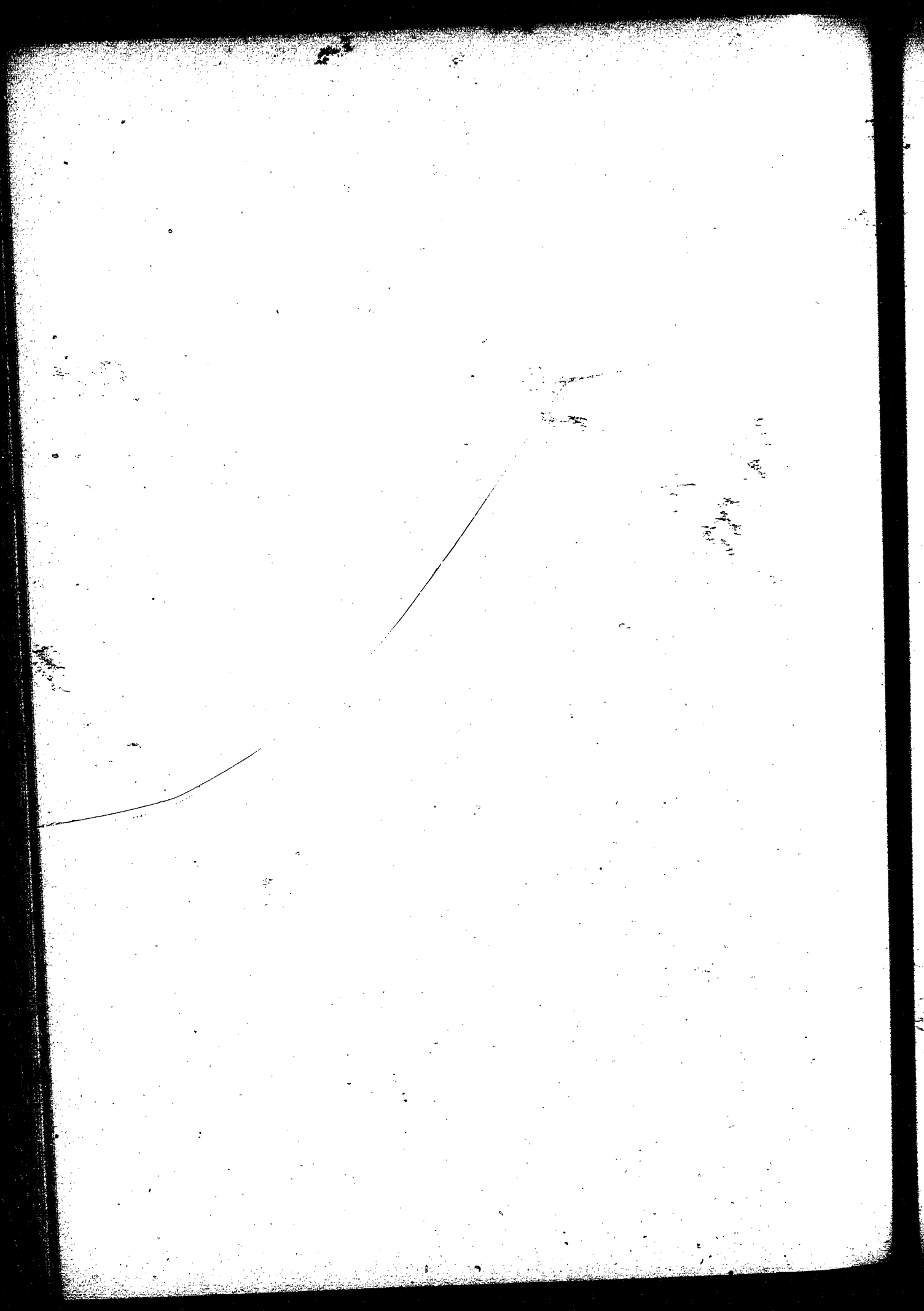
Q Of the floor. A Yes.

Q What size nails would be in the floor? A Six and a half or seven inches, I should judge, in a three inch plank.

Q Now, the stringers ten by twelve, you have heard them spoken of, have you not? A Yes.

Q They go clear over, covering three floor-beams? A Bearing on three floor-beams, yes. 40

Q Do you understand that at the point in which—that along the top of



these stringers the floor-beams are spiked down on to them? A The floor-beam and the floor.

Q No, the stringers spiked down on top of the floor-beams? A I understand.

Q And spiked down on the opposite side the same? A So I understand.

Q And the brake in the middle spiked down that way (indicating). 10
A Yes.

Q Do you say that although with the long stringers, no two of them breaking on the same floor beam, and the floor spiked down all along, that that would not give a greater rigidity than simply these joists—these small joists—3 inch joists, simply laid on top of the floor beams and not fastened together? A I certainly say so.

Q You say that the stringers would not be more rigid? A Not after the floor beam had broken. 20

Q Not after the floor-beam had broken? A No, not after the support had been taken away in the centre.

Q Now your idea is that if the floor-beam gave way letting down the joists, except in so far as they are held up by the nails, that the flooring might be caught by the bottom chord, and held up in that way? A Well, that would be one element of support to the floor, one particular means of support.

Q You are a bridge engineer and expert are you not; A I am a bridge 30
builder.

Q You are a bridge builder. Now how far would the bottom chords be from the flooring? How far would the floor have to fall in order to strike it?

A I understand six inches.

Q Now the bottom chords, or chord links of a bridge are a part of the truss; they are tension members are they not? A They are.

Q And part of the truss. They are intended only for tensile strain; A 40
That is the intention of them.

Q To counteract the compression of the upper part of the bridge. That

is their purpose. They are not intended for a sheering strain. They are not intended to sustain a blow from the top? A No, that is not the purpose they are put there for.

Q They are not intended for that? A No.

Q If you dislocate or break away a bottom chord, the bridge collapses does it not? It is like cutting the string of a bow? A Yes, if you disconnect the bottom chord.

Q Yes, that is so; if you break one of these chord links? A Not one alone, for there are more than one together. 10

Q I mean the whole thing; in some places there are three and other places more? A They are put in in pairs I believe.

Q And how many chord links would pass this broken beam? A I have not seen the plans yet.

Q Now, between 2 and 3, could you tell from this how many bottom chords (indicating on a plan)? A Two pieces. 20

Q And between 3 and 4 how many? That is to say, there are two parallel chord links at each side between 2 and 3; that is what you mean? A That is what I mean.

Q And between 3 and 4 how many? A It is not marked on here although it would appear to be 4.

Q It would appear to be 4. To break away those chord links, that is to say any pair of them, or any number of the parallels between the posts would be just like cutting the string of a bow would it not? A It would, yes. 30

Q Now the bottom laterals similarly—the bottom laterals are for the purpose of maintaining the perpendicularity of the chord, are they not? There are two cord members at each side of the bridge? The top chords— A Yes.

Q How are they kept in perpendicular? A Which girders, the truss?

Q Yes. A There was some braces between the verticals or the posts. 40

Q That is sway braces, and the laterals, and both the top laterals and

the bottom laterals are similarly a part of the truss? A Yes, I should judge so; they are part of the bridge at all events.

Q Without those laterals the truss could not be kept in perpendicular?
A Without the laterals?

Q Without the top laterals? A It would not be likely to remain so.

Q No, it would not be likely to remain in perpendicular. Now what do you say of a system of construction that has those bottom laterals fastened into a floor-beam simply, instead of being fastened to the bottom chord links—lower links? Q That is a matter of detail. I expect the best practice is to fasten it direct to the girder—to the truss itself. 10

Q Directly to the truss itself. In other words, if the bottom laterals are fastened merely into the floor-beam, the giving way of a floor-beam destroys that, does it not? They carry away with the floor-beam, do they not? A Quite evident.

Q They carry away with the floor-beam. You have never seen these 20 original plans and specifications, have you, Mr. Balfour? A No, I think not.

Q You do not know, do you, whether this floor is so constructed or was so constructed as to reach out over the top of the bottom chord links or not?
A Of my own knowledge I do not.

Q You do not. Now, assuming that the floor did not reach out over the bottom chord links, and a floor-beam gave way, there would be nothing to sustain the floor, would there except the nails? A Except the floor itself. 30

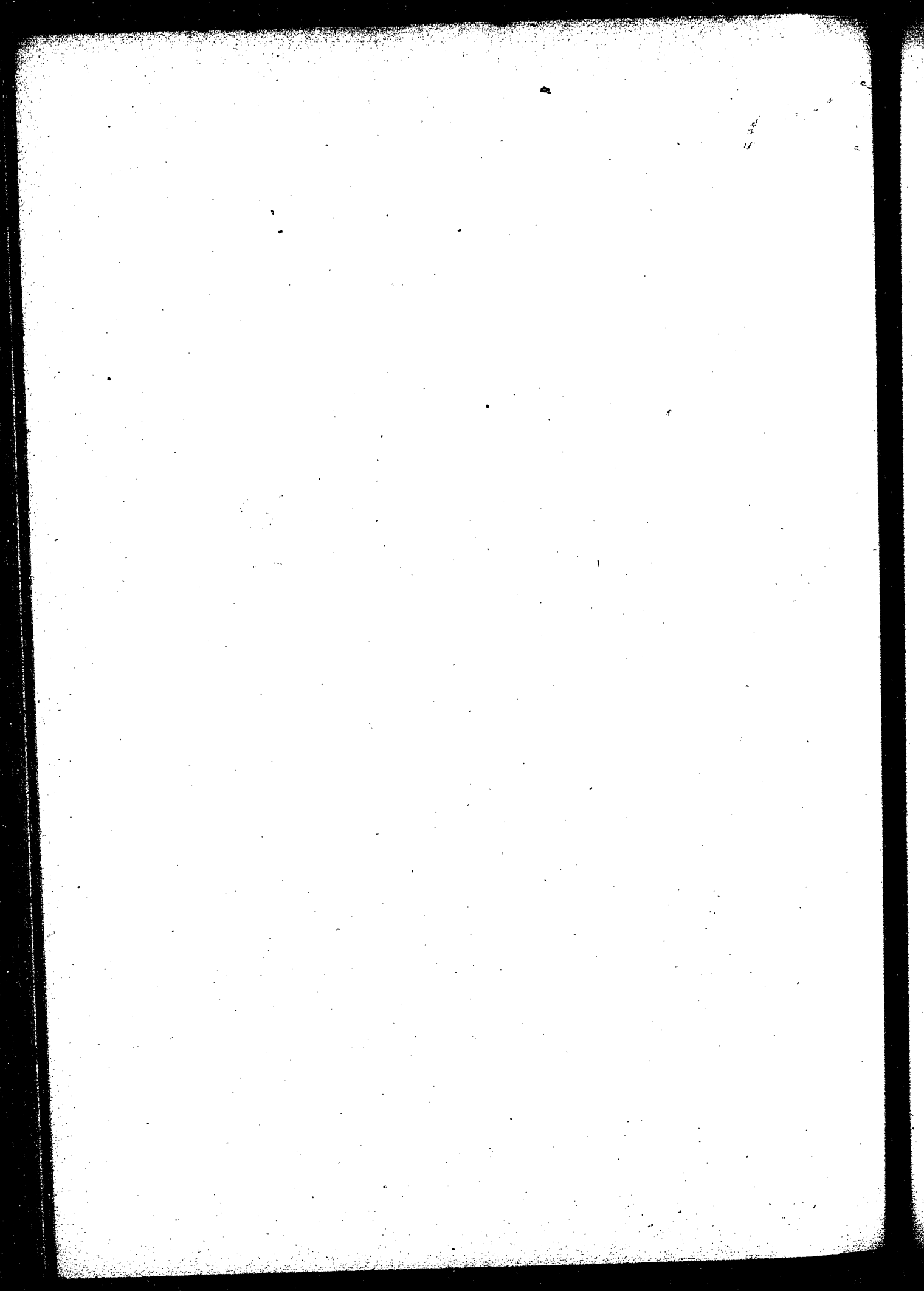
Q That is, except the nails—. A —in the plan.

Q That is to say except the nails on the joists. A Do you want me to go into that thing? Do you want me to go into the support of that floor?

Q It is simple enough?

Court: Don't you think that is pretty well understood by the jury? they say so. 40

Mr. Cassidy: It may be; we will leave it at that.



RE-EXAMINED BY MR. DAVIS.

Q Would the laterals necessarily be carried away by floor-beams in breaking? A From the details that I have seen, I would infer not.

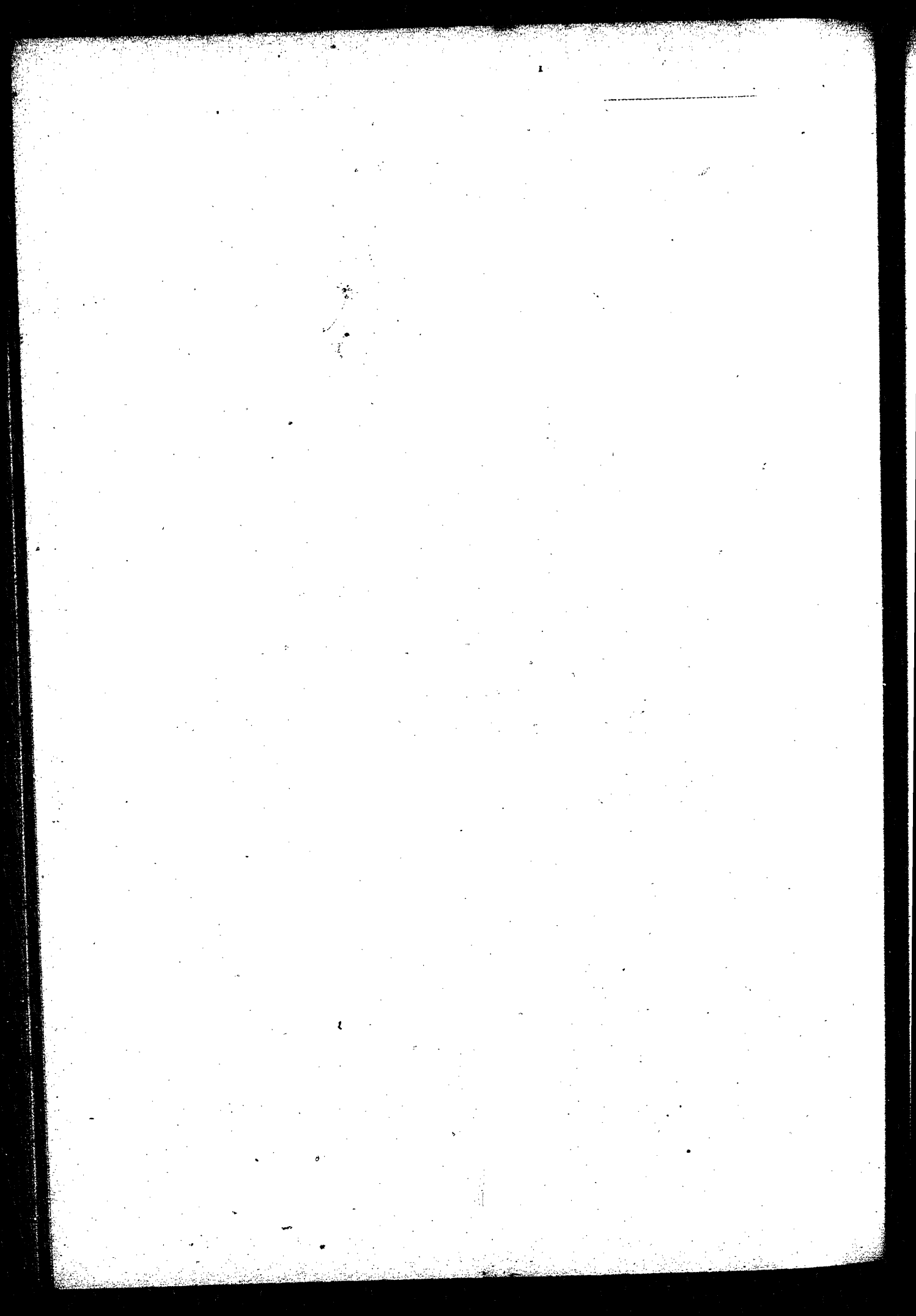
Q No. That is, the laterals are attached to the hanger? A That is what I judge from the model of the floor beam.

Q And the laterals would only be carried away, only if sufficient weight came down to break them? A Yes. ¹⁰

Mr. Cassidy : Q Are the laterals attached to the hanger?—We will prove that later.

Mr. Davis : That is the case, My Lord.

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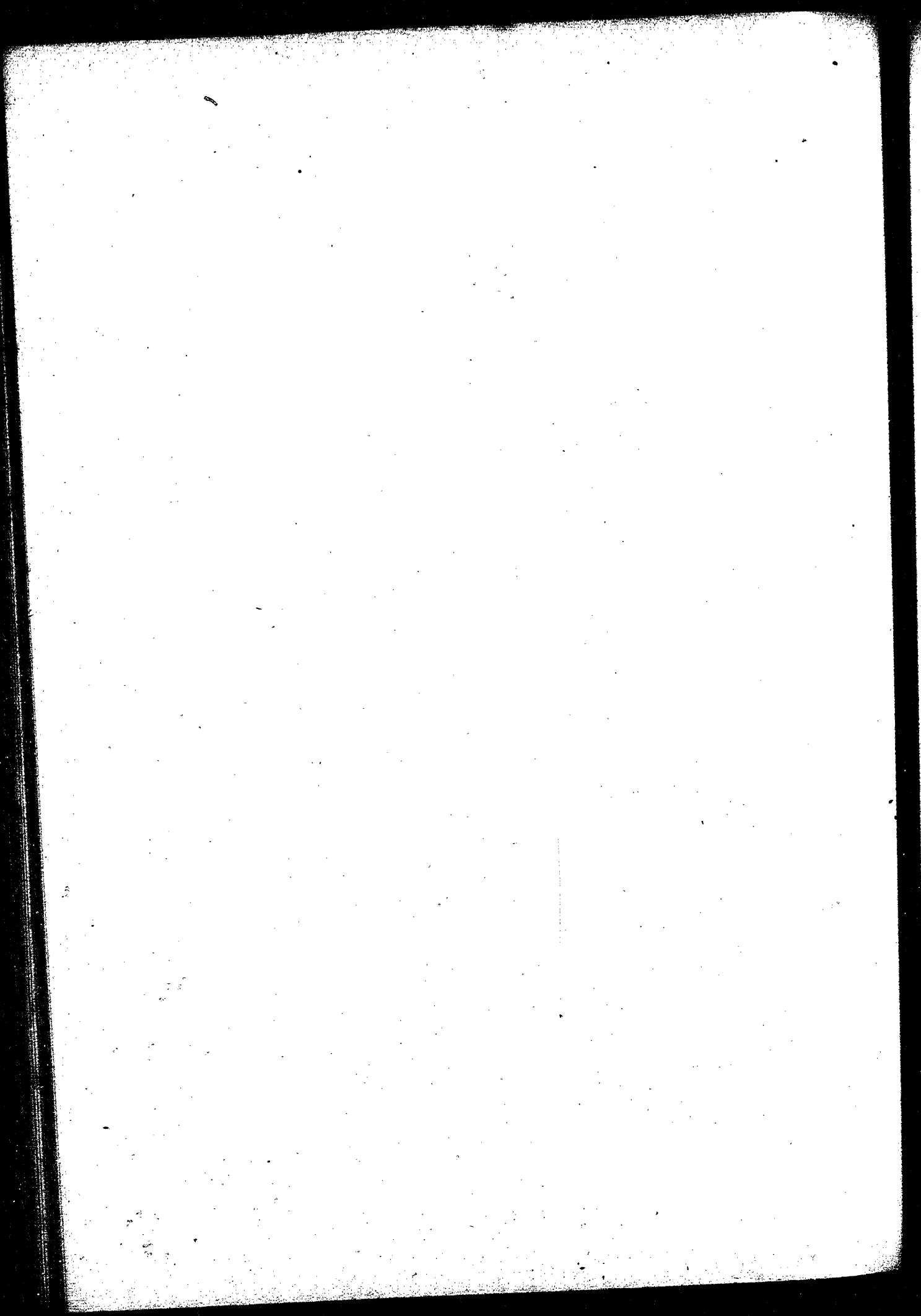


SAMUEL ATHERLY, CALLED ON BEHALF OF PLAINTIFF, AND SWORN,
TESTIFIED; EXAMINED BY MR. DAVIS.

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THIRD DAY OF TRIAL.

- Q What is your name? A Samuel Atherly.
- Q You live in Victoria I believe, Mr. Atherly? A Yes, sir.
- Q You have lived there for some years have you not? A About nine
years. 20
- Q Do you know the Point Ellice bridge? A Yes, sir.
- Q Do you know John Cox, the Victoria city carpenter? A Yes, sir.
- Q Did you know him in 1892? A Yes, sir.
- Q I believe you were working under him at various times in 1892? A
Yes, for the city sir. The sidewalks and bridges.
- Q Did you ever go out to the Point Ellice bridge with him and do any
work in connection with it? A Repairing it, putting planks down, and once
we went to test it. 30
- Q Speaking of this time that you went out with Mr. Cox to test the
bridge, in what way did you test it? A By boring.
- Q Boring. Now in speaking of the two spans, Mr. Atherly, I will speak
of the span nearest the city of Victoria as the Victoria span, and speak of the
one nearest Esquimalt as the Esquimalt span. Which span did you bore first? 40
- A It was on the Esquimalt side sir.
- Q It was on the Esquimalt side. Now about what time of the day do



you remember did you get through boring the span on the Esquimalt side? A Well probably between 3 and 4 o'clock in the afternoon, sir, I will not be sure.

Q Along about 3 or 4 in the afternoon. Then what if any directions did Mr. Cox give to you?

Mr. Taylor: I submit that is not evidence your Lordship.

Court: What did he do in consequence of directions given?

Mr. Davis: Q What did you do then when you finished boring the Esquimalt span, what did you do under Mr. Cox's instructions? A Put the planks down over the sidewalk. ¹⁰

Q Put the planks down over the sidewalk in which span? A On the Esquimalt.

Q On the Esquimalt span. To do that you would have to leave him of course? A Yes, sir.

Q What was he going to do while you were doing that? A He was going to finish the boring sir. ²⁰

Q He was going to finish the boring, and where? As you went away to put the planks down on the Esquimalt span, where did he go on with the boring. A He started right to bore on towards the Victoria side.

Q On towards Victoria. And at which end of the span? That would be the side towards the Gorge, or the other side that he went on to bore? A We bored it on both sides. ³⁰

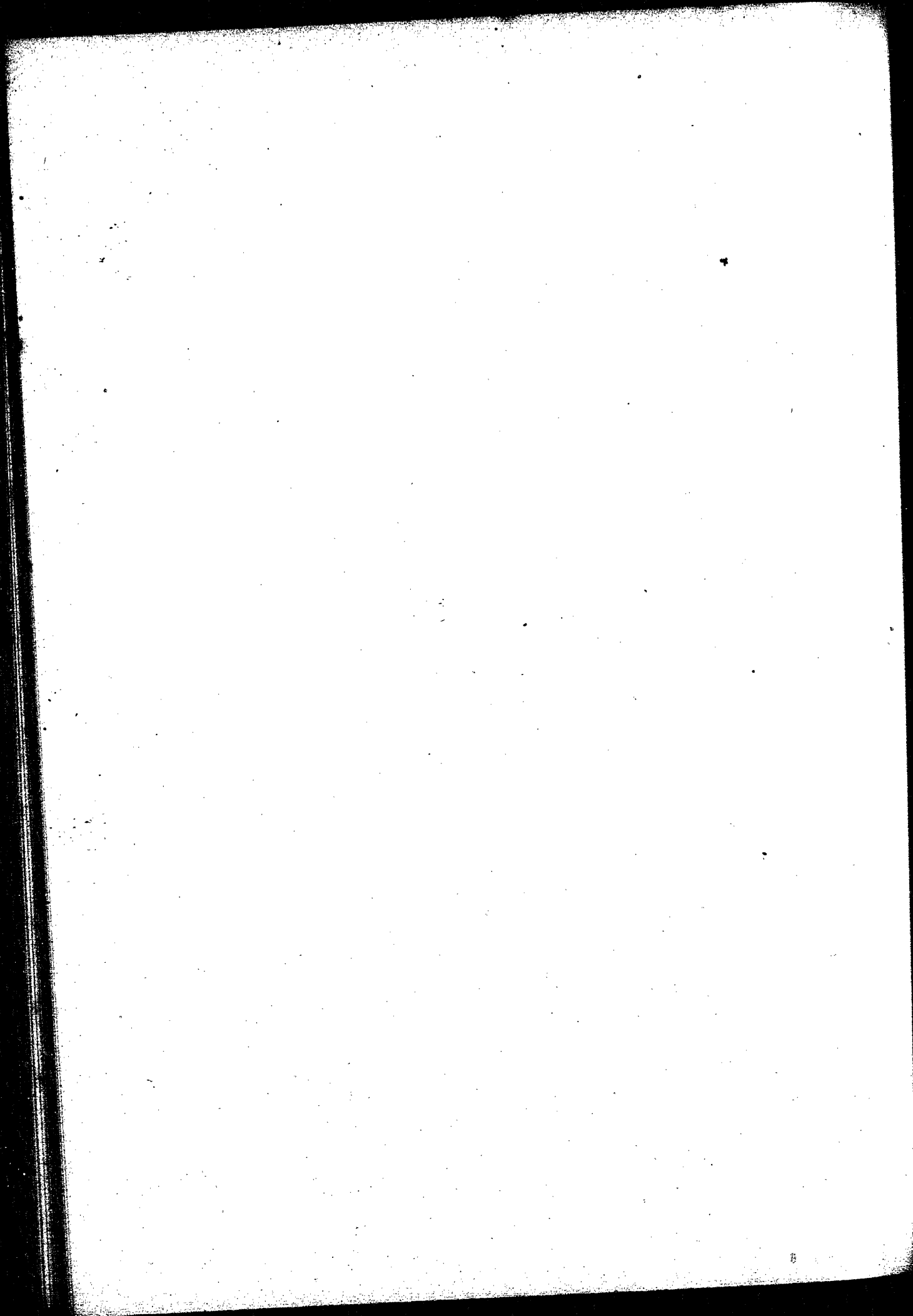
Q I know, but the Victoria side I am speaking of, now that he went to bore when you went on putting the planking down? A On the Gorge side.

Q When you went to putting planking down, about what time was it? A Pretty near quitting time, about 5 o'clock.

Q And did you help Mr. Cox do anything then when you came back? A Put the plank down close over the hangers that he had bored. ⁴⁰

Q That he had bored? A Yes, sir.

Q That is on the Victoria span? A Yes, sir.



Q On the Gorge side I presume? A Yes.

Q Where he had bored. How many of those did you help him to put down? A I cannot say sir, not the number.

Q About how many? A I should think about 3 or 4, something like that.

Q How many can you be sure of? A Probably 3.

Q Yes. And you helped him to put down 3 or 4—3 you feel as you said, pretty sure of—3 at least, and then what did you do? A Then I went home.

Q You went home. Then what was done with the result of the boring? A That was taken into the office, the City Hall Sir.

Q Yes. There is one other question which I probably have a right to ask, and there is some question made about it, and this witness will be a man that can give direct evidence about it, and I ask your Lordship to ask him; and that is whether or not the original planking across the bridge—of course he would have reason to know about it at that time—extended over the lower chords or not.

The Court: You can ask him that.

Q How is that Mr. Atherly? A They ran across the chords.

Q They ran across the chords? A Yes, and butted against the sidewalk.

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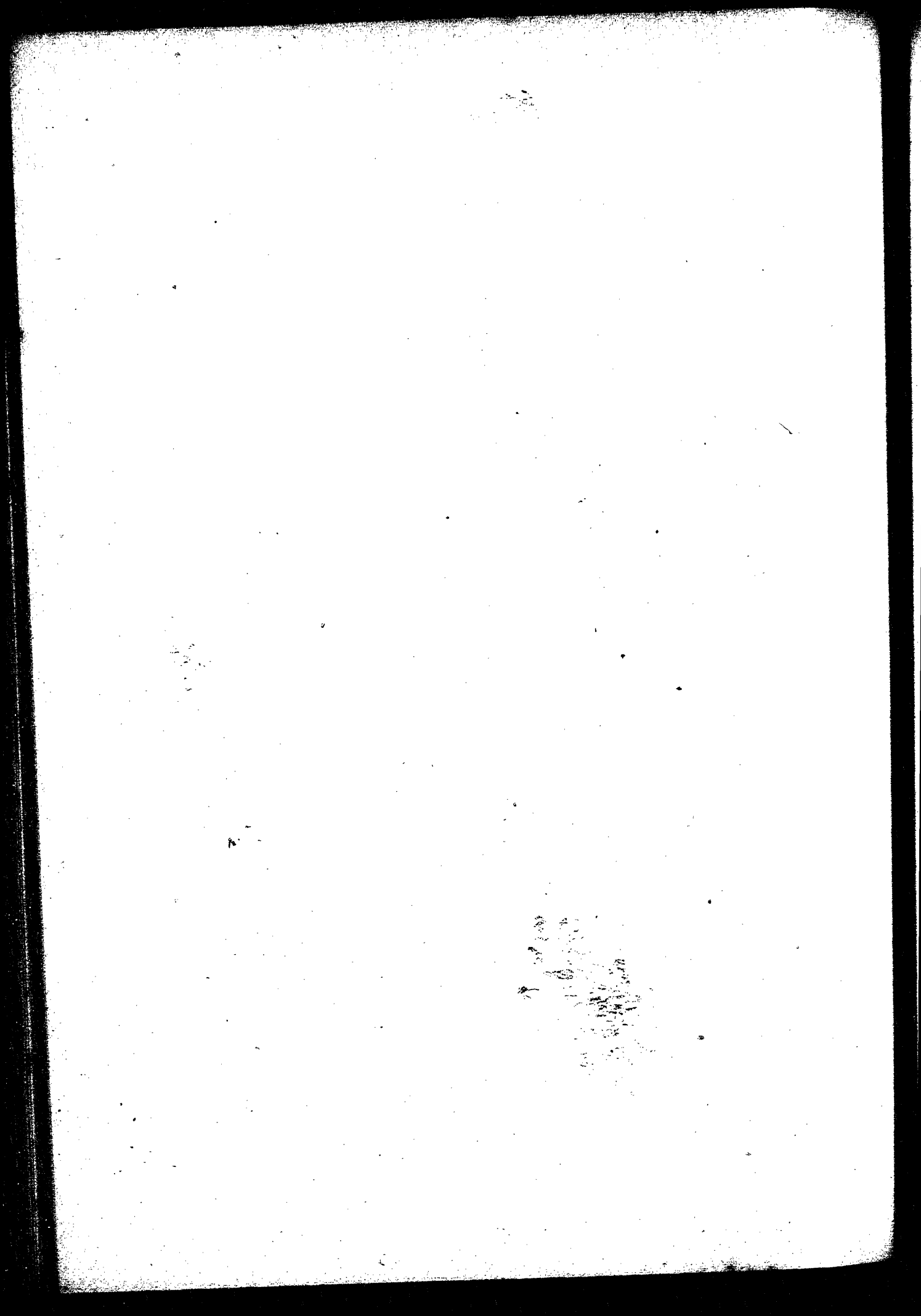
CROSS-EXAMINED BY MR. TAYLOR.

Q How do you remember so well the circumstances in connection with this? A Of the boring sir?

Q Yes. A It was only just the one day's work.

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Q Just the one day's work was all the boring that was ever done there? A That was all I done sir.



Q All that you did. Did you never work more than 1 day there? A Well I put in a plank occasionally when one got broke, or anything.

Q How long were you in the employ of the city? A About 17 or 18 months at that time sir.

Q And during that time you were working on sidewalks and bridges?
A And bridges.

Q During the whole of that period? A Yes, sir.

10

Q Did you have a conversation with Mr. Cox before you came in here to-day? A Not at all sir.

Q Did not have anything? A Not to do with the work.

Q Not to do with the work? A Well you knew what you were going to say when you went in the box? A Not at all sir.

Q Had no idea at all? A I had an idea, what I had to tell was what I knew; what I did sir.

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Q You knew that it was about this boring? A Yes, sir.

Mr. Davis: He had consultation with solicitors.

Mr. Taylor; That is quite proper. Q You had none with anybody else at all? A No sir.

Q And you speak of taking up the sidewalk, Mr. Atherly to do the boring? A Yes, sir.

30

Q That is right is it? A Yes.

Q You bored underneath the sidewalk? A Bored underneath the planks. the planks were raised.

Q You bored underneath the planks of the sidewalk? A Yes, sir.

Q That would mean you bored on the outside of the hangers? A Just on the—

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Q The sidewalk is outside of the lower chord is it not? A Yes.

Q And you bored outside of the lower chords under the sidewalk? A I think it was somewhere close to the hangers where they were bored.

Q Yes, but at any rate it was on the sidewalk side? A On the sidewalk side.

Q Yes. I suppose the reason for that was not to interfere with people driving over the bridge? A Yes; sir.

Q And that is where it was bored, the beams that you did bore? A Yes, the beams that was bored, the ones that I bored were bored there. 10

Q And the ones you refer to now, by Mr. Cox, were bored in the same place, weren't they? I suppose they were, I cannot be certain exactly to an inch or two.

Q What do you mean by not being certain to an inch or two? A That is as to where they were bored.

Q But they were bored under the sidewalk? A They were bored under the side walk. 20

Q Could you say how far away they were from the chords, how far away from the chords? A I could not be sure sir.

Q Well, could you give me any idea? A Well, it might be 6 inches, something like that.

Q What is that? A They were bored as close to the iron work, where the hanger iron was—as close as we could. 30

Q How far away would you put it from that? A About 4 or 5 inches.

Q 4 or 5 inches away from that. Did you observe the bored hole at all? A No, sir; there was a paper that I put the shavings there in, and when I handed in the auger, I handed in the paper, and that was sent into the office.

Q Did you say there was a paper in which you put the shavings? A Yes, sir. 40

Q And you put the shavings in the paper? A Yes.

Q Did you do that, or Mr. Cox? A As I emptied the auger, sir.

Q As you emptied the auger, you put the shavings into a piece of paper?
A Yes, sir.

Q But you could not be sure of the distance it was away from the hanger holes?
A Not at all.

Q I do not suppose you could be sure of the size of the auger now?
A No, sir, I could not tell the size of the auger.

Q In fact, it is a matter of indistinct recollection with you now entirely after so long a time?
A I know about the boring, that is all.

Q Yes, and you are perfectly certain it was under the sidewalk?
A Yes.

Witness stands aside.

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Defendant's Case.

FRANCIS M. YORKE, CALLED AND SWORN, EXAMINED BY MR. TAYLOR.

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SECOND DAY OF TRIAL.

Q You have already been examined, not in this action, but the other one?

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The Court: Q Mr. Yorke gave evidence in this case, surely; did you not, Mr. Yorke? A Yes.

Mr. Taylor: Q Did you see this broken floor-beam, Mr. Yorke, that has been referred to? A Yes, sir.

Q Did you find any auger holes in it? A No.

Q Did you examine it at all carefully? A I examined it, yes.

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Q And did not find any auger hole in it? A No, sir.

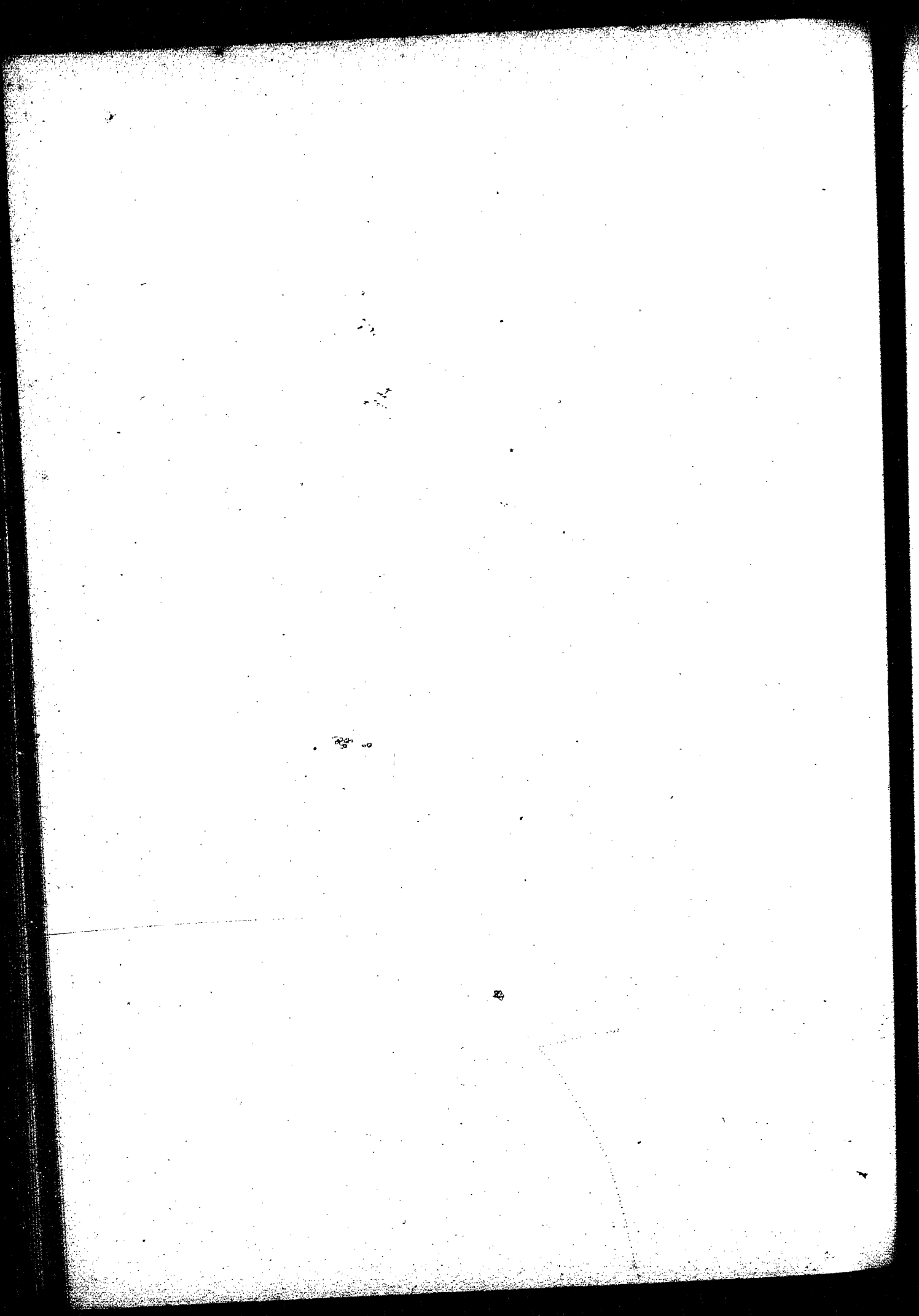
Q There was only the one broken floor-beam? A That is all.

Q Did you see the two pieces of the floor-beam, the whole of it, in other words, was all the beam there? A No, sir, I did not see the two pieces of it.

Q Did you see the whole beam? A No, sir, not the whole beam. I did at once see the whole beam on the wreck, but when I examined it—when we went to examine it, we only found one piece of it.

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Q Did you examine it at all at the first time? A The first, no.



Q To see if there were auger holes or not? A No.

Q You could not tell?

Juror : Q Was the piece that you examined the one that the auger hole would have been in? A Well—

Q The upper end, towards the Gorge? A Yes; yes, it would be the long end, the upper end towards the Gorge.

Mr. Taylor : Q There was no auger hole in that? A No, there was¹⁰ no auger hole in it. I would not swear there was no auger hole in it, but I did not see one.

Q Would not that be the short end that was broken? A I don't know which side it broke, sir, I cannot tell you, it was the long end that I saw.

Juror : Q If it broke under the railway the short end would be the one that had the auger hole in it.

Mr. Davis : Q Mr. Yorke cannot tell the one the auger hole would be²⁰ in, because he don't know which one was bored. But it was the long end which you saw? A Yes, it was the long end.

Witness stands aside.

30

MR. YORKE, BEING RE-CALLED ON BEHALF OF DEFENDANT, TESTIFIED,
EXAMINED BY MR. TAYLOR.

SECOND DAY OF TRIAL. 40

Q You are still under oath. You went up to view this wreckage including this broken beam did you not? A Yes.

Q Lying in the harbour in Victoria? A Up the Gorge, yes, sir, towards Deadman's Island.

Q Did you go to the wreckage? A Yes.—the Provincial Constables had it in a boom there.

Q Did you attempt to fetch it away? A Tried to; I sent up some of the men for it.

Q Would they give it to you? A No, sir.

10

Q And that is the reason why you did not bring it? A Yes, and that is the reason why we did not put it in the scow with the balance of the wreckage.

Q Yes; it was in charge of the Provincial Constables. How far was that truck from the pier. The truck of that car? A The trucks of the car? I have got the marks; I think they were somewhere under 20—they were under 35 feet, between 20 and 30 feet from the lower cylinder of the bridge.

20

Q That would be from the cylinder over there beyond the point 1, the Esquimalt end? A From the Esquimalt end on the south side; that is the Victoria side; the harbour side.

Q Yes; on this design there, number 7 is the Victoria end of it and number 1 is the Esquimalt end. Can you see the figures from where you are? A 7 at this end, yes.

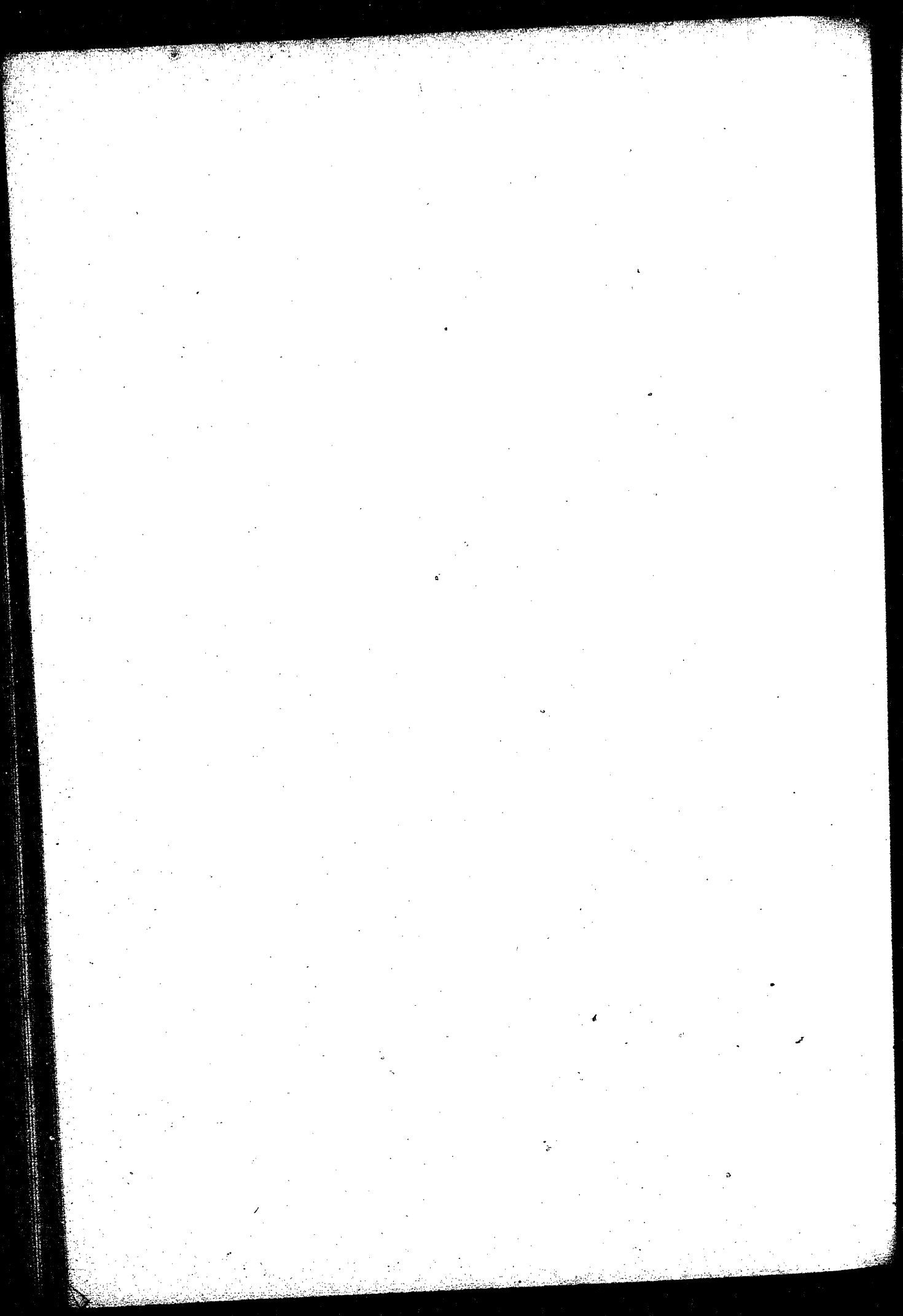
Q This end is the Victoria end and the other end is the Esquimalt end? 30
A Yes.

