

1929
 *May 21, 26.
 *Sept. 26

SCOTTISH METROPOLITAN AS-
 SURANCE COMPANY, LIMITED
 (PLAINTIFF)

} APPELLANT;

AND

CANADA STEAMSHIP LINES, LIM-
 ITED (DEFENDANT)

} RESPONDENT.

ON APPEAL FROM THE COURT OF KING'S BENCH, APPEAL
SIDE, PROVINCE OF QUEBEC

*Shipping—Loss of goods—Due diligence of ship owner—Latent defect—
 Burden of proof—Certificate of seaworthiness by government inspect-
 ors—Sections 6 and 7 of the Water Carriage of Goods Act, (1910)
 9-10 Edw. VII, c. 61, now R.S.C., 1927, c. 207.*

The appellant insurance company, having paid the sum of \$17,141.80 to
 the owners of a cargo of wheat destroyed in transit from Port Col-
 borne to Montreal on a vessel, the ss. *Hamilton*, owned by the re-
 spondent company, and having been subrogated to the rights of the
 owners, brought action and recovered judgment in the trial court
 against the respondent for that amount which represented the value
 of the cargo accepted by the respondent as a common carrier and

*PRESENT:—Anglin C.J.C. and Newcombe, Rinfret, Lamont and
 Smith JJ.

(1) (1876) 1 P.D. 154, at pp. 202-3.

which it failed to deliver to the owners. The accident to the *Hamilton* occurred in the St. Lawrence River, below Cornwall, Ontario, and was caused by the breaking of a threaded wrought iron bolt which entered a turnbuckle, the appliance being used to connect one of the chains of the steering apparatus to the port end of the quadrant attached to the rudder. According to the evidence, this bolt had been considerably bent at least for several months before it broke during the sixth trip of the season. The judgment of the trial judge in favour of the appellant was reversed by the appellate court, *Tellier J.* dissenting, on the ground that the respondent had established the statutory defences allowed it by sections 6 and 7 of the *Water Carriage of Goods Act*, R.S.C., 1927, c. 207.

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Held that, upon the evidence, the appellate court was not justified in reversing the finding of the trial judge that the respondent has not established that it had "exercised due negligence to make the ship in all respects seaworthy and properly * * * equipped", and that the loss or damage was occasioned by a "latent defect" in the material of the bolt.

Per Anglin C.J.C. and Rinfret, Lamont and Smith JJ.—The burden of proving absence of fault or negligence, the cause of the damage or loss, and that that cause was a latent defect, is cast by the law upon the defendant as a common carrier seeking to avail itself of the protection of sections 6 and 7 of the *Water Carriage of Goods Act*; and, *per Anglin C.J.C. and Rinfret and Lamont JJ.*, the respondent, by establishing that there was a latent defect in the material of the bolt and that it was a probable cause of its breaking, did not discharge that burden unless the evidence also excluded other possible causes.

Per Anglin C.J.C. and Rinfret, Lamont and Smith JJ.—The respondent company pleaded that it had "exercised due diligence * * *" and "alternatively, that the steering apparatus broke as a result of a latent defect in the material * * *," such plea apparently assuming that the respondent might escape liability by proving only one of the two allegations. If so, the plea is defective in that the statutory requirement is that both conditions, not one or the other, shall be established in order to make good the defence.

Per Anglin C.J.C. and Rinfret, Lamont and Smith JJ.—The certificates of seaworthiness given by two government officers are of no value as affording any proof of "due diligence" in inspection. One of them, whose duty it was to inspect boilers and machinery "including the steering apparatus" testified that it was none of his business to see to the condition of the steering chains and that his duties ended with the engines which operated them. The other inspector, whose duty it was to ascertain the condition of the ship's hull and equipment for seaworthiness testified to having seen the steering apparatus, but did not notice the turnbuckle bolt and did not know of its existence until he heard of it at the trial.

Per Anglin C.J.C. and Rinfret, Lamont and Smith JJ.—The terms "not apparent" and "latent" are not interchangeable; they are by no means equivalents, as some defects, although not apparent, cannot properly be said to be latent. Moreover, it cannot be assumed that if due diligence is exercised any defect not thereby discernible must be "latent," as the fact that the statute requires that after proof of

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the exercise of due diligence the ship's owner must also establish, when he relies on that fact, that the defect which caused the damage was "latent," seems to indicate that such an assumption must be fallacious.

Newcombe J. upheld the finding of the trial judge that the owner failed in due diligence to have the ship seaworthy and properly equipped, and held that the respondent company did not therefore bring itself within the relief of the statute.