Q And you say that truck was found between 20 and 30 feet—? A No, the trucks were less—yes, between 20 and 30 feet.

Q Between 20 and 30 feet from the pier on the Esquimalt end? A The lower pier. There are two piers there. The lower pier.

Q That is the pier on the south side? A Yes.

Q It was found between 20 and 30 feet from the pier on the south side? 40
A Yes, on the south side.



Q That would be from the pier that is beyond point 1—it would be zero?
A Yes. And they were laying that way, almost across the bridge (indicating).

Q Almost across the bridge? A Yes.

The Court: Q Did you notice any broken ends? A As far as we can ascertain the Siwashes burnt it up, sir.

Mr. Taylor: Q You were ordered to get it for the City? A Yes; and we could not get it.

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CROSS-EXAMINED BY MR. DAVIS.

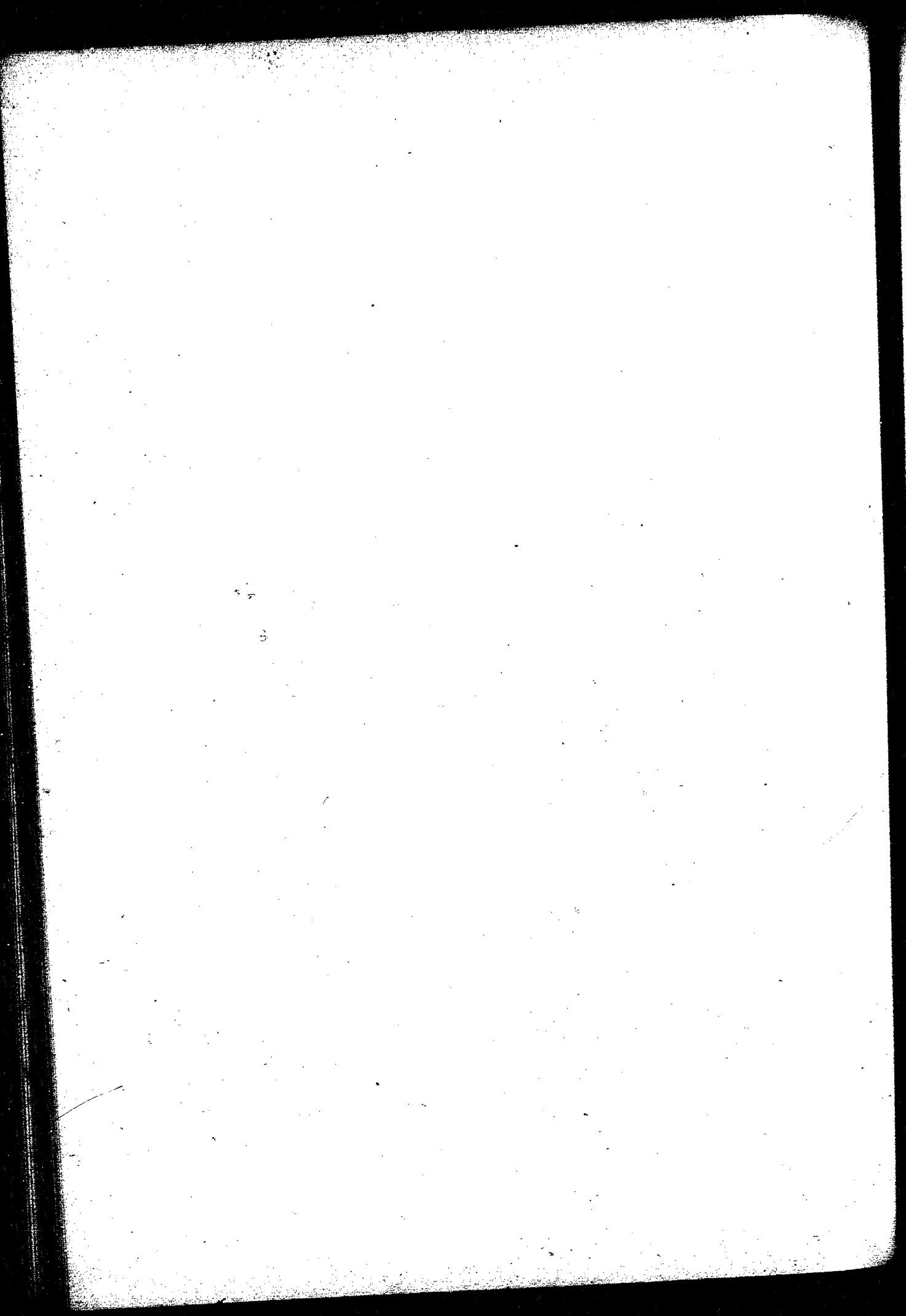
Q Where was the other piece of the floor-beam when you saw the first end? A When we were wrecking the bridge we did not think anything about it, we were trying to get the bodies. The wood floated, and it was easier to get it out than the iron, and we chopped it or unscrewed it and let it go adrift; and it was flood tide, and it drifted up, and the Provincial Constables were out and they put it in a boom up above Deadman's Island there, about a quarter of a mile above the bridge. 20

Q In your wrecking of the bridge I suppose some of the iron work was broken then? A No, sir.

Q None of it was? A Any of it that was—there was some of it cut, not broken, it was cut and you can see the mark of the chisel on it where we cut it. 30

Q Yes, some of it was cut.

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Evidence of Henry P. Bell, Civil Engineer, in
Patterson v. Victoria.

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SECOND DAY OF TRIAL.

HENRY P. BELL CALLED AND SWORN ; TESTIFIED.
EXAMINED BY MR. CASSIDY.

Q What is your name, please ? A Henry P. Bell.

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Q Mr. Bell, what is your occupation ? A Civil engineer.

Q How long ? A Oh, about 35 years.

Q You have had experience in bridges ? A Yes.

Q Did you make any examination of the wreckage ? A Yes.

Q For what purpose ? A To make a report for the city.

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Q It has just been said by the last witness that he went with you. A
Yes.

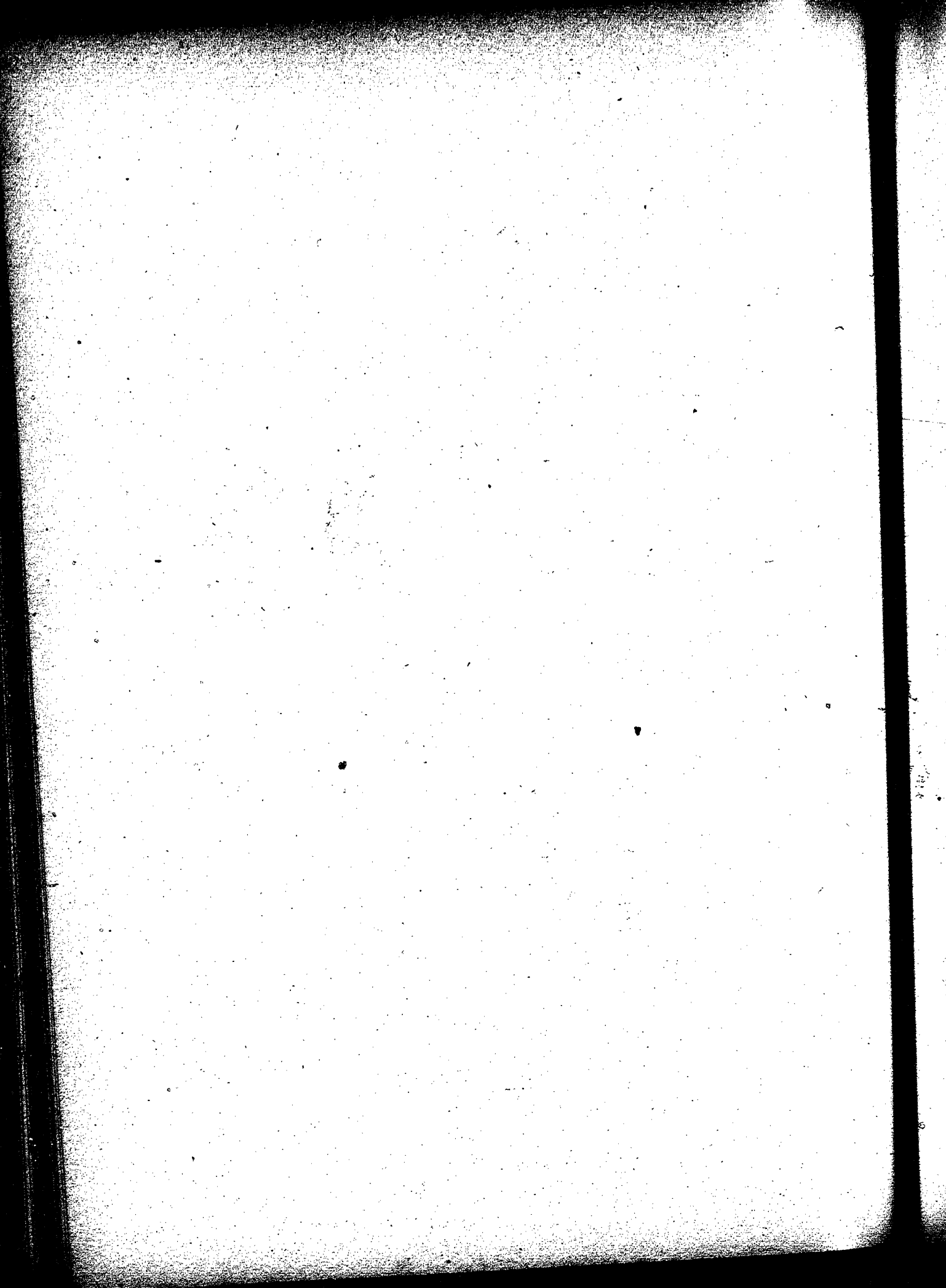
Q You know this floor beam numbered 3 that has been spoken of in this
case ? A Yes.

Q The broken floor beam. That was discovered, I think, amongst the
wreckage ? A Yes.

Q Did you make any special examination of it ?

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A Yes, I did. I went with Mr. Wilmot up to the Indian reserve, and
there we saw the broken beam. And he was interested in examining this—



where the beam had been bored, or if it had been bored, and I took part in the examination, although I did not go there for that purpose myself. But I remember it very well, because he was very insistent about trying to find out whether it was bored or whether it was not.

Q Yes. Did you see the whole beam? A I saw the two portions of it.

Q You saw the two portions of it. Were you able to say from your examination whether the two portions represented the beam? A Why, yes.

Well, that is to say whether they would have been capable of having been put together again in their original form? A Oh, no. You could see that the one piece belonged to the other. 10

Q You could see that the one piece belonged to the other. A Yes, and you could see likewise the mark of the suspender on it.

Q And the mark of the fracture? A Yes; and no doubt the beam was rotten.

Q No doubt the beam was rotten. What I want to get at is this: Was there any of the beam missing? A I do not think so. There were the two pieces of the beam. 20

Q Was there any boring in the beam such as has been spoken of, outside of the boring for the hangers and the lateral rods? A No, I do not believe there was; my conviction is that there was not.

Q You were looking for that express thing? A I did not go there for that purpose at all. 30

Q But you know what Mr. Wilmot was trying to find out? A Yes, I knew what Mr. Wilmot was trying to find out.

Q And your examination was directed to assisting him to find that out? A Yes.

Q And what conclusion did you come to? A I came to the conclusion that there was no hole bored there.

Q That there was no hole bored there. Now, a good deal of evidence has been given here, Mr. Bell, about the alteration in the floor from its original 40

condition. You have heard the evidence which has been given by the other witnesses? A Yes.

Q I need not go over it to you. It is the cutting of the flooring at the point of the tramway tracks, and the substitution of stringers 10x12 for the joists at that point—you heard the whole of the evidence? A Yes.

Q Well, do you agree that that was a weakening of the floor system of the bridge? A No, I do not. On the contrary, I believe it strengthened it. 10

Q Well, will you give the jury your reasons for that conclusion? A Yes; I do not think that it is safe to run 20 ton cars on a bridge without a pair of stringers in it.

Q You think, in other words, that the running of 20 ton cars over a three inch flooring, supported by three inch joists on end, is unsafe? A Yes, so far apart as there, I do not think it is a good construction. No doubt you could put joists into a floor close enough together to run cars on it but it is not a good method of building a bridge—although it could be done. 20

Q Well, what is the reason why that would not be a good method of construction for the purpose of running cars over the bridge? A Because it is like setting a piece of paper on edge, to run upon joists, you want a stringer for a good load.

Q It is like setting a piece of paper on edge? A Yes.

Q That is so much for a joist? A Yes. 30

Q Now, what would be the effect of running the heavy cars on flat rails over a floor like that, with regard to the oscillation and undulation and so on? A I do not think it is a thing that any practical engineer would adopt, knowing that he had a 20 ton car to run on the bridge.

Q What result would it produce? A It produces this result that it is like running a heavy weight on the floor of a tenement building, the joists; and it is not an engineering construction for the purpose at all. It is a construction that no practical man would think of putting in the bridge to carry heavy loads. 40

Q Well, now, assuming that one of the floor beams broke, which construction would be the more likely to save the break-down of the bridge? A I do not understand that question exactly.

Q Assuming that one of the floor beams broke. It has been suggested that if one of the floor beams broke under the old floor, that the floor itself might carry that car along to the next floor beam, thus saving a disaster, and that that is a great improvement over the new plan of laying the long heavy stringers, with the cutting of the floor. What do you say with regard to that? A Oh, I say that the system of putting stringers in the bridge is the best. I would not think myself of taking the responsibility of designing such a floor at all or having anything to do with it. 10

Q When you say such a floor what floor do you refer to? A I mean a floor without stringers.

Q You mean a floor without stringers? A Yes, for a heavy weight.

Q Now, taking the old floor system and assuming that a floor beam broke, what would be the effect as far as the joists are concerned? A What would be the effect as far as the joists are concerned? I do not know as I understand you, Mr. Cassidy. 20

Q Well, here we have this floor you see constructed in this way (indicating) and the joists are simply laid. In evidence it is shewn that these three inch joists are simply laid on the top of the floor beams? A Yes.

Q That they are not joined together at the end in any way, and that all the joists meet along each floor beam? A Yes. 30

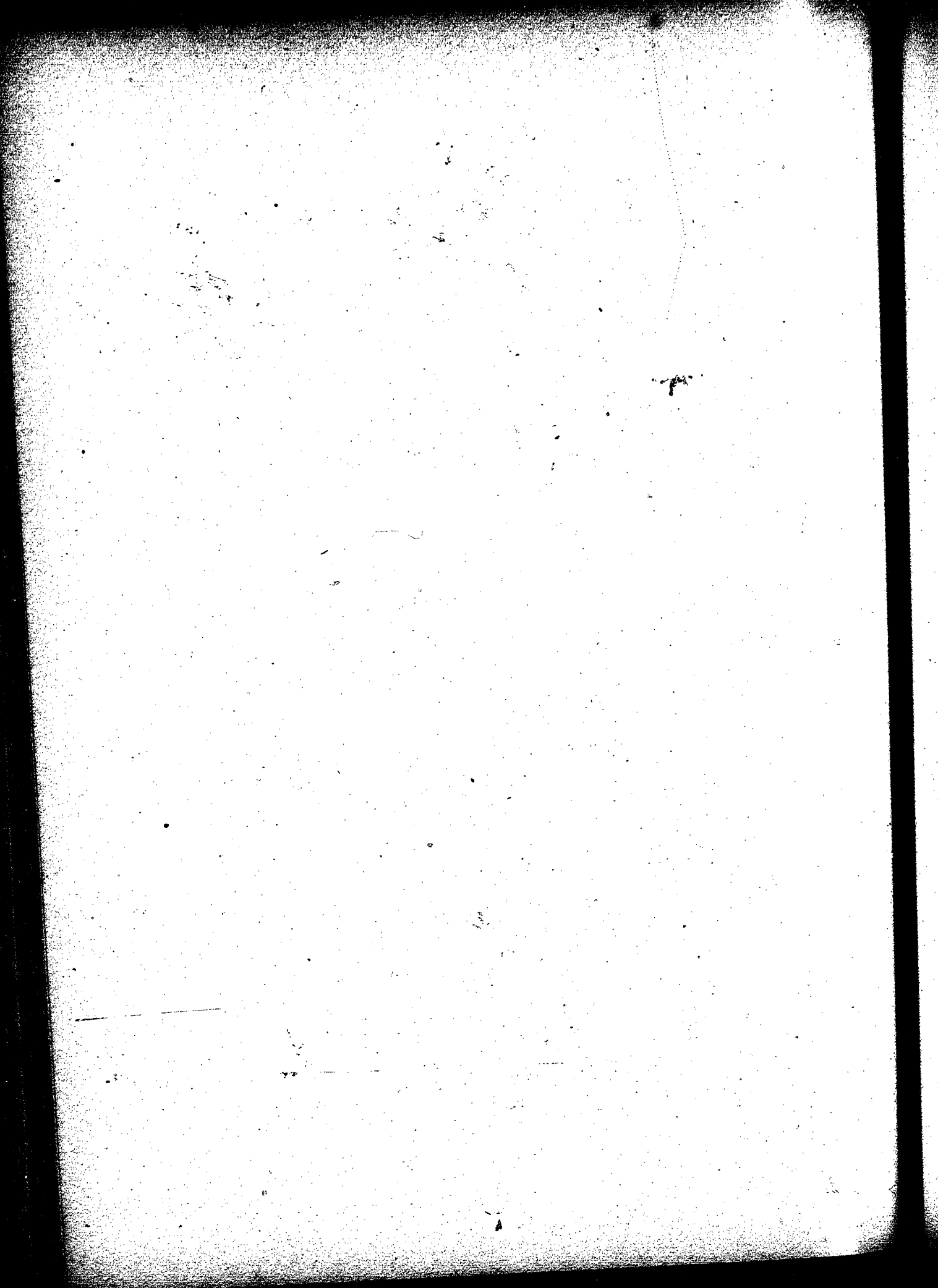
Q That is to say that each joist only goes from one floor beam to the other? A Yes.

Q That the floor is nailed down on the top of these joists? A Yes.

Q Now, you break a floor beam away here, what would be the result? A Well, I suppose the whole thing would come down.

Q The whole thing would come down? A Yes. 40

Q Now, taking the case of the stringers—the heavy stringers 10 x 12, what would be the result supposing a floor beam broke in that case? A If the



stringers were the length of two panels, why they might assist in passing the weight over the broken floor beam.

Q Over the broken floor beam? A Yes.

Q Now, it is in evidence that the break in the floor beam occurred in the hanger here. Now, the question of whether the stringer would carry this weight along or not would depend upon whether it was broken at that point or not, I suppose (indicating), would depend on whether it broke joints there or not. In other words, supposing the stringer at the Gorge side ran over two floor beams, it would carry that car along? A Would it carry it? is that the question? 10

Q Yes. A Well, that is doubtful.

Q It is doubtful. Well, upon the whole matter assuming the breaking of a floor beam, with which floor do you think the car would have the greater chance to get over the point of danger? A Oh, I would decidedly take a floor with stringers in it.

Q Did you figure out the specifications of the bridge to show how far the planking extended? A Yes, I see that in the specification that the roadway is nineteen feet wide. 20

Q The roadway is 19 feet wide? A Yes.

Q What do you refer to as the roadway? A Well, the planking on top; according to the original specification.

Q Now, what is the distance between the chord links—that is to say, what is the distance between the chord links on this side of the bridge and the chord links on that side of the bridge (indicating)? A Well, I cannot tell you that exactly, but I can tell you this, that I believe the projection would be about one inch on the middle panels, that is to say, the planking would project about one inch on the middle panels. 30

Q That is that the panels would project about one inch over the chord links? A Yes.

Q And at the end of the bridge? A And at the ends of the bridge— not at all. 40

Q And at the ends of the bridge not at all. Well, perhaps that is scarcely

definite. On the plan there, where would you put the point on each side of the centre at which the floor no longer projected over the chord link? A I think it would be on each side of the middle panel. If I remember, there was four bars in the middle panel, and only two in the rest.

Q According to the plan here there appears to be two middle panels. By the eye, here 4 looks to be the centre of the bridge? A Yes, there are two middle panels, it was a pair of two panels.

Q Then, if the floor was let down it might be supported by the chord links between 3 and 5? A Yes. 10

Q Only about an inch? A Yes, by about an inch.

Q By about one inch, and would not touch at all between the ends up to 3; from nothing to three, and from nothing to 5 would not touch at all? A No, I do not think it would.

That is to say, the floor would fall straight through if the break was from nothing to 3 or from nothing to 5? A I think so. 20

Q That is at both ends? A Yes.

Q Now, it is suggested that if the floor beam gave way and let the planking of the floor down, that the support of the chord link to the floor would be a source of safety as tending to carry that car along to the next floor beam, what do you say with regard to that? A I think it would be a very unsafe source of safety.

Q Just explain yourself? A I mean to say, I think the car might break right through the floor. 30

Q You think the car might break right through the floor? A It is not a thing that anyone would depend on.

Q It is not a thing that anyone would depend on. Well, taking the weight of a 20-ton car and breaking away the floor beam from underneath and assuming the boards of the floor—what length would they be—running diagonally in that way? A I don't know. I don't understand you, Mr. Cassidy. 40

Q You see the floor is put diagonally; you see it is 19 feet straight across? A Yes.

Q It would be a good deal longer than 19 feet? A Yes.

Q How much? A It would be about one and a half times as long; an angle of 45 degrees.

Q That is 27 feet long? A Yes.

Q Then here is the proposition we have got. We have got a broken floor beam, and we have got 27 feet boards— A Yes.

Q —which, keeping perfectly rigid, would only project one inch over the top of the chord links at the side? A Yes, about that. 10

Q About that. Well, do you think that these chord links would sustain them, or what would happen? A No one could tell what would happen. The thing would break right through.

Q It would buckle—

Mr. Davis: Don't tell him.

Q Now, break a floor beam,—the joists, as I understand you to say, would fall away at once? A Yes. 20

Q The ends of the joists would fall away. Then the planking of the floor would be resting one inch—would be projecting one inch over the top of the bottom chords? A Yes.

Q How long would it remain in that position with a 20-ton car? I do not think it would— 30

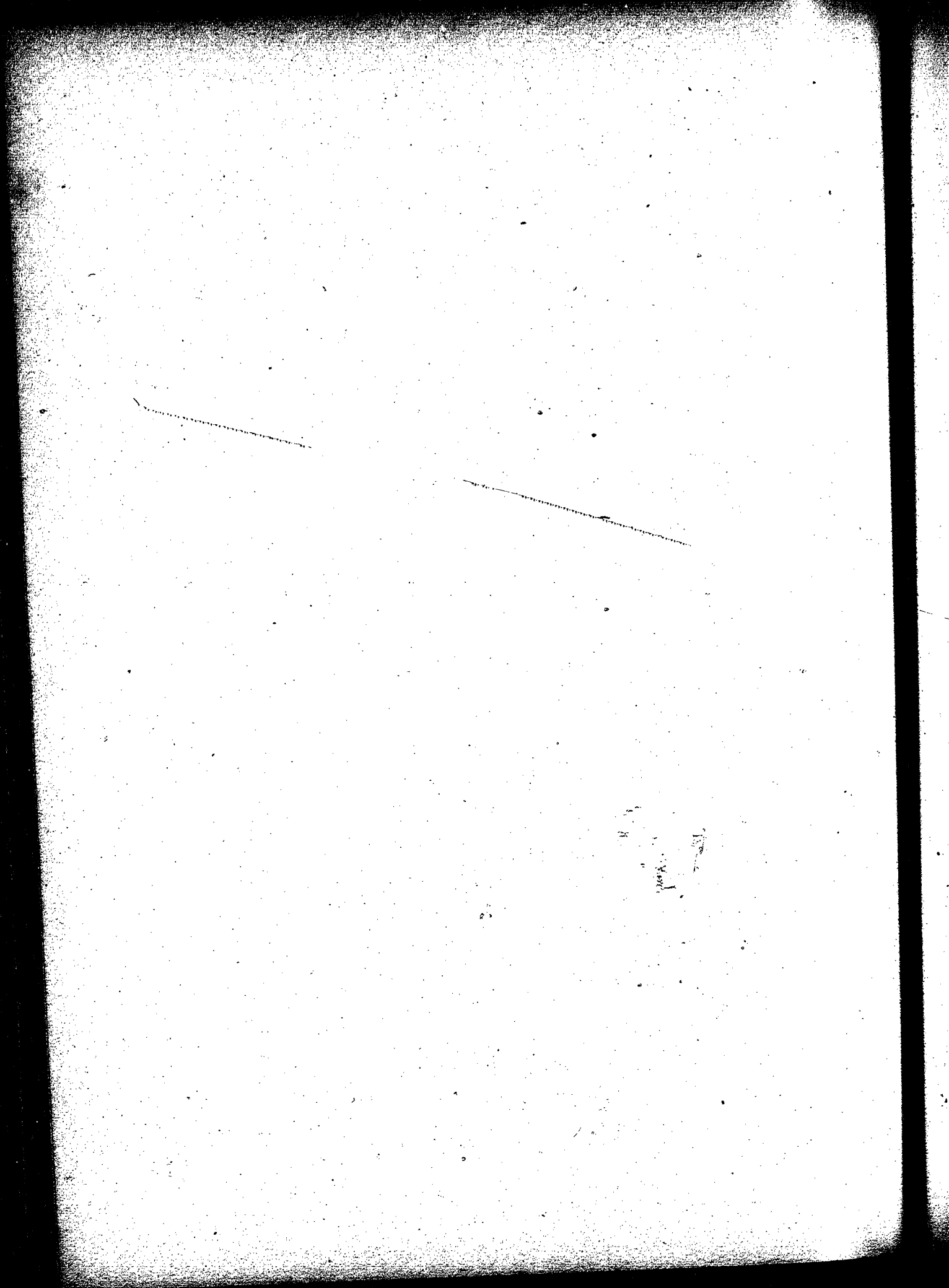
Q Would it remain at all? A No, I do not think so. No one would take the responsibility of that at all. In practice it is a perfect absurdity.

Q In practice it is a perfect absurdity? A Yes.

Q In other words, a three inch board of that length won't keep—? A No; you could place no dependence upon it.

Q You understand that bridge from an examination of it, do you not? I mean to say the whole truss? A Yes, generally I do. 40

Q Now, taking the top chord, what do you say of the system of having the



top chords butting on each other as distinguished from being fastened together?

A It is not as good as a spliced chord.

Q It is not as good as a spliced chord. And what do you say of the system of having bottom laterals passed over the floor beams? A Well, it is not good practice; it is not correct.

Q Did you make any examination of the piers at any time? A No, I never examined the piers much except the tops of the cylinder.

Q Do you know anything about the condition? A Do you mean to ask me if I bored the bottom; I did not. 10

Q No, I do not mean that. Do you know anything of the condition of the piers at either end of that span that gave way? A I did not see anything peculiar about the tops of them.

Q Anything peculiar about them in any way? A Oh, they are out of plumb, anyone could see that.

Q You were present at the inquest? A Yes. 20

Q And gave evidence there yourself? A Yes.

Q And heard the evidence which was given by the other witnesses? A Some of it.

Q Some of it; and you say that you have made a personal examination of the wreckage? A No, not perfectly; I did not go the first day.

Q I did not say perfectly, but personally? A Oh, personally? Yes. 30

Q I do not suppose anybody could make a perfect examination of it, but you went down there with the rest? A Yes.

Q Well, now, did you form any opinion from all that, as to what was the direct cause of the disaster, as to what member of the bridge gave way? A Well, I do not know that you have got any right to ask me that:

Court: You are not obliged to answer any question of that kind; you are an expert witness, Mr. Bell. But naturally Mr. Cassidy would like your opinion if he thinks it is going to be favorable to him? A You see, My Lord, I had 40

a dispute with the city about my account ; I made a report which was never received.

Q I do not want to ask you what your report was, Mr. Bell, at all. You were called as a witness there? A Yes.

Q And you were referring to the examination which you made anterior to giving evidence? A Yes.

Q You were paid \$750? A Yes. 10

Court : You need not go into that. Mr. Bell has put himself into the position of being called as a witness. I must rule he must answer these questions. A Very well.

Q What is your answer to the question? A Ask it again, please.

Q I say from your examination of the wreckage, from hearing all the evidence given at the inquest, coupled also with what you have heard to-day, I ask you what in your opinion was the member of the bridge that first gave way and precipitated the disaster? In other words, what was the direct cause of the accident? A I cannot tell you the member of the bridge that first gave way, but I have a conviction of what members caused the disaster; although I might say it is very doubtful too, it is a very difficult subject. But I have a conviction on my mind as to which I think was the most likely to cause the disaster. I think the hip-verticals. 20

Q You think the hip-verticals? A Yes.

Q You made an examination of the hip-verticals? A I want to explain myself. What I meant to convey is this; if you ask me to swear what member failed first, I won't; I cannot say that. 30

Q You saw the hip-verticals? A Yes.

Q Now, what condition were they in? A Well, they were broken.

Q Well, did you make an examination of the breaks? Yes, I have looked at the breaks. 40

Q Now, you have heard it given in evidence here to-day that the giving way of the floor beam at 3—! A Yes.

Q —was the admitted cause of the disaster. You heard that? A Yes.

Q Do you agree with that? A No, I do not.

Q Will you state your reasons? A Yes. I think that from the position of the car trucks it is fair to assume that the breaking of the hip-verticals at the Esquimalt end pulled the bearings right off the pier. When the hip-verticals broke, one of them was broken about the nut; there is a washer plate on top of the links; the links are thirty-seven and one half feet in length. The weight of the load is transferred from the top to the bottom chord by means of this washer plate. There would be force enough there even by calculating the least friction there could be to pull the whole bearings off of the pier. That is my conviction of what destroyed it. 10

Q When you say position of the car what do you refer to? A I refer to the fact of the point where the trucks were shown to me to have been got out by the diver. And also to the position in which the rails were broken. The rails were broken east of where the trucks were found. I think it is very likely that the trucks were found eastward of the point they ran to, where the accident took place. 20

Q What do you mean by eastward? A I will indicate it (going to the model). The trucks were pointed out to me to be about there (indicating on plan). I think it is likely that they went up—

Court: Between 1 and 2.

Mr. Davis: What Mr. Bell is practically giving evidence of there is the position of the trucks. Now, I submit, if they wish to shew that the car was not where we have proved it, or that the trucks were in a certain fix, the only way to prove that is by some— 30

Court: This is on the assumption that it is there, that is all. It is put hypothetically.

Mr. Cassidy: I simply ask him what he meant by the position of the car.

Q Assuming Mr. Bell, that the lowest—this is west here, isn't it? A Yes. 40

Q I point between 1 and 5. A Yes.

Q And, assuming that the truck nearest the 1 was a few feet—four or five

feet nearer 1—from 2 in the direction of 1—assuming that to be the position of the truck in the water? A Yes.

Q Where would you put the car at the time of the break? A Where would I put the car at the time of the break?

Q Yes? A I suppose the trucks dropped from under the car; I don't know where the car went to.

Q No, no, do you form any connection as to what the position of the car would be at the time of the break of the bridge, and the truck in question; you see? A Yes. I said that before, I think it is very likely that the trucks had gone as far as 1 and come back again some feet. 10

Q Gone as far as 1 and come back again? A Yes, that is quite possible.

Q Why? A Because the rails were broken east of where the car was found.

Q Because the rails were broken east. That is to say nearer the Victoria end? A Yes; and the rails are continuous over the other span. 20

Q And the rails are continuous over the other span. I see. Did you examine the rails to see where the point of breakage took place in them? A Well yes, I did.

Q Whereabouts, stretching the rail out again in its original position, where would the break be? A One was broken in the Victoria end of the span, and the other was broken somewhere about half way across, I cannot tell exactly: it was certainly broken east of where the trucks were found. 30

Q Certainly broken east of where the trucks were found? A Yes.

Q That is to say that the rails were found fastened, as it were—taking from the top of the Esquimalt pier—the rails were found shewing that they ran complete nearer the Victoria side of the bridge than the centre? A They ran somewhere near the centre, one of them, and the other one is broken right off at the Victoria end.

Q But they, both of them— A The break in both was east of where the truck was found. 40

Q The break in both of them was east of the centre? A No, I said

one of them was broken about the centre. I don't know whether it was the east or the west side of the centre, and the other was broken at the Victoria side of the bridge.

Q That would be towards 7? A Yes (referring to exhibit R).

Q Well, what did that indicate to you as to where the original break took place? A I have said before that I think that is what caused the accident, but as to which part was broken in the bridge first I do not pretend to know it.

Q That is to say you think the hip-vertical gave way? A I think that was the main factor in causing the accident. But if you ask me what part of the bridge broke first I cannot tell you, and I believe no man living could tell you.

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CROSS-EXAMINED BY MR. DAVIS.

Q Now, floor beam No. 3, when you found it, Mr. Bell, you examined it I think you said? A Yes.

Mr. Cassidy: One moment, Mr. Davis, please.

Q Did you form any opinion as to whether floor beam 3 had broken and dropped or not? A Yes, I did form an opinion.

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Q What was it? A In fact, I made enquiries to find out.

Court: Whether it broke or dropped; surely if there was any question of that kind it is beyond question? A I think it did not drop.

Mr. Davis: You think it did not drop? A I think it did not.

Q Drop? A No. In fact, I asked Captain Grant—

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Mr. Cassidy: Never mind, you cannot give us evidence about that. I asked you whether you formed any opinion—well, you say that the floor beam did not drop at all? A I think it did not.

Q How do you think it was broken? A I think it was broken off when it fell in the water. I think the splash in the water broke it right off.

Mr. Davis: Q You think, then, that this beam was broken off by striking the water, the splash in the water? A Yes.

Q Well, if the water could break this floor beam, don't you think a 20 ton car could? A Well, you know that—no, I do not think that question—it does not seem to me to bear so much on the fact, because the force of water striking the sidewalk from that height would be very great. I could not tell which was the greater force. I would have to get into that calculation various other things before I could determine that.

Q I just ask you that question, and if you cannot say at present—? A I haven't calculated for answering that.

Q If you think the beam was in such a condition that a fall of 90 feet would break it striking the water, don't you think that a 20 ton car would break it? A Oh, yes, a 20 ton car might do it, too. But my opinion is the other way.

Q What else do you base your opinion on than what you have stated—I have not asked you for anything yet—what do you base your opinion on? A I said I based it on the breaking of the hip-vertical, and on looking into which part of the bridge had the lowest factor of safety.

Q Which portion had the lowest factor of safety? A I think the hip-verticals.

Q You think the hip-verticals. What do you get that from? A I get it from figuring.

Q It is not from the strain sheet of the bridge? A No.

Q The strain sheet shows the hip-verticals have a greater factor of safety than the floor beams, does it not? A Yes. I got that by figuring on a certain assumption.

Q I will come to that in a moment, what you got it from Mr. Bell. But I just want to ask now if this is not correct, that the strain sheets shew the hip verticals to have a greater factor of safety than the floor beams. Is that correct? A Well, I could not really tell you that, because I have not looked at the strain sheets for a long time. But I can tell you that I believe the floor system has a better factor of safety than the trusses.

Q I am not dealing with that. Do you know what the factor of safety of these hip-verticals was? A I do not, according to the original strain sheet, but I do according to the assumption I have figured on. 10

Q I do not want any assumption. You say that strain sheet was wrong? A No, I did not say so. I said it was right according to the assumptions on which it was calculated; but that the assumptions were not right.

Q Now, will you look at the strain sheet and tell me what the factor of safety according to the strain sheet is (strain sheet handed to witness). Just see what the strain sheet shews is the factor of safety in the hip-verticals? A I do not see it marked upon it, the factor of safety. 20

Q Do you say that you cannot find from that strain sheet the factor of safety? A Oh, yes; I can if I go to work and study the strain sheet, but it would take me probably longer—

The Court: How long would it take you? A It would take me half an hour or more.

Mr. Davis: Q Do you mean to say it would take you half an hour to find out the factor of safety from that strain sheet? A It might, I don't know. 30

Q Mr. Bell, you made a thorough examination of this matter before? A I tell you now I do not know much about this strain sheet.

Q You examined the strain sheet before, did you not? A Yes.

Q I think you told us that on the former trial? A Yes.

Q You did examine the strain sheet? A Yes. 40

Q And checked the strain sheet over and found it correct? A Yes.

Q Now, having gone through that, cannot you tell me, without taking a half an hour, what the factor of safety is? A No, I cannot tell you without figuring. I have no objection to telling you in Court, but I do not want to begin figuring in the Court. If I knew it I would tell you at once. Some people make strain sheets on different assumptions. Some people work one truss at a time, and some people work two trusses at once. I would have to look into it before—

Q So that when you were telling the Court about the factor of safety of the hip-verticals, you were basing that on your own figures? A Yes. 10

Q And not on the strain sheet? A Yes, sir.

Q That factor of safety is based on well-known rules? Yes.

Q It works out on mathematical calculations? A Yes, sir.

Q If there is any difference between one engineer making a mathematical calculation and the strain sheet which is more likely to be correct, the strain sheet or the calculation of the engineer? A If they both went upon the same 20 assumption they would be alike.

Q If there is a difference one would be wrong? A Yes, if there is a difference one would be wrong.

Q And if there is a difference which is the most likely to be correct? A I do not understand that exactly.

Question read by Stenographer.

A I think you have not got that exactly right, Mr. Davis. 30

Q I have got the question right. What about the answer? A I cannot answer it in the form it is put, but I will answer it in a moment. I said if they both figured from the same assumptions, they must arrive at the same results; and if the assumptions are in both cases the same, and one result is different from the other, one is in error; now you say which?

Q Which is the most likely to be wrong? A They may be either one of them. 40

Q They may be either one of them wrong. Which is more likely? A I do not understand that now.

The Court : I am in the same position as the witness : I would have thought it quite evident that there was not more likelihood of one than of the other.

Mr. Davis : Yes, these strain sheets are the result of certain well understood rules with reference to it.

The witness ; Now I understand you, Mr. Davis. I think that mine would be more correct than the original. I understand you now ; I did not before. 10

Q Yours would be more likely to be correct? Yes, I think so.

Q Your idea is, taking it generally—I will come back to the question of the hip-verticals in a few minutes—that it was the iron work that gave way in the bridge and not the wood work first? A Yes.

Q That is it, is it? A I think so.

Q And that the wood of this floor beam was broken during the failure of the bridge? A I think so. 20

Q Might the hip-verticals have been broken during the fall of the bridge? A Well, I do not think it is likely.

Q Might not all the iron work have been broken in the fall of the bridge? A It would indicate frightfully bad iron.

Q Might it not have been broken in the fall of the bridge? A If it was frightfully bad iron it might. 30

Q Otherwise, what? A Otherwise, I think it would not.

Q We take the iron as it was? A Yes.

Q We are talking simply of that iron now. Is it not possible that all the iron work of that bridge might have broken in the fall of the bridge? A Oh, I would not think it was possible.

Q You would not think it was possible. There is a bridge engineer, is there not, by the name of Waddel? A Yes. 40

Q Where is he from? A Kansas City.

Q He is a well recognized authority on bridge work? A On designing.

Q He is a bridge engineer? A Well, I don't know; I don't think he is one that an able company would send to examine a broken-down structure.

Q Isn't he a well recognized authority? A He is a good man on designs, and a good calculator.

Q He is a man, whatever may be your own personal opinion of him, that has a recognized reputation all over the continent? He is, and well deserved too. 10

Q Do you know his signature? A Yes. I have corresponded with him myself.

Q This is a report of his, is it not (handed to witness)? A Well, which part do you want me to read?

Q I want you to look at it first and see if it is his signature? A Yes, I have no doubt it is his signature. 20

Q Now, I will read you a certain portion from it and ask you if you agree with him. This is, I may say, a report of him made after going into this matter.

Mr. Cassidy: I object to the document going in.

The Court, I think, Mr. Davis, that it would not be admissable. 30

Mr. Davis: I submit, My Lord, if there is any question I can properly ask, apart from the consideration of putting in the document, that that question would be admissable irrespective of the consequences.

Court: I rule not. My view of that is this; you can say to him, if so and so, mentioning the case, says so and so of it, do you agree with him. I do not see how you can go further than that. You might get in evidence that would not be admissable in another way. 40

Mr. Davis: I will put my questions and they can be objected to as they come.

Mr. Taylor, Mr. Yorke has come in and he desires to leave on the boat at 5 o'clock, and if my learned friend has no objection I would like to call him here.

Witness stands aside for the present.

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MR. BELL being re-called on the third day of the trial of Patterson v. Victoria, testified; cross-examination continued by Mr. Davis.

Q Now, Mr. Bell, this beam that you examined with Mr. Wilmot was as Mr. Wilmot has stated, badly splintered and broken? A Yes.

Q And it was badly rotted? A Partially rotten, yes.

Q And it was quite possible, although you did not see any traces of this auger hole that has been sworn to, it is quite possible that that was there, is it not, as Mr. Wilmot himself says? ²⁰

Mr. Taylor: No, Mr. Wilmot did not say anything of the sort.

Mr. Davis: I asked him if he would say that it could not be there, and he said he could not say so.

A If you mean that the bar was so rotten that the auger hole could not be seen, I do not think that was the case. ³⁰

Q What I am asking you, Mr. Bell is this: Will you differ from Mr. Wilmot, who stated—

Mr. Cassidy: We will have to read that if he put it that way.

Q Will you differ from Mr. Wilmot, who stated that although he did not find traces of the auger hole, it was not impossible that the auger hole had been bored there as described. ⁴⁰

Court: We will wait to have the stenographer turn it up. Stenographer read from cross-examination of Mr. Wilmot: "Do you mean to say that it was

impossible for an auger hole to have been there, and you not to have found it?" (A) "I would not say it was impossible, but I went specially to see if it had been bored."

Q Now, Mr. Bell, would you differ from Mr. Wilmot? A Yes, I do; I believe there was no such auger hole in the beam.

Q You say you believe it, I understand you, but would you say it was impossible? A No, I won't say that.

Q No. Now, we were speaking of Mr. Waddell when we adjourned yesterday. I will just read you from your evidence at the inquest; the questions asked—page 452. "Is there any possible way that you can give for obviating," and then the answer— "Yes, I think I can describe it to you by a very good man. This is from a good bridge expert. He has written probably one of the best books on highway bridges that has been published, and he is also a man that is in good practice; he is Mr. J. L. Waddell, Kansas City." (Q) "What book is it taken from?" (A) "Taken from a book of his on highway bridges, which is probably one of the best books written on the subject." That is the Mr. Waddell that we were talking about the other day? A Yes. That is with reference to putting in the bottom laterals.

Q And you adhere to what you stated on the former occasion, do you? A I do; yes, I adhere to that.

Q Now, I ask you to read, merely for yourself, this clause of the report we were referring to (document handed to witness).

Do not read it aloud, Mr. Bell, but just to yourself. A (Doing so) yes.

Q Now, wait. I ask you to read one other clause here (indicating). A Let me direct your attention—

Q Never mind now—I know; all I want now is for you to read it. This is the clause here (indicating); it is the same report—Point Ellice Report. A (Witness does so) Yes.

Mr. Davis: Now, my Lord, before I question the witness with respect to that, I submit this, that the ordinary rule, of course, with reference to a matter of this kind, would be that I could only put a hypothetic question; but with reference to expert evidence I submit that the rule is—

Court : Don't you think you had better put your question first ; probably the other side will not object to it ?

Mr. Davis : What I propose to do, my Lord, is to read the paragraphs I have shewn to the witness and ask him whether he agrees or disagrees with that.

Court : That is quite allowable.

Mr. Davis : The first paragraph I read is this—which I have shewn to Mr. Bell. Speaking now of the cause of the falling of the bridge : “ The immediate cause was undoubtedly—” 10

Mr. Taylor : Might I just ask is that supposed to be a report on the Point Ellice bridge, or a work on bridges ?

Court : Mr. Taylor is entitled to know the report you are reading from.

Mr. Davis : I will give it to him.

The Court : Having done that, Mr. Davis is entitled to put that in the same way as any other account given as the account of any other person, John Smith, or anybody else. 20

Mr. Taylor : The objection is this, that apparently, from what my learned friend says, he has a report made, and he seeks to get that report in now in an indirect way : whereas the proper way to get Mr. Waddell's evidence was to bring him here and allow us to cross-examine.