Judgment of the Court of King's Bench (Q.R. 46 K.B. 305) reversed.

APPEAL from the decision of the Court of King's Bench, Appeal Side; Province of Quebec (1) reversing the judgment of the Superior Court, de Lorimier J. (1) and dismissing the appellant's action.

The material facts of the case and the questions at issue are stated in the above head-note and in the judgments now reported.

Errol Languedoc K.C., for the appellant.

E. M. McDougall K.C., and *V. Lynch-Staunton* for the respondent.

The judgment of the majority of the court (Anglin C.J.C. and Rinfret and Lamont JJ.) was delivered by

ANGLIN C.J.C.—The plaintiffs are an insurance company, which is subrogated to the rights of the owners of a cargo of wheat destroyed in transit from Port Colborne to Montreal on a vessel, the ss. *Hamilton*, owned by the defendant. The plaintiffs paid the sum of \$17,141.80 to the owners of the cargo and they recovered judgment in this action for that amount against the defendant in the Superior Court. This judgment was, however, reversed by the Court of King's Bench (Tellier, J., diss.), on the ground that the defendant had established the statutory defences allowed it by ss. 6 and 7 of the *Water Carriage of Goods Act*, 1910, 9-10 Edw. 7, c. 61 (now c. 207 of R.S.C., 1927), which it invoked. Section 6 reads as follows:

6. If the owner of any ship transporting merchandise or property from any port in Canada exercises due diligence to make the ship in all respects seaworthy and properly manned, equipped and supplied, neither the ship nor the owner, agent or charterer shall become or be held responsible for loss or damage resulting from faults or errors in navigation or in the management of the ship, or from latent defect.

The accident to the *Hamilton* occurred in the St. Lawrence river, below Cornwall, Ont., on the night of the 26th of June, 1924, and was caused by the breaking of a threaded wrought iron bolt which entered a turnbuckle, the appliance being used to connect one of the chains of the steering apparatus to the port end of a quadrant attached to the rudder. This bolt had been considerably bent at least for several months before it broke during the sixth trip of the season.

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The present action, in assertion of the owner's right, was brought to recover the value of the cargo accepted by the defendant as a common carrier which it failed to deliver to the owner. Recognizing that, if it would escape liability as a common carrier, it must assume the burden of establishing the facts necessary to make either s. 6 or s. 7 applicable, the defendant pleaded that it had

exercised due diligence to make the ship in all respects seaworthy and properly manned, equipped and supplied;

that

the breaking of the steering apparatus occurred without (its) actual fault or privity or without the fault or neglect of (its) agents, servants or employees (s. 7)

and,

alternatively, that the said steering apparatus broke as a result of a latent defect in the material forming the screw in the turnbuckle used to operate the rudder of said vessel, which said latent defect was not and could not be known to the defendant or its employees notwithstanding due diligence to make the said vessel seaworthy in all respects and properly manned, equipped and supplied.

This plea apparently assumes that the defendant might succeed by proving either the exercise of "due diligence, etc." or that the defect which caused the break was "latent". That must be the meaning of pleading the latter fact "*alternatively*". If so, we think the plea defective in that the statutory requirement is that both conditions, not one or the other, shall be established in order to make good the defence, there being no suggestion in the present case that the loss or damage resulted from faults or errors in navigation or in the management of said vessel.

For the purpose of the present appeal, however, we shall treat the defence as properly pleaded and as sufficiently raising the statutory issue under s. 6.

At the trial the defendant called two expert witnesses, one, F. O. Farey, chief chemist and engineer in charge of physical testing at the R. W. Hunt Company's offices, who

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had high academic degrees and twenty years' experience, for the purpose of proving that upon chemical analysis a certain proportion of phosphorus was discovered in the wrought iron of which the bolt was made. The proportion established by the witness, .189, is not seriously controverted. He, however, admits that the amount of phosphorus found would not, *per se*, justify condemnation of the iron, nor establish a probable cause of the bolt breaking. The danger, the witness says, of the presence of phosphorus depends upon the extent to which it is segregated. The defendant's other expert witness, Professor Roast, who is in charge of metalography at McGill University and a distinguished chemist and metallurgist of long experience, deposed that, as a result of microscopic examination by him with the aid of microphotography, he found such a segregation of phosphorus in the samples submitted to him as would indicate its presence to be highly dangerous and a probable cause of the breaking of the bolt. He produced ten photographs, eight of them taken at 100 diameters and at least one of which, he says, covered an actual area of the size of pin prick; in fact it is not clear that each of the eight is not limited to the area of a pin hole. On the segregation of phosphorus shewn in such microscopic areas he largely bases his condemnation of the material in the bolt. He, however, was not able to say that this was in fact the cause of the bolt breaking. Indeed, he admits on cross-examination that the fact that a crack or defect occurred precisely at the point of indentation of the first thread affords an indication of some undue strain put upon it and a failure in resistance due to the presence of the threading—

it might be so and it might not be so. It does not follow necessarily, but it might easily be.