Court : That was the ruling I gave yesterday. ; but I think there is a fallacy in your objection. Mr. Davis might have a theory about it, and he might say, could it be this way, or that way. I agree with it. And I will allow the question. Of course the jury will understand that it is not the report of this particular man that is put in. 30

Mr. Davis : Q I will read 2 or 3 lines before that, so as to explain that clause and shew what it is. “ In compliance with your instructions, I have examined the Point Ellice bridge, one span of which collapsed, about 10 days ago, and beg to report concerning the cause of the collapse. The immediate cause was undoubtedly the failure by sheering of one of the floor beams at one of its points of support, under a motor car-load, owing to decay of timber. I have examined some of the floor beams and have found them so rotten that the 40

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wood can be readily clipped and cut in large pieces with a pen knife, and crumpled in one's fingers." Now, do you agree with that opinion, or do you disagree? A I agree that the beam was rotten.

Q Do you agree that the immediate cause of the fall of the bridge was undoubtedly the failure by sheering of one of the floor beams at one of its points of support? A No, I do not believe that; it is contrary to the evidence.

Q Now, I will read you another paragraph that I referred to. "Please remember that, and to form my opinion of the wrecked span, I have examined 10 a span which is yet in place, and which is exactly like the fallen one. I also examined the remains of the wreck. As far as I can determine, the breaks in the iron work were all caused by the falling of the span, and the removal of the debris, and were not the cause of the failure of the span." Do you agree or disagree with that opinion? A I disagree. I take objection to the word "all." He says, all the breaks in the iron.

Q You take objection to the word "all." You do agree that a considerable portion of the breaks of the iron were in the falling of the bridge? A Part 20 of them might be.

Q You won't go so far as to say that some of them were, in your opinion? A Yes, I think some were, but not all.

Q Now, when was your examination of the debris of the bridge made: before or after the coroner's inquest? A Oh, it was made both before and after.

Q Now, do I understand you to say that the first thing that gave way in that bridge—? A Let me correct that for a moment, Mr. Davis; I am not 30 quite certain whether the inquest was going on at the time I examined the timber first.

Q You examined it, the notes show, before, and you also examined it during the inquest? A I think the 28th was the day I went there, and I am not sure whether the inquest was going on there then or not.

Q No, it was not going on on the 29th. Did you make an examination of the bridge, that is, the examination upon which you are basing your opinion 40 that you are giving to-day, after the inquest had closed? A Oh, I based it long after.



Q Long after? A Yes, long after.

Q I see. Now, what I want to get at is this; do you state that the immediate cause of the collapse of that bridge was due to the breaking of a hip-vertical? A I don't know whether you call it the immediate cause or not. I think the cause that pulled the bearings off the pier, which was really the cause of the accident, I would call it the immediate cause, I think it was the result of the breaking of the hip vertical.

Q We must not play with words, if that is the case, because what I want to get at is this; do you think that the first member of the bridge which gave way was the hip-vertical? A I do, but not that one which I think pulled the bearings off the pier. 10

Q Now, which hip-vertical do you say was the first member of the bridge that gave way? A I think that the first hip-vertical that gave way was at the Victoria end of the bridge.

Q The hip-vertical at the Victoria end? A Yes; but that is not the hip-vertical that I refer to, the failure of which pulled the bearings off. 20

Q I understand that. What reasons do you give for saying that the hip-vertical in your opinion at number 7 was the member of the bridge to give way? A Well, I derived that from reading the evidence.

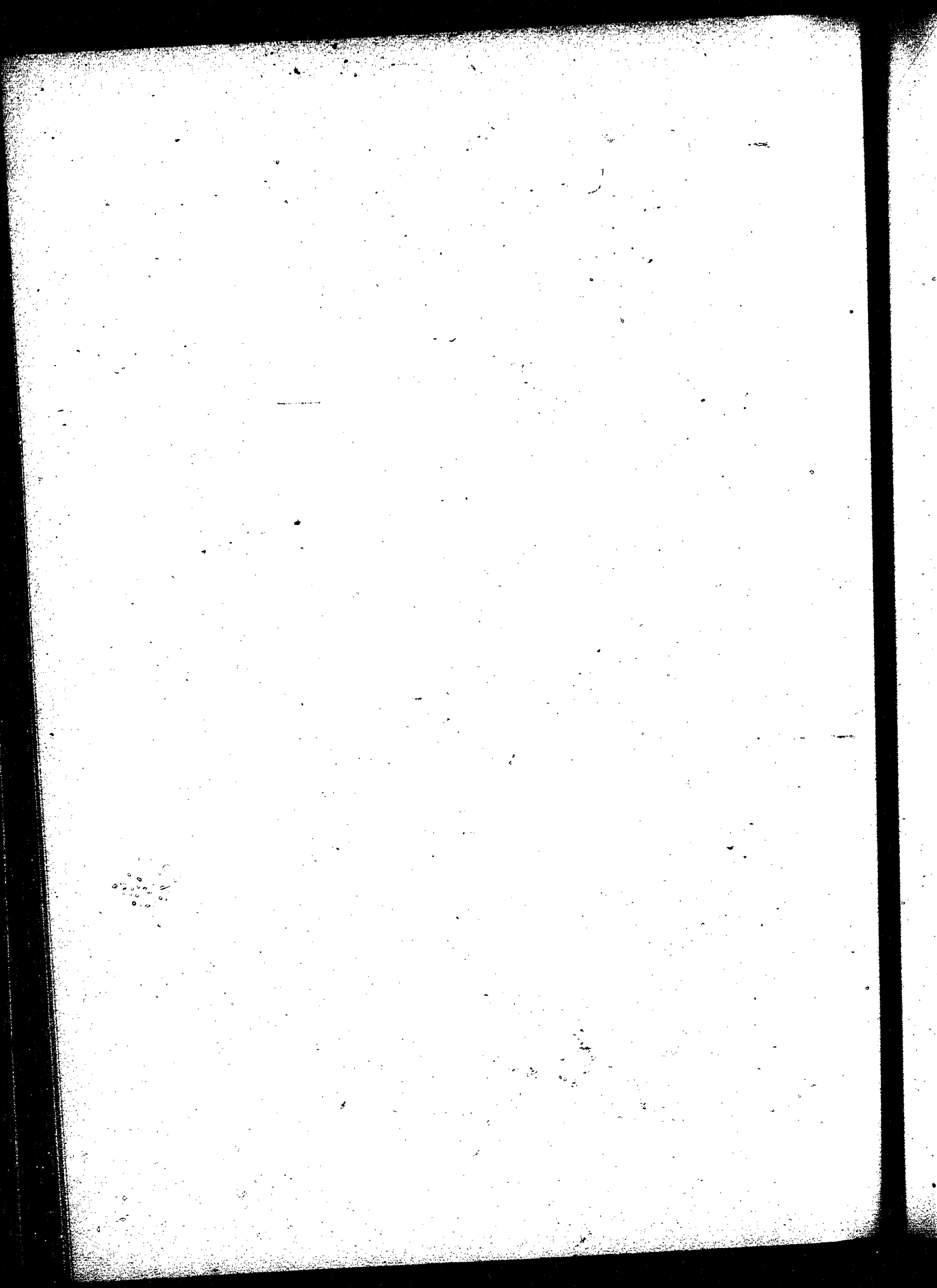
Q What particular portion of the evidence do you found that opinion upon? A That I cannot tell you.

Q But you are giving your opinion now, Mr. Bell, and I would like it. A It is a long time since I have been reading the evidence; but I will tell you what I gathered from it. 30

Q That is what I want to get. A That there was a sound here (indicating) upon that part of the bridge when the car was passing that part of the bridge, of a breakage of some kind, and I think the most likely thing is that hip-vertical.

Q Now, is that the sole reason for the opinion which you have expressed? A No, it is not. That is the Victoria end. 40

Q I am speaking now of the Victoria end, remember, keep closely to that. What other, if any reason, have you for forming or expressing that



opinion? A I have no other reason except the reading of the evidence.

Q What particular portions of the evidence do you refer to when you say that? A I cannot go back and tell you that.

Q What were the facts contained in the evidence that you refer to? A I cannot go back and tell you that, for my memory is not good enough.

Q So that at the present time you are stating your opinion that the hip-vertical at 7 was the first member that broke; but at the present time you can give no reason for that, except some sound that was heard in that direction? A No, you have not stated it correctly. I say that the impression that was left on my mind by making a study of the evidence at that time was that the hip-vertical broke first. But I do not profess to have memory enough to remember all the evidence I read. 10

Q I see. Now, Mr. Bell, you knew you were going to be called in this case, did you not? A I did not.

Court: It is only fair to the witness to remember that he was not certain that he would be obliged to answer questions of this kind. My ruling yesterday—I may be wrong—was evidently unexpected. It is only fair to remember that. 20

Q That is quite true. But, Mr. Bell, you were not only called for this trial, but you were called in a trial that preceded this, the case of Gordon and Victoria? A Yes.

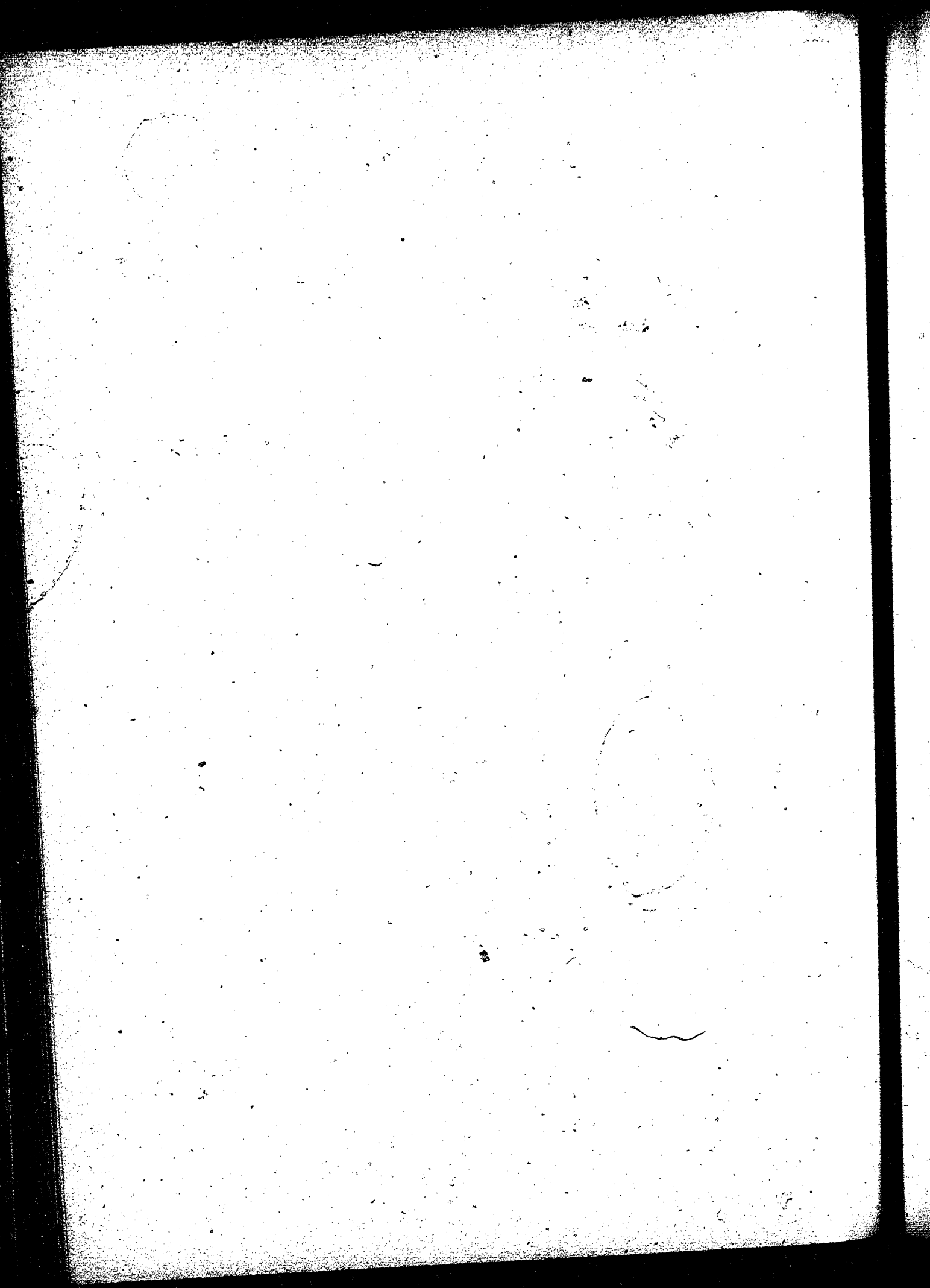
Q And you were called on the other suit? A Yes. 30

Q And you were called as an expert? A I do not profess to be an expert.

Q We will not quarrel about words. You were called as an engineer of experience? A Yes.

Q With reference to the collapse of that bridge? A Yes.

Q Wouldn't you as the first thing in preparing for that trial, in order to give evidence satisfactory to the jury, and with clearness, consider what conclusion you had come to with reference to that bridge, and look over the evidence? A I do not think I would—that it would be necessary for me to 40



read the evidence again, because I got certain, well-defined impressions that I have retained.

Q I see ; the impressions are well defined ; but the reasons on which those impressions are grounded are so vague that you have forgotten them ?

A They are not vague.

Q But such as that you have forgotten them ? A I have obtained an opinion from that, but I have not memory enough to remember all the evidence on which I arrived at the opinion. 10

Q At the present time you cannot give the reasons on which you base that opinion ? A Yes, I have given it.

Q Other than the one you mentioned as to some sound which you say is not the sole one ? What is your answer to that, Mr. Bell ? A What is the question ?

The stenographer read it, as appears commencing at line 17 above.

A No, that is one of them ; I do not remember of them all. 20

Q Can you remember any other reason ? Can you give any other reason at the present time ? A I can give you no reason except the evidence and the impression I derived from it.

Q Can you tell me what part or portion of that evidence you refer to ? A No, I cannot tell you now.

Q What facts contained in the evidence you refer to ? A If you gave me the book I would have to go and look them up. 30

Q I understand ; but I am not doing that. At the present time you are not able to give the facts upon which you base that opinion ? A Yes ; at the present time I am unable to give all the reasoning that I arrived at that opinion.

Q You are unable to give any other reason but this sound on which you based that opinion ? Is that so or not ? A Yes, at the present time. 40

Q At the present time. Now, the hip-vertical which you say you think was the first thing to break, at No. 7, was not the hip-vertical with reference to which this flaw has been mentioned, was it ? A Which flaw ?

Q Did you find any flaw in any hip-vertical? Yes, there is one partly cut and broken.

Q At which end of the bridge was that hip-vertical? A It was at the Esquimalt end.

Q So that you found no flaw or defect of any kind in the verticals at the Victoria end? A No.

Q No. What is the size of those hip-verticals? A They are 2 inches by 1—2 inches by a half in the bar.

Q That is 4 inches of iron in all? A Yes.

Q What would be the factor of safety of those hip-verticals, assuming a load of 40,000 pounds? A Where would you put the load?

Q I would put the load where it would be most favorable for your calculation, immediately under, or opposite to that hip-vertical. Can you see this hip-vertical from there? Here is the hip-vertical which you say first broke. (Witness goes to diagram). Now, I put the load right there at 7—I put the tram car right at number 7; that is the best point for you is it not? A Yes; and do you put it cross-wise of the track?

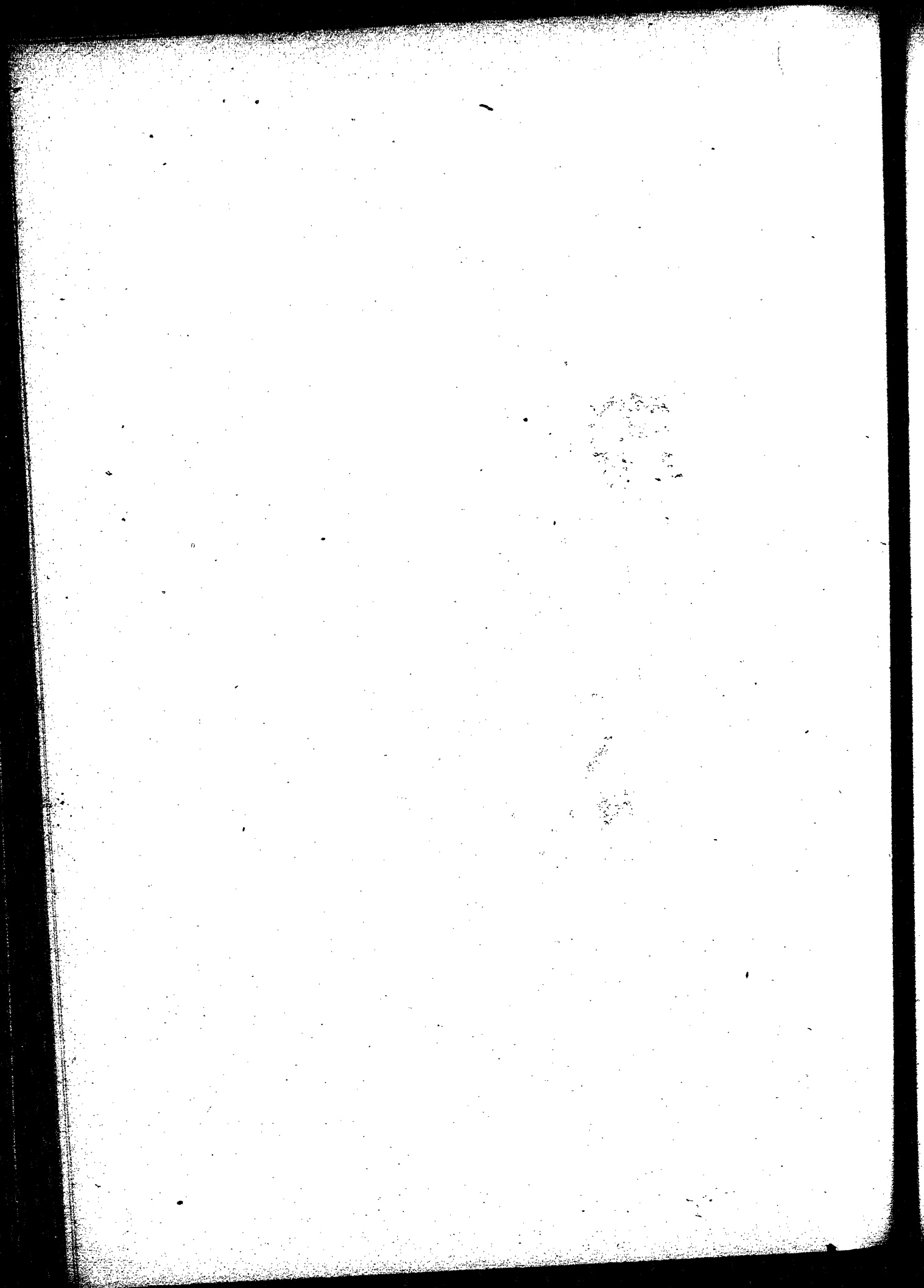
Q I do not understand. I put it just where it was, Mr. Bell; do not mistake me; I just put it where the tram car was. Now, putting the load there what was the factor of safety with 40,000 pounds on? A I do not know 40,000 pounds. But I can tell you something about it—

Q No, no, kindly first answer these questions. A I cannot tell you 30 that.

Q Perhaps I can help you to tell it. A I am not going to calculate that.

Q Perhaps I can help you calculate it. A I have got all the information here you want.

Q I know, Mr. Bell, perhaps you have, but I will get that after a while, or perhaps my learned friend will get it. I have asked you before as to the four hip-verticals. Now, I will take merely the two nearest the tram line, which would be presumably the ones to break if any broke. Is that correct? A Yes.



Q Now, I say, what would be the factor of safety on these two hip-verticals with a load of 40,000 pounds, where the tram car stood? Can you give it, or can you not? A I can give you something.

Q I do not want something else. A I have not got that figured.

Q I will figure it for you, or at least, assist you in it. There are 2 square inches of iron; that is correct is it not? A Yes.

Q The breaking strain of a square inch of iron is 50,000 pounds? A 10
No, it is not.

Q Is not that the admitted load in all standard books on the subject? A
No, not for such work as that.

Q Not for such work as that? A No.

Q What authority can you shew me which differs? A Oh, as far as that goes, I will take my own opinion about that, I think it is perfectly absurd to value that iron as at 50,000 pounds per square inch, 20

Q Why so? A I take the mode of its manufacture, and what I know about the way in which it had been used.

Q Let us get back to something definite. Is that not the recognized breaking strain of a square inch of iron? A It depends on what kind of iron.

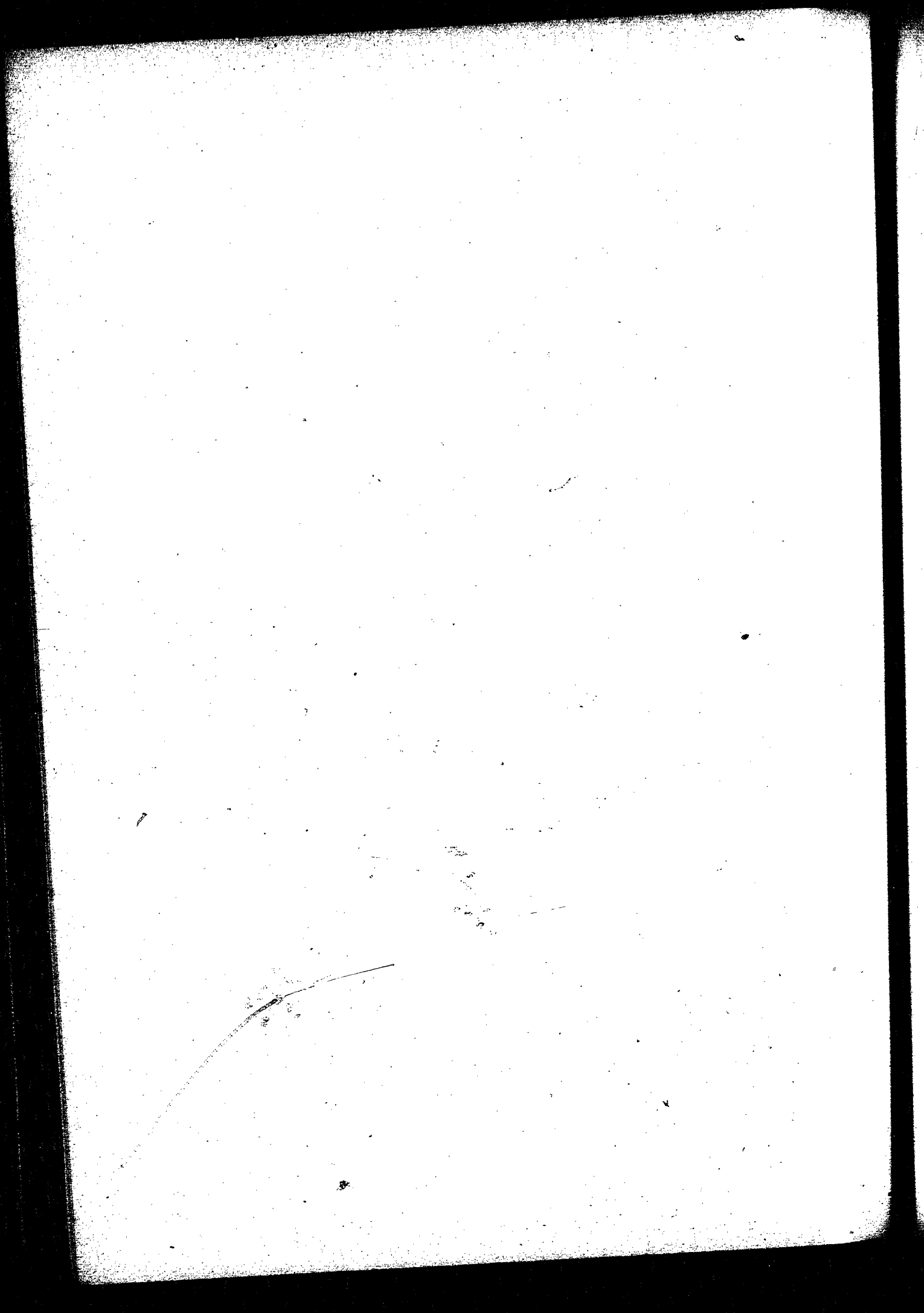
Q I am assuming, because you know Mr. Waddell says if the iron is fairly good, and you have not disagreed with him on that point? A If he says it is worth 50,000 pounds, most decidedly I disagree. 30

Q There were no flaws in the verticals at that end; you found so and have so stated. That is correct, isn't it? A That there was only one cut.

Q No flaw with the verticals at that end? A I said nothing about the quality of the iron.

Q There was no flaw? A No.

Q As far as the quality of the iron is concerned, are you prepared to say it was not good iron? A I am prepared to say that the hip-verticals was not worth 50,000 pounds or anything like that. 40



Q That is not the question. Are you prepared to say that the iron of those hip-verticals at 7, that it was not fairly good iron? A Yes, I am prepared to say I do not think it was. It may have been originally, but not when I examined it.

Q It may have been originally but not when you examined it. Now, did you so state at any time, at any prior examination? A I don't know, I don't remember about what I stated there.

Q I am told that so far as your evidence at the inquest. Was the iron in the hip-verticals equal to the general class of iron throughout the bridge—in the hip-verticals at 7, Mr. Bell? A What is that? 10

Q (Question read). A Do you ask me that question now?

Q Yes. A I say it may have been originally.

Q Yes. Now, I will refer to your evidence at page 462, the first question at the top: "The iron generally you consider a good quality." (A) "I suppose it is as good as is generally put in bridges." Is that correct? A Yes. 20

Q That is correct. Now, remember when I am speaking about this thing, Mr. Bell, so that we may not have any unknown factor brought in, at the present time I am assuming the iron to be in as good a condition approximately as when it was put in; I am assuming that. We will come to the question of its having been strained, and possibly weakened, later on. Now, assuming that, is not the regular standard breaking strain of a square inch of iron 50,000 pounds? A Yes, of good new iron in the bar. 30

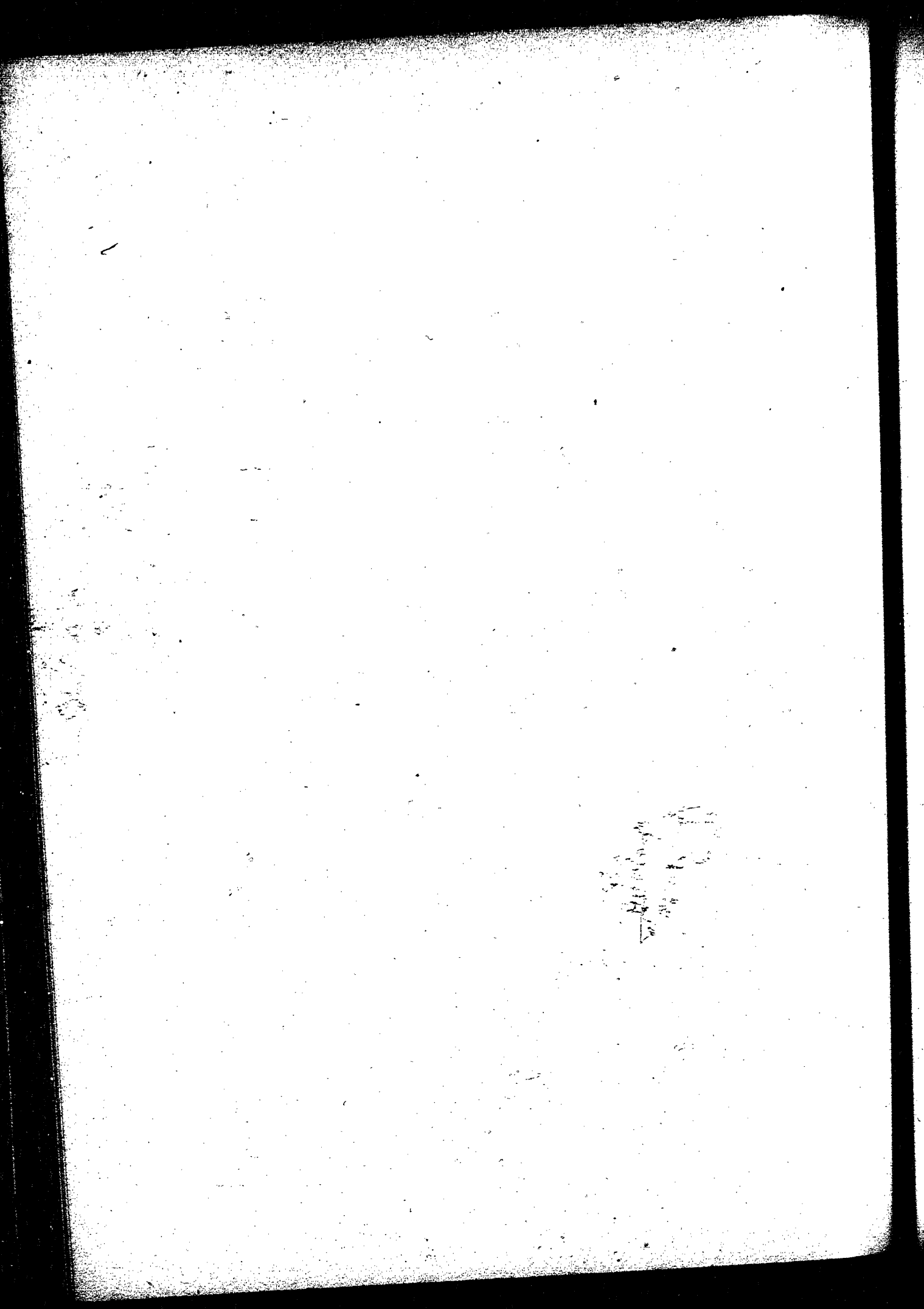
Q It is ordinary average good iron? A Yes.

Q Which you have stated the iron in that bridge generally to be? A No; I did not state it to be; I say it has been probably.

Q Remember, I am only referring now to the iron as it originally stood. Now, the breaking strain of that would be 50,000 pounds to the square inch? A Yes.

Q Of the two it would be 100,000 pounds? A Yes. 40

Q A 40,000 pound load put where it was, would be how much strain on those two verticals? A You mean 40,000 pounds put on the two verticals?



Q Mr. Bell, I think I am clear on that ; I am assuming 40,000 pounds on the tram car ; I am assuming the tram car and the tram line just where it stood, which is two-thirds over. Now, I ask you what would be the strain on those 2 hip-verticals at 7, with the 40,000 pound load where it stood ? A Tell me the weight on the verticals.

Q I am asking you that. A I am not going to figure now.

Q I will help you. If the 40,000 pounds were immediately below the verticals, all the strain would fall on these two, approximately ? A Yes. 10

Q If the 40,000 pound load was put in the centre of the bridge equally between the two, then one half would go to this vertical, and half to the other ? A Yes.

Q That is, they would then have a strain of 20,000 pounds ? Yes.

Q If it were put there where the tram line was, how much strain would go to these verticals (indicating) ? A Well, they would get over three-fourths. 20

Q Did you not say two-thirds at the inquest ? A No, I don't think so. I have gone into it since. Three-fourths would be about it.

Q Three-fourths would be 30,000 pounds ? A Yes.

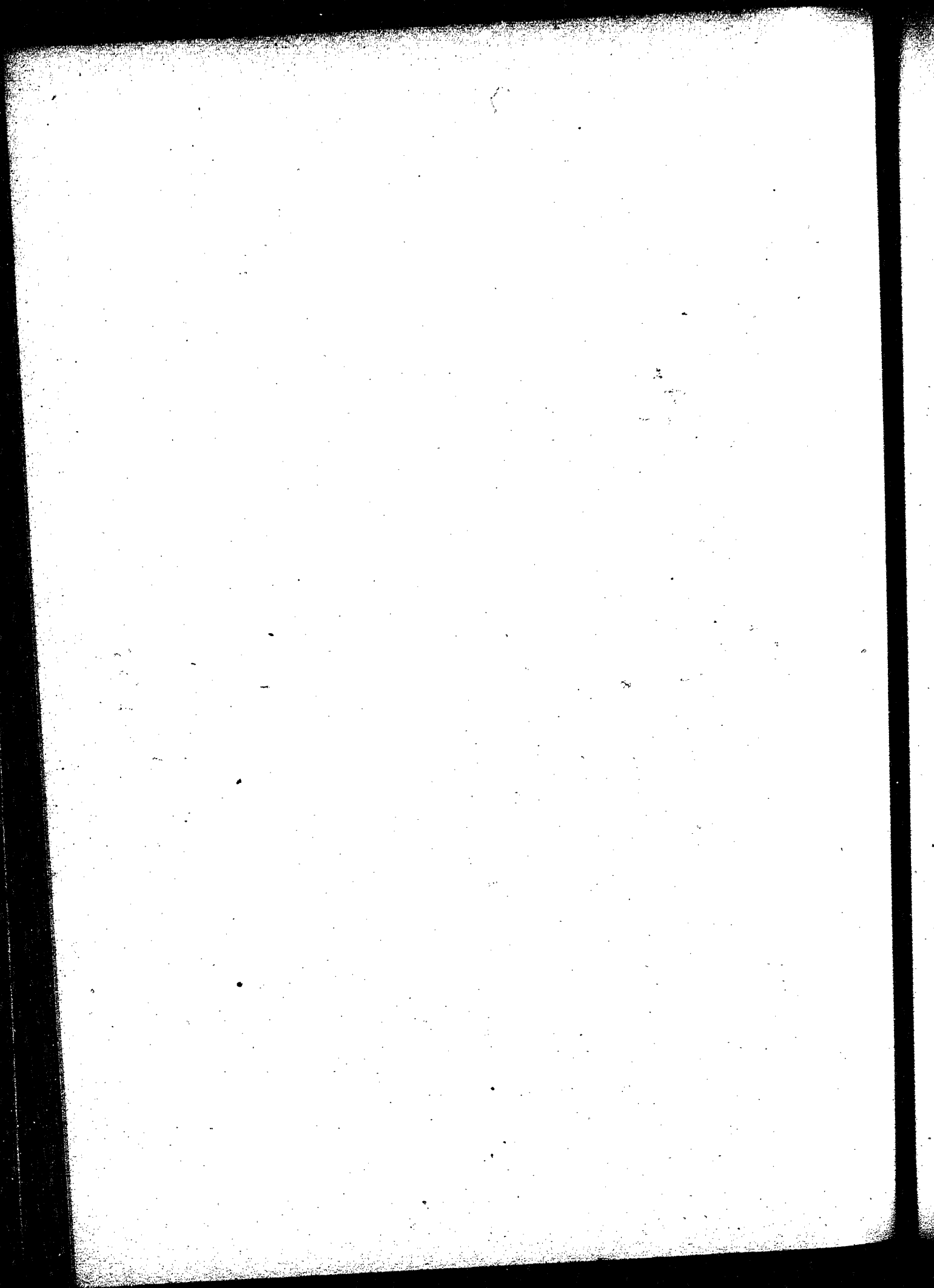
Q Then the strain on these verticals would be 30,000 pounds ? A From the car ?

Q Yes, and I am putting the car at 40,000 pounds, and it is not proved 30 that exactly, but approximately. Now, the factor of safety, assuming the iron to be as it was originally with that load immediately at 7 would be what ? I have got it down now so that it is not much figuring. A What is the weight you stated ?

Q 30,000 pounds. A 30,000 pounds ; you have got 15,000 pounds to the square inch on it.

Q Give me your answer as to what the factor of safety would be ? A If you assume 50,000 pounds as the strength it would be better than three. 40

Q It would be exactly 3 and one-third. A Yes.



Q The factor of safety is got by dividing 100,000 pounds by the load ; a very simple thing ! A Yes.

Q That is what it would be originally ? A Yes.

Q Which would deteriorate the more during that 11 years that bridge was in there, the iron at verticals number 7, or the floor-beam which remained there all the time ? A Oh, the floor beam would rot of course.

Q Would there be any question about which would deteriorate the more ?
A Well, I don't know about that ; because the bridge was subjected to heavy loads, and the iron may have been deteriorating the whole time ; and I think it likely it was. 10

Q The one thing we are sure of, the wood was deteriorating all the time ? A Yes.

Q And the iron may have been ? A It was, no doubt.

Q It was, no doubt ? A It was, no doubt ; both of them.

Q But the wood, from what you saw yourself of that beam at number 3, almost completely rotten—would you not say that the wood, as a matter of fact, did deteriorate more rapidly ? A Yes, it had deteriorated rapidly at one point. 20

Q Now, I say, why do you put the first member of that bridge that gave way as the hip-verticals at 7, instead of the floor-beam at 3 ? A Because it has—the only properly calculated strain-sheet—that has the lowest factor of safety in the bridge. 30

Q What was the factor of safety of floor-beam 3 at that time ? A Well, the factor of safety of a new floor-beam with a 20 ton car would be about 3.3.

Q Now, let us figure that factor of safety out. The factor of safety of the floor-beams originally, when new, was something like 4 ? A I cannot tell you that.

Q That has been already sworn to ; you would not contradict that ? A I would not confirm it, because I have not gone into it. 40

Q You won't contradict it ? A But I am aware that the factor of safety of a floor beam with a 20 ton car is 3.3.

Q You will not contradict the factor of safety that has been given for those new floor-beams, it being about 4, as 1,000 pounds to the lineal foot? A It seems to me to be too low.

Q Will you contradict it? A I have not calculated it. But it seems too low.

Q For the present, then, we will assume it, if you won't contradict it. The floor-beam, assuming the whole weight was upon the one panel, the ordinary load would be 18,000 pounds, would it not? A Yes. 10

Q The breaking strain would be 72,000 pounds, would it not? A Yes.

Q The weight would be the same on that floor beam as on the vertical, that is 30,000 pounds actual weight, while the tram was over it. Is that correct? A I cannot follow you through all that, Mr. Davis.

Q Is that so difficult to follow? A If you want me to go into calculations you must come out of Court and give me time. I am not going into a lot of calculations. 20

Q You can calculate it more rapidly than I can. A No, I don't suppose I can.

Q I will go through with it slowly, because it is important. Assuming the original factor of safety to be, as has been sworn to, about 4 in the floor-beam— A Yes.

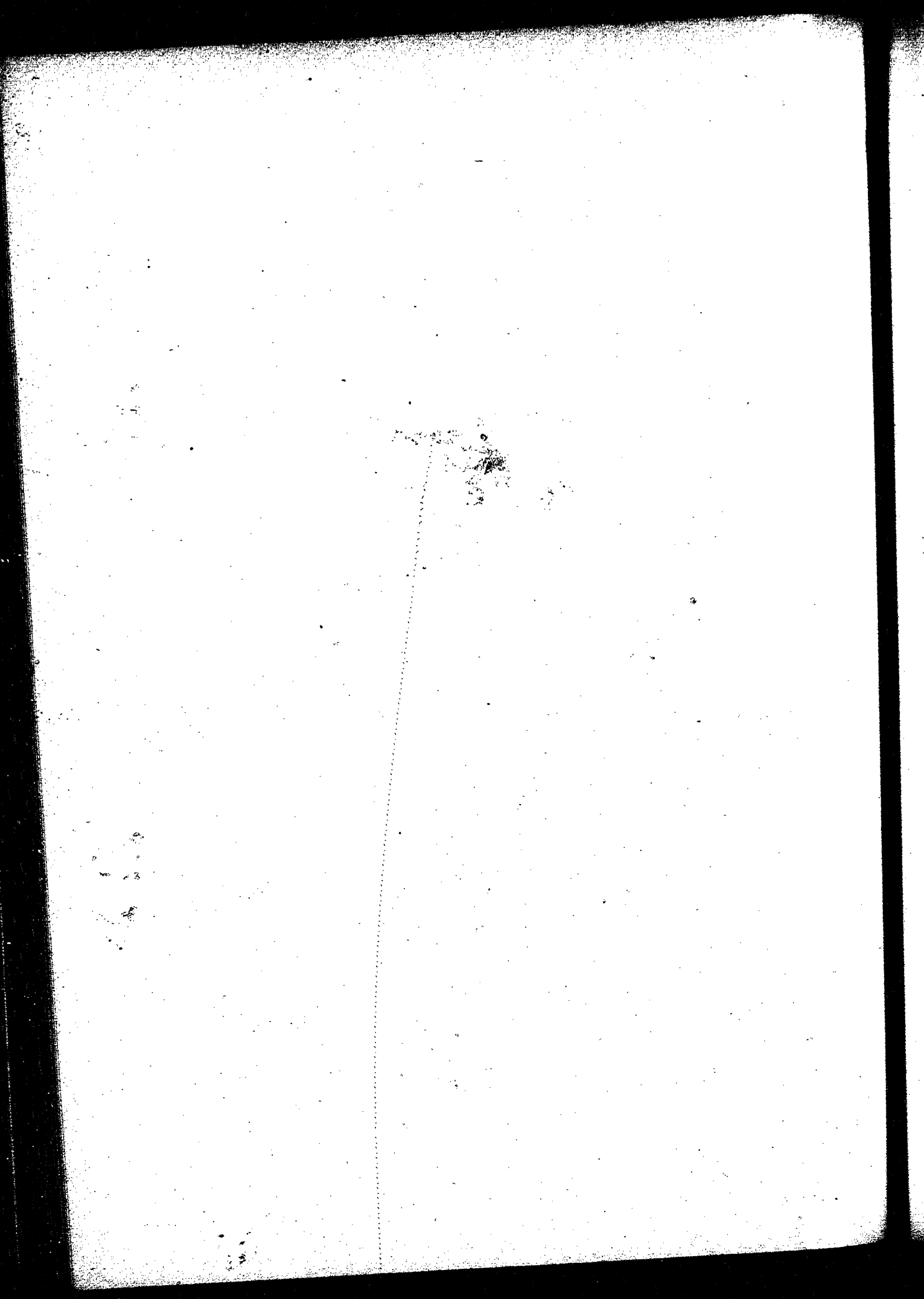
Q For a weight of 1,000 pounds to the lineal foot, that would be to the 30 whole span there, 18,000 pounds; is not that correct? A Yes.

Q The breaking strain would be 4 times that; that is 72,000 pounds. Is that correct? A The breaking strain would be 4 times that?

Q Yes, the factor of safety—with a factor of safety of 4 you can get at the breaking strain by multiplying? A Yes, that is right.

Q 72,000 pounds then would be the breaking strain of that beam? A Yes. 40

Q The load which was on it, assuming this car to have been directly over the beam, the strain which would be on it would be 30,000 pounds,



would it not, and from your own figuring? A Yes.

Q What would the factor of safety then be if the floor-beam was new?
A If the floor-beam was new?

Q Yes, I am assuming now that it was new, the same as I have assumed the iron. A I have not figured that.

Q I will figure it for you. Divide 72,000 by 30,000 and that will give it, won't it? A Yes. 10

Q And it is a trifle over two? A Yes.

Q Two and two-thirtieths? A I will not endorse that as being the right way to view it.

Q That is what it will be, though, two and two-thirtieths? A Yes.

Q And the factor of safety in the iron, figuring it the same way, would be three and one-third? A I don't think it has anything to do—it is not the proper way to view it. 20

Q But is there anything wrong with the figuring? No; the figuring is correct. But it is no calculation of mine; it is yours.

Q For the weight you think that broke first. Now, if that broke first and the car once got clear of that panel, the bridge would be all right, would it not? A Oh, the car might run across the bridge, certainly.

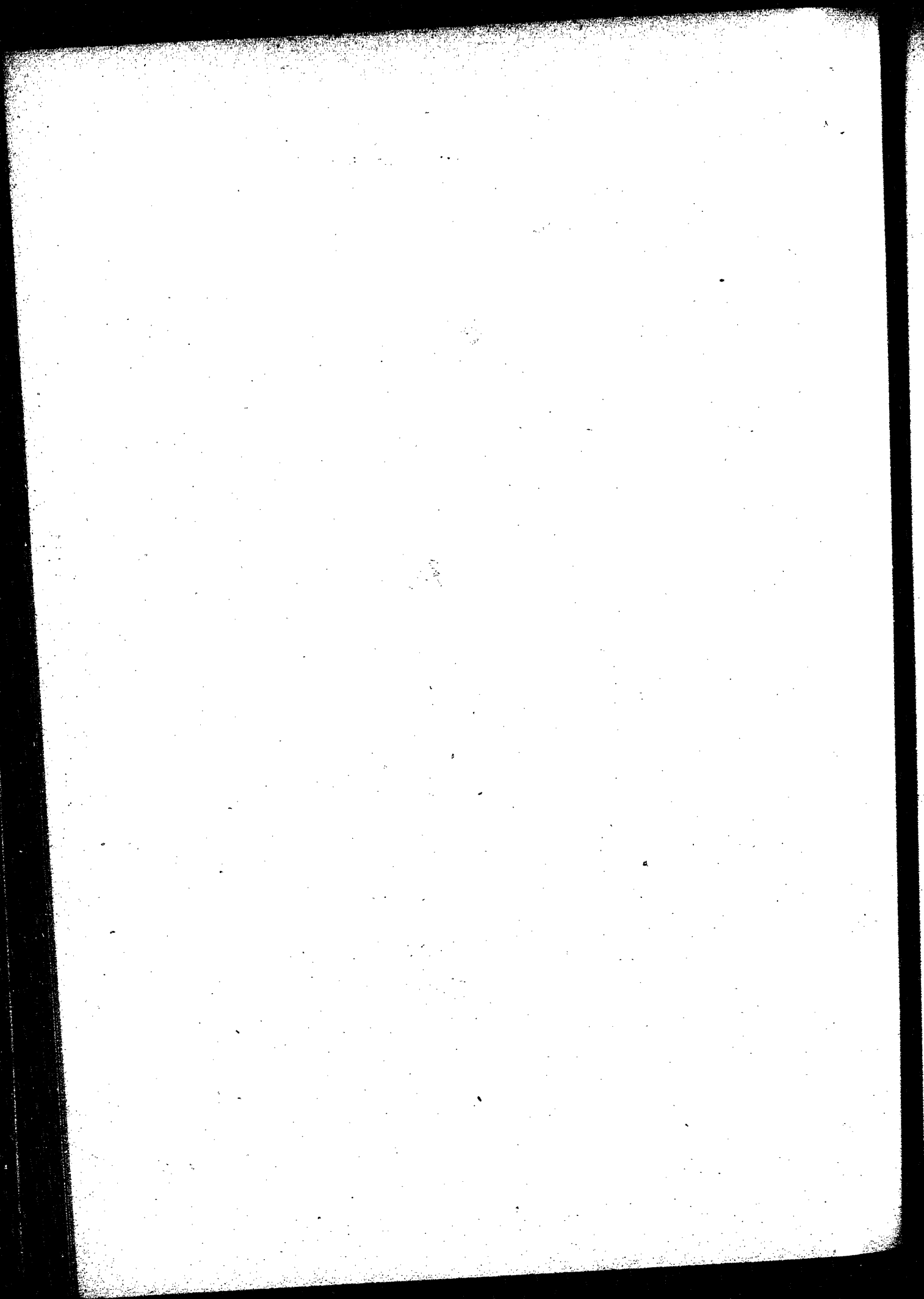
Q Yes. That is, all that these verticals at 7 and at 1 do is to hold up the load that is on that particular panel? A Yes. 30

Q That is, those from nothing to 6 and from nothing to 2 form no part of the truss proper? A No.

Q Those sections between, if you put a load on one of them, it will distribute it to another? A Yes.

Q If you have a load at 6, that load will be distributed in this way, would it not (indicating)? A Yes. 40

Q Run up diagonally, and down here, up here, and down here (indicating)? A It passes through the triangulation; although you did not take it exactly right.



Q There is no way, Mr. Bell, by which you can put weights on this hip-vertical—A Except by the load upon it. Q Except by the load actually upon it.

Q That is the difference between the hip-verticals, and the hip-vertical posts? A Yes.

Q The other vertical posts will have a weight on them although the load will not be at that point? A Yes, that is correct.

Q But the hip-verticals will not have a load on them except when it is right there? A Yes, that is right. 10

Q Consequently as soon as the car had got past number 7, if the hip-vertical broke at number 7, there would not be the slightest reason in the world for the bridge collapsing? A No.

Q Unless something else gave way? A Yes.

Q And practically being a new cause? A Yes, that is right. 20

Q Now, then, we will pass over this, because, after all, the hip-vertical number 7 seems to be immaterial, as the car had passed it? A Yes.

Q Now, what broke them, in your opinion, after hip-vertical 7?—we will put that away. A I cannot tell you.

Q So that you cannot tell us really what caused the bridge to go down? A I cannot; I have told you that already.

Q What is your opinion? A It is partly derived from reading the evidence. 30

Q But what is your opinion? A I think the bearings were pulled right off the Esquimalt pier.

Q What pulled those bearings off? A I think they were pulled off by the end chord links.

Q You think they were pulled off by the end chord links? A By the tension in them. 40

Q What caused the extra tension—because, I presume there must have been extra tension to do it; is that right? A Yes.

Q What caused the extra tension? A It was the breaking of the hip-verticals.

Q You told me the breaking of the hip-vertical could not affect the breaking of the bridge? A The one at the other end.

Q But do you say the second thing that broke was the hip-vertical at number 1? A I cannot say what the second was.

Q You cannot say what was second? A I cannot say whether it was 10 the second, or third, or the fourth.

Q You cannot give an opinion then as to what broke the hip-vertical at 7? A No, not next afterwards.

Q And the breaking of the hip-vertical at 7 would not affect it? A No.

Q Now, as a matter of fact, what was it that I understood you to say yesterday,—because I did not quite understand it at the time, and I want to be sure what you meant before I ask you about it—as to the position of the trucks 20 and the breaking of the iron rails; what do you adduce from the facts that the broken rails were broken east of where the trucks were found? A I adduce the fact that there must have been some strain on the hip-verticals.

Q Do you adduce that the car with its load had arrived at hip-vertical number one—at floor-beam number 1? A Yes, I think it did arrive near it.

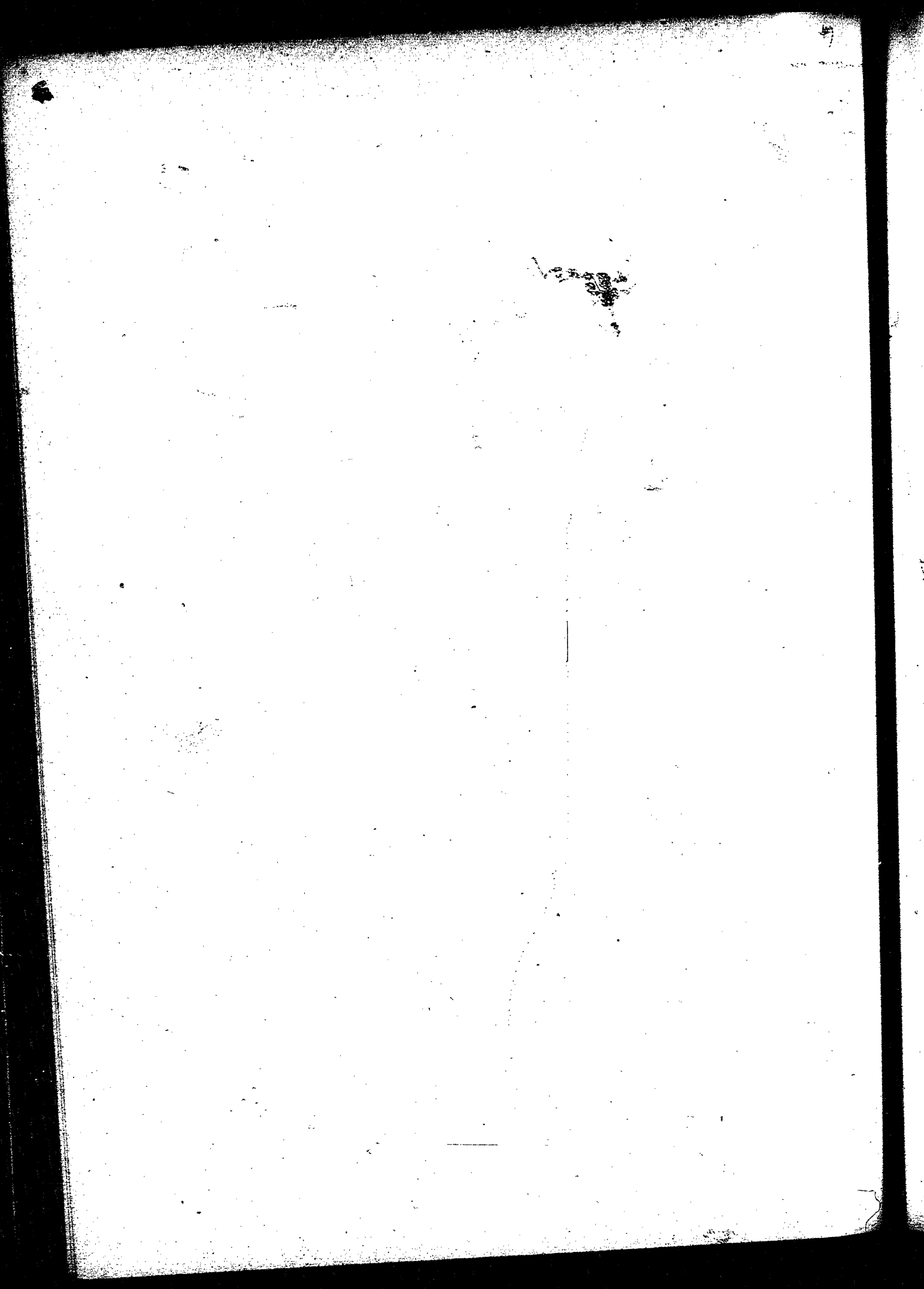
Q How near? A Possibly right up to it.

Q At any rate the load had passed number 2; that is your assumption? 30
A Yes.

Q And you base your assumption upon the fact that you found the iron broken east of where the trucks were, that is east of number 2, near the Victoria side? A I base it partly on that.

Q Why do you say that proves what you assume? A Why do I say that?

Q Why, yes? A Because I think that the great part of the weight 40 having been transferred to those verticals, the breaking of the hip-vertical above the nuts brought a certain amount of weight down on the middle—.



Q No, you are getting away from what I ask you. I am talking about now, why you place the car at between 0 and 2, and you give as your reason, the only reason we have heard as yet, that you found the tramway iron broke between point 2 and the Victoria side—the rails of the tramway? A Yes, that is the reason.

Q That is the reason. Now, I ask you why is that the reason? A I think that the probability is that the car had run forward and come back, perhaps, a slight distance.

10

Q But that is not what I am asking you. You have given a certain reason why you think the car was between 0 and 2. I ask you why that is the reason. Why should you say that because the tram car rail was broken east of 2, that therefore the car must have passed 2? A I did not give that as the principal reason for the position of the trucks.

Q Not as the principal reason? A I gave that as a reason for the position of the car having been further ahead and run back.

Q Now, I ask you why was the car further ahead? A Because the rails would naturally hang down towards the eastern side, and the trucks would not go through until the track was burst completely.

20

Q Yes. Would not the track—I think you said the rails were not broken on the Esquimalt span. Is that correct? A Yes.

Q They were broken east of point 2. Now, that span could not collapse without the rails breaking, could it? That is a necessary result of the span collapsing, the breaking of the rails? A Yes.

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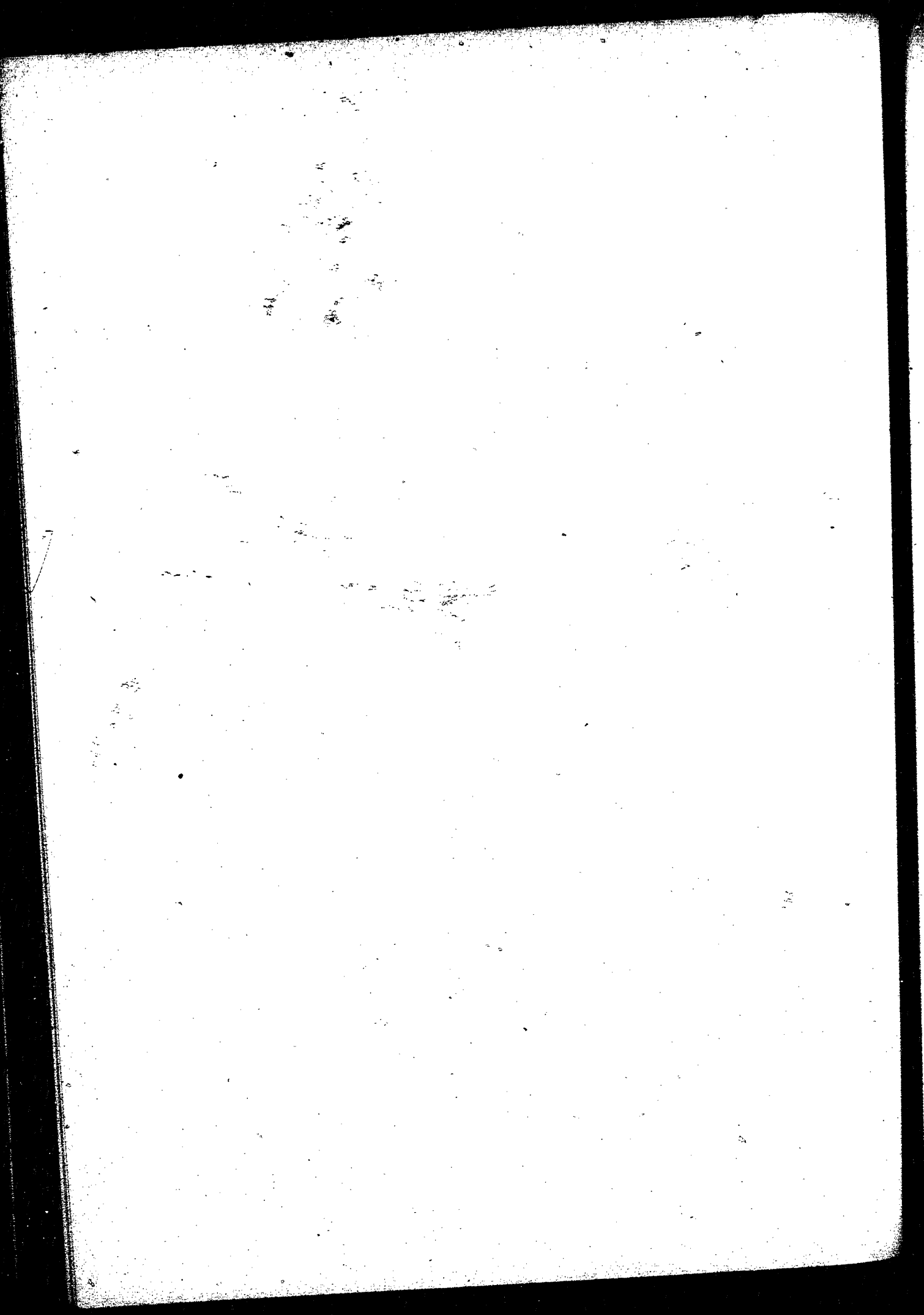
Q Do you mean to tell me you could tell where these rails would break, no matter where the car was? A They were seen where they were broken.

Q But assuming no one knew where they were broken at all, would you tell me that the place where the car was on the bridge would show where the rails would necessarily break? A No.

Q The two are in no way connected together necessarily? A No, not in that way.

40

Q Now, is there any other reason why you think the car was between 0 and 2? A Yes, from the position where the trucks were found.



Q Where were they found? A Between 0 and 2.

Q They were found between 0 and 2? A Yes, between 1 and 2.

Q They would naturally go a little forward, wouldn't they, in falling? The car was in motion, you know, when the bridge broke? A Go forward?

Q Yes. A Well, that is doubtful, I think. I think they would go pretty straight down. 10

Q The Esquimalt end of the bridge broke first, on your own statement, and was pulled off the pier; it went down first, then, didn't it? A I think so, yes.

Q And the car was already moving at the time the first break took place? A Yes.

Q That is the first fact we know? A Yes.

Q The second fact on your statement is that the end towards which the car was travelling lowered first? A Yes. 20

Q Which would necessarily, would it not, give some impetus to the car? A Yes.

Q Cars will run down-hill faster than they will up-hill? A Yes, sir.

Q And they were then moving. Then, would not the necessary result be that the cars would go farther forward and light down below farther forward than where the car stood on the bridge? A That is possible. 30

Q Not only possible, but isn't it absolutely sure? A No, I do not think so. It is quite possible.

Q It is altogether probable, isn't it, Mr. Bell? You will go that far, won't you? A I don't know.

Q You don't know that you will go that far? A No; I am doubtful about that. 40

You said something yesterday about the car having gone forward and run back? A Yes.

/

Q That is the bottom of the arm there? A I said that the car might have gone up to the hip-vertical 1, and come back a few feet, I thought.

Q Do you mean before it went down, or after it went down? A I mean before it went down.

Q Before it went down. But if the forward end was pulled off the pier, that end would be lower? A Well, after it came off, yes. After it came off completely.

Q And that end was what lowered first. You heard Mr. Wilson's evidence, the street inspector? A Yes. The first thing that would take place would be deflection at the 37½ ft. point. 10

Q Wait a moment; you heard from a number of witnesses that that end of the bridge was the first to sink? A Yes.

Q Mr. Wilson said that his horse had his front feet on to the other span, and it was dragged back and could not get up; and you will remember that he stated that the car was something in the neighborhood of fifty feet behind him at that time? A I do not remember that. 20

Q You don't remember that? A However, I do not dispute that.

Q Did you hear his evidence in the Gordon case? A No, I did not. If I don't sit very close up to a man I cannot hear him.

Q I see. But at any rate you know from his evidence that you heard at the inquest that he was considerably ahead of the car? A Yes. 30

Q Now, Mr. Bell, you said with reference to the floor that the specifications showed that it could not possibly be more than an inch on the chords at some places? A Yes; I believe that is wrong. I noticed that myself. According to the specifications it would be so, but according to the way the bridge was actually built, I believe it was not so.

Q So then I need not go into that? A No, it was a mistake on both sides.

Q Yes. Now, assuming that the floor did extend over, I understood you to say—A According to the specifications that would have been the fact, but according to the way the bridge was built it was not a fact. 40

Q As far as I can see, the specifications do not bear on this at all ; it might be, and it might not be. Now, I understand you to say that you would not consider it wise to run a tramcar along supported only by the flooring, with one beam gone ? A Yes.

It would not be wise, of course. But it might happen that at one particular time there might be sufficient support there to draw a car out ; after it fell—after the flooring slipped it got a support on that bottom chord and with the assistance that it had with the stringers running across, the longer ones and the smaller ones, it might pull it out ? My conviction about that is, you can have 10 no practical engineer to endorse that.

Q You stated that already, and you stated it as strongly as you could ?
A I know I have built bridges, and I know what is the custom—

Q I would like to have you answer the question. I understand that you do not believe in that ? A I do not believe in it at all.

Q A reiteration of it will not make it stronger. But will you say this, that if the flooring had fallen and dropped to the bottom chords, that it might 20 not be that that 3 inch planking, together with the rest of the floor system, assuming a floor-beam had broken, might be quite sufficient support—it would only be needed for a moment or two—to draw that car out of danger and let it go off. A I do not think it would draw it out of danger.

Q It might be the electricity that would draw it out ? A It might prevent it from going through, it might possible, and it might not. But if you ask me if I would take the responsibility of its not going through, I would not do so ; but it might possibly happen. 30

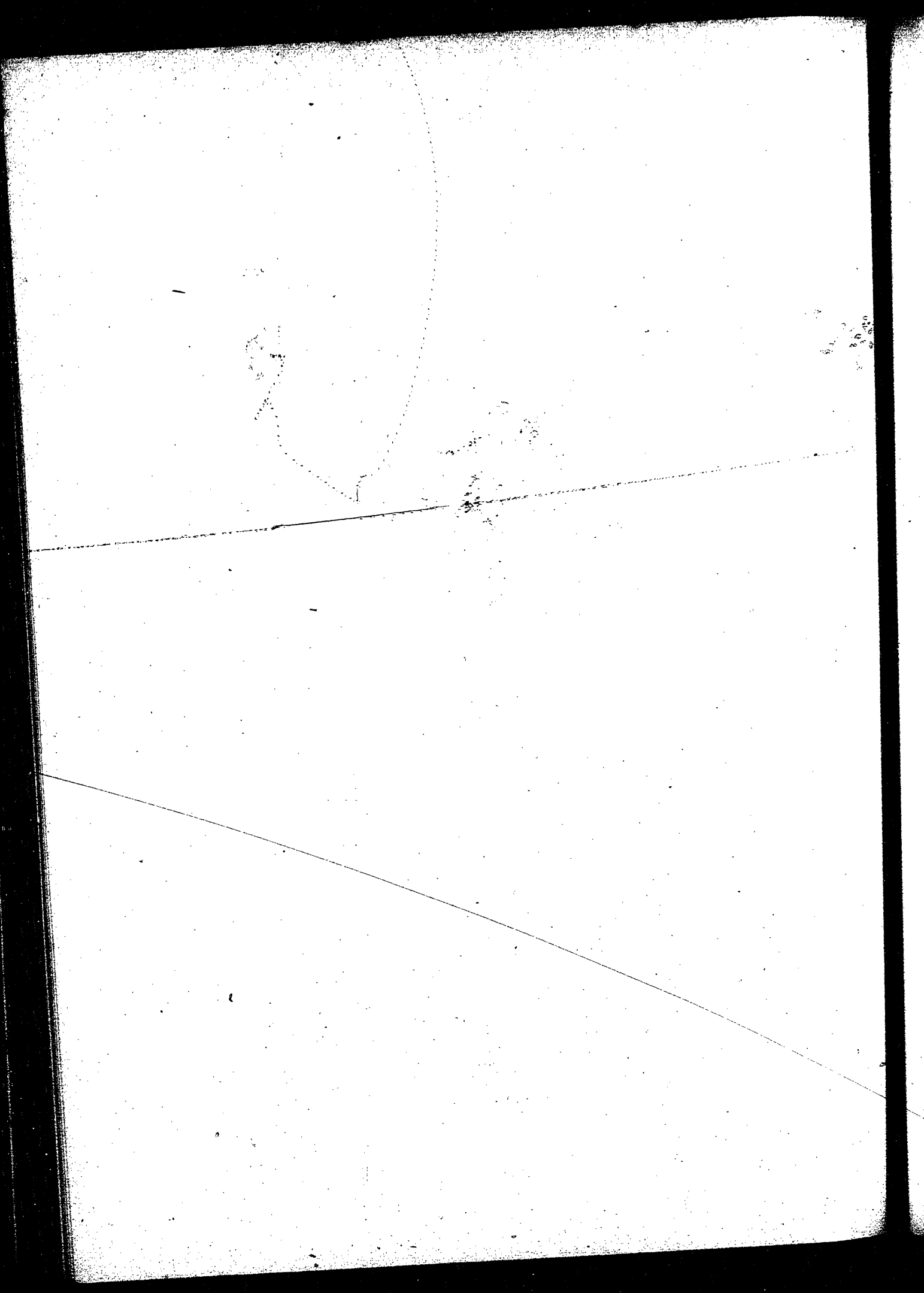
Q Certainly. A man would be insane if he did it deliberately. But in 1892 it did ? A I don't know anything about what occurred in 1892.

Q You have heard the evidence, a floor beam did break in 1892 ? A I did not pay any particular attention to that.

Q You heard the evidence that a floor-beam broke ? A Yes.

Q And the floor system in some way or other held the car up and it went 40 over ? A Yes.

Q Now, referring to those stringers, you said in your evidence, I think,



you made this statement in your evidence you suggested that probably the stringers alone might have supported it? A That the stringers alone?

Q Alone. A Without ties?

Q With the one floor beam? A If I stated that, I said what I did not mean; for I did not believe anything of the kind.

Q I read to you from the evidence, page 467, at the top: "Have you calculated the strains on the floor-beams? (A) Well, I think I have got some notes about them. (Q) The stringers under the track? (A) Yes, I have calculated the stringers, and I can tell you that from memory. I make out that the two stringers"—you are speaking now of the ten by twelve stringers. A Yes.

Q —"will carry 24 tons with a factor of safety of four." Do you still adhere to that statement at the present time? A No, I cannot say that; I cannot tell you that. If you will allow me I will tell you what I do adhere to.

Q Answer this, and then I will let you you explain. I just ask you, do you adhere to that opinion which I have read? A Yes, I adhere to it so far—I say, when I made it it was a properly made calculation, and I supposed it was right.

Q Now give any explanation you like, I won't stop you.

A Well, I have calculated the strength of the stringers better since, and I make out that the stringers have a factor of safety of 4 for a 20 ton car.

Y Do you know a book called Carnegie's Pocket Companion? A Yes.

Q That is a standard book? A It is.

Q Those were fir stringers, I believe? A Yes.

Q Would fir be stronger, or weaker, or approximately the same, as oak? A Well, I have forgotten now, what is in that book for oak, I cannot tell. Tell me what it is.

Q I am not asking for that. A I can tell you no figures.

Q I don't want figures, but only a relative statement. You must know which is stronger, fir or oak? A I suppose good oak is stronger,

Q We will take oak as being the same then. It will be fair if I take oak. Fir is not so hard. Now, you know what that table is? It is for the purpose of getting at the strength. A No, it is no use whatever for that.

Q What is it for? A It is for distributed loads; but it is not for concentrations.

Q Do you mean to say that that table is for getting at a load which is equally distributed over the whole of the timber? A You can get a distributed load over it, but you cannot derive concentrations out of that table. 10

Q Do you tell me that this is for the purpose merely of getting at a load which is laid evenly over say a fifteen foot hanger. A Yes, or else a centre-bearing load, which is equal to one half.

Q Can you tell me what sort of a load could be equally distributed over a long length? Did you ever hear of that? A I have heard— 20

Q Would it be much use to have a table like that? A Yes, it is. I often use it myself, but not for that purpose.

Q It is page 186, edition of 1893. Now, after all, I think we can take your evidence, Mr. Bell, and go on still. You say it is for a uniformly distributed load? A Or a centre bearing.

Q A case like this for a steamer would be a more severe strain, would it not? A More severe than distributed, yes. 30

Q So that if I am taking a table which gives a uniformly distributed weight, I am taking a favorable table for your purpose? A Yes.

Q So that we can go on with this table? A Yes.

Q Just look at the table there; so that you will see that I am not misleading. Look it over. A I do not need to look it over, I know it.

Q It is given for a factor of safety of 4, the same as you mentioned those stringers have. They would have a factor of safety of 4, with 20 tons on? A Yes. 40

Q Now, oak. This table is given for white pine. A Yes.

Q In order to get oak the amount must be increased by one-third; you know the table, I am reading you that so we will take what is given in this table, and then we have to increase it by one-third? A Yes.

Q Now, that is, of course, for an inch broad; that is one inch? A Yes.

Q Now, these stringers—I will give you the benefit of their being only 10 18 feet long, and assume that they are supported by both floor beams. A Yes.

Q In other words—now 12 in., 18 ft. would be 670 pounds to the inch? A Yes.

Q Now, in order to get oak, which would be fir, you would add one-third to that; that would be something like 220 or 225, which would make about 895—we will say roughly 900 pounds to the inch; that is right? A Yes.

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Q Now, to get a 10-inch stringer, you would multiply that by 10. That would be 9,000 pounds. A Yes.

Q 9,000 pounds then would be the weight, then, that one stringer would support, and twice that would be two stringers which would be 18,000 pounds? A According to that table.

Q Which is considerably less than 20 tons? A Yes.

Q A little less than half? A Yes.

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Q And I suppose again, as you said before we adjourned yesterday, if there is any difference between you and the book, one is in error, and this book must be the one? A I say I do not think that book is right for that case.

Q That is all. A But if you care, I could put in a calculation upon that point, which will show that there will be a factor of safety of 4; I have no objection to put it in.

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RE-EXAMINED BY MR. TAYLOR.

Q When you speak about that book being wrong, do you mean the calculations or the assumptions? A I do not think the book is right at all in assumptions there, because there are no experiments there to find out the value of Douglas fir.

Q That book contains a formula for calculating? A Yes, it is a very safe table; anyone who uses it would be very much on the side of safety.

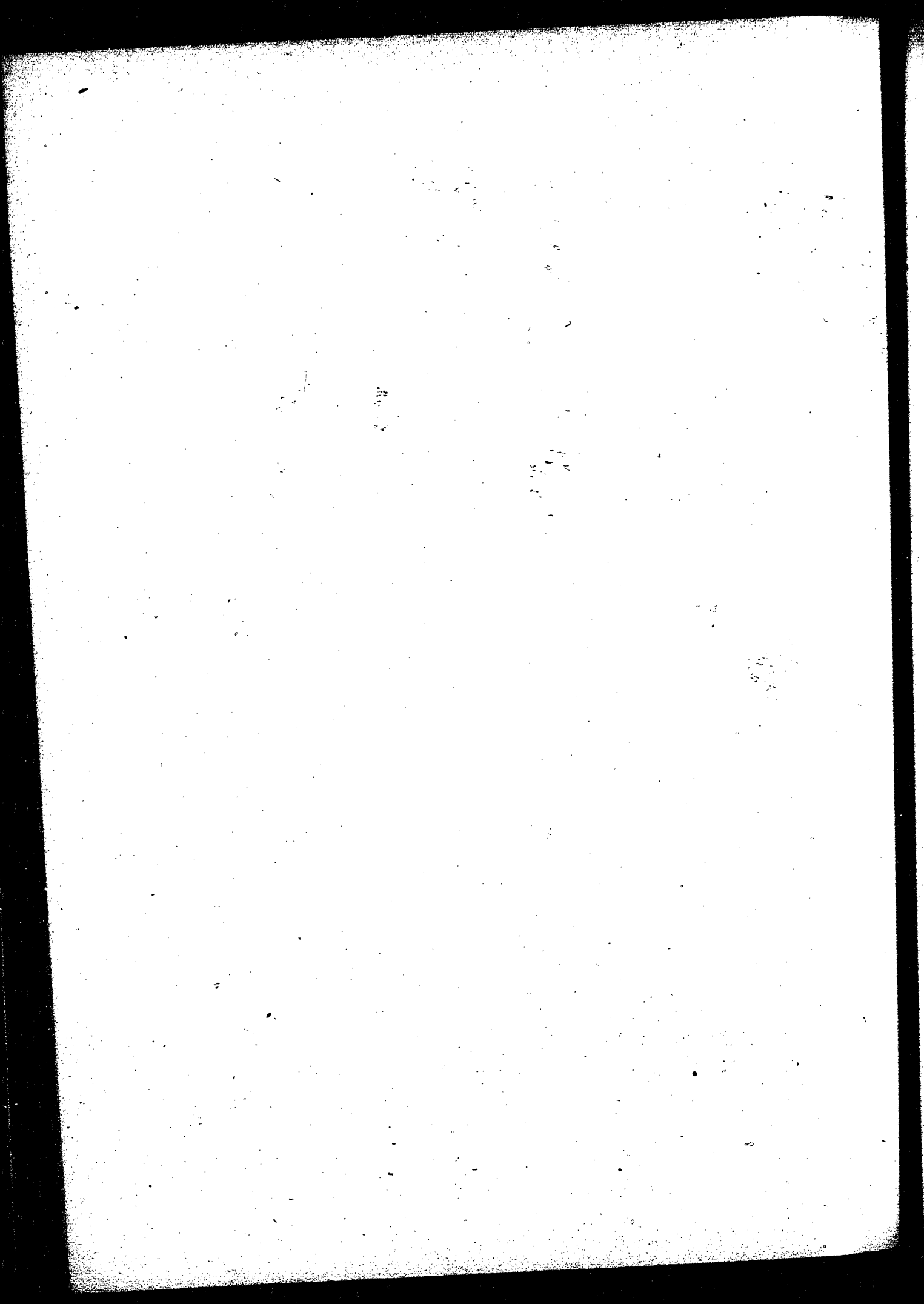
Q When you speak of assumptions on which the calculations have been made by Mr. Warner and Mr. Lockwood and the assumptions on which you made yours as to the factor of safety, what do you mean by that, exactly, Mr. Bell? A Well, the factor of safety must be calculated with reference to some ultimate tensile strength of the material if you are talking about tensile strengths such as bars and links.

Q Do I understand you to say that their figures are wrong, based on their data? A Their figures are right, based on their data, and my figures are right, based on mine. I dispute their assumptions.

Q You dispute their assumptions? A Yes.

Q What is the main difference between their assumptions and yours? A Well, the original strain-sheet is calculated for 600 pounds per foot run, and a moving load of a thousand pounds per foot run, half upon each of two trusses, with the result that the tension bars appear to have a factor of safety of five, and correct for the loads given as stated, the ultimate tensile strength of the iron being taken at 50,000 pounds per square inch. A strain-sheet calculated with reference to the conditions which prevailed at the time of the accident I would calculate this way; the weight of 900 pounds per foot run of the truss, one thousand pounds per foot run for a moving load, and a panel load of 20 tons. One half of the 900 pounds per foot, three-tenths of the 1000 pounds per foot, and $\frac{3}{4}$ of the shewn panel load was borne by the north truss; with the result that the factor of safety of the north truss was much lower than those on the original strain-sheet; the ultimate tensile strength of the iron being taken as 35,000 pounds per square inch for welded links, and 31,250 pounds per square inch for bottom hangers and hip-verticals.

Q I understand from that, then, that you put the quality of the iron



somewhat different from 50,000 pounds per square inch tensile strength? A Yes.

Q You put it at 35? A Yes.

Q Now, did you say anything about the reason for that before? Mr. Davis asked you a question here—. A I do not remember about that if I gave—.

Q I will just show you, Mr. Bell. Page 462. Mr. Davis asked you this question: "The iron generally?"—he asked you if you were not asked this before at the inquest—"the iron generally you consider a good quality?" A I suppose it is as good as is generally put in bridges," and he stopped there. I will read you the balance of the evidence that you gave to that question, which my learned friend did not read to you:—"But there is one—I have not got much confidence in rods that are welded, and perhaps upset, and then a screw cut in them. They go through so many different operations it is hard to tell what they may do when they are subjected to strains." A Yes. 10

Q That is the answer you made at that time, the whole of the answer. Now, that strain-sheet and the specification was calculated upon the basis that the iron was not welded, but weldless? A Yes. 20

Q And the iron, you find, in fact was welded? A Yes, welded.

Q And for that reason you say that that assumption cannot be fairly taken at 50,000 pounds to the square inch? A Yes.

Q And for that reason you say that the strain-sheet could not be fairly taken at 50,000 pounds to the square inch? A Yes, I say that 50,000 pounds would be too much, I believe. 30

Q That is, it is too much to fairly take at the time of the original construction of the bridge? A Yes, even then too much.

Q Even then? A Yes. You see, you should understand that because if those were properly-made weldless links, made in a good shop, properly-made, upset links.—

An intermission here occurred at request of jury. 40

Mr. Taylor: Q Now, you say that the fact that welds were in this iron made the basis of 50,000 pounds to the square inch unreliable for the calculation

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made upon it? A It gave too high a value of ultimate strength.

Q Would the fact that the bridge had been subjected to heavy loads at any period affect the ultimate tensile strength of the iron? A It would.

Q Beneficially or otherwise? A It would be detrimental to it.

Q Well, do you think that 35,000 pounds to the square inch would fairly represent the tensile strength, originally or at the time of the accident? A Oh, I think originally, I can give you a reason for that. When I have been building bridges myself I have torn the rods in two with a wheel wrench where they have been welded. And I would not from my own experience put any higher value on them. Because I have had to send the rods back to the shop to be re-welded. 10

Q Then, do I understand that the effect of a weld is to render a strain-sheet unreliable to the extent of any defects in the weld? A Yes.

Q To the extent of any defects in the weld? A Yes.

Q Now, can you tell from looking at it, ordinarily, what percentage of weakness it would cause by the weld? A No, you cannot tell. But you can see that one bad weld would bring down a whole bridge. 20

Q And you cannot tell from looking at it what the character of the weld is? A No.

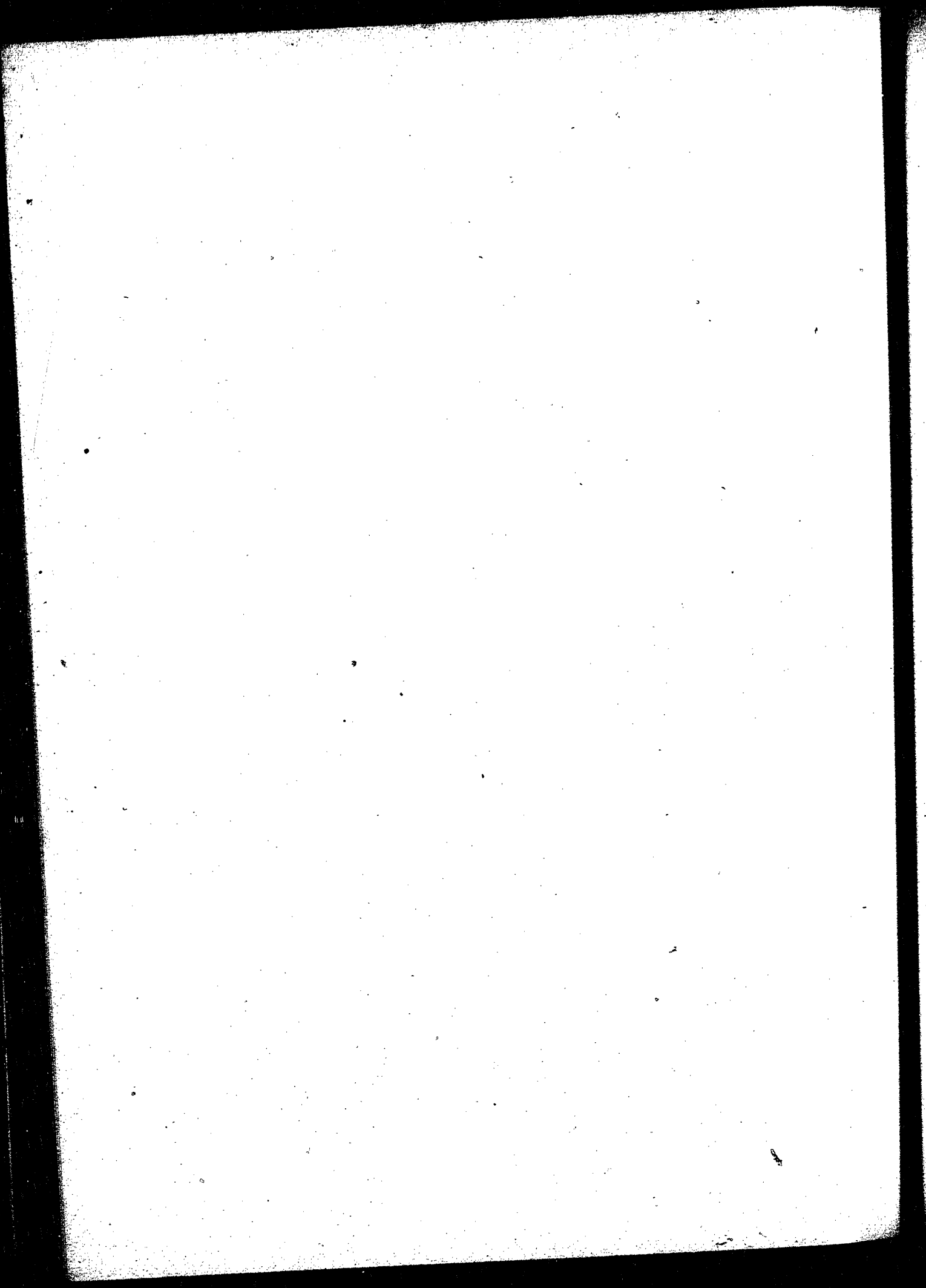
Q So that the fact that it is welded might vary that strain-sheet anything from 5 to 80 per cent.? A Oh, yes. But one would not expect to find such a tremendous difference as that. 30

Q No, but it renders the whole strain-sheet uncertain and unreliable? A Certainly. Yes.

Q Now, that original calculation of the strain-sheet was based on an evenly distributed load, also, was it not, on both chords? Yes, it was based on a load per foot run, and a panel load derived from it.

Q Yes, that is to say, evenly distributed on the floor? A Yes, it was distributed equally on both trusses. 40

Q It was distributed equally on both trusses. That, of course, was



before the tram car line ran over the bridge at all. It was not built for that purpose? A No.

Q And the fact that this car line ran over about three-fourths to one side of the bridge would still further reduce that? A Oh, yes.

Q Materially? A Oh, yes, very much.

Q Very much? A Very much. Of course that has been given in evidence already.

Q It is on the same principle as carrying a pail of water over a stick? A The same exactly. 10

Q If you put the pail over to one side, the man at that side carries the most of the water? A That is the true principle.

Q The greater strain is on the man that has the pail nearest to him? A Yes, the man that has the pail nearest has the most of the load.

Q Now, I did not quite understand what you meant when you spoke about the car going forward and back there; that you formed an opinion of that kind from the position of the rails after the accident. What did you mean exactly by that? A Well, I meant this, that it is very likely that the car load had arrived as far forward as the hip-vertical. 20

Q Yes, I understand that. That is as to about 1? A Yes.

Q And you think it went back? A Yes.

Q In what position were the car rails after the accident? A They hung down.

Q They hung down? Would you mind taking a little slip of paper and indicating roughly to the jury? A Yes, I can, as I remember it (taking paper).

Q Just draw it shortly; it will only take a second? A (Making sketch) As well as I remember it was like that. 30

Q Kindly bring this illustration over here to the jury? A One break was here (indicating point which was marked 1). This is the east end (indicating) and this is the west end (marking the same). And this is another break somewhere about the centre. Here is one break and here is the other (indicating). Now, I don't know where the end of this went that corresponded to here (indicating); it might have gone away in the water. The bottom end of that went I don't know where.

Q The portion marked at the west end represents the pier nearest Esquimalt? A Yes. 40

Q And there were rails hanging over the top of that pier into the water? A Yes.

Q Two rails were there? A Two rails, yes sir.

Q How were those rails fastened above, on the floor or stringer? A

They were fish-plated to the rails on the next span.

Q The car could not go down until the floor fell away from the rails? A No, the car naturally could not go down as long as it was resting on the rails. Something had to go first.

Q Yes. Well, now, was the rail upon the Gorge side,—that would be on the north side—was that longer or shorter from the pier? Did it extend eastward beyond the pier farther than the south rail, or was the converse the case? A Oh, this one that was broken, that break I believe is on the north side. 10

Q That would be the Gorge side? A Yes.

Q The rail on the Gorge side? A The rail on the Gorge side is broken up on top of the pier.

Q Broken on top of the pier? A Yes.

Y Which pier? Broken on the eastern on the Victoria pier? A Yes. 20

Q On top of the Victoria pier? A Yes, the north rail broken on the Victoria pier.

Q So that that rail on the Gorge side remained intact, from the pier on the Esquimalt end to a distance of about how much? A Oh, somewhere below this break.

Q It broke, then, very close to the pier? A Yes.

Q On the Victoria end? A Yes. 30

Q How about the rail on the south side of the Victoria side? A It broke somewhere about the centre.

Q That is somewhere between three and four? A Yes; or it might have been a little east of that; I think probably a little.

The diagram made by the witness was put in, marked exhibit "A 1."

Q Now, Mr. Bell, you said you examined this broken beam? A Yes. 40

Q Do you think it was possible there could have been an auger hole

within 5 or 6 or 8 inches of the hanger holes on top of the beam, without you seeing it? A Might I look for a moment again?

Q Yes. A (Witness looks at model) I did not see that hole bored.

Q This is the model U (marked exhibit U); it represents a section of the floor beam; these two large holes represent the original hanger holes; this small starting hole here, the auger hole, is where Mr. Cox says relatively he bored.

Mr. Davis: My friend is wrong there. 10

Mr. Taylor: The red point is where he said he bored; he fixes no distance from the hanger except this red point

Court: Except relatively as shewn there.

Mr. Taylor; He does not do that. This starting point here represents the size; the red point represents where Mr. Cox says he bored, and that is the position here, Mr. Bell. Now, I ask you as a result of your examination, would it have been possible to have had an auger hole approximately that close to the hanger holes on the Gorge side, without you having seen it? A No, I do not think so. I think if he had bored a hole that size I would have found it out? 20

Q How much time did you spend there looking for that hole? A Oh, we were a long time there.

Q I mean to say looking for this auger hole? A We might have been twenty minutes. 30

Q You might have been 20 minutes looking for it? A Mr. Wilmot was very anxious about it and I looked. I did not go there for that particular purpose.

Q But he was there for that purpose? A In fact I wanted to go away.

Q You wanted to go away? Why did you want to go away? A I wanted to go and do other things: I was busy. 40

Q I don't know whether you said that you saw the section of the

hanger hole in the broken beam? A Yes, I did. I saw part of a section of a hole.

Q Do you know whether that was in the long side or the short side of the beam, the long length or the short length? A I think it was the long length.

Q You think it was the long length? A Yes.

Q Now, what weight, with the car going over the span, would there be on the sidewalk side of that hanger? A What weight? 10

Q Yes. A Eighteen tons.