On the other hand, the plaintiff called Professor Mailhiot, of the Montreal Polytechnic School, an eminent metallurgist and chemist, who deposed that the amount of phosphorus shewn by chemical analysis was negligible; that the mottled areas appearing on the micro-photographic plates indicated the segregation of some impurities, which might or might not be phosphides; that microscopic examination of the samples themselves disclosed no evidence of any dangerous segregation of phosphides; but, on the con-

trary, that the samples, when examined under the microscope, proved to be comparatively free from traces of phosphides and approximated closely to the superior quality of "engine bolt" iron, and that, in his opinion, the iron was not inherently defective and any segregation shown was too slight to condemn the metal from that point of view. He added that

there is certainly no latent defect in the bar.

Professor Mailhiot further deposed that, when a wrought iron bolt, such as that in question, is bent so as to produce a curve of 15 degrees, small fissures usually result, visible to the eye; that such a bending or curving of the bolt would cause it to lose about two-thirds of its resisting strength and that, in his opinion, this physical injury, perfectly visible, was the most probable cause of the breaking of the bolt, especially having regard to the point at which such break occurred. The point of fracture is established by Hamelin, the engineer of the defendant, and Bingley, a local mechanic called in by it to make repairs, both of whom saw the broken bolt shortly after the fracture occurred. Hamelin says the fracture was in the threaded part of the bolt immediately inside the point at which it entered the turnbuckle, into which it was inserted; Bingley, that the fracture was at such point of entry or in the first or second thread of the screw immediately outside the turnbuckle, his impression being rather that it was precisely at the point of entry. No other witness whose testimony is of value gave evidence on this point.

Professor Mailhiot's evidence was fully corroborated by A. G. Spencer, an American metallurgist of distinction and a graduate of McGill University in Applied Science, who was chief chemist and director of the testing department of the Canadian Inspection and Testing Laboratories for seven years, metallurgist for Peter Lyall & Sons, Ltd., from 1917 to the end of the war, and subsequently metallurgist for the Steel Company of Canada, at Montreal, until the present year. This witness made a microscopic examination of the metal in question. He says it was "a good grade of merchant bar iron"; that the presence of phosphorus and even of phosphides, to some extent segregated, is common to all wrought iron; and that a mottled structure may, or may not, indicate a segregation of phosphides; it may be

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wholly or partly due to other impurities. The photographs produced by Professor Roast, he adds, do not indicate the wrought iron to be defective. Speaking of the effect of threading a bolt and of a bend afterwards made in it while cold, he says:

the tendency would be for an initial crack to develop which will gradually extend into the mass of the metal until a fracture occurs;

that the bolt will be weakened against a vertical strain owing to tension of the fibres on the convex side and compression of them on the concave side. The witness adds that when a bolt is bent in its threaded part it is a very dangerous practice to use it, especially if it is held firmly in the screw of a turnbuckle, the sharp threads being the initial starting point for cracks. He adds that, while phosphorus is a disadvantage, if present in an excessive amount, the chemical analysis in the present case does not shew such an excess. He also says that

any bar of the same quality, or, in some cases which I have tested myself, material of better quality, will break under as nearly identical conditions as I could get.

Finally he says:

I have come to a very definite, decided opinion that the cause of the breaking was not due to chemical defects, nor to a latent defect, but it was due to the rank physical abuse which the threaded bolt had received.

Another expert witness called by the plaintiff in rebuttal was James R. Donald, chemical engineer, a graduate of McGill University in Arts and Applied Science, who says: There was nothing in my examination which indicated anything in the metal which could cause it to break under normal stress or strain.

Speaking of the effect of the turnbuckle on a bolt, he says:

The metal inside the nut is held firmly in the nut, and when the threaded portion outside the nut is bent, the fibres cannot stretch at the nut and therefore part developing the crack, and the fracture as seen at the top. On the other side the fibres come into compression resulting in more or less bursting apart of the metal.