Q On the sidewalk side? A On the hanger on the north side.

Q Perhaps it is my fault in not putting the question quite clearly to you. There is the roadway, which we will say this sheet of paper represents; then the lower chords run down each side of this sheet of paper? A Yes.

Q The sidewalk is outside? A Yes, the sidewalk is outside. 20

Q Outside of the lower chords? A Yes.

Q Now, would the fact of the car passing over this roadway cause any strain on the sidewalk? In other words, to put it this way, would a defect in the floor-beam, outside of the hanger on the sidewalk side—would that necessarily affect the roadway side of the beam? A I do not understand the question yet.

Court: Q The evidence is that the boring was done under the sidewalk, outside of the roadway? A Yes. 30

Q Would the boring at such a place affect the solidity of the roadway itself? A Oh, no, I do not think it would, not if it was bored outside. I did not understand what he was driving at.

Mr. Taylor: It would not affect the roadway inside of the sidewalk.

Q You saw floor beam number 7? A Yes. 40

Q Was that bored? A Yes.

Q Anything in the bored hole? A Yes.

Q What? A A plug.

Q A wooden plug, or oakum? A There might be some oakum around it, although I do not think it.

Q Referring back to number 3 floor-beam, the fact of a bore being in it, would that have attracted your attention if there had been an auger hole there?

A Yes, I think it would.

Mr. Davis: Q My learned friend asked a question that did not arise out of the cross-examination, that is as to the effect of the auger hole.

Court: I will allow you to ask questions on that.

Mr. Davis: Q When you say an auger hole bored there two or three inches from the hangers—when you say that would not affect the roadway, you are speaking merely, are you not, of the amount of wood taken out, and the consequent diminution of the strength in the beam? A Yes, I am speaking of the fact that the hole is away where it would not do any harm.

Q But rot will travel? So that the question of rot would not be affected by what you said? A No.

Mr. Taylor: Q For instance, if you found rot on the roadway side of the hanger, would you attribute that to its coming from the hanger holes, or from an auger hole there on the sidewalk side? A I would attribute that to the general design of the holes in the beam.

Q You would attribute that to the general design of the holes in the beam? A Yes.

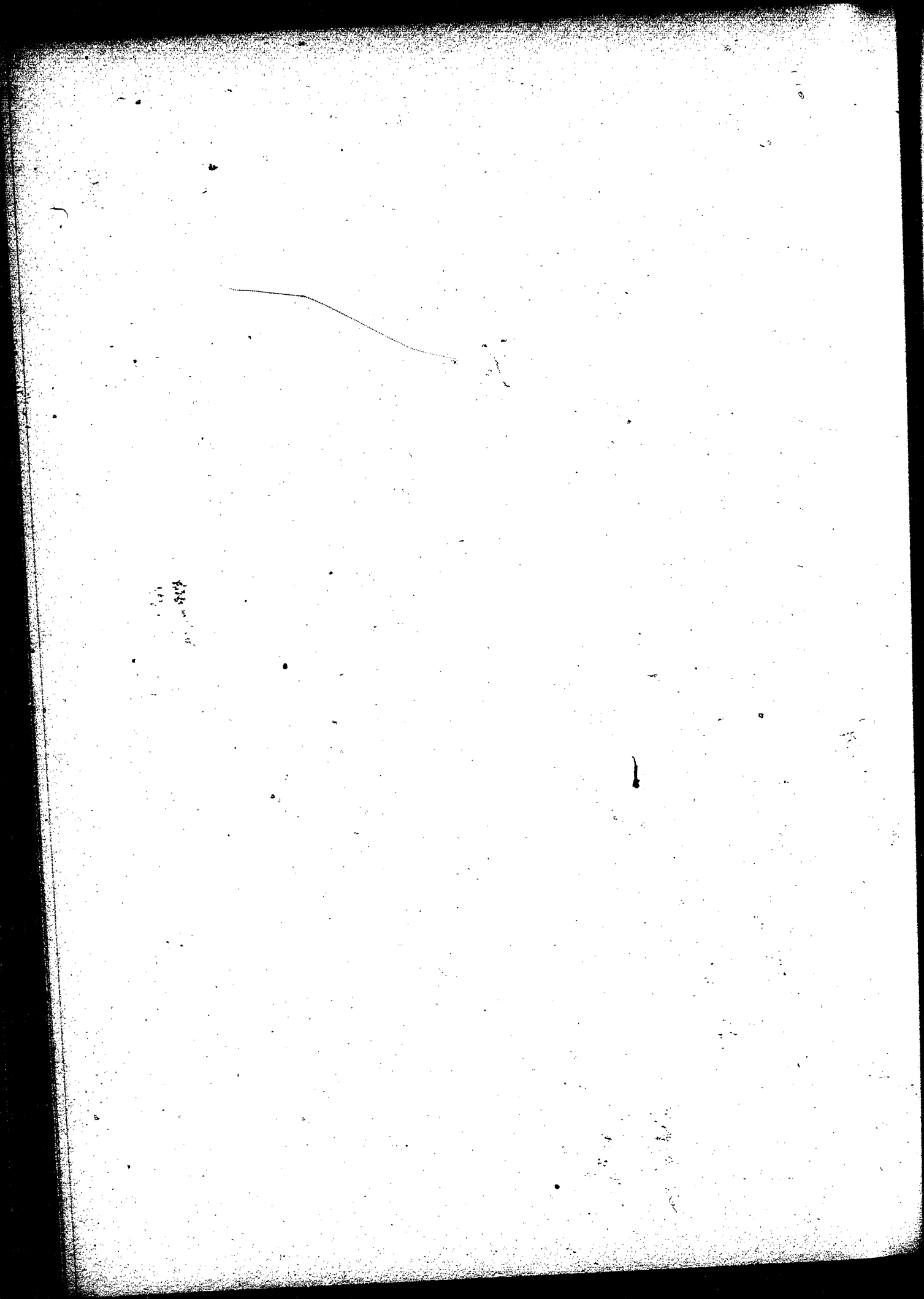
Q How much sectional area did they take out of the beam? A I think it was 96 square inches of sectional area bored out of the beam.

Q What is the total sectional area? A I am not certain of that. If I had time I could get the book and show you, but I have not got it here.

Q Have you got it in the Court House? A No, not in town.

Q Can you give me an approximate idea of the proportions of the whole? A I think it was less than 50 per cent.

Q How much less? A I think it was nearly 50 per cent.



Q The fact of putting the beams in originally with those hanger holes and those diagonal sway-braces, holes in connection with it would take out nearly 50 per cent. of the sectional area of the beam? A Yes.

Q You mean about that much? A Yes.

Q And expose it to moisture and rot? A Yes, but I remember at the same time calculating that there was still enough timber left in the beam to resist the shearing of the strain there where the beam is now.

Mr. Davis: Now, my learned friend has examined on a point which I never had a chance to examine upon. 10

Court: I am not going to limit you by strict rules of evidence on the one side or the other, but I hope you will this time exhaust the important questions.

Mr. Davis: Q Now, Mr. Bell, isn't it a fact that if you bored a hole at this point, that water will get in there and cause rot. That is correct, isn't it? A Yes. 20

Q And how far that rot will travel within four years is a thing that neither you or anybody else can say? A No, I do not profess to say how much.

Juror: Q I would like to ask if the two portions of the beam that were found were measured to see if the length was the same as the whole beam.

The Court; Q Were they, Mr. Bell? A No, I believe they were not; but the broken parts were looked at to see if they would come close together. 30

Q Were they fitted in together? A No, I did not fit them in, but I remember looking at them.

Q As regard their capability of fitting in closely did you form any opinion? A Yes, I did. I do not think they could have bored a hole in them without my seeing it.

Juror: Q Would the length of the two pieces be the length of the whole beam? A If they had been taken up and put together I believe they would. 40

Q But you do not know it ; you did not measure? A No, I do not know it, I did not put them together.

Q Was there any hanger holes on the short piece? Did you see a section or sign of the hanger holes? A On the broken end.

Q Did you see any on the short piece? A I do not think so, I think I saw them in the big end.

Q The auger hole only being two or three inches from the other holes there might have been a piece of wood dropped off of it, and looked like the other hole? A You mean the auger hole that was bored into the beam?

Q Yes. That a piece of wood might have dropped off of it? A No, I think not, because my recollection is that what I looked at shewed the thread of the screw.

Mr. Davis : Q The thread would be underneath the beam and not in the beam? A It looked like that.

Juror : Q The piece did not show the holes of the hanger at all? A What I saw was the hanger holes and not the bore holes.

Mr. Taylor : Q The Juror is desirous to know whether the short piece the sidewalk side of this beam up the Gorge— A Yes.

Q Whether that, where it was broken off shewed any marks of the hanger hole? In other words, in this way, there is a section of the beam. A No, I think the short—I do not think the short piece did shew it, I think it was the long piece. I am not positive, I believe it was the long piece ; but it was a section of the whole.

Witness stands aside.

WILLIAM S. GORE ., CALLED AND SWORN, EXAMINED BY
MR. TAYLOR.

Q What is your name? A William Sinclair Gore,

Q You are Surveyor-General of the Province, Mr. Gore? A I was at ¹⁰
the time the bridge was built.

Q You were at the time the bridge was built. What position did you
occupy at the time of the accident? A Deputy-Commissioner of Lands and
Works.

Q As such, did you make any inspection of the ruins of the bridge after
the collapse? A Yes. I inspected it together with the—in company with
the coroner's jury.

20

Q Did you inspect this broken floor-beam you hear referred to as 3 here?
A Yes.

Q There is only one broken floor, beam? A Yes.

Q Did you inspect that? A Yes.

Q Did you see both pieces of it? A Yes.

Q Was there any part of the beam missing—I mean to say was there ³⁰
anything subtracted from the entire length? A Well, perhaps nothing but
what might have been sheared away from it when the hanger pulled through
it.

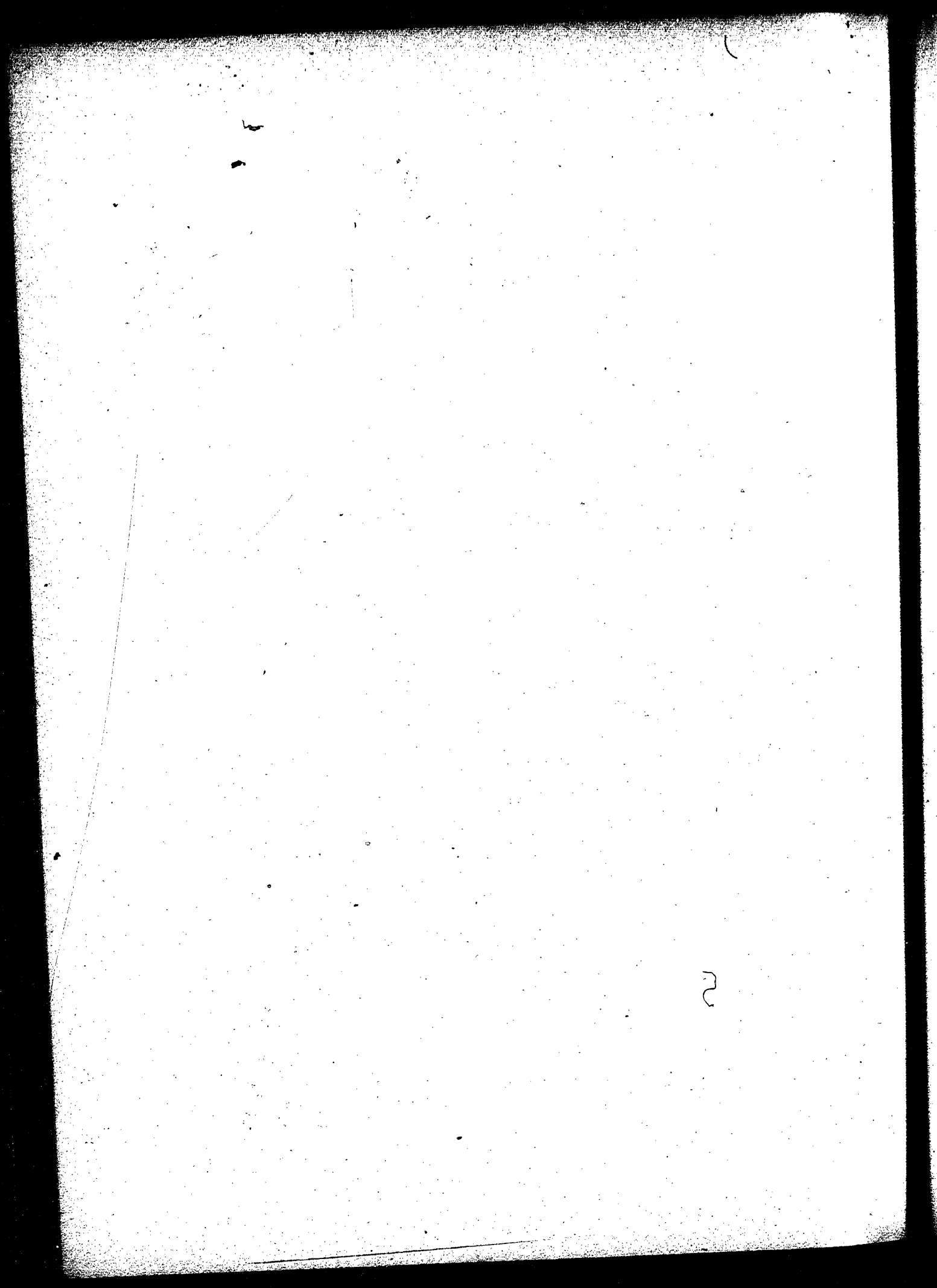
Q What is your idea about that? A Well, the hanger was found
suspended on its pin, the eye-bars intact with all its nuts and washers upon it,
it is in evidence that it pulled right through the floor-beam.

Q Now, you saw two pieces of the floor beam? A Yes.

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Q Did you see the short piece, the sidewalk piece? A Yes.

Q Was there any auger hole on the top of that? A I never saw one.



Q You never saw one. Now, Mr. Gore, those lateral sway-braces, did they go through the hanger in the original design? Just come here (to exhibit U). Exhibit U represents a section of the floor-beam, and these two large holes on top represent the original hanger holes; these two holes at the side, one at each side, represent where the lateral sway-braces went through; and these pieces, blocked out square here, represent where the sway-braces were screwed on with nuts. These sway-braces cross inside the hanger, between the top and the bottom of it, where the jib-plate is fastened. A I cannot tell you from memory whether they did or not; I can tell you from the plan.

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Q Just refer to the plan, then, and tell me if you do not mind? A (looking at plan) the scale is so small it is very hard to tell by this plan.

Court: Mr. Lockwood would know. Do these sway-braces cross inside the hanger?

Mr. Lockwood: The lateral rods do, yes. Here are the holes right through here (indicating on exhibit U) that the rods passed through.

Mr. Taylor: Q The lateral rods, what I have been referring to as sway-braces, cross on the inside of the hanger.

Mr. Lockwood Yes.

Q Crossing on the inside, it would be quite possible that that beam could fall away and leave these lateral rods there. Assuming that floor-beam to break right at the hanger holes, you would find the lateral rods there still in the hanger, would you not? They would not fall away? It seems to me that as a matter of common sense they would not. A Well, they might fall out, because when the wood was out, the ends of the lateral rods would be released, and they might come right through.

30

Q They would have to bend considerably, wouldn't they, to do that? A As long as the whole thing was horizontal they would not fall out. When they tipped vertically, or fell down into the water they might fall out I think.

Q Do you think it was possible that that auger hole was there without your seeing it, filled with oakum? A I certainly never saw it, and never heard of it before.

40

Court: Q Did you look for it? A I did not look for it, because I never heard of it.



CROSS-EXAMINED BY MR. DAVIS.

Q Look here for a moment. (Witness taken to exhibit U). Now, as I understood your description, Mr. Gore, they were sheared off right in this neighborhood (indicating)? A Yes.

Q And that whole iron work was torn right out of the beam? A Yes. 10

Q At the bottom there is a jib-plate crossing? A Yes.

Q And the nuts underneath hold the jib-plate in place? A Yes.

Q Was that jib-plate torn through? A Yes.

Q That would necessarily tear out some of the wood? A Yes.

Q I think so. 20

Witness stands aside.

THOMAS HARMON CALLED AND SWORN, TESTIFIED,
EXAMINED BY MR. TAYLOR.

Q What is your name? A Thomas Harmon. 30

Q You were upon the car, Mr. Harmon, at the time of the accident? A 40
Yes, sir.

Q One of the sufferers. Will you describe what you first saw? the first

breaking sound you heard? A Yes, sir. As we went down and got on the bridge, just after—almost momentarily after passing Captain Grant's boat-house, which occupies a place on the north side of the bridge—I saw that, sitting on the south side myself, the last seat in the car, I recollect seeing Captain Grant's boat-house, and almost immediately after—

Q We want to get the position of Captain Grant's boat-house to the truss that went down? A Well, sir, I will give you as near as I can—I have never seen the bridge since the hour it occurred, but Captain Grant's boat-house, as I have been acquainted with it, and been underneath the bridge and travelled 10 over it a great many times—Captain Grant's boat-house, it runs out under the foot of the bridge on the Victoria side all but level with the inshore abutments that the two centre spans stand on.

Q That would be the pier? A That would be the pier.

Q Just a moment. Taking this as the pier—this point here as the pier (indicating on the plan) nearest Victoria, the span that went down, where is Captain Grant's boat-house? On the right-hand side of this. 20

Q The Gorge side? A Yes, as near as I can say, that pier would touch the inside part of Captain Grant's boat house, the corner of that span (indicating).

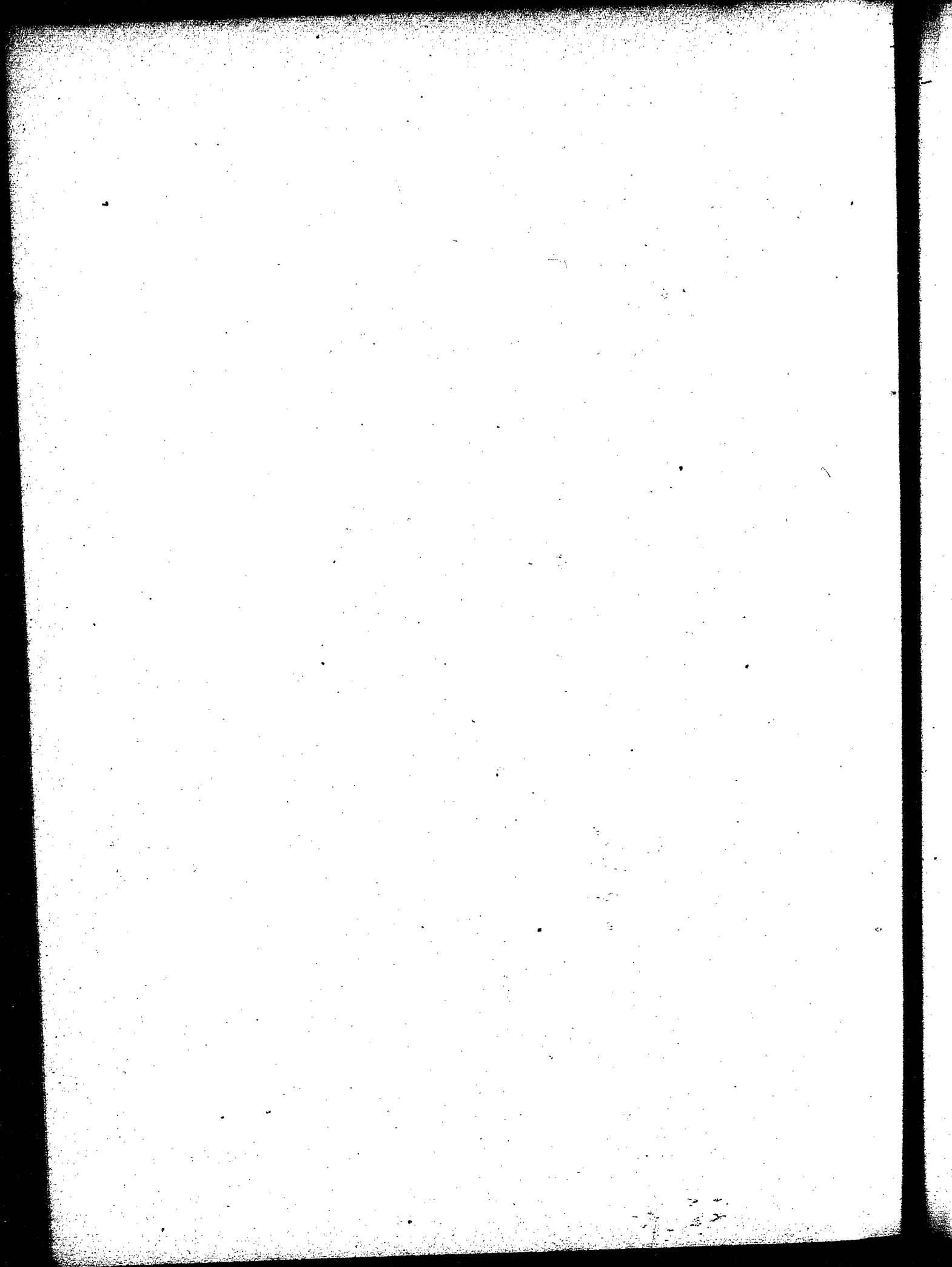
Q It would be just about on a line with it? A Yes, as near as possible.

Q Just as you passed Captain Grant's boat-house, now, what did you hear? A Well, there was a sudden ominous break and sound that I cannot 30 hardly—I cannot find a word to express it, only a heavy twang.

Q Was it like an iron or a wood break? A I could not swear to one or the other, but where we were standing I heard big timbers, big trees snap, almost where we were standing at the present moment; but it was not that sound.

Q It was not that sound? A No. It was sharper. That was momentarily. Then—but whether that moment I was in the car or not I cannot swear—I heard other breakage. 40

Q What was the first you heard? A That was the sharp—



Q And that was just as you passed Captain Grant's boat-house? A Just as the car was moving, I cannot say exactly, of course, where we were on the bridge, but it was momentarily—it was just after I recollect looking through the heads of the other passengers and saw Captain Grant's boat-house.

CROSS-EXAMINED BY MR. MACDONELL.

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Q You gave evidence in the other case, and I think you stated that the car was about two lengths of itself on the bridge? A As well as I can imagine; the car slips along quickly.

Q You were inside the car? A Yes, and sitting down.

Q Do you know the ordinary length of the car? A I should imagine 20 that that car would be between 30 and 40 feet long.

Q Supposing it was 35; that would be about 70 feet on the span? A I could evidently give it according to figures.

Q You were not paying particular attention to what part of the span you were on at the time? A That was not my thought for the moment.

Q And you may have been farther on than you thought you were, according to the position of the car? A I have reason to believe since that it 30 could not have been farther, because she would have gone clear of the bridge and gone down into the mud, which she did not do.

Q It depends on the way she drops? A She did not drop suddenly down, she went down with a long sweep.

Q But you were on the roof when it was down? A I was still attached to the car.

Q It depends on the velocity of the car on the bridge; how far you were 40 on the bridge, as far as that goes? A Yes, sir, it would depend on two things; there was a sudden stoppage, and what drove me out of the car and

killed everybody in the car was the force of the hydraulic ram when the car struck the water ; and because we were up so much on the upper side of the car, that saved our lives. There was a sudden stoppage there. And it is evident in my mind since that the Victoria end dropped and acted as a lever and stopped the car with the tremendous power coming down. Its dropping straight down there first started the car along on the drive down, and then the water broke the force, and the other end falling acted as a lever, and that is what stopped the car from going over off of the bridge.

Q One witness thinks that the car ran back; you do not? A Well, I do not think water will run up hill. 10

Q Did you see Mr. Wilson that day? A No, sir, I was sitting in the forward end of the car.

Q Now, when you heard this sharp clang—the other day you said it sounded like the breaking of part of a ship; what part of a ship? A The mainyard giving way.

Q Is that composed of wood and iron? A Wood and iron, and a batten of iron. 20

Q And that is the sound of wood and iron breaking? A Yes.

Q (Taking witness to plan) This is the Victoria side, this is the Esquimalt side? A Yes.

Q Now, one of the witnesses said he thinks that some part of the car was over between 2 and 3 some places. Now do you think he could be mistaken? He was outside, he said, and standing on the rear end of the car watching vehicles and people passing, and he says: "I think the front part of the car was between 2 and 3 when it went down." Now, do you think he would be nearer right than you as to the position? A I will tell you, my idea was this: Taking the angle, that end going first, which did go, there is no question about it; if the car had been there, she would have gone clear; if she was nearly off the span she would have gone clear and gone underneath the mid-way pier. Now, she remained somewhere near there in that section, I believe, as near as I can understand it, about where your stick is now, that is where I think she was laid in the water. Had she been farther advanced on the pier when she dropped, before the end of the bridge—the floor had got to the water, the car having the greater motive behind her—the car would have slipped off 30 40

that end. She could not have gone down an incline of 30 feet with the speed she had or without clearing the bridge.

Q Suppose she had dropped down suddenly, she would have gone down in that direction (indicating)? A If she had gone down suddenly I would not be here to speak to you.

Q But supposing she went down on all fours, as one of the witnesses said, she would have had to go down in this direction (indicating)? A If she could break through there and come down on all fours, she could break through anything. 10

Q Where was she when they found her? A As I understand she was there about 5. But she was not off of the bridge.

Q You were inside where you could not observe closely. There was a witness outside at the rear end of the car, and he swears positively, "I think the front part of the car would be between 2 and 3." He could see the rear, and see the span. Do you think he could be wrong if he swore to that positively? A I believe the man would say what he thought was right, but the chances are— 20

Q You would not say he was wrong? A No, but I think the chances are he lost his head, at the time.

Q You would not say that he said what was wrong? A But the car could not have been so far to the end.

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RE-EXAMINED BY MR. CASSIDY.

Q Referring to this plan again for a moment, whereabouts on the plan would the car be when you heard the twanging sound? A It was between 0 and 7 when I saw Captain Grant's boat-house. 40

Q You say when you saw Captain Grant's boat-house the car was between 0 and 7? A Yes, sir.

Q When you heard the twanging sound where was the car? A Well, a trifle beyond it; one or two cars lengths beyond it.

Q Come and put your finger on it (on the plan). A I could not define it nearer. Will you please tell me the length of the span; I know the length of the car.

Q One hundred and fifty feet about. A Two or three lengths of the car, as near as I can tell, from the end of the span.

Q Where was the car when you heard the sound? A Two or three times the length of the car, when I heard the sound. 10

Q Where were you? A In the car.

Q And about what spot on the bridge? Just put your finger on it. A Well, say somewhere about here (indicating).

Mr. Davis: He does not know the length of the sections.

Witness: I think there, as near as I could judge. 20

Mr. Cassidy: Q That is 6. A Yes, that would be two or three car lengths.

Mr. Davis: That is not right; the witness is being misled.

Witness: That is where I heard the twang, two or three car lengths.

Mr. Davis: Mr. Cassidy is leaving him with the impression that there is only a car length 0 and 7, and 7 and 6. They are only half-car lengths; it would be two more spans over. 30

Witness: It was between two and three car-lengths on the span. I don't swear to the drawing, not knowing the scale.

Mr. Cassidy: Q I do not want you to swear to the drawing. A You take two or three car lengths, and that is as near as any man living can tell you. 40

Witness stands aside.

WM. GRANT CALLED AND SWORN, EXAMINED BY MR. TAYLOR.

PATTERSON V. VICTORIA.

FOURTH DAY OF TRIAL.

Q Captain Grant, you reside in Victoria near the Point Ellice bridge? 10

A Yes, sir.

Q And you have a boat-house there. Will you just describe shortly, to the jury, where your boat-house is situated, relatively to the span of the bridge that went down? (Explains diagram to witness). The point of your stick from 0 to 7 represents the Victoria end of the span? A That is the span that gave way, and here is the part of the bridge that extends to the span.

Q Where is your boat-house with reference to that span that gave way?

A This side of the bridge (indicating). 20

Q Your boat-house is the north side of the span that gave way? A Yes.

Q How far from the north pier on the Victoria end? A My wharf?

Q Approximately? A Oh, about 300 feet.

Q But your boat-house—where you were standing? A I was not standing at the boat-house. 30

Q Where were you standing? Your wharf is on the south side? A Yes, my wharf is on the south side.

Q Where were you standing? A On the wharf. I have a boat-house, you know.

Q How far were you away from the span? A Oh, I would be away 150 ft. 40

Q At the time of the collapse? A Yes, sir.

Q What were you doing then? A From that to 200 feet,—I was bring-

ing a vessel into the wharf.

Q What were you actually doing yourself? A Well, I had just had a line thrown ashore to me, and I brought it up to the further corner of the wharf and brought it up to the spile and had got about half-way back when I heard this crash and looked up.

Q Were you above or below the span? A Below.

Q How far below? A Oh, 20 ft. or more. 10

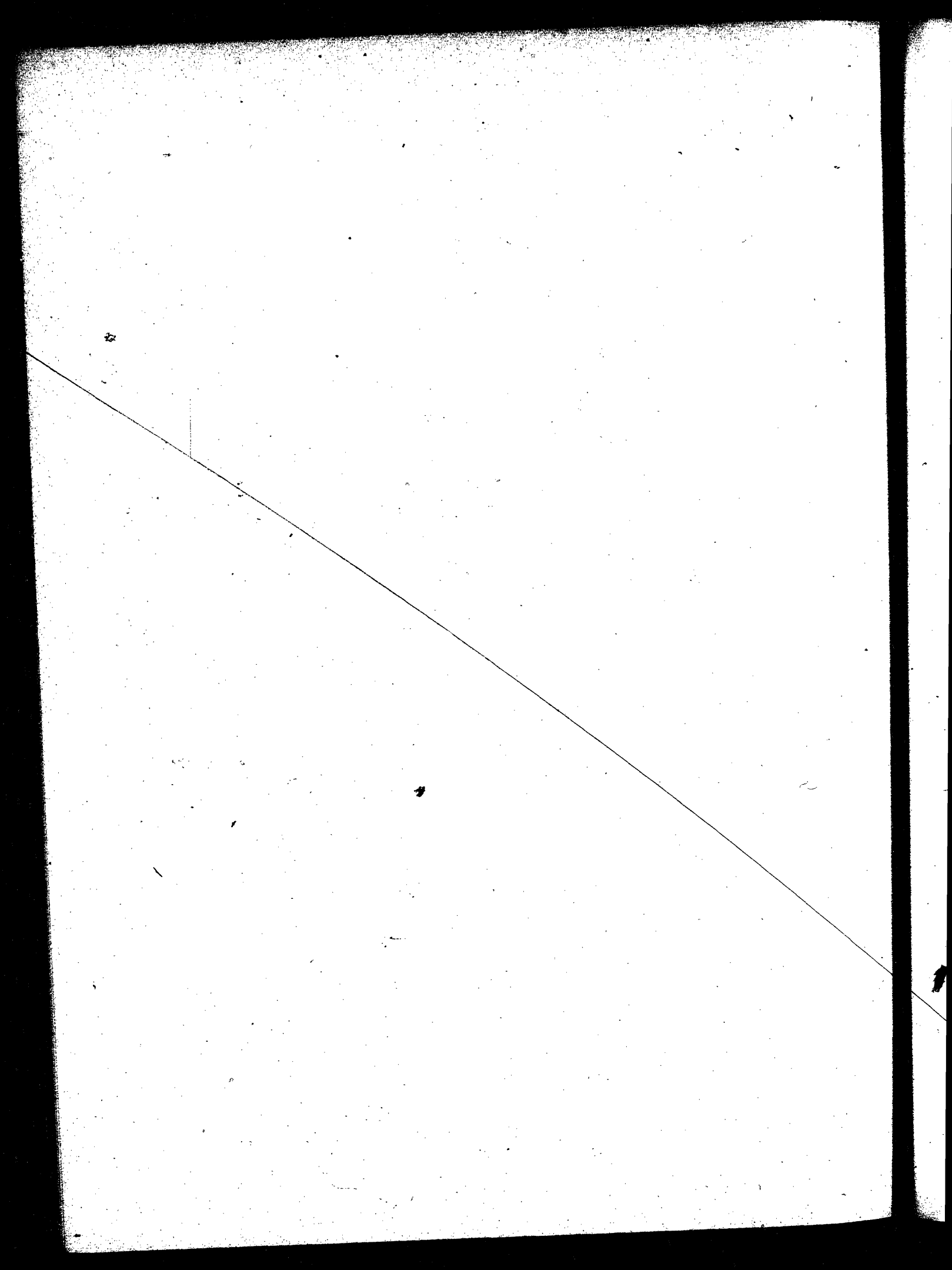
Q Were you on about a level with the water or higher than that? A My wharf—it was pretty near high tide, and the wharf was only about 6 or 7 feet above the water.

Q Tell us in your own way just what you saw and heard? A When I was about the centre of the pier and going back to the south side of the wharf, I heard this first crash, and I looked up and saw the car on the bridge moving along, and the noise—the first crack, it kind of stopped for about 5 seconds, so you could look up and see the thing cracking; then it commenced cracking 20 round on the Esquimalt end of the pier, on the western end of the pier, and it kept dropping, it dropped considerably with a cant up the Gorge, and right by my wharf it didn't crack at all, till all at once it broke when the others got down a certain distance.

Q Tell us what you saw? A As far as I can tell, I will. When I heard the crash, I could see when I looked up, I could see the car moving, not very fast. I think, somewhere about as near as I can tell it would be somewhere about the centre of the span, or a little further. It might a little further the Esquimalt way, and it was moving over, I noticed there was teams on the bridge moving likewise, and just on the moment I looked up after hearing the first heavy crack cease, I could see the bridge giving way, and it was canting— 30 it would give way on the northern side—on the Gorge side.

Q Whereabouts was that giving way? A On the centre pier, on the Esquimalt end of the span.

Q Now, Captain, you say the centre pier on the Esquimalt end—do you mean on the pier? A Yes, there are big round irons that form the piers and where the span rested on that was where it gave way first in my—when I seen 40 it.



Q How did it give way there? A That is more than I can tell.

Q I was just asking you how you saw it? A I saw it—it was dropping there.

Q Do you mean to say it was off the pier? A Well, it was; the part—of course when it was settling on these big stringers that was new—that had been put under the rail track, it was one of them that was breaking that made the noise. It didn't go altogether, on account of the rail track being on top of that, and it had to go gradually canting. 10

Q Perhaps, if you do not mind my suggesting to you, we will come to that in a minute; as it appeared to you what was giving way at this time?—what was lowering? A It was an old stringer that was along on the bridge; it appeared to me it was old that was breaking, and letting it down on that western end of the span on the Esquimalt road.

Q It would be at point "O" or "I"? A It would be where the two spans meet in the centre of the Gorge, on the western side. 20

Q Do you understand what the lower chord of the bridge is? A Well, I am not well posted.

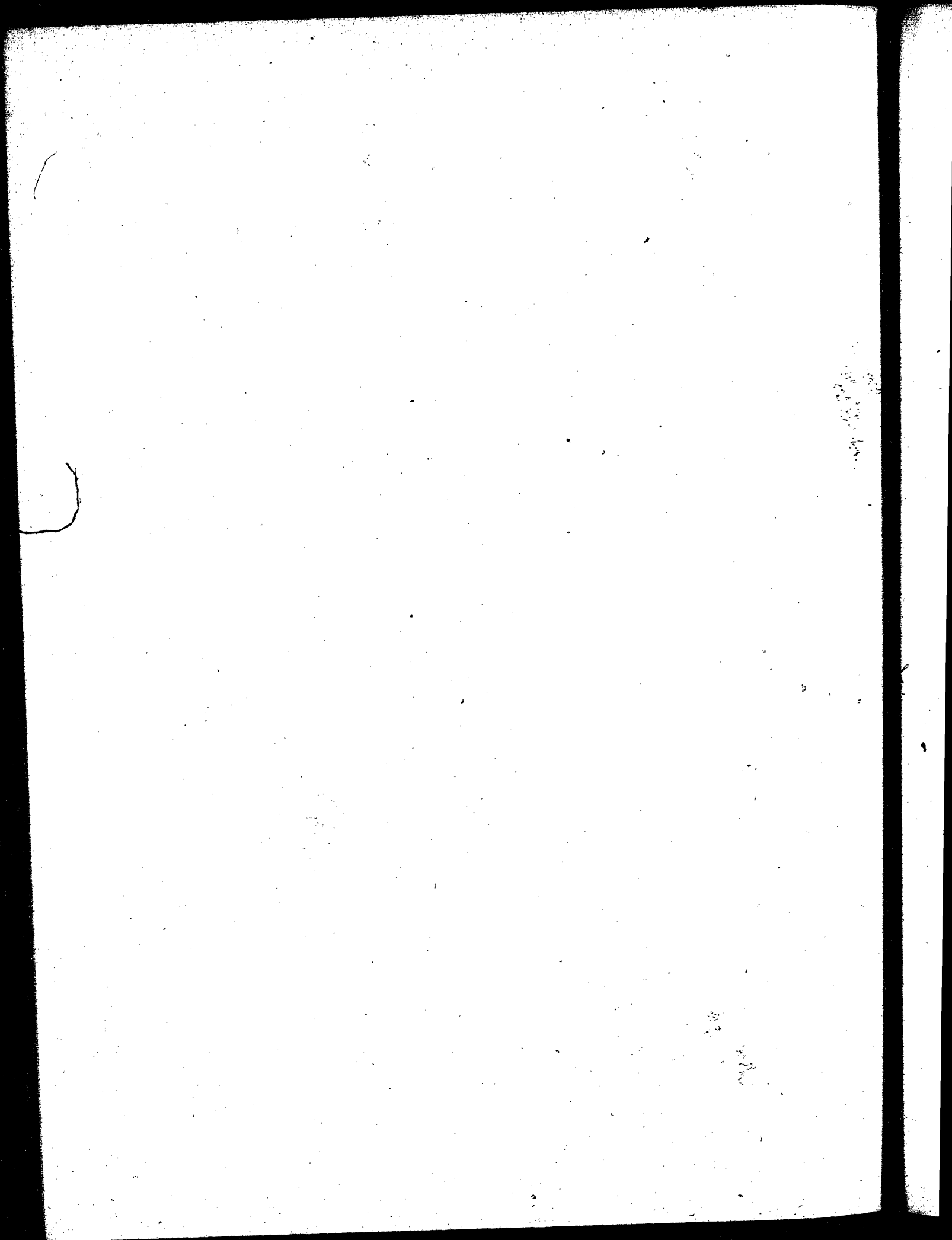
Q It is that line that runs along there, between the piers? A Yes, sir; I understand—that the floor is on?

Q Was that lowering anywhere? A No; not that I could see; it might have sagged a bit in the centre where the car was. I could not tell. I was under the span, and would not see the sag in it. 30

Q At that time was that end resting on the north pier in the centre towards the Gorge?—the cars going this way. I will take this board to illustrate it. Here is the Victoria end (indicating) and the other end—the Esquimalt end you say was where the car broke first? A On the north side, yes, sir.

Q The car was proceeding to Esquimalt, and you say it had got somewhere about half way over when you heard the crack? A Yes, sir.

Q In what condition was this end of the span which would be the north-west? A The north-west—yes, sir. Q What condition was that in at that time? Was it on the pier, or off? A Well, I could not tell you that; but 40



it must have been off, because I see it settling there, and it could not settle without it was off the pier.

Q Where did it settle? A On the north-west corner.

Q And you say that did what? A It was canting up the Gorge as it fell.

Q Which was canting up the Gorge? A The pier—the span.

Q What do you mean—It was in that position (illustrating)? A Yes, ¹⁰ it fell in that position—canting that way—not so much as that, but considerable.

Q Which appeared to you to be the lowest part of this side—the Gorge side? A It was, till the end where you point to there gave way—just the corner here was the lowest—the north-west corner.

Q Until the north-east corner gave way? A Yes, sir.

Q Did you observe anything fall away from the floor?—for instance, these ²⁰—representing the floor beams? A Yes, sir.

Q Did any of those fall away from the floor as it was coming down? A No, that I am positive of; there was nothing fell from the bottom of the span; there was nothing dropping down or fell that way, because I was right under it. it fell intact; it went down that way—everything. There was nothing gave way underneath, because I could see that particularly. It might have sagged in the pier—the span, but there was nothing fell through it—nothing dropped down.

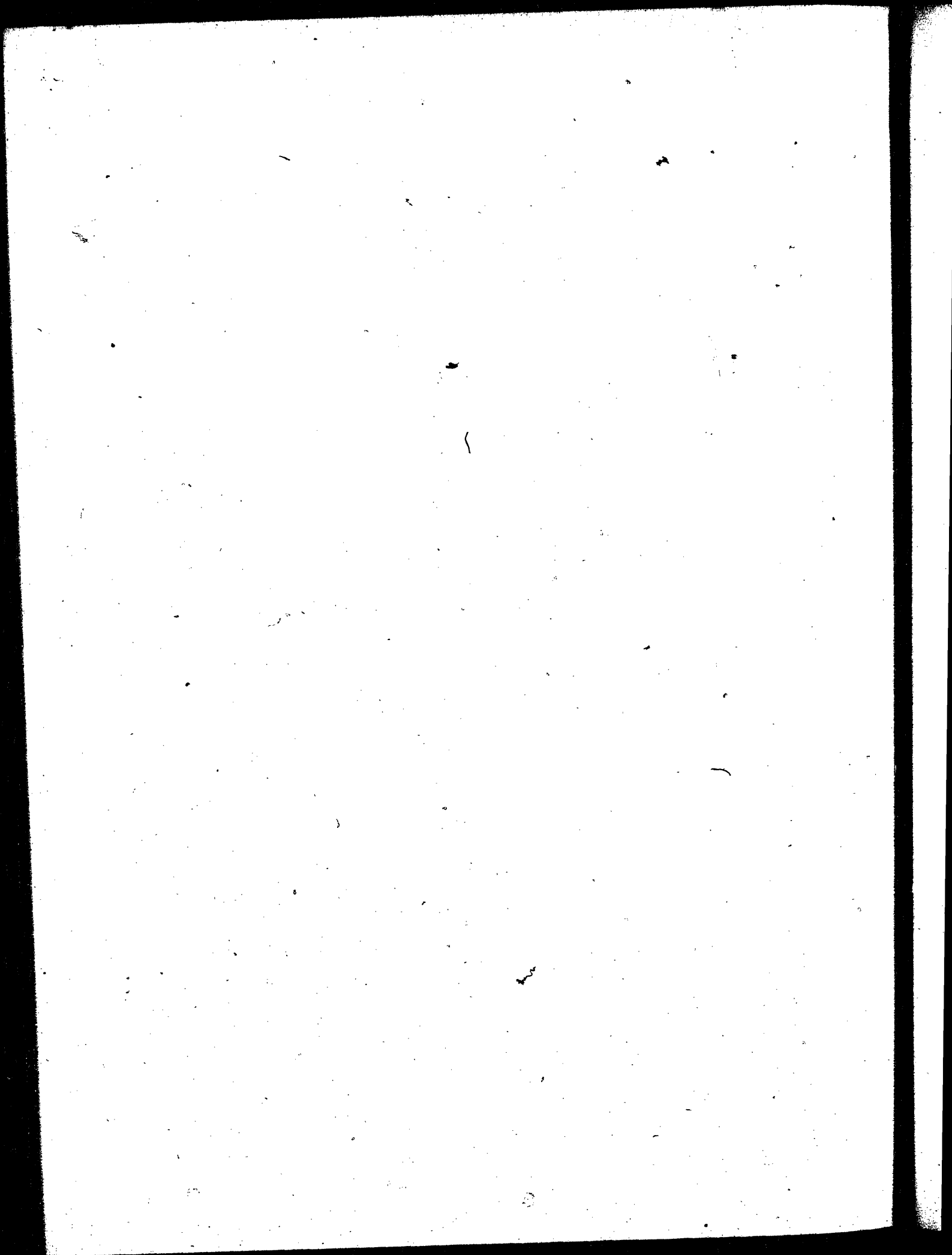
Q You saw this floor beam of the bridge yesterday? A Yes, I was ³⁰ asked to go and look at one, yes.

Q You were down there with whom? A Mr. Murray was there when I went.

Q He is a witness who has testified here already? A I believe he has.

Q Do you know how many old floor beams there were in this span that gave way? A No, I do not. ⁴⁰

Q Do you know which floor beam this was that you saw? A I was told it was No. 7, but I don't know.



Q It was an old beam, was it? A It appeared to be; it had been painted over.

Q Did it have a hanger through it? A Yes, it had a hanger through it.

Q Were hangers through there, over this beam bored through or round the outside? A Have you got a beam there?