The small cracks, which, when they first appear, are barely visible, he says are

very dangerous because they may go deep, and because you have lost that much strength at the top of the bolt, and, if a further bending stress comes, you get the tearing effect * * *. It is very much like taking a pencil and bending it. If you bend that, it starts to break here (indicating). It takes very little to finish it. It gives way in tension.

He adds that a pull in the direction of the bend, if heavy enough

will continue to bend (sic) (extend?) the crack until the bar gives way. In his opinion, as the result of his investigations,

no piece of wrought iron threaded with bolt attached, and with a bend, can be expected to carry anything like a full load, that is the load it would normally carry if unbent.

He would consider it dangerous and unsafe with any appreciable load; and would regard the load which was put upon the bolt in question as appreciable. In his opinion any merchant bar iron would shew phosphide areas on microscopic examination to as great an extent as the bar in question. As to the manganese content, it was only $\frac{1}{100}$ ths of 1%, whereas the specifications of the American Society for Testing Materials, places the maximum manganese content allowable at $\frac{3}{100}$ ths. The mottled appearance in the photographs, he says, indicates

impurities in the metal which are always more or less segregated to a greater or less extent,

and which may or may not be phosphorus. Phosphorus in wrought iron is not a defect. You cannot get wrought iron without it. Provided the amount of phosphorus is great enough, segregation of it may be dangerous. In the present instance he agreed with Mr. Farey, whose analysis gives the proportion of phosphorus as .189; but, he adds, he does not

think that amount of phosphorus segregated or unsegregated would seriously affect the metal.

Finally, he points out that the bolt could not originally have had any set or bend such as existed for some time prior to the breaking of it, because

you could not get the nut (turnbuckle) over the (bent) thread.

Mr. Robert Job, consulting chemist, of the city of Montreal, and a graduate of Harvard College, when asked whether the break in the bar could be caused by chemical or physical action, said,

Without any question it was caused by physical cause. Here is the evidence of it right in the piece;

repeated strainings in the same direction gradually extended the initial crack more and more until it finally broke.

A force, applied longitudinally after bending it

would tend to tear (the metal) apart just as a piece of paper that had been nicked would tear apart * * *. No good mechanic would bring a strain to bear under those conditions, a transverse strain where there was a sharp angle such as caused by the threading. The bolt is certain to tear just the same as if a piece of paper was nicked and torn. It would be absolutely unsafe.

Of that there was

no question in (his) mind. On any vessel that (he) was ever connected with, or any place of that kind, (he) would never for a minute leave a

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bolt in an important position of that kind, when (he) knew that that bolt had been strained in that manner;

and it does not make any difference whether the bolt was bent by coming in contact with the bulkhead astern or whether it was bent by any other cause. He further adds:

I do know that gripping a bolt in a turnbuckle would hold it rigidly, pretty much the same way that that nut holds upon that bolt. Then, if a blow or pressure were applied, on some other point, the effect would be to localize the stresses at the point just outside of the turnbuckle and that would be the place at which the fracture or crack would naturally occur.

Captain Reitch, an English master mariner, and Commander of the *Canadian Victor*, of the Canadian Government Merchant Marine, said:

Any threaded bolt, in my opinion, is weakened by being bent cold, and adds that he would not permit such a bolt set in a turnbuckle to be used in a steering gear. He further says that it would be hard to discover an initial crack in such a bolt, when caused by bending, *as it would be covered with oil or dirt* to some extent and would need to be taken out to be examined for flaws, but that, even though no flaw were so discovered, he would condemn it and require to have it straightened or replaced.

E. D. Walker, marine engineer, of Montreal, having seen the bolt in question, says,

If I had been responsible in authority and responsible for that steering gear, I should certainly have condemned it for the simple reason that the turnbuckle is for straight line adjustment. It is impossible for it to function with a bend. * * * When bent, the molecules at the concave side are in compression and the molecules at the convex side are in tension. They cannot be said to be in equilibrium. The only way to get it back into equilibrium is by taking it out, getting it hot, and letting it cool slowly. * * * If that is not done, it would eventually go to breaking point. * * * It would ultimately give way, especially if those bends are more or less continuous.

It practically amounts to the same thing whether the bolt is exposed to repeated blows or to a continued series of shocks in the same direction. Then, he adds,

the bend of the bolt * * * is what, I think, caused the accident.