Q Did this one you saw have hanger holes or stirrup irons? A No, no sir—holes through.

Q Did you find a plug in it? A Yes, sir; there was a small plug— $\frac{1}{2}$ or $\frac{3}{4}$ in. hole.

Q Did you measure the hole? A No, sir, I did not.

Q What was the diameter you did say? A It was not more than $\frac{3}{4}$ in. hole—it might have been. I thought it was $\frac{1}{2}$ inch.

Q You saw the plug? A Yes, sir. 20

Q What was it plugged with? A A piece of this wood, I think.

Q Was it oakum? A Oh, no; it was a wooden plug. We thought it was a knot first, and got a chisel and cut down and found it was a plug. Mr. Murray said he thought it was a knot, and we had some dispute about it, and he got a chisel and cut down and made sure it was a plug.

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CROSS-EXAMINED BY MR. MACDONELL.

Q How far did the plug go in? A I don't know; I didn't measure the depth of the hole. It might have been pretty near through, or half way. If I had thought I might have measured it. I could easily have done it by putting something in. 40

Q Was it put in securely? A Oh, yes.

Q No water could get in? A It was put in pretty tight.

Q Had it been an old plug? A That I could not tell; the plug looked all sound and good. I don't know how long it was put in.

Q In fact, you had some difficulty in finding it. Mr. Murray did? A I believe he had, I was not there.

Q And Mr. Murray went specially there to look at it with you? A No; I come there just as he was coming away, and we both went there together. 10

Q He drew your attention to it? A No; I was sent there to have a look at it.

Q Who by? A Mr. Wilmot, the city engineer.

Q And he was there when you got there? A Mr. Murray was there.

Q And he thought it was a knot-hole? A Yes, sir. 20

Q Now, you gave evidence before the inquest, I believe? A Yes, sir.

Q I suppose you remember just as well then as you do now as to what took place as far as the car and the accident were concerned? A Oh, well, I suppose. It is some little time ago, nearly a year. I was quite excited over it then.

Q You remembered it just as well then as now? A I should.

Q But nothing has happened since to call—? A No. 30

Q You were asked there (p 126) by the coroner: "You said just now, Captain, that you would not be sure, you thought the car was just about the centre of the bridge. A It was more than the centre when I looked first, it was about the centre, but it was going slowly all the time, and teams were driving all the time." A Apparently, yes.

Q "When you looked first it was about the centre? A Yes. Q You looked round, and it was in the centre when you saw it? A It was about the centre of the Arm, or, perhaps a little beyond it. It might have been a little beyond the centre, the trestle work that was there was between me and 40

the car, and I could not see everything so plainly." A No, I could not see nothing on the bridge, only over the rail, and see the teams and the car.

Q I suppose, Captain, it was this : You were not looking for what caused the accident or where the car was, you were anxious to save the people? A Yes, very anxious.

Q That was your sole object—not anything as to what the cause was, or where it occurred, or anything like that? A Quite true.

Q You were asked again (p. 125): "If the first floor-beam from the Esquimalt end had broken off, it would have dropped out and you could not see from the position you were in whether that was the beam or not? A I could not say; a person would not take such a very particular notice, because I looked for my boats—I was looking to get the boats there." A Yes.

Q Is that answer right? A I suppose I must have said it, or it would not have been there.

Q So you were at the time looking after your boats after you heard the first crack? A After the first crack when I looked up, it was not long before the thing came down, I assure you.

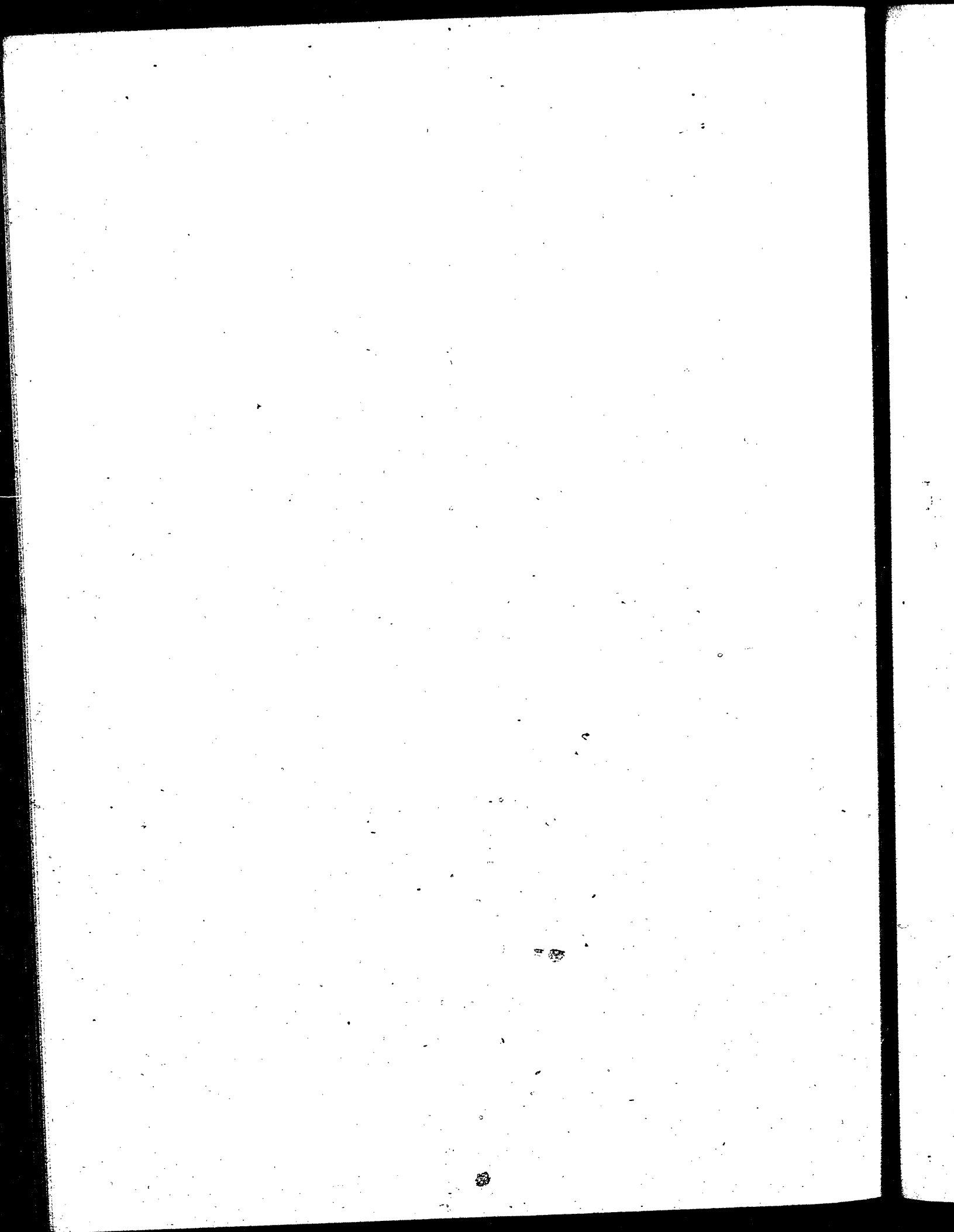
Q You say you looked for some of the boats that were in the Arm? A I told the captains and the officers to get their boats at once.

Q That was while the crash was coming? A That was not more than a minute, and you can't do much in that time.

Q This was during the time you asked the captains to get the boats? A I sung out—yes.

Q The coroner asked you : "The jury want to know as far as you can tell, where the car was when you heard the crash? A The first I heard, it was some little distance. Q How far did it move from the first crash before the collapse? A Oh, it would not move very much ; it might go its length, but it would not go any further distance." So it took place immediately? A Oh, it was not long.

Q Another question : "If the first floor-beam from the Esquimalt end had broken off, it would have dropped down and you could not see from the position you were in whether that was the pier or not? A No, I could not



see—a person would not take much—such particular notice, because I was looking for my boat.” Did you say that? A Well, I don’t know, but if I did say it what I said was not so, because, you see, when I looked, it hadn’t fell while I was looking first, and the bridge was not long falling to the water.

Q You were asked another question: “You don’t know what I am going to ask: Are you positive from the position you occupied that the bridge did buckle in the middle of the span? A That I would not swear to; it didn’t buckle enough for me to discern where I stood; it may have buckled enough for it to have slipped clear of the piers—I have no doubt it did. Q It may have buckled enough for it to have slipped clear of the piers? A Yes.” Witness: Well, that is what I say now. I could not tell whether that span buckled—me standing under it. I must have been standing right on a level with it to tell that. 10

Q And from where you stood to the far end was over 200 feet? A Well it would be about that.

Q And the bridge, they say, from the water up to the floor was 20 feet, and your wharf about 6 ft. higher than the water? A About that—about 6 feet. 20

Q And you probably were only about 14 or 15 feet lower than the bridge? A All of that; a little more; it would be more than that, I should say.

Q Did not the centre sag a little at first? A I could not tell that.

Q And you could not say whether a beam dropped a little or dropped far? A Oh, I could not—no. 30

Q A beam might have dropped two or three feet and you not see it? A Yes, it might have dropped that, but it could not have dropped more.

Q You heard a crackling noise? A Yes, sir.

Q And you placed that at a stringer? A Yes, placed that at a stringer breaking at the ends.

Q You would not hear a rotten beam break at that distance if it was very rotten? A No, I should not think I would. 40

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Q And the reason you heard the stringer break was because it was a large, sound piece of wood. That crack came before the end came off? A I can't tell that; naturally it would buckle down with the rail over it.

RE-DIRECT BY MR. TAYLOR.

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Q Do you mean to say a stringer would have to break before or after the end came off? A If the stringer was on very solid and nailed on to the bridge and two spans, of course it had to break before that would go clear.

Q After the span went, that is what you mean.

Mr. Davis: Before.

20

Mr. Taylor (to witness): Which do you mean? Just think for a moment. Take it coolly. Would a stringer have to break before the span came off, or as a result of the span coming off? A Well, you can take it either way you like. Here would be a stringer underneath that rail and it was bolted to both parts—the other is over that join—and it has to give way before that would go down.

Q Is it jointed? A No; one is jointed and one had to break, and that would have to break before it came down.

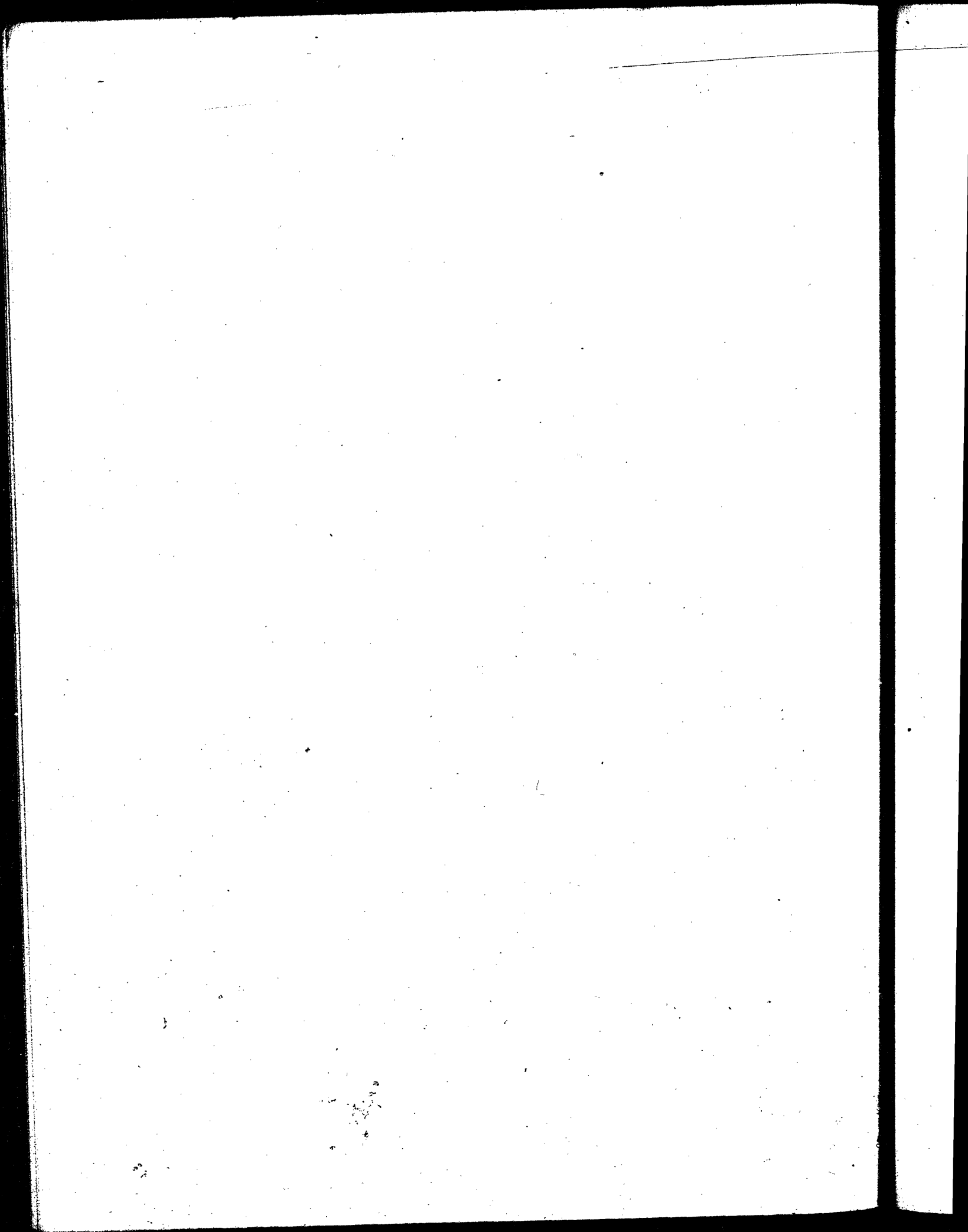
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Q Would it? A It did, and would.

Q Supposing the span went over at the end of the pier, would that stringer break necessarily after that, if not broken before? A When it slipped clear, it would have to break to let it down; it would all go together.

Q Can you say whether the stringer broke before or after it slipped off the pier? A Common sense would tell a person how that would go. I can't express it, but anyone can tell that one heavy span had to give way somewhere.

Q You say you could not see the car through the trestle work. You



mean, looking up from the floor underneath? A Yes.

Q And you could see underneath but not the top? A Yes.

Mr. Davis: The witness said common sense would tell which it was, but he did not say which it was.

Witness: I leave it to your lordship how can I tell which broke first, and me away from them?

Court: That is a thorough answer; that will do.

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THIRD DAY.

October 14th, 1897.

20

Same council present as before. Jury called.

JUDGE'S CHARGE.

Mr. Foreman and Gentlemen: This is an action brought by Mrs. Lang on behalf of herself—

Mr. Cassidy: If your lordship will pardon me for interrupting you one moment. We are leaving our matters of law as in the previous Patterson case till motion for judgment, but there is one thing—there is a very considerable variance between the evidence, and what I—

30

Court: What are you asking?

Mr. Cassidy: I want to put it to your lordship that apart from all the points taken previously in the Patterson case, we would ask your lordship to withdraw this case from the jury; that assuming an action lies against the corporation, that this was their corporate act, and—

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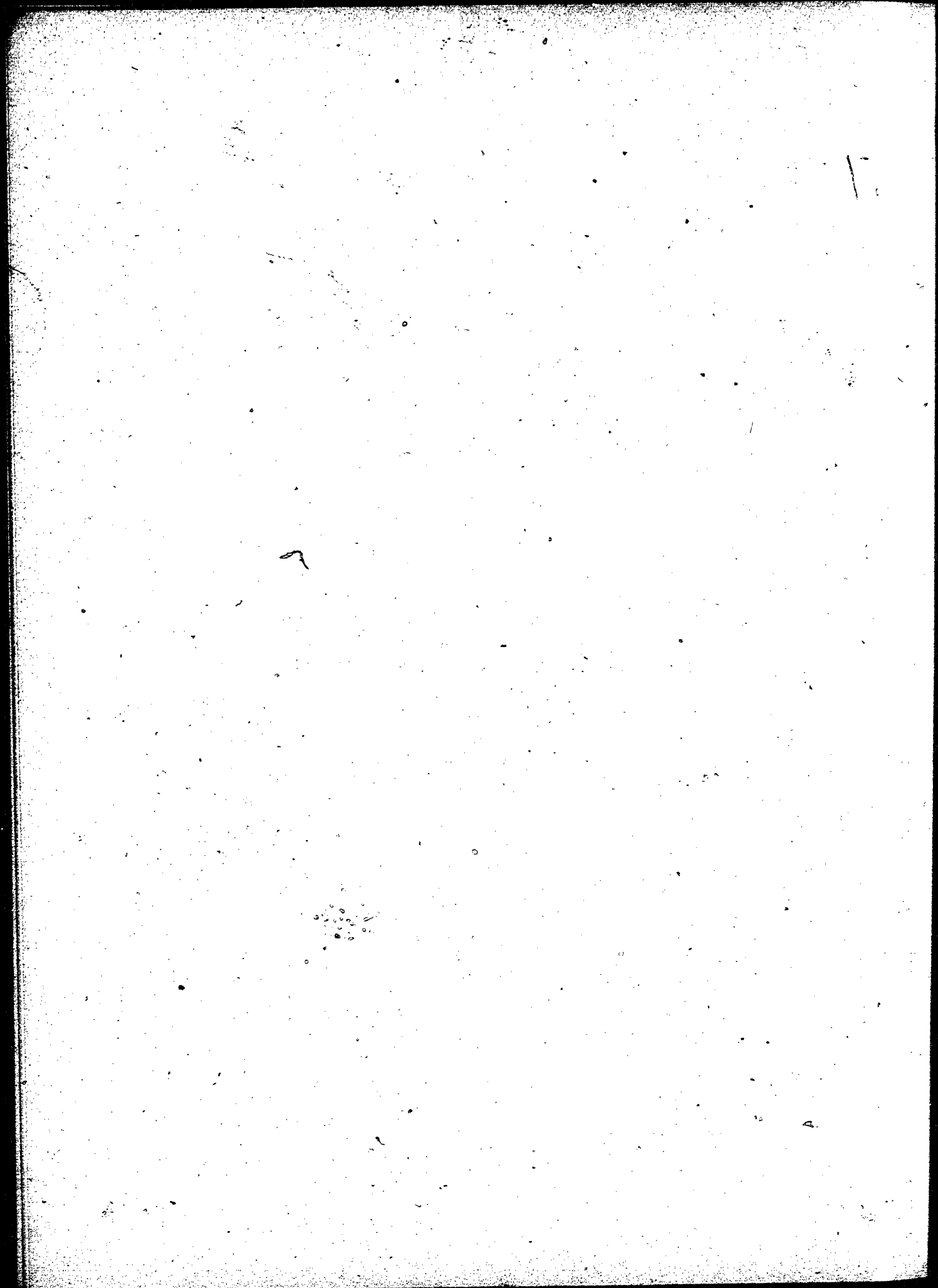
Court: —Yes—well, I decline to do that. I have already held, rightly or wrongly, that the plaintiff is entitled to go to the jury—he cannot be non-suited against his will, and although that is before the Full Court, I suppose,



as part of my judgment, the decision has not yet been given, and until I am told I am wrong by the appellate court, I must adhere to it. (To jury); This is an action brought by Mrs. Lang on behalf of herself and children for damages sustained by them in the loss of the support which of course they formerly had from the husband and father who was killed in the unfortunate accident which has been referred to during the progress of this case. Now, you will remember, gentlemen, this right of action is merely for the pecuniary loss which has been sustained; you are not to give damages by way of punishment for sentimental reasons, and when you remember that the real defendants in this case are the ratepayers of the City of Victoria—who of course it not suggested themselves actively participated in the neglect, the acts, or the omissions which brought about this disaster, you will hardly be tempted to exceed the limits which the law prescribes, upon which these damages alone may be properly awarded. In the way in which the evidence has been put in—that is, to a large extent, the evidence simply that was given before in the case of one Patterson against the same defendants for a similar cause of action, it is necessary for me to caution you that although I could not exclude the references to the former case, because of the evidence given in this way, yet you should not allow yourselves to be influenced by any conclusion which the jury in that case may have arrived at upon any of the questions which will be left to you, and which will be the same as were left to the jury in that case. Your duty is to make up your minds for yourselves and not permit yourselves to be swayed in either direction by the opinion the former jury may have held upon any of these questions.

Another thing I wish to press upon you very strongly, gentlemen, and I do hope you will pay great attention to it, and that is, you ought to arrive at a clear conclusion upon each of the questions. And it is very dangerous, —especially in a matter of this kind, where the law is somewhat uncertain—to compromise upon one question, because some of you may think that the particular answer to that particular question is not material in view of some previous answer you have given to a former question. Now, please, do not do that, because I tell you, in all seriousness, you cannot be certain of the result if you act in any such manner. The only safe way for you to decide upon these questions is to treat each question as if it was the only one submitted, and as if the rights of these parties depended upon the particular answer to the particular question, no matter what the previous answer you have given may be.

You have heard a good deal from counsel on both sides as to the law applicable to this case, and you have been told that I will direct you with reference to the law; but both counsel have agreed in stating to you as law by which the plaintiff would be bound, that the defendants are not liable in law—



whatever moral responsibility may attach to anyone for the death of the deceased—unless you find upon the evidence that the defendants have been at least guilty of negligence, either as regards the changes admitted to have been made by the tramway company by arrangement with the defendants, or in connection with the boring alleged to have been done in the beam, the breaking of which as having been contributed to by the defendants in this way, is claimed by the plaintiff to have been the proximate or immediate cause of the accident.

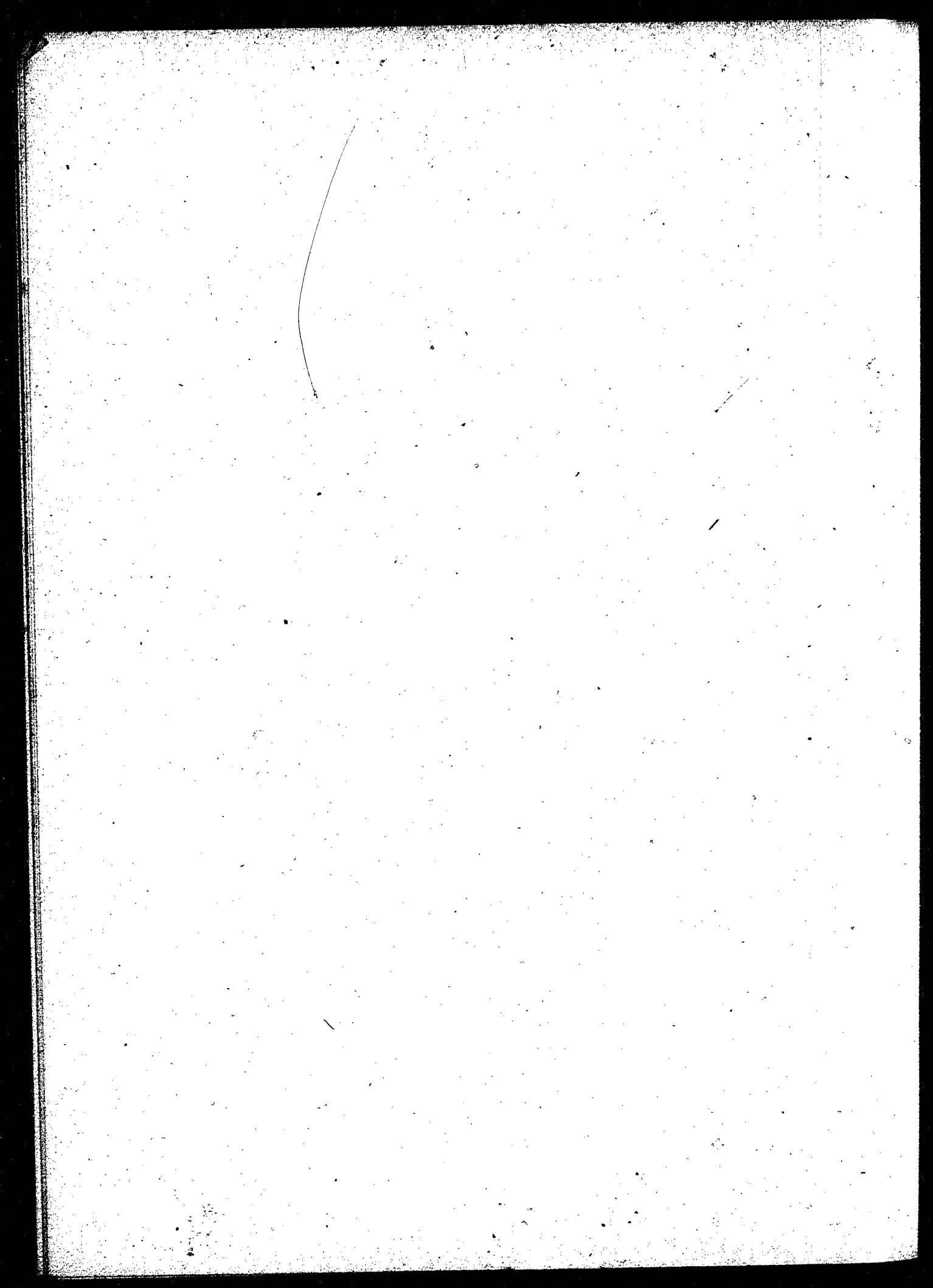
Now, while I do not, for I cannot, say that in my opinion this is either an accurate or a complete statement of the law concluding the parties, I do not think it is for me to differ from counsel as to a question upon which they are so happily, though to me so unexpectedly, united. 10

If the case was to be left to you generally, that is, to find simply for the plaintiffs or the defendants, it would be necessary to direct you fully as to the law, and it would be my duty to give you my own opinion upon it, although counsel could not, of course, complain if I were content to let it remain as they have left it. But in the way in which the case is to be submitted to you because of some uncertainty which unfortunately does exist as to what the law affecting it really is, that is, by putting to you certain questions bearing upon the facts, it would be idle for me to trouble you with any statement of the law which could only be useful in the circumstances, if coming from the counsel it throws light upon their different contentions as to the respective positions of the parties upon the facts. 20

I shall, therefore, say nothing more with regard to the law than that the parties will have the full benefit upon motion for judgment or in appeal of any principle of law which may be found to apply to this case, whether to the advantage of the one side or the other, and that you need not concern yourselves further with the law. 30

Now, as to the questions, the most convenient way will be for me, though in a general way, to read out each question to you, and then briefly state to you what the material facts are with which you must deal in arriving at the answer. I do not propose to offer any opinion whatever of my own upon any of these questions.

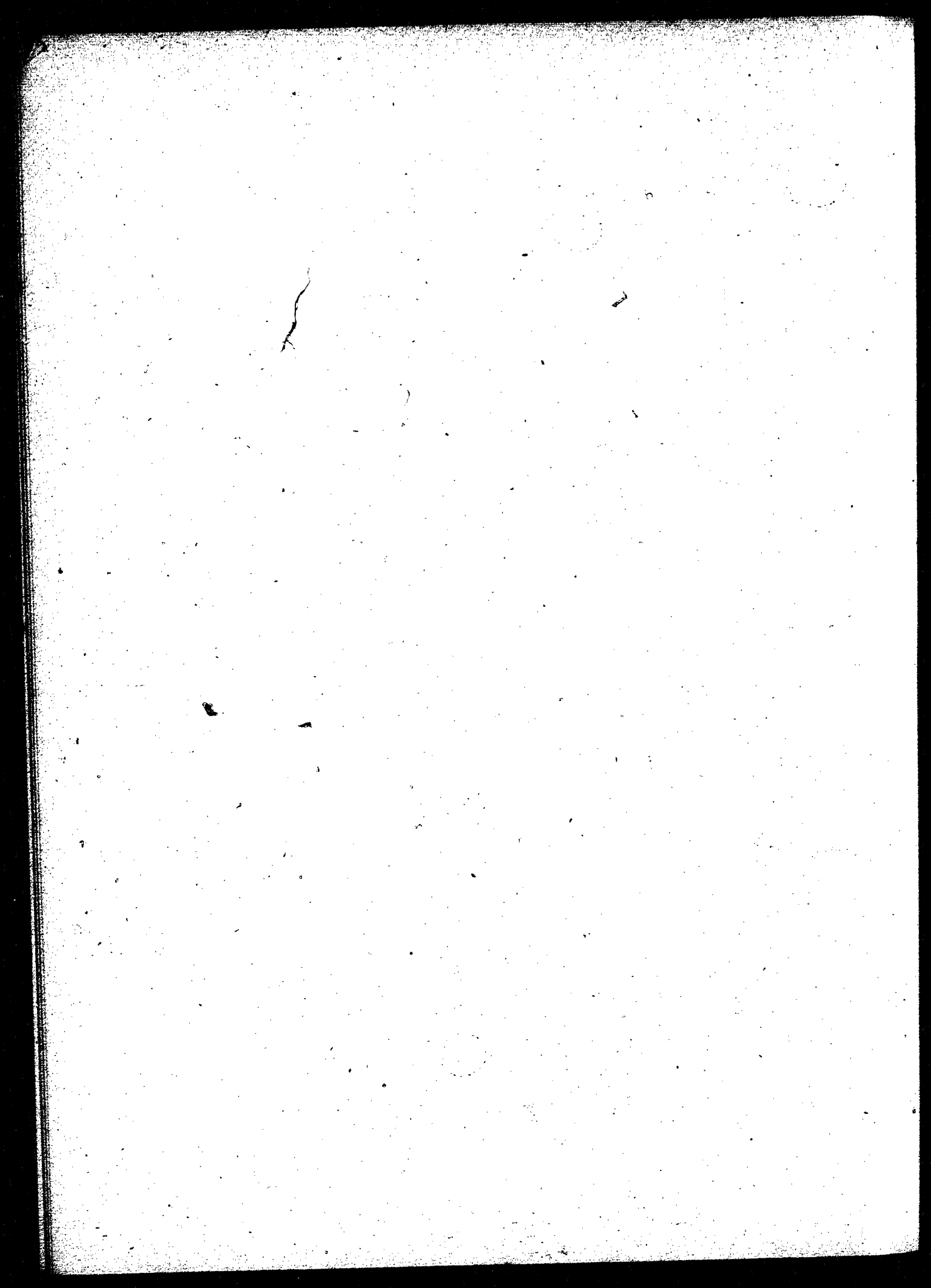
The first question is: "Did the Corporation after the extension of the city limits, control and manage the bridge as if owner thereof?" Now, you see, gentlemen, this question avoids the legal question of whether the city did own the bridge or not? The question is simply whether they acted as if they 40



did, and that, really, there is no doubt about. The history of the bridge is, as perhaps you may remember—and I am going to put it very briefly, indeed—that in the year 1885 it was built by the Government; that in January, 1891, the city, under the power which is given in the Municipalities' Act, procured an extension of the limits of the city so as to include this bridge, and in this way the bridge was brought within the city limits, and as is shown by the printed report of the proceedings of the Council the city acted with reference to this bridge exactly in the same way as they did with reference to any other bridge so far as the question of ownership is concerned. You will not have forgotten that after the first accident they stopped all the traffic going over the bridge until the repairs had been made, without consulting anybody, and the tramway company never set up or, indeed, inferred that they had not full power to do that—to stop the traffic upon that bridge as well as upon any other bridge. Therefore, there is no doubt as to what your answer should be as to that question. 10

The next question is: "Was the bridge, as constructed, of sufficient strength for safe use by the tramway company in the way in which it was used up to the time of the accident?" It is agreed upon both sides it was not— 20 the one thing upon all the parties are agreed. The bridge was not constructed for this kind of thing at all. When it was built, there was no such thing as tramway traffic in Victoria anywhere, and as counsel put it to you, it was never intended to be used for any such purpose, and if any enquiry—even the most superficial—had been made as to the design of the bridge or its capacity, it would have been quite apparent it was in the highest degree dangerous that any such traffic as this should be allowed over it.

The next question is; "Was such use by the company by agreement with the corporation?" Now, although it is not perhaps exactly necessary, 30 for your decision, I may as well tell you, as throwing light on the situation of the parties and as a proposition of law, that there can be no doubt that the city had such an interest in this bridge as being a portion of the highway, that if they had chosen to exercise the power of stopping its improper use such as this was, they could have done so. They could have forbidden the tramway company to run cars in such a way over it, and if the company had persisted, they could have got an injunction. But the question for you is whether in the way in which the city and the tramway company acted, the use of the bridge by the tramway company for these larger cars was not with the permission of 40 the city? And you will remember, with reference to this question, that after Mr. West had written the letter which he did write in 1891, and in a report by the city engineer, Mr. Wilmot, about the unsafe condition of the bridge,

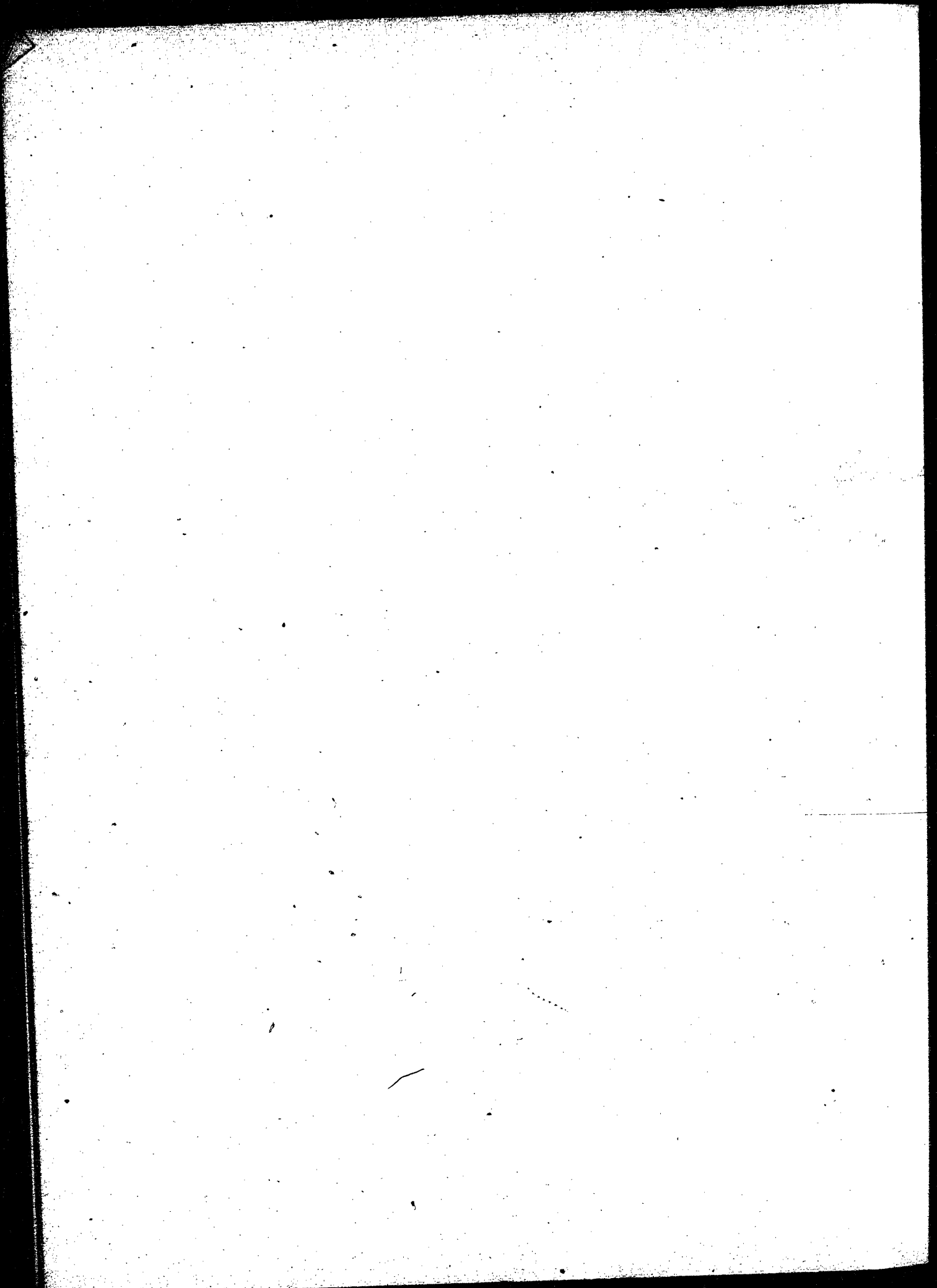


the city did undertake to stop the use of this bridge for a short time by the company, and did make an arrangement with them by which the company laid down a different kind of floor; and afterwards the city removed the bar which they had put up and allowed the tramway company to go on and use the bridge in this way. It will be for you to say whether there can be the least doubt then as to what your answer to that question ought to be.

The next question is: "Would the Corporation, if exercising ordinary care, have become aware of the actual condition of the bridge in time to have prevented such use by the company before the accident?" The facts bearing upon this question are shortly these: that the bridge was never designed for any such traffic at all; that the plans and specifications of the bridge were lying, as the evidence shows, in the office at James Bay, and that the slightest examination of those plans and specifications would have shown that the use of the bridge by cars of this size was dangerous, and could only result in a longer or shorter time in a calamity such as occurred. You have the letter which was read, of a practical man (you can take it to your room, I shall not trouble you with it), in which he points out in 1891, the danger; you have the long time which the Council allowed to elapse in May of that year when the letter was written—May, 1892, when Mr. Wilmot made his report as to certain repairs, and still there is inaction on the part of the Council for about a month, when Mr. Wilmot writes the letter read out by Mr. Macdonell, calling attention to the fact that his report had not been acted upon, and unless something was done, some such disaster would happen. It does seem, in view of the known life of a bridge of this kind being only 7 or 10 years, if the city had taken any reasonable steps to ascertain what the condition of the bridge was, that they must have known of the actual condition of the bridge, and that any such repairs as they were making were wholly inadequate to remove the danger which did exist in the use by the company of the bridge for the purposes of traffic with cars weighing 10 tons. It will be for you to say whether the answer to that question will give you any difficulty.

The next question is: "Did the Corporation, before permitting trams to pass over the bridge, make any enquiry whether it was of sufficient strength for safe use for that purpose?" Well, there is no contest about it, and no suggestion that ever they did.

The next question is: "Could such knowledge have been easily acquired by the Corporation?" All they had to do was to go over to James Bay, where they knew the plans were, and they would have ascertained that fact, or it



would seem as if any bridge engineer of ordinary capacity could have told them, but it is for you to say what you think the answer should be.

The next question : " Had the Corporation, at the time of the accident, suffered the bridge to fall into such disrepair as by reason thereof to become dangerous for such use by the company ? " I do not know there is any such serious contest about that question, or that the answer to that should give you any trouble. It seems to be conceded on all sides that the ordinary life of a bridge of that kind is from 7 to 10 years, and that time had elapsed before the accident, And in view of Mr. West's letter calling their attention to it, and Mr. Wilmot's report saying what was really required was the replacement of the beams by iron beams instead of wood, which the council did not do, you probably will find no difficulty in making up your minds about that. 10

The other questions are those about which the real contest has taken place between the parties, and it will be necessary for me to refer—which I shall do as briefly as possible—to the evidence of the different witnesses bearing upon these questions. The first of these, and the next after those I have already read, is : " Did the changes made in the bridge by the Corporation and, under an arrangement with it, by the company, materially reduce the strength of the bridge to support a tramcar passing over it ? " Those changes were, if you remember, that the company would put in stringers, which I think it was conceded on both sides did not weaken the bridge—that portion of the change ; but there was this further difference—that, whereas, before this time the floor had extended from the one chord to the other in one place, the tramway company divided it up into three pieces, the other being, of course, that there would be one on either side of the track, and one between the rails, and a good deal of evidence was given and you heard a good deal of argument on both sides as to the effect of that change. It was contended for the city that in a bridge of this kind the support which could possibly be furnished by a floor even in one piece was necessarily of so trifling a character that it could not properly enter into your consideration at all. Upon the other side, it was strenuously urged for the plaintiff that there was some real support before then derived from the fact that the floor supported by these chords was all in one piece, and it was pointed out that at the time of the former accident, which took place before this change from one piece into three pieces, the tramcar had actually been held up because of that floor. Now, this is what Mr. Warner said about it in his examination in chief, p. 17, which you can follow there, if you like : 20 30 40

"Would that floor running across this way be of any use in preventing a tramcar or whatever load happened to be on the ridge at the time, from going through, in case of one of those floor-beams breaking, if it ran right across the full length as it was originally? A It might have supplied that small access of strength necessary to carry it across, and again, it may not, knowing nothing of the physical conditions at the time.

"Q But it would unquestionably add some strength? A It would unquestionably add some strength. 10

"Q And the test of what that strength would be will be just the same as the test of what these 3-in. planks would bear? A Yes.

"Q And that is to be considered from the standpoint of the planks running diagonally that way across these stringers, and reaching as you would, as you see them here, would that give additional strength, that is distribute the weight? A Yes. 20

"Q So as to carry it away from the broken floor-beam? A Yes, it would.

"Q Supposing that floor is cut—this is one piece now, (indicating), this is a second piece, and this a third piece. In the case of the floor-beam breaking as it broke in 1896 and 1892, would there be the same chances after that floor was cut of the car getting off as it did in 1892, as there would be if it ran right across? A Certainly not." 30

Then at p. 37, in cross-examination—I am just showing you briefly how this witness looked at it:

"Q What material difference does it make? A In my opinion it makes this difference: in 1892 it was probably that extra strength given by the plank flooring which carried the car out of danger.

"Q You do not think that the bridge was in any better condition in 1892 than it was in 1896? A It was undoubtedly in better condition. That is, I should fancy it was; simply a question of age. 40

" Q That truss gains nothing of any strength or integrity by the floor? A The truss itself does not.

" Q The floor is simply a weight that the truss has to carry? A Yes.

" Q So that the floor might break down on one side, fall away like a trap-door from the truss, or it might break on both sides and the truss remain intact? A If you break it in the middle as you did in two places, it would fall like that. If it was continuous as it was in the first place, and the floor broke as it did, it would fall on to the chord bars; the floor—the planking would rest on the chord bar like that, and—"

And then he is interrupted. Then Mr. Wilmot—his evidence was referred to by the witness—it was really so, that at the time of the former accident when the floor was all in one piece the car had been kept up—prevented going through. There is the evidence of Murray, pp. 217, 218 :—

" Q First of all, in reference to that flooring, would the flooring put down the way it was finally put by the city—that is, instead of running right across as it does here (referring to model) cut in three pieces—up here, and here, and here again, would that have any effect on the chance of the bridge in case a floor beam broke, going through or not going through? A I say it would make it much weaker; it would have the effect—
Q Just describe shortly how it would strengthen the state of the timber after the floor was broken? A By the planks going right through and the rail being on top—of course, it is usually a flat rail, or even a T-rail, this would be much stronger, for the reason if you take the plank this length supported underneath as it is by the stringers and then on the floor beams, it will have a greater resistance than if you cut it in three parts. The reason is when you cut this you make this so much shorter; this being where the car is, it is shorter still and more liable to give way. By being cut so, it would not have the resistance; consequently the shorter the pieces the less resistance, and the more liability to let the car down."

And there is Balfour, pp. 225 and 226 :—

" Q Now, I want to ask you, first of all, just putting it

shortly—because I do not want to go through it at any great length again—the effect of the change that was made by the city in the flooring of that bridge. It was originally like that model ; it was then changed as you have heard described , it was cut into three pieces, so that—what would be the effect to your mind of that? A It certainly destroyed the continuity of the floor, that is across the bridge ; it made a break in it, so that when the floor and the floor beam—there would be no assistance from the planking when it was cut ; after it was cut the floor planking gave no assistance to carry it over the broken floor beam, which I consider that planking does to a certain extent. 10

“Q And how would it be if the flooring fell so as to get a support from the bottom chords, that is, as it was originally—would that be of any assistance to it? A It would be of considerable assistance, especially at the panel point where the chord has sufficient strength to withstand the pressure.”

Then there is the evidence of Bell, pp. 251, 252 :—

“Q Now, it is suggested that if the floor beam gave way and let the planking of the floor down, that the support of the chord link to the floor would be a source of safety as tending to carry that car along to the next floor beam ; what do you say with regard to that? A I think it would be a very unsafe source of safety.” 20

You see, he does not agree with the other witnesses.

“Q Just explain yourself? A I mean to say I think the car might break right through the floor. 30

“Q You think the car might break right through the floor? A It is not a thing that anyone would depend on.”

And then on the next page he goes so far as to say—he repeats that :—

“No one would take the responsibility of that at all. In practice it is a perfect absurdity—” 40

that there would be any strength afforded by the planking being in one piece.