H. M. McMaster, ship broker and sea captain, knows the *Hamilton*, having had her under his charge for about "ten or twelve years", when he was marine superintendent for the Montreal Transportation Company and was also acting for the defendant company as an adviser. Asked whether as superintendent of shipping companies, if he had found the bolt of the turnbuckle, obviously meant to be

straight, in a bent condition, he would consider it good or not, he answers, after objection,

I would not like a vessel to go to sea with that * * * —go into operation anywhere.

William Harrison, a marine surveyor, condemned the arrangement of the turnbuckle and quadrant on the *Hamilton*.

G. L. Hayes, also a marine surveyor, who specially examined the steering gear of the *Hamilton* at Montreal after the accident, deposes that the bend was certainly caused by contact with the bulkhead. Having seen the pieces of the broken bolt, he says he certainly would not have kept it in service.

This is one of the most vital parts of the ship's equipment and to say that a bent screw can be just as efficient as if it is straight is ridiculous. He adds that

when passing around the aft part of the boat, the thing would be quite obvious when the thing was hard over * * * you could not have failed to have seen it.

He draws the inference that the screw broke at the point of entry to the turnbuckle.

Captain Gray, who is the shipping master of the port of Montreal, and who examined the *Hamilton* while in Montreal and saw the pieces of broken bolt, when asked the conclusions to which he came after his examination of them, said that

the turnbuckle bolt had been bent by one of two reasons, firstly, by the possible striking of the bolt against the cast steel plate, secondly, by the extension of the turnbuckle screws allowing the head to protrude beyond the corner of the quadrant, being bent by the natural strain of steering the ship.

He then adds that the type of metal of which the bolt was made was usual and proceeds to say:

Q. Supposing you were in command of a vessel and you noticed that, either suddenly, or over a period of time, a turnbuckle of that kind, used as it was, had become bent as it was, what would you have done, if anything?

A. I would renew it at once.

Q. Why?

A. Because the thing is a source of danger in a bent condition.

* * * * *

Q. What would you say if that question were asked and not (so) answered in a Masters' and Mates' examination?

A. Well, if I were asking a question of that kind to a candidate who was sitting for his Master's certificate and he told me in describing the condition of the bolt that he would go ahead with it, I think there is only one thing left open for me, and that is to ask him to go back to sea for six months to learn better.

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He continues:

If a man told me that he would go to sea on a boat and depend on the steering with a buckle like that, I should say he is wrong—decidedly wrong.

On the other hand, John McLean, naval architect, of Montreal, who had some Scotch experience, says the steering apparatus of the *Hamilton* was “in accordance with good practice” and that the bend in the bolt would have no appreciable effect on its strength.

W. I. Hay, principal surveyor of the British Corporation for the survey and register of shipping in Canada and the American Bureau of Shipping, who was responsible for the reconstruction of the *Hamilton* in 1922, when

she was lengthened and transformed from a barge into a twin screw steamer,

and who reported on her when she got her certificate as a steamer, says the effect of the bend in the screw in the turnbuckle would be “negligible”, although he admits that a

repeated impact on wrought iron in the shank of a bolt of that kind, a threaded shank * * * might have quite a lot of effect upon it.

Frank T. Norris, district superintendent of the defendant company and a certified Canadian engineer, thought the bend “insignificant”. He did not think it would affect the strength of the metal sufficiently to warrant doing anything with it.

F. O. Farey, whose testimony has already been referred to, says that the break

was outside the maximum bend, and my observation indicated that it broke outside of any bend whatever, or any appreciable bend;

that the break

indicated * * * a flaw in the metal, or in other words, an inherent defect.

That the bolt which broke had been bent or curved 15 degrees for a considerable period—indeed for some time before the vessel began the voyage during which she met with disaster—is now common ground having been admitted by the witness Norris, district superintendent of the defendant company, and by Hamelin, the engineer of the *Hamilton*, who deposed that, noticing the bend in the spring of 1924, he took the turnbuckle off and “examined” the bolt and considered that it could safely be left to function. Hamelin apparently made this examina-

tion *without cleaning off the oil and dirt upon the bolt.* Had he done so he would certainly have mentioned that fact.

It is also common ground that efficiency in a ship's steering apparatus is of vital importance to its seaworthiness and safety and it must be the subject of careful and exhaustive inspection before such seaworthiness can be said to be established or should be certified. It is likewise clearly established that the bend or curve in the bolt would have been plainly visible to any person making a reasonable inspection of the steering gear. Yet of two Government officers, who gave certificates of such seaworthiness—much relied upon by the defendant—one, whose duty was to inspect boilers and machinery “including the steering apparatus,” says that it was none of his business to see to the condition of the steering chains, that his duties ended with the engines which operated them. This witness also said that the bend was of no importance and that if he had seen it he would not have considered reporting it or ordering the replacement of the bolt; that it gave no warning of any danger. He guarded himself, however, by adding that he is not an expert in these matters. The other inspector, whose duty it was to ascertain the condition of the ship's hull and equipment for seaworthiness, saw the steering apparatus, and remarked that it was confined in too close quarters, though that was not, in his opinion, matter for objection; but he did not notice the turnbuckle bolt or the condition it was in at the time. He did not pay any particular attention to it when he inspected the vessel and did not see the bend. But, had he seen it as it appeared when shewn to him at the trial, he says he

might have raised an objection * * * might have asked them why they did not straighten that out.

In his view whether this coupling came under the control of the engineer is a nice question—for him the straining point; but, although he said that the share in the inspection of the vessel taken by his fellow inspector, who worked together with him, was “everything that comes under the control of the engineer,” he admits that he personally examined the steering gear, except the engine and its controls. He knew there was a turnbuckle only because he “heard (about) it in Court;” otherwise he “would not know it.”

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It seems unnecessary to make further comment upon the value of the certificates issued by these two gentlemen, as affording any proof of "due diligence" in inspection.

The only other expert inspection of which we are told was made by Captain Foote, who is engaged in marine survey work and marine insurance and inspected the *Hamilton* for "classification" in the spring of 1924, when he had no criticism to make of the steering apparatus. This witness cannot remember whether or not there was an opening in the casing directly aft of, and in line with, the rudder post. He apparently did not notice the bent bolt. At all events he makes no allusion to it and was not asked as to the effect of its presence.

There is a considerable volume of evidence bearing on the question as to how the bend or curve came to be made in the bolt. Much of this evidence seems rather to indicate that it was due to the openings in the sides of the housing not being sufficient to permit clear play of the quadrant, with the result that whenever the rudder was put hard to starboard, the end of the quadrant being directed to port, the bolt or buckle came in contact with the steel housing and the bolt was thus bent. The mate, Dussault, admits that this actually occurred and that there had been for a long time a dent in the bulkhead at the point where the bolt or turnbuckle would hit it. But there is other evidence that the quadrant had sufficient clearance and that there was no such contact, and that the bending was caused by strain owing to the bolt protruding beyond the end of the quadrant and being bent around it as on a fulcrum by the pull of the chains. It is not necessary, however, to determine what was the actual cause of the bend. It suffices that the bolt in question, designed to be straight and, no doubt, straight when originally put in, had become considerably bent and was, in fact, so bent for some time prior to the commencement of the voyage on which the accident occurred, indicating the existence of a serious cause of trouble, which invited attention.

The trial judge found that the evidence as to the existence of the latent defect alleged by the defendant was contradictory. In his view the defendant had failed to establish either branch of its statutory defence. He proceeded, however, to find fault of the employees of the defendant

consisting in lack of foresight and failure to take precautions and want of diligence. But he appears to rest his judgment rather on the defendant's failure to establish its statutory defence.

In the Court of King's Bench only one of the five learned judges who sat (Cannon J.A.) held the existence of the latent defect assigned and that it had caused the damage to be facts established in the defendant's favour.

The *considérants* of the judgment of the Court of King's Bench were as follows:

Seeing ss. 6 and 7 of the statute 9-10 Edw. VII, c. 61:

(a) Considering that appellant exercised due diligence to make the vessel, ss. *Hamilton*, in all respects seaworthy and properly manned, equipped and supplied;

(b) Considering that the proof does not establish that the accident, with resulting damage, was due to the fault and negligence of appellant, its agents, servants and employees, who *had* knowledge that the steering gear was defective; (*sic*)

(c) Considering that it is not established that the fact that the bolt which failed was bent to the extent of fifteen degrees caused it to break and bring about the accident in question;

(d) Considering that, if the accident resulted from a defect in the equipment of the steering gear, that defect was not apparent, and exercise of due diligence by appellant, or its servants and employees, did not and could not discover the defect;

(e) Considering that appellant is entitled to the protection afforded by the sections 6 and 7 of the said statute;

It will be observed that in the *considérant* marked (b) the court deals with the case as if the burden were on the plaintiff to prove fault or negligence of the defendant or of its servants or agents. The burden to prove absence of such fault or negligence is cast by the law upon the defendant as a common carrier seeking to avail itself of the protection of s. 7 of the statute.