Now, gentlemen, I do not think I have given you all the references for

what these witnesses have said ; but what I think, after carefully reading over the evidence as I did last night, is sufficient from each witness to show you what his opinion was, and of course it is for you to decide.

The next question is : " Was a hole bored by Cox, the city carpenter, in beam number three as described by him ? " Well, now, that, of course, is the main question of all upon the ground which both counsel have deliberately elected to fight this battle. It has been conceded on both sides—I do not say whether rightly or wrongly—that, except upon a favorable answer to that question, the plaintiff cannot succeed. (To counsel) : Mr. Macdonell, where are those portions now you wish me to read to the jury ? They bear upon this particular question, do they not ? (Handed to Court.) The portions Mr. Taylor has requested me to read about it are these, commencing at p. 12 :—

" Q. All the beams you found rotten ? A. Yes; every one of them.

" Q. And you concluded you would not bore any more on the Victoria span, because all you bored on the other span were rotten ? A. No ; not at all, we did not have time."

I had better go on—

" Q. Did you tell them that you did not examine but the three ? A. They were satisfied.

" Q. Did you tell them that you had not examined but the three ? A. Certainly ; there is the span.

" Q. Who did you tell ; A. My borings proved they were not all bored. There were only nine parcels handed in to the engineer.

" Q. Did you tell anybody what beams you had bored ? A. Yes.

" Q. Who ? A. The engineer.

" Q. The specific beams you had bored ? A. Yes.

" Q. Did you tell what beams you had bored ? A. He knew perfectly well.

" Q. Did you tell him ? A. Yes.

"Q When? A The next day, when I took the borings. I said there is nine, and there is all the borings.

"Q Did you tell him? A He had sense. Yes; I did tell him.

"Q What did you say to him? A I said are we to bore any more beams, and he said he didn't think it was necessary.

"Q Why not? A Because every one we had bored was rotten.

"Q Because every one you had bored was rotten? A Yes.

"Q Then it is a fact that all the beams you bored were rotten? A Every one.

"Q Every one? They were pretty badly rotten, too, weren't they? A I believe they were."

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P. 15, line 8:—

"Q That was something that you bored out of the beam?
A Yes.

"Q And they were rotten? A Yes.

"Q Every one of them? A Yes.

"Q Very badly rotten? A Yes; pretty bad."

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The next is page 25;—

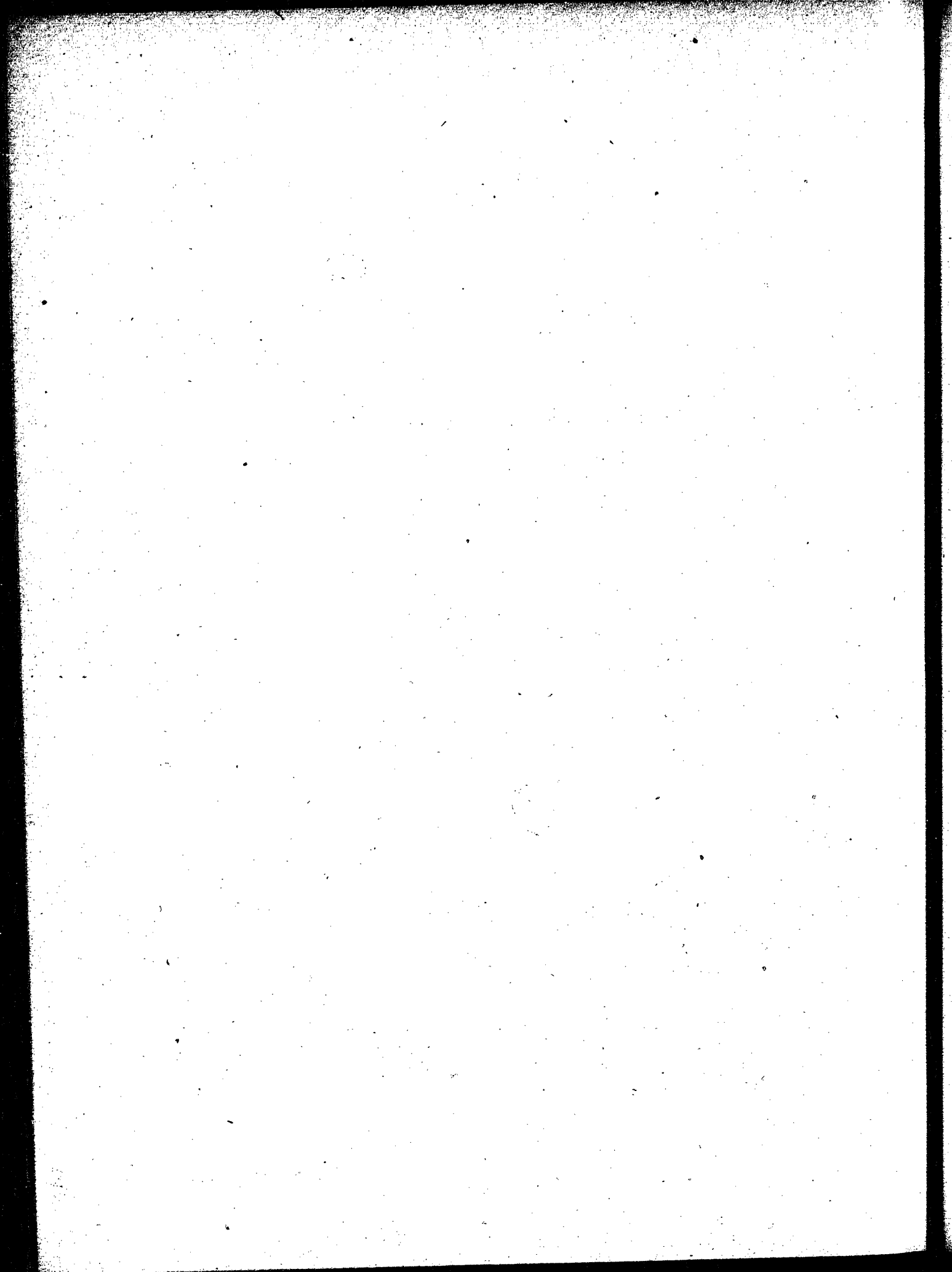
"Q And then you bored the others from the top of the beam?
A Yes.

"Q And you found them absolutely rotten? A Yes.

"Q You did that with the Esquimalt span? A Esquimalt span only.

40

"Q And then you bored three of the beams on the Victoria side on the top? A Yes.



"Q And found them absolutely rotten? A Yes."

Mr. Cassidy : Page 26, my lord, beginning at 3.

Court : "You knew they had not been removed?" — these beams—he is speaking now at the time of his report that the bridge was sound.—"A Do you suppose for a minute that I should say: here, Mr. Wilmot, there are two beams in that bridge, and you have not removed them, and you ought to remove them.

10

"Q You knew they were rotten, did you not? A Yes; and he knew they were rotten.

"Q You knew they were absolutely rotten at that time?
A I did.

"Q Badly rotten? A Yes; badly rotten.

"Q Then I say how did you report them to be sound to the city in 1895? A I did not report anything sound."

Mr. Cassidy : Page 27, my lord, at 1.

Court : "Q And yet you reported the whole bridge sound? A Yes.

"Q Without examining it, and notwithstanding that you knew in 1895 these beams were absolutely rotten? A Yes.

"Q Including this number three beam that gave way?
A Yes.

"Q And it was more rotten at the bottom than it was at the top: A Yes."

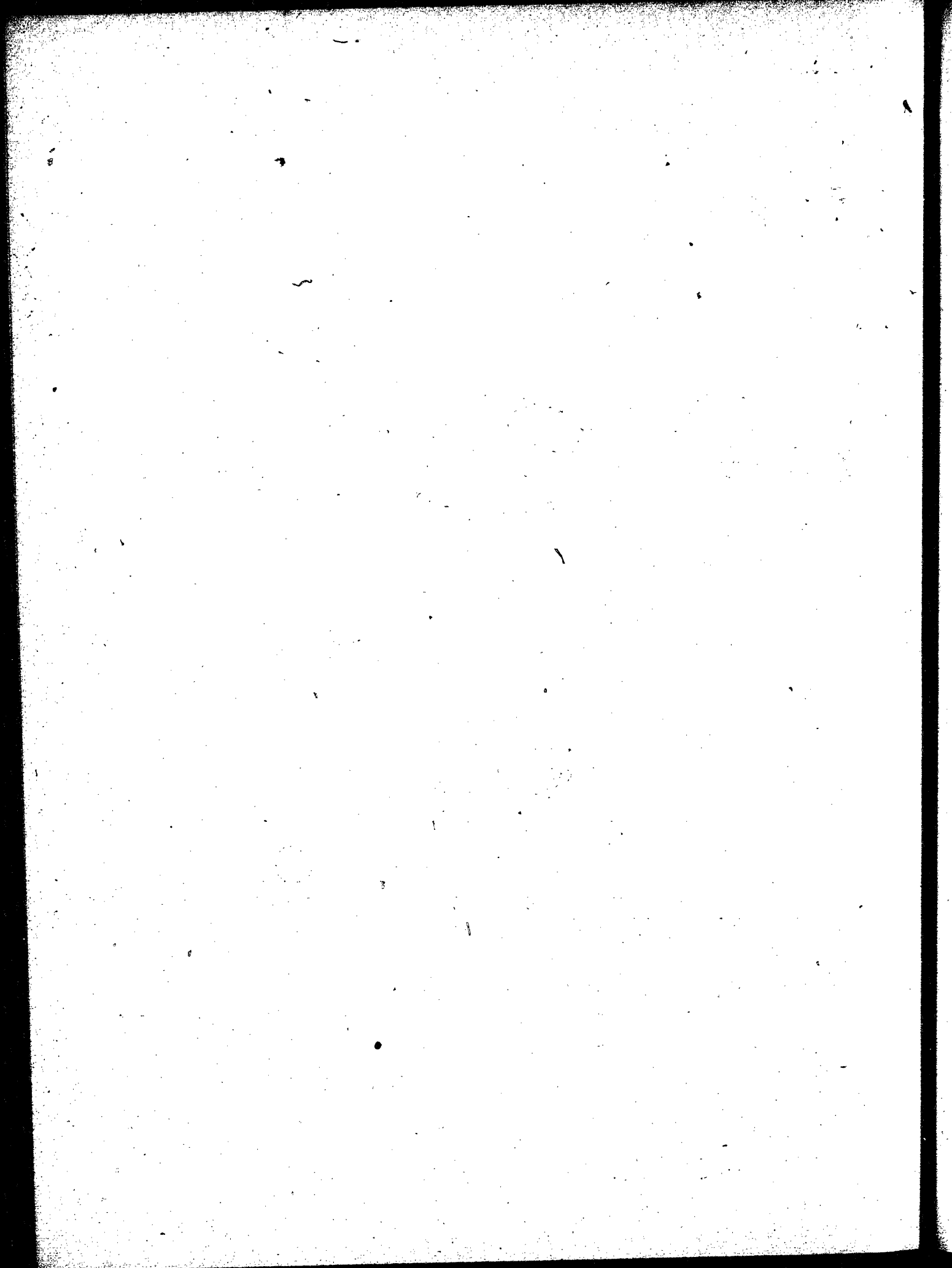
Now, Mr. Macdonell, what you have marked here in pencil is what you have referred to?

Mr. Macdonell : Yes, my lord.

Court : "Q Why didn't you put a plug in it then to stop the water? A They were all plugged up that I bored."

40

"Q They were all plugged up that you bored—yes; but do



you say it was any use plugging them that way, which would let water in? It was according to instructions? A Plugged with the oakum; that is all I know.

“Q But you tell me that it was no good? A A good soldier does what he is told, you know.

“Q You were told to go and plug it afterwards? A Not afterwards. It was plugged first, and not afterwards.

“Q I mean plugged after you bored the hole. You could not do it before you bored the hole. And you left it in such a condition that the water would get in? A It is bound to get in. How does it get through a ship.” 10

Now, p. 268, Yorke's—

Mr. Taylor: That is Yorke's.

Court: What line do you want? 20

Mr. Taylor: Beginning at, say line 8.

Court: “Q Did you go to the wreckage? A Yes—the provincial constables had it in a boom there

“Q Did you attempt to fetch it away? A Tried to; I sent up some of the men for it.

“Q Would they give it to you? A No, sir. 30

“Q And that is the reason why you did not bring it? A Yes, and that is the reason why we did not put it in the scow with the balance of the wreckage.”

Mr. Taylor: That is all, your lordship.

Court: “Q Now, Mr. Cox, you did not bore the under part of No. 3 beam in the Victoria span? A No.

“Q So you do not know whether it was rotten underneath or not? A I cannot say. 40

"Q You bored into it 7 inches or thereabouts? A Thereabouts.

"Q When you say it was rotten, you mean traces of rot in that 7 inches? A Dry rot.

"Q Dry rot—traces of it? A Yes.

"Q It might have stood for a year or two in that way? A Yes, it might, and perhaps more. 10

"Q But being plugged with oakum would allow the water to get in and increase the rot? A Yes.

"Q Very materially would it increase the rot? A Fifty per cent.

"Q The oakum being in there would increase the rot 50 per cent. Are you sure that Mr. Wilmot saw the borings of those beams? A He must have seen it; he stood there in front of me, 20 and the Mayor, both of them.

"Q At the time you were boring? A Yes. Atherly handed it to him in his hand."

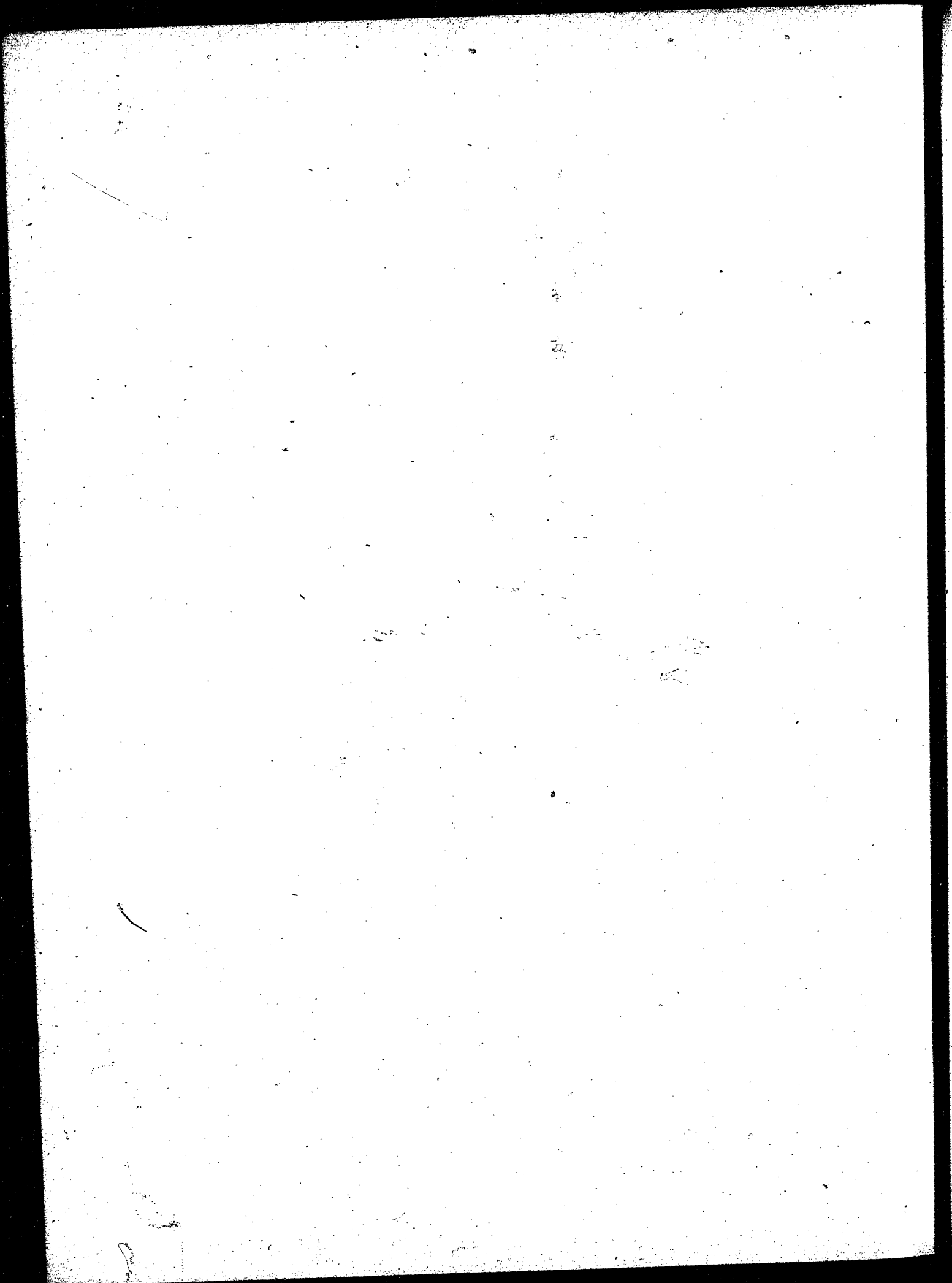
Now, gentlemen, I am not reading anything more; you can refer at the end of the case to any further questions.

Mr. Taylor: Your lordship, there is the question of Atherly's, p. 277, at the bottom—the question next to the last. 30

Court: "Q In fact, it is a matter of indistinct recollection with you now, entirely, after so long a time? A I know about the boring—that is all.

"Q And you are perfectly certain it was under the sidewalk? A Yes."

Now, gentlemen, it may perhaps have occurred to you when there is a long examination of a witness, no matter how intelligent he may be, and more 40 especially when he is not perhaps of more than average intelligence, it would be comparatively easy afterwards to pick upon one side or the other—particular passages in the evidence to make it seem very contradictory and very absurd,

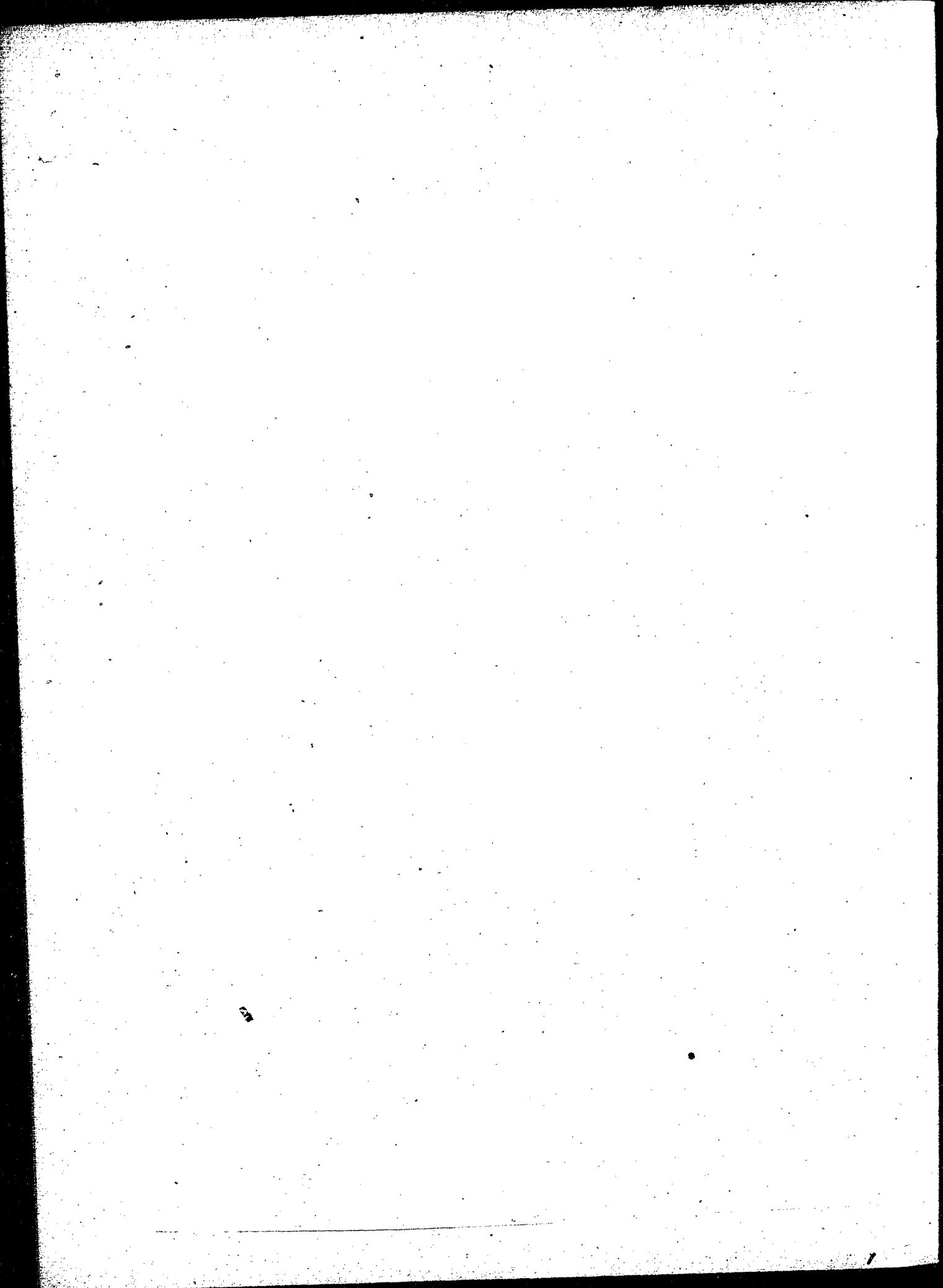


and although I have acceded to the request of counsel to read over these portions of the evidence—it having been omitted by themselves in their addresses—I do so because I am most anxious your attention should be called to any evidence which either side may deem to be material, and you hardly need I am sure from me the caution that you have to take this as a whole, and not pieces of it. You could not, of course, simply look at the pieces pointed out for the plaintiff as what he relies upon, or the pieces pointed out by the defendants. You have to take the evidence as a whole. I do not know that Mr. Cox's character is impeached—I would not like to put it that far. Mr. Wilmot himself, in his examination in the other action, which is in evidence before you, is questioned as to Cox's character. He says at once that Cox bears a good character. His evidence is here—I need not trouble you with reading out the portions I refer to. When it is suggested to him that Cox has such a character as to induce him—Wilmot—to believe he would be guilty of perjury, he says at once, no. That is the only reference I intend to make as to the character of Cox, if you consider—which I do not know—it was seriously attacked on the part of the defendants. You have Mr. Wilmot's sworn testimony as to that—he believes Cox to be of good character, and he does not think Cox would misstate anything purposely; that he had or could have any interest in misstating anything. I do not think it was suggested—I do not see any evidence of any interest on his part which you could look at to say he was interested to the extent of a copper in the result of this action.

Now, it will, perhaps, have occurred to you, as it certainly occurred to me—but I am only giving it to you as a consideration for yourselves alone—that there is nothing extraordinary in Cox's account of the particular duties which he had to perform. Cox was not a bridge engineer. Mr. Cox apparently had the duty of going about streets and sidewalks extending to a total mileage of upwards of 100, and reporting periodically as to what their apparent condition was. If there was a hole in the floor of a bridge or a sidewalk, I suppose he would report upon that. But I confess, I was somewhat puzzled at the elaborate attention which this supposed extraordinary feature as related to Cox—I say I was puzzled by the great attention it received on both sides. You observed when Mr. Wilmot, the city engineer, wanted a particular examination made, he gave written instructions for it, and boring was done, which involves taking up planking, which, for my part, I can find no difficulty in believing would not be a matter left to the discretion of Cox, but of course it is for you to say. Another thing is, if Mr. Cox is such a hopeless idiot as Mr. Taylor endeavored to make him out to be, it is rather a dangerous point to urge, because he had been in the employ of the city for a great length of time, and it will

be for you to say whether the employment of a man so utterly wanting in understanding was not, in itself, evidence of gross negligence on the part of the city. However, I dismiss it with that. Cox, however, does say in his evidence, and so far as I can see, whatever inconsistencies and contradictions he may have indulged in, he has not departed from this statement—he remembers distinctly boring the particular beam which is in question ; and so far as his evidence is concerned, I have only to say that question is one entirely of fact to you—whether this boring took place or not ! You must remember, you must take his evidence as a whole—not any particular portions ; and it will be for you to say in spite of any arguments you have heard from Mr. Macdonell, in contradiction of that on the one side and Mr. Taylor on the other, whether that does shake his credit as to the one point which, after all, is the only one you have to consider—was that beam bored or not ? The other portions of the evidence bearing on that are these : The evidence of Atherly, at p. 271. That evidence is short, and I direct your attention to it as relating to this point, if you have any doubt about it, in which Atherly who, it seems, was assisting Cox at this time, corroborates the fact of the boring having taken place. It is short evidence, you will have no trouble reading it, but it is too long to make it possible to read it to you now.

There is the evidence of Mr. Wilmot, the city engineer, taken on examination for discovery. His recollection was fresh. His evidence, which you can refer to, leaves no doubt that he understood at that time that the boring had taken place. If you remember, the boring was done under his instructions, the shavings were returned to him, taken from each boring, and had a number on, so that each bag of shavings was numbered with the number corresponding with the particular beam. I do not read it out to you to occupy your time unnecessarily, but I read it carefully last night, and you will have the evidence. He says he understood the boring had been done according to his instructions, and this beam amongst others, had been bored. Then the evidence to the contrary consists of the statements of persons who said that they saw the two portions of the beam afterwards and they saw no hole. Some of these persons were not looking for a hole, and others were, and did not see it ; and the question for you on that point is whether the beam having been broken at that rotten place where it evidently was rotten, whether the portion being shorn off—as the expression is—was not shorn to such an extent as to carry away the surrounding portions, so that the auger hole would not be perceptible there. An inch and a quarter auger hole in rotten wood just where the whole is, might—but, of course, it is for you to say—easily not be ascertainable, because, being among the breakage—the part being shorn—it dis-



appeared. I direct you to the evidence of Mr. Warner on that point pp. 9, 10 and 23.

“Q Would you explain a little more fully to the jury the condition of that beam at 3? A The condition of that beam at 3 was one of extreme rottenness, apparently the paint on it had held it together, that is about all that remained. It was simply a very thin shell, perhaps, in spots an inch all round (sound?) and the balance was rotten wood that you could shove your finger into. That was the condition I found that beam in at that end. At the other end there was decay round the hanger holes and the holes for the lateral braces. 10

“Q How did the end which was sheared off, which is this end (this represented No. 3), about where was it sheared? By sheared you mean broken? A Yes.”

On page 10 there is this reference :

“Q The other one, No. 3, was broken at the Gorge end, where Mr. Cox said he bored—is that correct? A Yes.” 20

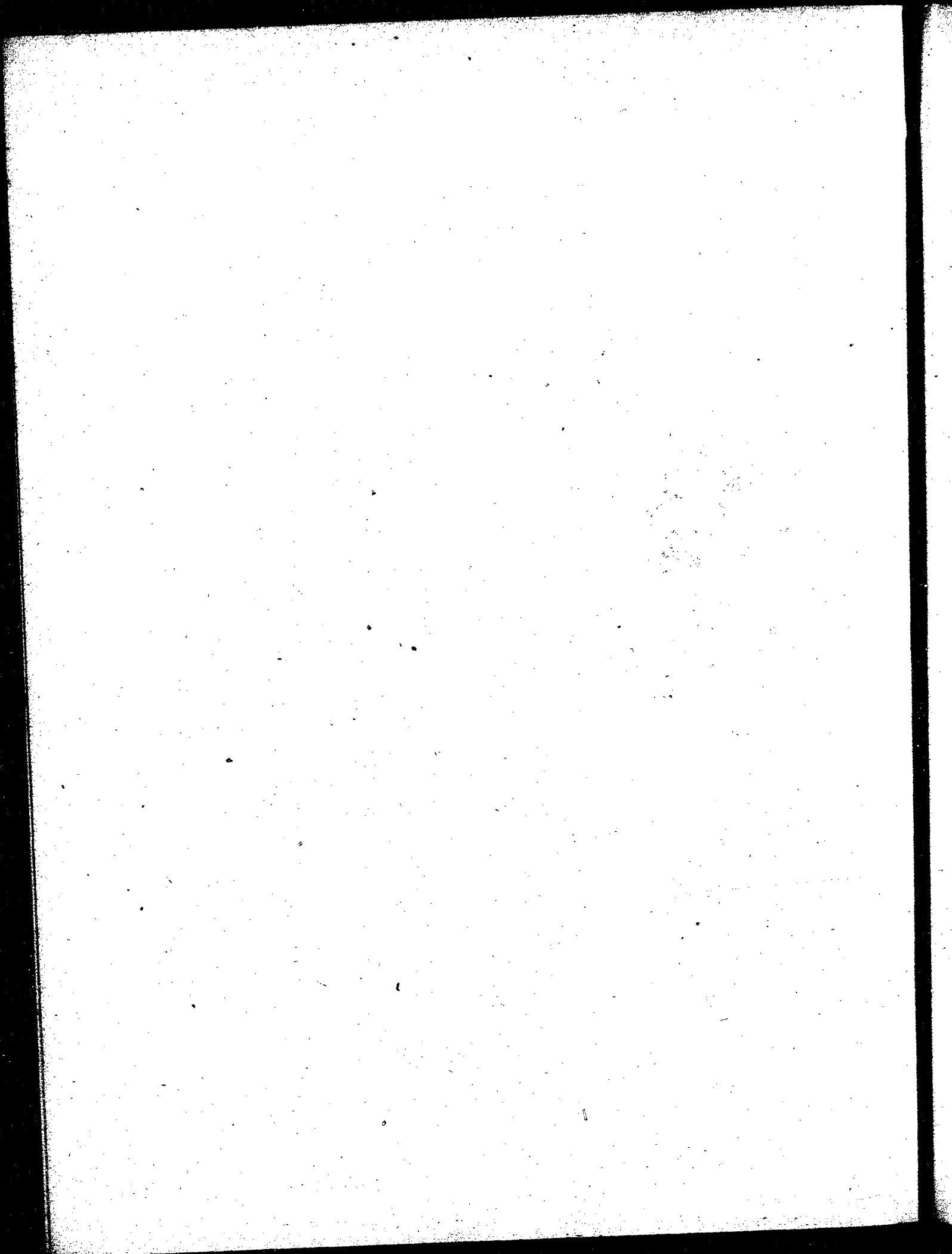
That shows the breaking was done where the auger hole was said to be, and it is for you to say whether, under those circumstances, it might not have disappeared, being rotten. And the other side of it is in cross-examination :

“Q And you did not find any break in this little auger hole, if there was one there? A I don't know, as I say, anything about an auger hole, because I didn't find it. The chances are, however, from the condition in which that stringer was, you could have knocked six inches off the rotten end of it and wiped out the auger hole completely ; it may have done so.” 30

Then Mr. Lockwood too, on page 49 :—

“Q What about 3? A There was an old beam and was broken off—sheared off at the hanger on the upstream or Gorge side of the bridge.

“Q Inside or outside of the hanger—sheared off, or how? A Well, it was sheared off. It does not say here in my notes, but it was sheared off right at the hanger. You could see one of 40



the hanger holes still in the end of the beam, on one of the ends.

“ Q What condition was number three in ? A Very rotten.

“ Q How was the end where it had been sheared off as compared with the other end ? A It was very rotten.”

And page 71 :—

“ Q The fact of your not noticing any trace of it, it would not follow one way or the other, as to whether the hole was there, Mr. Lockwood ? A The hole might not have been there at the time I saw it, the wood was very rotten : it was sheared right out. 10

“ Q And so broken up you could not tell ? A Yes, sir ; it might have been there and I not notice it, and it might have been sheared out entirely.”

Then Yorke, page 237 :—

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“ Q Did you see this broken floor beam, Mr. Yorke, that has been referred to ? A Yes, sir.

“ Q Did you find any auger holes in it ? A No.

“ Q Did you examine it at all carefully ? A I examined it, yes. 5

“ Q And did not find any auger hole in it ? A No, sir.” 30

If you consider that at any length, you should read the whole of Mr. Yorke's evidence. It is not very long, and you will see it bears upon that question. Then there is Mr. Gore's evidence, pp. 325 and 327.

“ Q Was there any part of the beam missing”—that is the one in which the boring is said to have been done “ I mean to say was there anything subtracted from its entire length ? A Well, perhaps nothing but what might have been sheared away from it when the hanger pulled through it.” 40

Then again :—

"Q Do you think it was possible that that auger hole was there without your seeing it, filled with oakum? A I certainly never saw it and never heard of it before.

"Q Did you look for it? A I did not look for it, because I never heard of it."

Then there is Mr. Bell's evidence, 244 :—

"Q You saw the two portions of it. Were you able to say from your examination whether the two portions represented the beam? A Why, yes.

"Q Well, that is to say, whether they would have been capable of having been put together again in their original form? A Oh, no; you could see that the one piece belonged to the other.

"Q You could see that the one piece belonged to the other? A Yes; and you could see likewise the mark of the suspender on it.

"Q And the mark of the fracture? A Yes; and no doubt the beam was rotten."

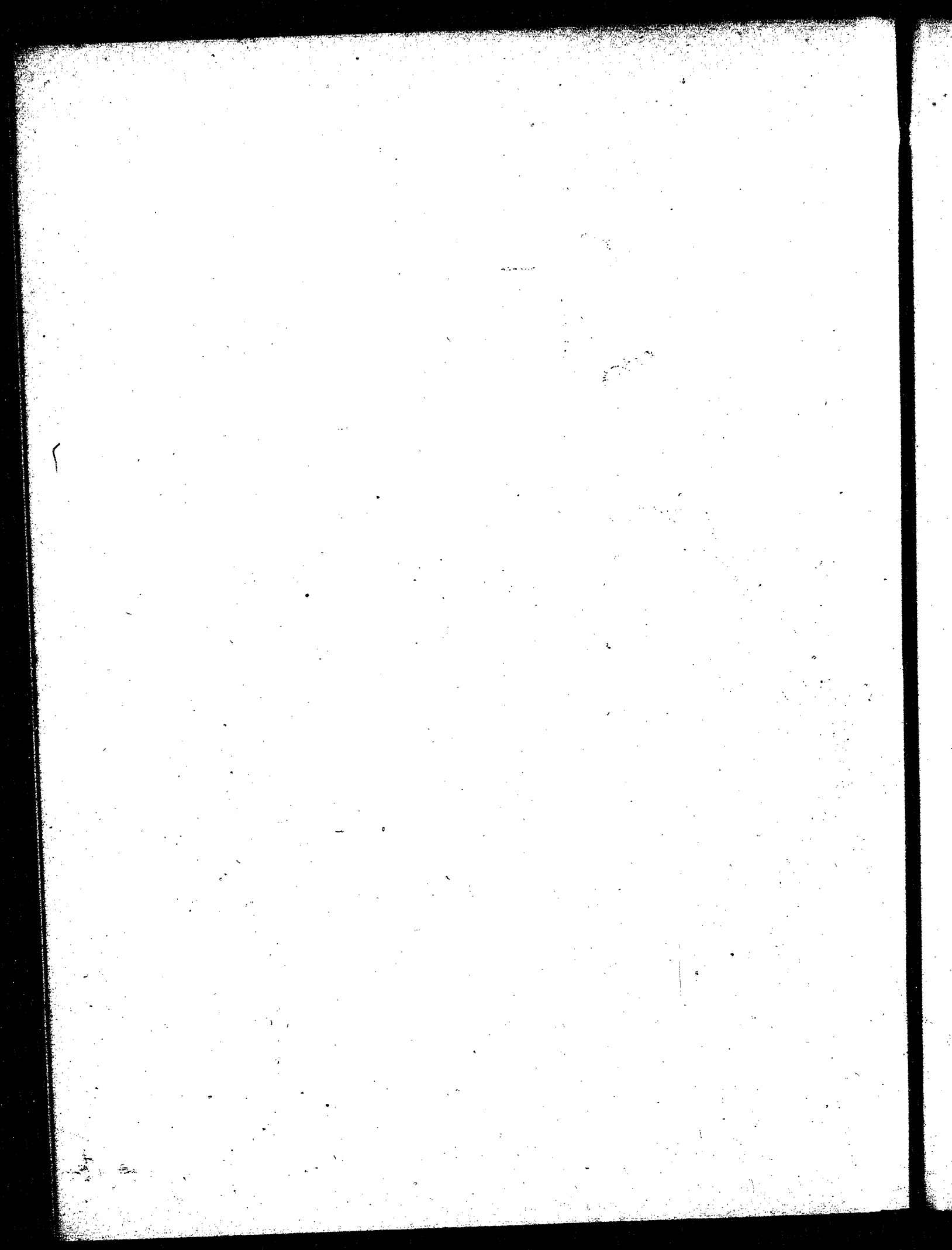
Page 245 :—

"Q And what conclusion did you come to? A I came to the conclusion that there was no hole bored there."

Mr. Taylor : I might ask your lordship if you think it would be right—

Court : No; please do not interrupt me. As I said before, I read over this evidence last night, and it took a long time, because you, gentlemen (to jury), might be afraid, having a great mass of evidence before you and not being familiar with it, to hunt for such portions as were material; and I made a note of the portions of the evidence to which I wished to direct attention; but I am by no means saying that is all, but am only making sufficient references to enable you to get the opinion of the witnesses. And I again ask you in all earnestness if you have any trouble upon it, to look at all the evidence, and that you will easily find from the references I give. The next is 318 :—

"Q I ask you, as a result of your examination, would it have



been possible to have had an auger hole approximately that close to the hanger hole on the Gorge side, without your having seen it." Mr. Bell says: "No; I do not think so. I think if he had bored a hole of that size I would have found it out."

Then page 323:—

"A juror: Would the length of the two pieces be the length of the whole beam? A If they had been taken up and put together, I believe they would. 10

"Q But you do not know it; you did not measure? A No; I do not know it; I did not put them together."

"Was there any hanger hole on the short piece? Did you see a section or sign of the hanger holes? A On the broken end."

The next is 278-9:—

"Q Do you mean to say it was impossible for an auger hole to have been there"—being cross-examined by Mr. Davis—"and you have not found it? A I would not say it was impossible, but I went specially to see if it had been bored." 20

Now that, of course, both parties have deliberately elected to rely upon, that is to say, the answer you may give to this question. And if you have any serious doubt now as to what the effect of the evidence is, both parties, I am sure you will agree—are entitled to this—that you should read over all the evidence. You have heard what the counsel have said—there are some other portions of the evidence they think material, it is not necessary to remind you, as counsel do not, of your sworn duty, but it would be your sworn duty and, more than that, fair play, and the references I have given will enable you to get at the rest which precedes or follows. 30

Now, the next question—to keep you only a few minutes on my account and yours—is the 11th:—

"Did the boring of such hole cause the beam to become rotten." 40

And I can only say, as I did with reference to some earlier question, that

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that is not a matter seriously disputed. We all know as a matter of common sense a boring of that kind, left without plugging it up, would cause the beam to become rotten. Using the language of Mr. Warner at p. 14, that is what would happen.

“Q What would be the necessary result of such a hole as that, remaining, in the way the evidence has shown, for four years, especially in a wet climate? A It would increase the deterioration—the rottenness.”

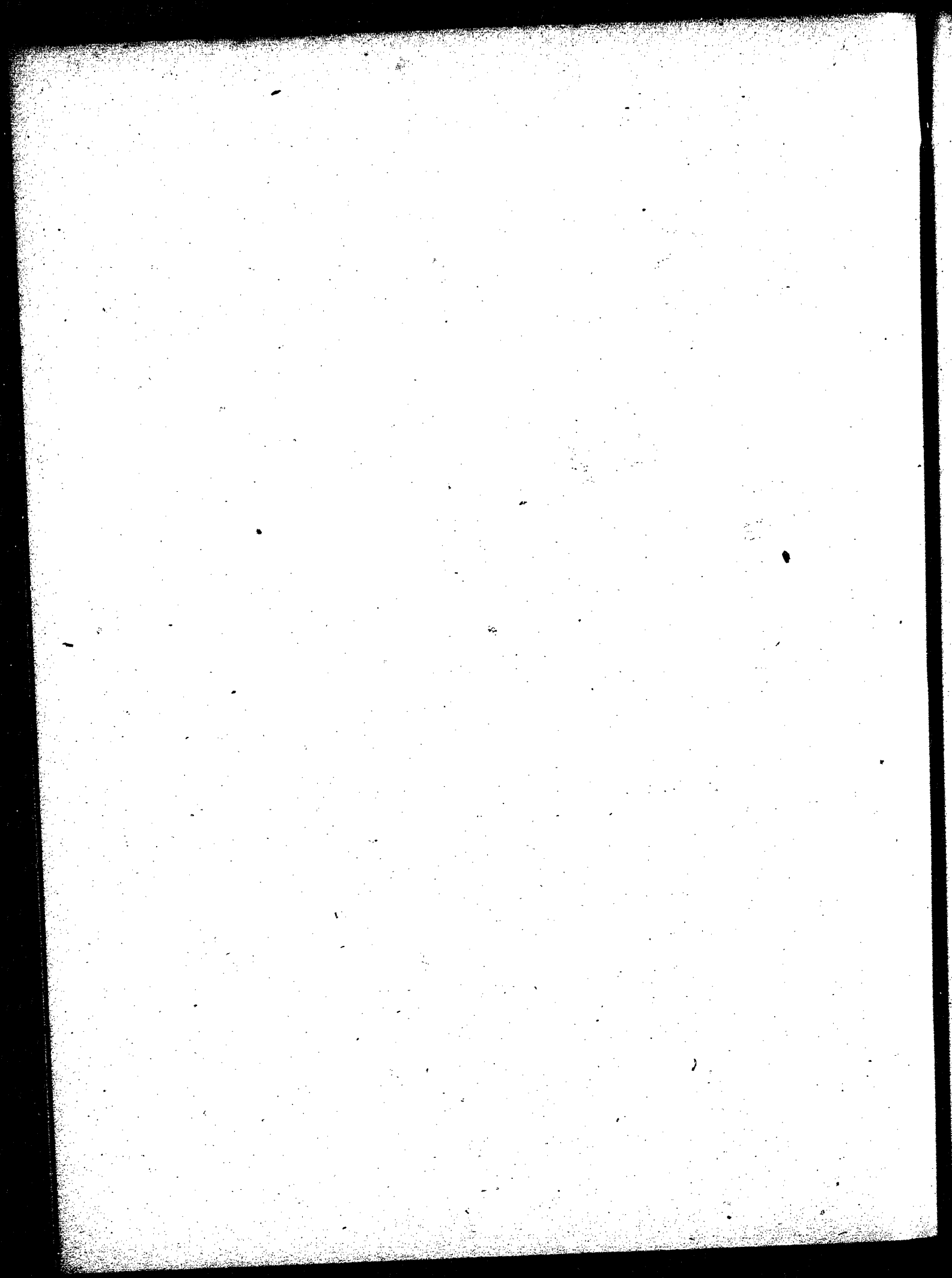
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That brings me to the last question, and when I spoke of the seriousness of the other questions, of course I meant taken in connection with the last question: “What was the immediate cause of the accident?” Mr. Macdonell, for the plaintiff, says the immediate cause of the accident was the rottenness of that beam 3—which was caused by the boring, and he says (I do not agree with him, I may say in point of law—but that not here or there) that the plaintiff cannot recover unless that is made out. Now, that is the point upon which counsel have elected to fight this battle, and you have to take it as counsel have told you. This is a very serious question for you, as was plainly 20 put by Mr. Taylor, and you ought to give it your best attention and I am sure you will. The references upon this question are these:—

“Q (Mr. Warner, p. 13): That stringer breaking, as you have described it, either one or the other broke either over the floor beam 2 or 4, does that either corroborate your view as to the breaking of the floor beam 3 being the original cause, or does it have the opposite effect? A I believe the floor beam broke at No. 3 on the Gorge side, that threw the weight on the stringers, one of which was continuous from 2 to 4; the other was a butt 30 joint, a broken joint on that floor beam, so that it left this stringer without support at all, and the weight of the car simply went down through it, and breaking the stringer either at that point or that (indicating.)”

And then on the next page, 15:—

“Q It is a matter of opinion I am asking you now; I am not asking you to swear to any fact, but your opinion. Considering that 7 was the same age and was not bored, and carried the 40 car—the same load, all right? A If No. 3 had been in the same condition as No. 7, you wish to know whether—?”



"Q Well, give your answer that way? A I should say that the car would have passed over it with safety.

"Q To what do you attribute the difference in the condition of the wood in the floor-beams No. 3 and No. 7 at the hangers? A As I said before, it is due to the increased opportunity for decay furnished by the hole which had been bored in the—

"Q There are the same holes in the other beams that there are in this? A No.