On *considérant* marked (c) a like observation may be made. The burden of proving what caused the damage or loss and that what caused it was a latent defect was on the defendant.

In *considérant* marked (d), the court seems to treat "not apparent" and "latent" as interchangeable terms. They are by no means equivalents. Some defects, although not apparent, cannot properly be said to be latent. Moreover, the court seems to assume that if due diligence was exercised any defect not thereby discoverable must be "latent". But the fact that the statute requires that after proof of the exercise of due diligence the ship's owner

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must also establish, when he relies on that fact, that the defect which caused the damage was "latent", seems to indicate that this assumption must be fallacious. If, as seems to us most probable, the breaking of the bolt was due to weakness developed in it as a result of its being bent as it was, that bend being readily visible to any person making an examination of that part of the steering gear and having been actually known to the ship's engineer, it would seem to be beyond question that there had not been anything approaching due diligence to make the ship seaworthy. The duty of remedying the bend would have been imperative. Yet Captain Legault says there was a daily inspection of the ship!

Mr. Justice Greenshields, one of the majority, and who wrote most comprehensive "notes", says:

I am disposed to express the opinion, that appellant (defendant) has not satisfactorily proved that the actual breaking of this bolt was due to a latent defect in the material of which it was composed. I do not, in my view of the case, consider it necessary to decide that question, either in the affirmative or in the negative.

Mr. Justice Bernier, also one of the majority, merely finds that the defendant exercised due diligence to make the vessel seaworthy and that the breaking of the bolt in question was accidental, but that the cause of it was *some* latent defect. No such defect other than that in the chemical composition of the material of which the bolt was made is alleged or suggested by the defendant. As to the particular latent defect so alleged, viz., an undue segregation of phosphorus in the metal, there was, in his opinion, "*divergence entre les témoins*" and he adds: "*il me semble inutile d'analyser la preuve faite de part et d'autre sur ce point.*" Mr. Justice Hall, also of the majority, says:

The burden of proof rests of course, upon the appellant (defendant) to establish the presumed (*sic*) latent defect, and, in view of the conflict of evidence it is impossible for this court to come to any other conclusion than that it has failed to discharge that burden.

That learned judge proceeds to discuss at length the probable cause of the bending of the bolt and concludes that a defect in the construction of the ship so that the bulkhead was set too close to the rudder head, contact of the quadrant therewith resulting, was not established. He concludes that "the appellant (defendant) did exercise due diligence to make this vessel sea-worthy" and, citing decisions upon the English Act, which differs materially from the Cana-

dian statute, holds, on that ground, that the defendant is not liable, without determining whether or not there was a latent defect which caused the damage. Mr. Justice Tellier, who dissented, finds that the defendant had established neither its claim to have exercised due diligence nor that the damage resulted from latent defect.

Mr. Justice Greenshields also said:

If that bolt, in its bent condition, was a defect which interfered with the navigation of the vessel, it was not a defect apparent to those who examined the steering gear of the vessel. "Due diligence" does not exact the examination of every link making up the steering chain which controls the rudder. The strength of the chain, it is true, is that of its weakest link.

With respect, we find it difficult to reconcile this latter view of the learned judge, having regard to the admission that the steering gear is a vital part of a ship's machinery, with the proof that in determining seaworthiness an adequate inspection of that apparatus is imperative and with the admitted fact that Hamelin knew for at least two months before the bolt broke of the bent condition and should have realized the likelihood of its giving way as it did; indeed we find it difficult to believe that he did not sense this risk, although, perhaps, not as fully appreciative of its gravity as he should have been.

There is a mass of testimony not, it is true, uncontradicted, but in our view of great weight and cogency, that the presence of the bend or curve in the bolt afforded a distinct and obvious warning of its weakened condition, which should not have been neglected. We, therefore, find it impossible to assent to the conclusion that the defendant's employees "exercised due diligence" to make the *Hamilton* seaworthy. Either their inspection of the steering gear was of such a casual and perfunctory character that they failed to discover the bend or curve, or, having noticed it, they failed to discharge the plain duty of either replacing the defective bolt or of making it fit for use, if that were possible. That the bolt broke is only what must sooner or later have occurred, and what should have been expected. The power of resistance of the metal having been much reduced was eventually overcome, it may be by having some slight additional stress or strain put upon it. To speak of such a defect as "latent" seems to involve a misuse of that term. We do not find it necessary for the

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present further to define "latent defect". "Not discernible by adequate inspection" seems not an inapt paraphrase.