"Q Outside of this hole? A Yes.

"Q The same holes are in this beam as were in the others? A The conditions were the same in the two beams with the exception of this.

"Q That exception being the one hole bored by Mr. Cox, and it is to this hole you attribute the difference in the condition of the beams to that hole.

"Q The one bored by Mr. Cox? A Yes."

Then there is p. 21 to give the cross-examination :

"Q You attribute that entirely to the auger hole, do you? A I see no other reason."

What was attempted to be done was, of course, to verify it two ways—to show that the hole bored by Cox would produce the rottenness of this beam No. 3, and to negative the existence of any other cause. P. 35 (this is in cross-examination):

"Q Do you remember what it was you assigned then? A To the breaking of the floor-beam I assigned the cause of the disaster—to the extreme rottenness of the floor-beam.

"Q It is only fair to read you this (p. 248 of your testimony before the coroner). There is a broken hanger which Mr. Lockwood said he was not able to locate definitely, but it was somewhere in the middle of the bridge. That broken stringer may have come on 4 or 5 was very pitchy and a very serious

knot. But the question of precedence in breaking, that is whether the hanger or a good beam failed—whether the rotten part of the floor-beam of the old floor beam gave way, or whether the stringer gave way, it is impossible to determine, now? A Pardon me, the question asked me was to determine which failed first: the hanger, the stringer, or the floor-beam. I had previously testified that the extreme rottenness of the floor-beam was the cause; that I could not, nor did not believe, anyone could assign the order of precedence of the breaking of any one of these three parts. 10

“Q That is what I understood. It is difficult to assign the order of precedence? A Clearly impossible.

“Q As a matter of fact, even in the best condition they could not have supported this load of 22 tons that was on it. I believe also you testified to this effect:—see if I have the substance of your evidence: That the truth of the matter was, there had been absolutely no maintenance of the bridge, and that was really the cause of it. It had been allowed to get into a shockingly bad condition of repair, and now the heavy weights put upon it were the cause of the disaster? A I put it even stronger than that, if I recollect right. I said it was the most criminal piece of maintenance I had ever heard of.” 20

Lockwood's, p. 51:

“Q From your examination of the woodwork of the bridge after the span fell, which was the weakest part of that woodwork? A The rotten floor-beam. 30

“Q That is at No. 3? A Yes, sir.

“Q So that the woodwork was the weakest portion the bridge, speaking generally as between it and the ironwork, and floor-beam No. 3 was the weakest portion of the woodwork? A Undoubtedly.

“Q You have heard the evidence as to where the car was at the time the bridge broke, have you not? A Yes, sir.” 40

Page 53:

"Q You have stated that the hole bored in the way in which it was, would necessarily cause rot, and that this beam was the weakest portion of the woodwork and the woodwork was the weakest portion of the bridge. You have also heard where the car was. From all the evidence that you have heard, and from your examination of the bridge, and from other data which you have been able to obtain with reference to this matter, what in your opinion was the first thing to break in that bridge? A Floor-beam No. 3.

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"Q It would follow from that, I presume, that you mean that the breaking of the floor-beam No. 3 was the substantial cause of the fall of the bridge? A Was the proximate cause.

"Q And the breaking of floor-beam No. 3 was due, of course, to rottenness? A Yes.

"Q You have shown that the rottenness in floor-beam No. 3 at that end where it sheared off was greater than at the other end, and also greater than the rottenness of floor-beam No. 7, which had been in the same time? A Yes, sir.

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"Q Bearing all those matters in mind, what was the cause of this beam breaking at the particular time at which it broke? A The fact that it had been bored in 1892.

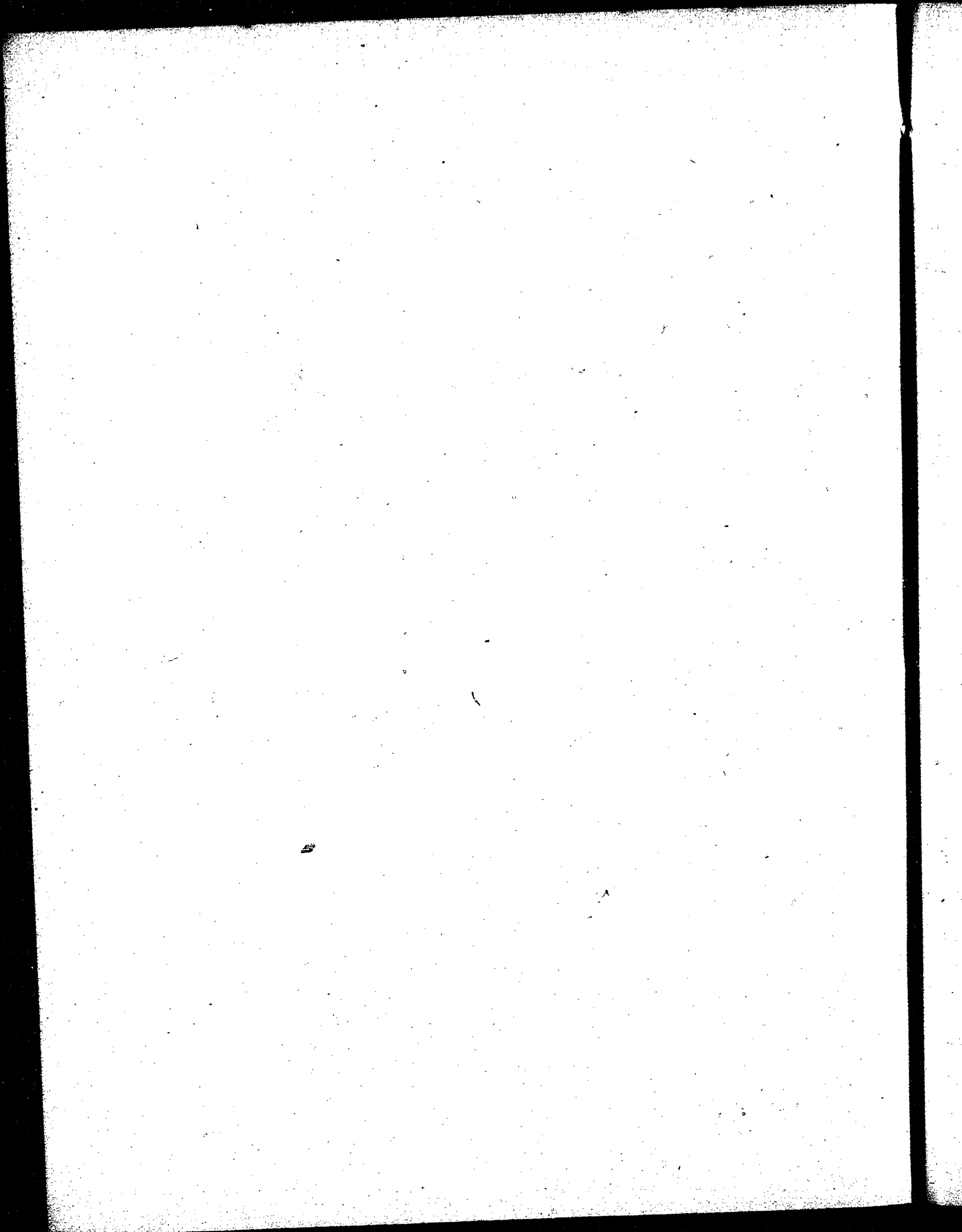
"Q In the way that has been described? A Yes, sir."

And page 68 also contains another reference to Mr. Lockwood's evidence upon this point:—

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"What was the other reason? A I have secured additional evidence in regard to the accident and where the car was at the time of the accident, and where the car was in the water after the accident occurred. If I remember rightly, I based my theory of the hanger breaking first on the location of the car; and I said at the time, if I remember rightly, that floor beam did not fall first, because the car had not reached 3. Now, the testimony before the coroner's jury all went to show—at least, most of it, practically all that I heard—that the car had not reached the centre of the span, and if the car had not reached the centre of the span floor beam 3 could not have been the cause of the

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accident, As a matter of fact, I am satisfied now that the car had passed the centre of the span, and that floor beam 3 was the cause of the accident."

And page 71 :—

"Q But you do not base your whole theory on that fact, do you—about it giving away there—the rotten floor beam? A Well, I attribute the primary cause of the accident—that is, the accident happening just at that time—to that hole being bored." 10

Of course, he does not know himself whether he was or not, as he says : " I have heard the testimony here." Now Mr. Wilnot is questioned as to his view of the primary cause of the accident. You will find reference to that in page 25 :—

"Q So from what you have seen and heard you cannot form an opinion as to where the weakness was? A I could not form an opinion as to what caused the destruction of the bridge." 20

Then Mr. Bell, at pp. 255 and 256, who was an expert called for the defendants :—

"Q I say, from your examination of the wreckage, from hearing all the evidence given at the inquest, coupled also with what you have heard to-day, I ask you what in your opinion was the member of the bridge that first gave way and precipitated the disaster? In other words, what was the direct cause of the accident? A I cannot tell you the member of the bridge that first gave way, but I have a conviction of what members caused the disaster, although I may say it is very doubtful too ; it is a very difficult subject. But I have a conviction on my mind as to which I think was the most likely to cause the disaster ; I think the hip-verticals." 30

You have had it pointed out to you what they are. You see, he disagrees with the others. His attention is called on this page to the opinions of the other experts, and this question is put :—

"Q Do you agree with that? A No ; I do not." 40

"Q Will you state your reasons? A Yes ; I think that

from the position of the car trucks it is fair to assume that the breaking of the hip-verticals at the Esquimalt end pulled the bearings right off the pier. When the hip-verticals broke one of them was broken about the nut ; there is a washer plate on top of the links. The links are $37\frac{1}{2}$ feet in length. The weight of the load is transferred from the top to the bottom chord by means of this washer plate. There would be force enough there, even by calculating the least friction there could be, to pull the whole bearings off the pier. That is my conviction of what destroyed it." 10

And page 259 :—

“ That is to say, you think the hip-vertical gave way ? A I think that was the main factor in causing the accident ; but if you ask me what part of the bridge broke first, I cannot tell you, and I believe no man living could tell you.”

Now, gentlemen, that finishes the references which I intend to give you. Of course, you will understand that these opinions of Mr. Lockwood and Mr. Warner and of Mr. Wilmot and Mr. Bell are opinions of experts. They give their opinion with reference to the special knowledge they have as bridge experts of the capacity of a bridge of this kind, and what would naturally be expected to happen, as regards what gave way and what was the immediate cause of the disaster in the way in which this accident occurred. They had the advantage before giving their opinions of hearing all the evidence and speaking from their special knowledge and from the evidence given they advance those opinions. Two of them, Mr. Wilmot and Mr. Bell, cannot say how it happened. The other two seem to have a pretty firm opinion on the point, which you have heard. These opinions do not bind you, of course. Some of you may think you are as good judges of how it occurred, and others may rest upon them. It is for you to say whether you take their opinions and act upon them or not. 20

A good deal of evidence has been given as to how far the tram had got at the time of the accident. I dare say you, gentlemen, can form a pretty good opinion for yourselves, apart from the opinions of the experts, as to what really was the immediate cause of the accident. I do not know that anything particularly on the evidence suggests itself to my mind except, I believe, it was suggested by some witness that the first sound was like a falling or breaking tree, the suggestion being that it was owing possibly to this beam giving way 40

first, which was of wood, and not the hip-vertical, which, of course, is not of wood.

Now, gentlemen, as regards the amount of damages. In addition to what I have already told you, you will, of course, understand that this amount given in evidence of some fifty odd thousand dollars as being required to purchase an annuity for life of Dr. Lang is not binding upon you at all. It is simply given to you as something to guide you. It is not really contemplated that the plaintiff should, as a matter of course, be put in the position of being furnished with a sum of money which would provide an income of \$280.00 or \$300.00 a month, which, if Dr. Lang had lived to an old age, he might have enjoyed. We all know how uncertain a practice is. A doctor's practice, like a lawyer's practice, or like a merchant's business, is not certain at all; it may increase or it may decrease. Then there is the chance of death or of illness or some accident. On the other hand, there is the chance, of course, that a gentleman in Dr. Lang's position might have largely increased his practice. All I can tell you is, as I cautioned you before, that this is purely a question of what is a fair sum, not in the nature of punishment, not because of any sentimental considerations, no matter what sympathy you naturally would have for Mrs. Lang and her children. You have got to take everything into consideration, and when you arrive at the amount you must deduct from it the \$2,500.00, the amount of the insurancy. And then you will be good enough to apportion the damages—so much to Mrs. Lang and so much to each of the children—you have their names, I suppose.

Mr. Taylor: My learned friend can hand them in.

Court: The usual way is to give Mrs. Lang so much, then the eldest child so much, and then the next so much, by name. (To Mr. Macdohell): If your client is in court you might get those names. (To Jury): I am sorry, gentlemen, this has been necessarily a tedious trial. It was impossible to have the life which we had in the former trial, with witnesses going into the box and giving evidence; and what presses me is you may not—it is only human nature—you may not refer to all the evidence which was not given verbally in this case, which might otherwise have impressed itself upon you. I have tried to press upon you to give the evidence (which I took three or 4 hours last night to go through), and I ask you again; your most serious and best attention, and I have no doubt you will do so.

A juror: There is a question I should like to ask, so as to be sure whether it has any bearing on the case—if the corporation repaired any part

of that structure and not the rest of it, whether in that case they are liable to damages?

Court: I am sorry you misunderstood me. Do not trouble yourselves about the liability. You have heard counsel say they are going to the Privy Council about this, and no doubt they are. I have already stated my view of the law in the Patterson case, and have given a written judgment. It was appealed from, but the Full Court in Victoria have not given their opinion upon the appeal, and I might tell you that this case has not changed my mind at all. The counsel have chosen to fight this battle upon a view of the law which I tell you frankly I do not think is a clear exposition of it, but I hope you will take me seriously. You have nothing to do with the law; the only part I have read to you was written down, because I wanted to frame my language carefully, for a judge without considering his language carefully may make a mistake in what he wishes to say. But you have nothing to do with the law; the questions are questions of facts, and so drawn to admit of an answer "yes" or "no," but if you cannot conscientiously answer them with "yes" or "no" then put what you think is right. But they were put so as to admit of being answered "yes" or "no," counsel have agreed they should be so put, and I hope you will have no difficulty in answering them that way; but with the effect of those questions remember you have nothing to do. I might tell you what I think the effect will be—I have no doubt—but the Full Court may differ from me, and the Supreme Court of Canada may differ from them, and the Privy Council from them all. But what we want to do is to get answers which will put the higher court, which will have to deal with this, in the position of being able to tell what the law is—if we find the facts for them they will be able to find the rights of these parties without sending them back for another expensive trial, and all you have to do, gentlemen, is to find those facts.

The names of these children are here, gentlemen. The jury, being masters of their own time, I think I might very well adjourn till 3 o'clock, and let them go away and come back when they please—there will be a room there—and discuss it when convenient. I will be in my room, and if you want my assistance, gentlemen, let me know.

Mr. Cassidy (to Court): There is one point which seems to me to be important: It was on the question of the flooring and the possibility of its being held up by the chords. The evidence of Mr. Bell was that the chord links were so constructed they could not possibly hold up the floor, except—

Court: Do not tell me what Mr. Bell or anybody else said. You know perfectly well you are not regular. You ask me to do something—what is it?

Mr. Cassidy: I ask your lordship to read—

Court: No, I won't do anything of the kind. As I said before, I won't read anything further. I was not bound to read what I did upon either side. You gentlemen were supposed to refer to the evidence in the same way, and you would have been required to do it, if given verbally, but as a special indulgence I did refer to particular portions of the evidence. Now, if you ask me to refer to some more and I agree to that, counsel on the other side will then want to do away with the effect of that, and get into something else, and we will get into a squabble and a wrangle. I decline to do anything of the kind, but I do say again (to jury) that you read all the evidence. 10

Mr. Cassidy: Of course, your lordship is aware that the rule is we cannot take advantage of anything we do not put before your lordship, but as it won't affect the jury at all, I will come hereafter and put the objections.

Court: No, if you have any objections I want them taken before the jury leaves, in a case of this kind. Usually I do not like that practice but it is a special jury and I want them to hear everything that goes on. 20

Mr. Cassidy: I object to non-direction. I say that is necessary that your lordship should explain the law to the jury—

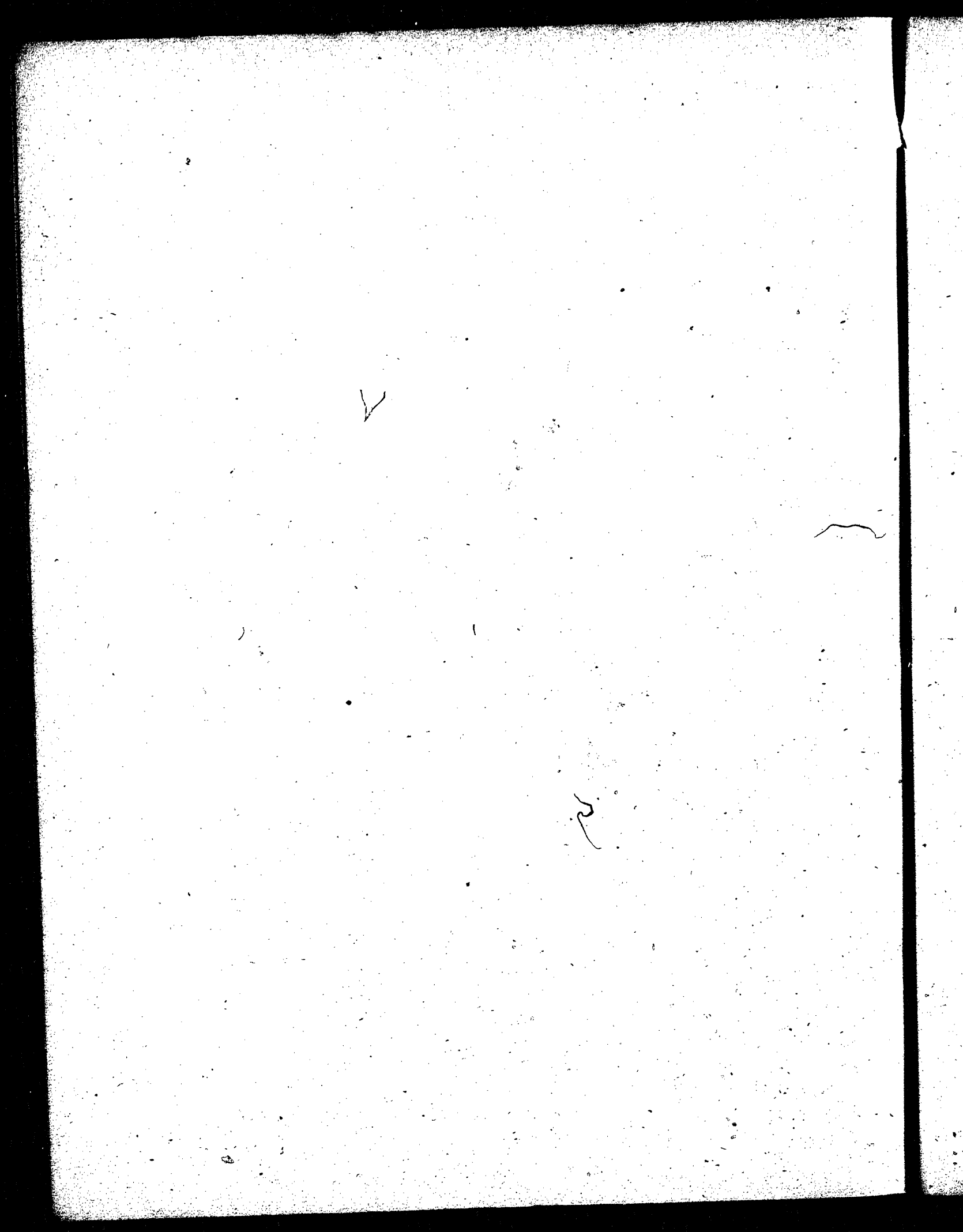
Court: Now, Mr. Cassidy, you state the proposition of law which you wish me to leave to the jury, and I will tell you whether I will do it or not, but do not let us enter into any desultory discussion. Ask me to leave to the jury something which you say is law. 30

Mr. Cassidy: Well, I want to put it in this way—

Court: No. (To jury): You can go, gentlemen. If I find it necessary to bring you back to tell you about anything which I have not done about the law, that is my responsibility with which you have nothing to do.

Mr. Cassidy: I am quite ready to do that, if your lordship is ready for me to put it that way: This is the scope of my objection— 40

Court: Never mind about the scope. It does not require any explanation. If I cannot see the scope of it, I will be delighted to hear you explain,



though it may have such novelty that I may not be able to grasp it at once, but I will take my chance of that.

Mr. Cassidy: I object to your lordship having declined to charge the jury on the law at all.

Court: This is extremely irregular, and you know it well. If you say I did not charge the jury properly, that is mis-direction, and tell me what proposition I did not leave to them. If non-direction, tell me, in equally intelligible language, what you wish me to tell them. 10

Mr. Cassidy: Your lordship ought to explain the law of negligence to the jury, and that assuming that the action lies against the defendant corporation at all, and that the act of Cox was the act of the corporation, that they would have to find that in relation to the purpose for which that boring was made—that it was done without taking a reasonable amount of care.

Court: Does that finish the proposition? I think that was sufficiently left to them. Now, the next one. 20

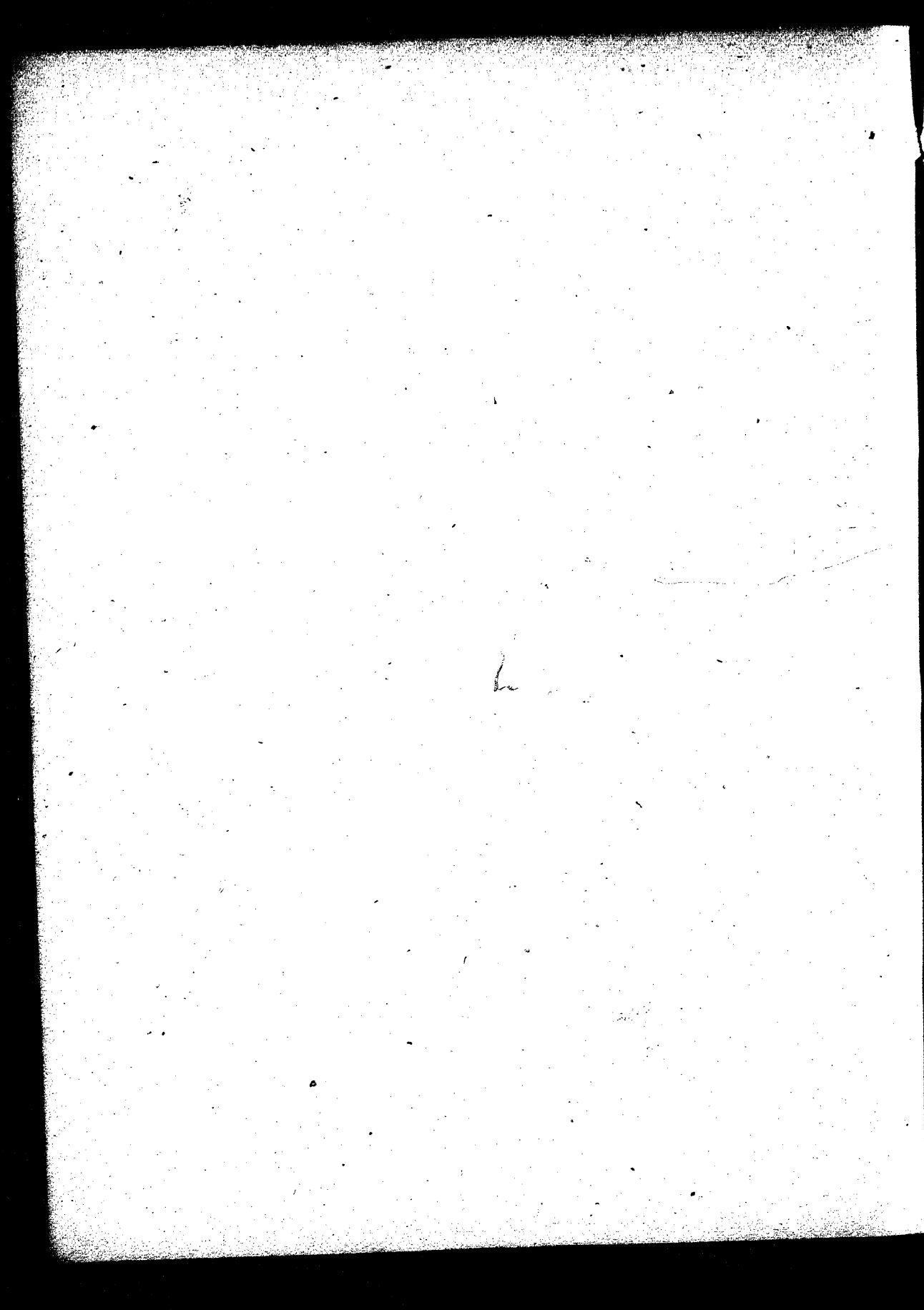
Mr. Cassidy: Your lordship ought to have pointed out to the jury the way in which Cox plugged that hole as appears from p. 32 of the *de bene esse*—that he plugged it with a stick and pounded it in with a hammer, and also that he put tar—

Court: No one knows better than you that I ought not to do anything of the kind, and that a judge is not obliged to refer to the facts at all unless he chooses. I have given all the references I intend to, and I will not leave anything more to them. 30

Mr. Cassidy: Without reading that reference again, your lordship ought to have charged the jury that unless they could come to the conclusion that that method of doing the thing was negligent and without consideration for safety and likely to cause disaster, they should a verdict for the defendants.

Court: I think that part of the case has been sufficiently left to them, Mr. Cassidy.

Mr. Cassidy: Your lordship is putting the first question to the jury—"did the corporation after the extension of the city limits, control and manage the bridge as if owners thereof?" Your lordship told them that there could be no doubt that they did. 40



Court: No, I did not say so. What I did say was as I understood I did not think that was seriously disputed, but it was for them to say.

Mr. Cassidy: As to its not being seriously disputed—everything is disputed.

Court: I speak with all respect for you, but I hope you do not intend to waste my time by making objections of this kind. You know perfectly well I had a right to tell the jury in the strongest possible language my view of the facts. I might have gone further and told them that those facts were so clear ¹⁰ that men of ordinary intelligence should not have the slightest hesitation about their findings; and might have said to them that in so stating I was merely giving my own view, and was not giving it to them as a direction.

Mr. Cassidy: The facts are perfectly clear as to what took place. There is no doubt about the by-law being passed about the extension of the city limits and the rest, but the point I want to put is this—that that does not make the city, as a matter of law—

Court: I started by saying that the questions as framed carefully withdrew ²⁰ from them the very point you are upon now, which was a question of law, which you know I must determine in the first place, and the appellate court afterwards. I decline to charge them any differently upon that point. You know if I had charged them upon the law, in view of the opinion which I expressed in the case of Patterson, the only charge I would have given them would have been that the defendants were liable on the admitted facts; and I do not suppose you want me to do that. I have seen no reason to change my opinion since the Patterson case.

Mr. Cassidy: In regard to question 3. "Was such use by the company ³⁰ by agreement with the corporation?" Your lordship told them that there was no doubt in law that the city had such control over the bridge that if they chose they could have stopped tramcars running over it.

Court: You dispute that as a proposition of law?

Mr. Cassidy: Yes.

Court: Well, whatever doubt there may be upon this case. I shall be ⁴⁰ very much surprised to find that the proposition I mentioned admits of any serious dispute. I am of a very strong opinion that that is not arguable.

Mr. Cassidy: That may be so, but still—

Court: Well, I decline to withdraw it, at all events. Now, is there any thing else ?

Mr. Cassidy: Question 4. "Had the corporation knowledge of the insufficient strength of the bridge in time to have prevented such use by the company before the accident?" Of course it really goes to an objection to that question, and all questions of that kind, that we say there being no obligation—

Court: Mr. Cassidy, you cannot object to any question I choose to leave—in point of fact, you agreed to these questions, but, as you are aware, a judge is the absolute master of what questions he shall leave to the jury. 10

Mr. Cassidy: But we say to leave that question that way with the explanation which your lordship gives to the jury amounts to mis-direction.

Court: Why ?

Mr. Cassidy: Because we say that at law the corporation are not liable to re-construct that bridge in any way. In other words, they were entitled to leave it exactly as they found it. It did not matter whether plans were lying over in the Government office, showing it was unfit for traffic, or not, and it was misdirection to tell the jury so. 20

Court: I may have been wrong in my view of the law, and you may be right in yours, but from either point of view it could not possibly be mis-direction. I do not follow you.

Mr. Cassidy: Q It is misdirection to put a question of that kind which makes an element in the case of something which is not— 30

Court: That is a question of law with which the jury have nothing to do.

Mr. Cassidy: It is immaterial, in other words, whether those plans were there or not, and whether the corporation might have become aware of the condition of the bridge. It places no liability upon them.

Court: No, I over-rule that. Pass on. The jury have nothing to do with the effect of it. The Full Court, I was glad to see, did not suggest any change in those questions, but were satisfied with them. 40

Mr. Cassidy : The same objection covers all the rest of the questions, down to 8.

Court : Well, I decline to change my view. I cannot see how you are injured. If I could see that you would be, in the remotest way, it would be—but I do not. The questions may be perfect nonsense for the purpose of the verdict, or they may be proper questions, but from either point of view they cannot possibly, as I conceive, injure you. They are purely questions of fact and I decline to change them.

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Mr. Cassidy : I must come back again, my lord, I am sorry to say, to that point of Mr. Bell's—as to the question did the changes materially reduce the strength of the bridge? Your lordship put it to the jury that as far as the stringers were concerned it was really not claimed they did reduce it, but as far as the cutting of the floor was concerned, that was the point; and in the face of the evidence of that floor being able in 1892 to carry the car over, it was for them to say whether it might not have carried them over by falling down on the chord links at that point. Mr. Bell, who was the only witness called upon that, examined the bridge and found the chord links were so constructed that there were four in the centre and only two at the side, and the floor would fall clean through—was not supported by the links at all. I submit, at all events, it was proper for your lordship to put that to the jury.

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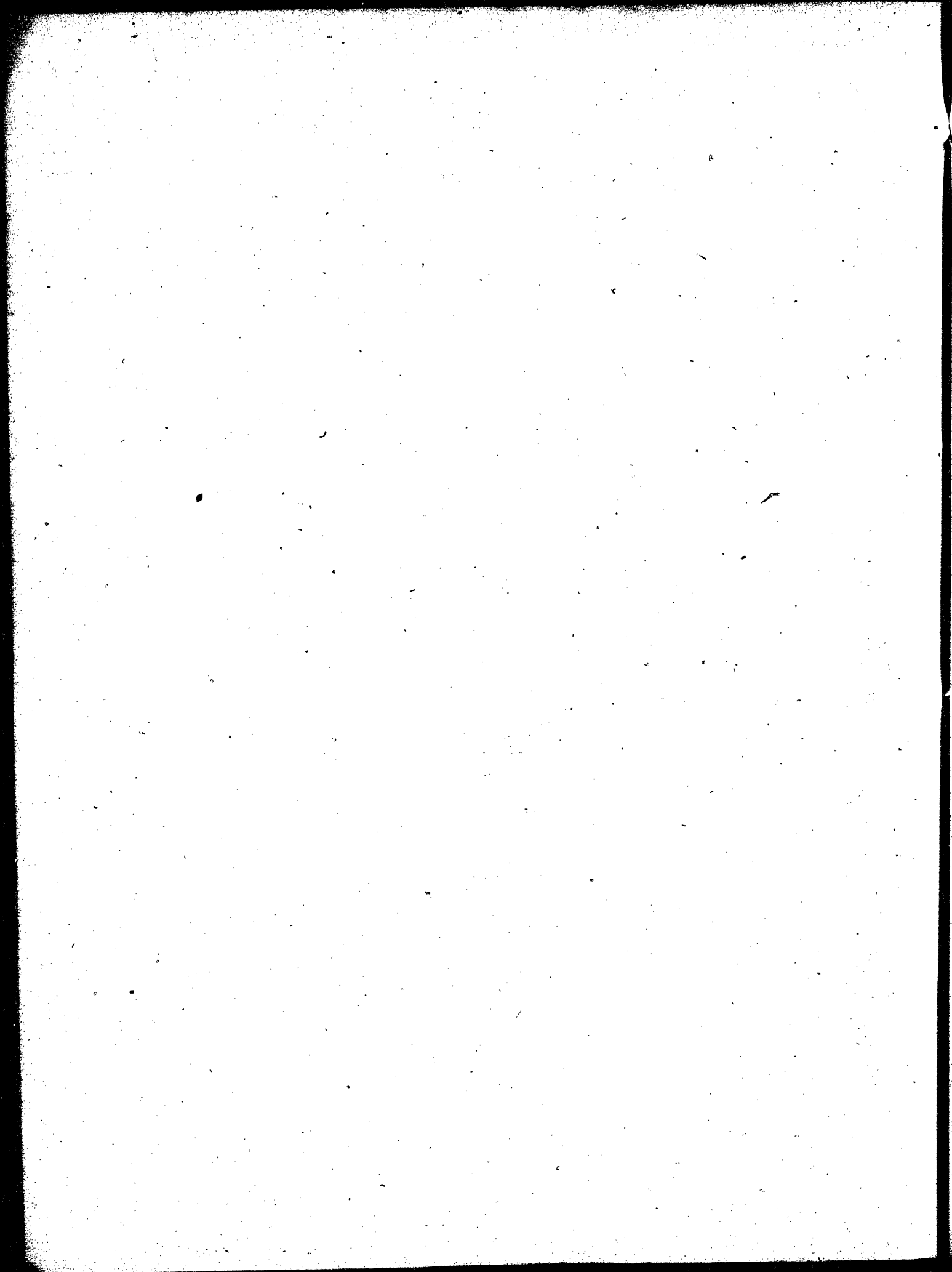
Court : You say that the only witness who gave evidence about it was Mr. Bell. It would have been for the jury to see whether other evidence was given upon that point to which reference was made. But your objection is, I did not leave that evidence as favorably for you—considered from your point of view—as you think it is entitled to be left. I have the misfortune to differ from you, and decline to change it.

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Mr. Cassidy : There is one more thing I have forgotten, and that is in your lordship's dealing with the evidence which was given at the previous trial of Mr. Lockwood, Mr. Warner and all the rest, speaking about the effect of that boring of the hole, etc., your lordship did not draw the jury's attention to the fact that they were dealing with a different state of facts in that case.

Court : I was not obliged to do that; but I took three or four hours last night to read through all the evidence that the jury might have the benefit of the references I have made. I told them I had not exhausted all the evidence, but that they must take that evidence referred to with the rest of the evidence; it was only as a help to them. I assure you if I had expressed my opinion on

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the merits of the case, you would not have been more satisfied than you are, apparently, in what I said. It really is an undefended case, from my point of view ; but in consideration of the fact that I was on the Patterson case, I think I was very mild in my remarks. What about the motion for non-suit? Do you think it is any use making a motion? I am bound to adhere to my opinion that the admitted facts make the city liable, and I have seen no reason to change that. I do not know, of course, what the opinion of the Full Court will be, but it seems to me to be useless for you gentlemen to try to ask my view upon that point. I think the better way is to have no formal agreement. 10

Mr. Cassidy: At all events, my lord, we would have to wait for the verdict of the jury.

Court- Yes.

Jury retired at 12:35 p.m., to reassemble at their leisure, and Court adjourned at 1 p.m. to sit again at 3 p.m. to receive verdict.

After Recess. Jury returned into Court at 4:5 p.m. with the following verdict: 20

1 Q. Did the corporation after the extension of the city limits control and manage the bridge as if owner thereof? A. Yes.

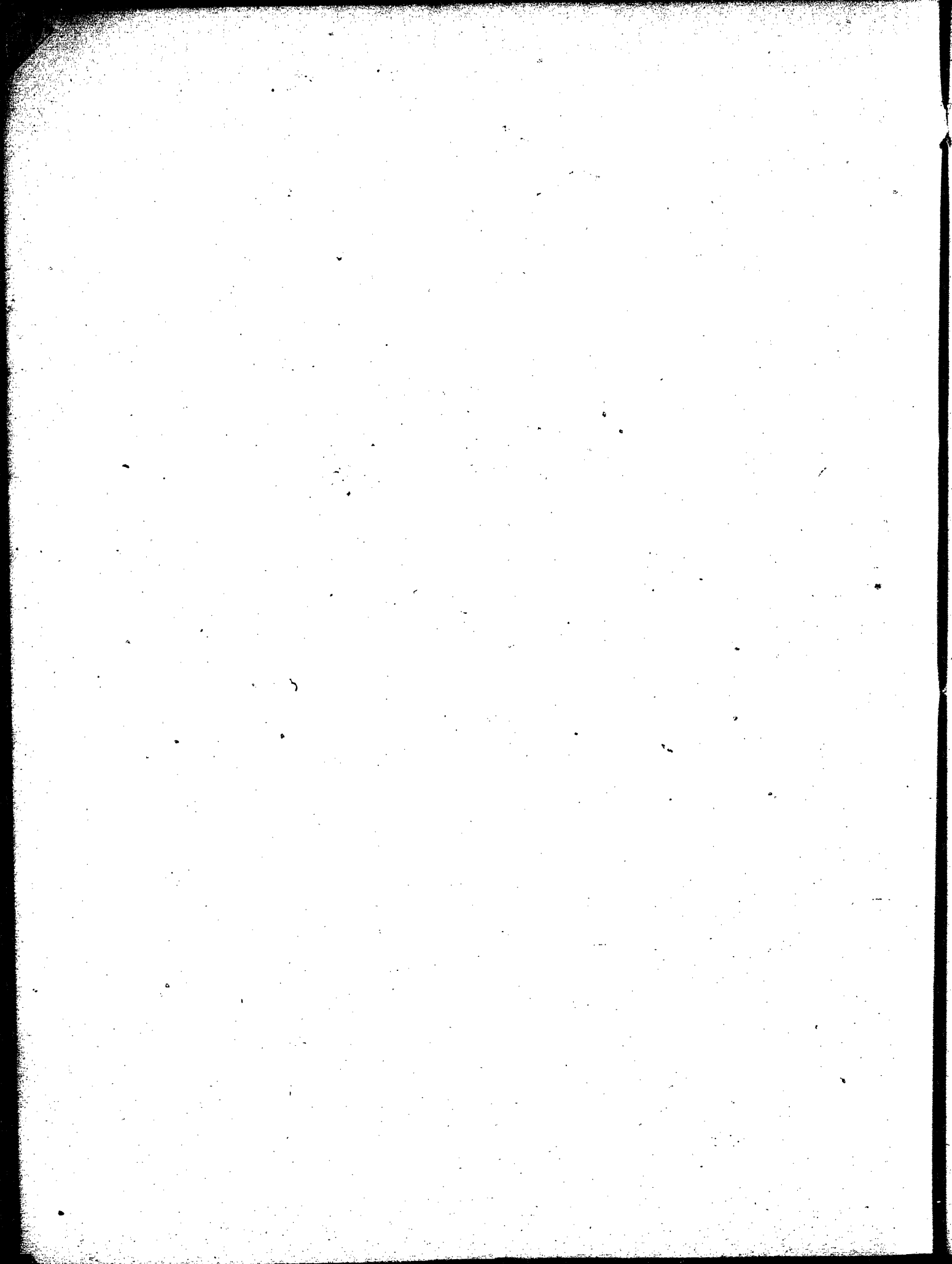
2 Q. Was the bridge as constructed of sufficient strength for safe use by the tramway company in the way in which it was used up to the time of accident. A. No.

3 Q. Was such use by the company by agreement with the corporation? A. Yes. 30

4 Q. Had the corporation knowledge of the insufficient strength of the bridge in time to have prevented such use by the company before the accident? A. Yes.

5 Q. Would the corporation if exercising ordinary care have become aware of the actual condition of the bridge in time to have prevented such use by the company before the accident? A. Yes. 40

6 Q. Did the corporation before permitting tramcars to pass over the bridge make any enquiry whether it was of sufficient



strength for safe use for that purpose? A. No.

7 Q. Could such knowledge have been easily acquired by the corporation? A. Yes.

8 Q. Had the corporation at the time of the accident suffered the bridge to fall into such disrepair as by reason thereof to have become dangerous for such use by the company? A. Yes.

9 Q. Did the changes made in the bridge by the corporation, and, under an arrangement with it, by the company, materially reduce the strength of the bridge to support a tramcar passing over it? A. Yes.

10 Q. Was the hole bored by Cox, the city carpenter, in beam No. 3, as described by him? A. Yes.

11 Q. Did the boring of such hole cause the beam to become rotten? A. It materially assisted.

Q. What was the immediate cause of the accident? A. The breaking of floor beam No. 3. 20

Total damages awarded \$22,500.00, less life insurance, \$2,500.00. Balance, \$20,000.00, divided as follows: Mrs. Larg, \$7,500.00; Jennie, \$2,500.00; John, \$2,500.00; James, \$2,500.00; William, \$2,500.00; Robert, \$2,500.00.

(Sgd.) WALTER TAYLOR, Foreman.

Court: Is there anything, Mr. Macdonell and Mr. Mason, which you desire to mention now, before I discharge the jury? 30

Mr. Macdonell: I have nothing, my lord.

Mr. Mason: No, I have nothing.

Jury discharged.

Mr. Macdonell: My lord, I make the usual motion for judgment.

Court: Yes, I reserve judgment. If the Full Court uphold my judgment in the other case, of course judgment will go. Otherwise, it may not. 40

JUDGMENT.

The.....day of.....,..... 1897.

This action having on the 12th, 13th and 14th days of October, 1897, been tried before the Honorable Mr. Justice McColl with a special Jury of the City of Vancouver and the jury having found for the plaintiff on the questions submitted by his Lordship, Mr. Justice McColl, and the said Mr. Justice McColl having ordered that judgment be entered for the plaintiff for \$20,000 and costs.

THEREFORE IT IS ADJUDGED that the plaintiff recover against the defendants \$20,000, and costs to be taxed.

Notice of Appeal.

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Dated, 22nd November, 1897.

TAKE NOTICE that the defendant will appeal to the Full Court at the next sittings thereof, commencing on Monday, the 10th day of January, 1898, at the hour of eleven o'clock in the forenoon, or so soon thereafter as counsel can be heard, at the Court House, Bastion Square, Victoria, B. C., by counsel 20 for the above-named defendant corporation from the judgment and order of His Lordship the Hon. Mr. Justice McColl, pronounced on Saturday, the 6th day of November instant, that judgment be entered for the plaintiff against the defendant for \$20,000 and costs upon the findings of the jury, and that judgment should be entered for the defendant corporation on the following grounds:—

1. That no power, duty or liability in relation to the bridge in question, or in regard to roads and bridges generally, was given to or imposed upon the defendants by their Act of Incorporation, nor was any cause of action given to persons injured by negligence of the corporation in regard thereto. 30

2. That it was beyond the corporate powers of defendant to meddle with the structure of the bridge at all, and the things done to the bridge which are complained of were the personal acts of those persons who did them or ordered them to be done, and not acts of the defendant corporation.

3. That if the defendant did assume to perform the public duty, theretofore performed by the Provincial Government, of maintaining the public highways and bridges within their corporate limits, they are not as such public highway authorities, liable to members of the public in damages for injuries 40 caused by any negligent act either of misfeasance or non-feasance in doing that work.

4. That the disaster if attributable to the Defendant Corporation at all, was caused by mere acts of non-feasance on its part.

6. That the findings of the jury are inconclusive and insufficient to support the judgment.

6. That there is no finding of the jury that any of the acts complained of were negligently done and the evidence shows that they were carefully done.

7. That there is no finding of the jury that any of the acts complained of caused the disaster.

Or why there should not be a new trial upon the grounds

1. Of non-direction by the learned trial judge in refusing to charge the jury at all as to what in law constitutes negligence, and in neglecting to leave the essential question of negligence to the jury either by properly framed questions or otherwise.

2. Of non-direction in refusing to point out to the jury that the opinions²⁰ of the experts appearing in their evidence taken in the case of Patterson v. Victoria and put in evidence in this case, to the effect that the boring of the hole in beam 3 by Cox caused the disaster, were based upon the evidence of Cox given in that case, which substantially differs from his evidence in this case.

Dated this 22nd day of November, 1897.

C. DUBOIS MASON.

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Rooms 9 and 11 Five Sisters Block, Government Street, Victoria, B.C.,
Solicitor for the Defendant.

To Messrs. Macdonell & Deacon, Vancouver, B.C., Solicitors for the
Plaintiff.

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