An exposé in further detail of the voluminous evidence which supports these conclusions would serve no good purpose. To be of any value it would have to be exhaustive and would necessarily be very lengthy.

Allusion was made in the course of the argument to s. 7 of the statute which relieves vessel owners from liability:

for loss arising without their actual fault or privity *or* without the fault or neglect of their agents, servants or employees. (The word "*or*" italicised should probably be read as "*and*.")

The burden of proof under this section is upon the defendant. There would not appear to have been any expert inspection of the ship, on behalf of the owners, prior to leaving Port Colborne, or during the spring of 1924. Captain Legault, master of the *Hamilton*, had no opportunity to inspect the steering gear before taking command of his ship in 1923. He apparently made no subsequent inspection of it. Hamelin, the ship's engineer, saw the bent bolt, superficially "examined" it, and took a chance with it. Dussault, the second officer, or mate, of the *Hamilton*, gave the following evidence:

Q. Quand aviez-vous examiné l'appareil pour gouverner le vaisseau avant l'accident?

R. A Port Colborne.

Q. C'était combien de temps avant l'accident?

R. Je ne peux pas dire, trois jours à peu près, deux jours et demi ou trois jours, je ne peux pas dire.

Q. Dans quel état l'aviez-vous trouvé?

R. Ce n'est pas moi-même qui l'ai inspecté, c'est l'homme de roue, celui qui a l'habitude d'y voir en chargeant. Il a fait le chargement en même temps il regarde tout partout, il ne m'a fait aucun rapport.

Q. Vous ne l'avez pas examiné vous-même?

R. Pas à Port Colborne. A Port Colborne, j'ai le chargement à faire, je m'occupe de charger.

The wheelsman, who made no report, was not called as a witness. Did he in fact inspect the steering gear and, if so, what did he find?

The weight of the testimony, especially of that given by the practical men called, who spoke from experience in the handling of ships, is in favour of the appellant. The defences afforded by secs. 6 and 7 of the *Water Carriage of Goods Act* being in derogation of the common law must be clearly made out. The burden of proof was upon the

respondent, both as to the "exercise of due diligence, etc.," and as to the fact alleged by it that the loss or damage was occasioned by "a latent defect in the material of the bolt" and also as to the loss having arisen without its actual fault *and* without the fault or neglect of its agents, servants or employees. To establish that there was such a latent defect (assuming for the moment the proof of its existence to be sufficient) and that it was a probable cause of the breaking of the bolt does not discharge this burden unless the evidence also excludes other possible causes. Especially is this so where, as here, there is cogent evidence pointing, with at least equal probability (we think with greater), to another cause obviously not latent. It is clear that if any substantial doubt remain, it must, in such a case, be resolved in favour of the appellant. The defendant has failed, in its effort to discharge the burden, which the statute imposes upon it, of establishing that essential element of its defence. As to the other elements its failure has not been less pronounced.

After a careful perusal of the whole record and an analytical study of the evidence, we find ourselves, both as to whether there was proof of an exercise of "due diligence" and as to whether the cause of the damage was shewn to have been a latent defect, in accord with Mr. Justice Teller, who succinctly sums up his views in these terms:

Je ne vois pas comment la défenderesse, dans ces circonstances, pourrait prétendre qu'elle a fait "due diligence" et que les dommages dont il s'agit sont le résultat d'un "défaut latent." La défenderesse a essayé de se justifier. Y a-t-elle réussi? Pas à mon avis.

It is satisfactory also to find that our conclusions of fact accord with those reached by the learned trial judge, who has had many years experience in deciding such questions and in appreciating the probative force of contradictory evidence.

We would, accordingly, allow this appeal with costs here and in the Court of King's Bench and would restore the judgment of the Superior Court.

NEWCOMBE J.—It is, in my view, sufficient for the disposition of this appeal to uphold the finding at the trial that the owner failed in the exercise of due diligence to make the ship in all respects seaworthy and properly * * * equipped. I do not think we can justifiably reverse that finding, and

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the respondent company does not, therefore, bring itself within the relief of the statute.

I concur in the result.

SMITH J.—The burden of establishing that the bolt of the turnbuckle broke by reason of latent defect was, as pointed out in the reasons of the Chief Justice, upon the respondent. There was contradictory evidence upon this point, and a finding by the learned trial judge against the respondent, which finding, as the Chief Justice holds, should not be interfered with.

I just wish to say that, in my opinion, the evidence of latent defect offered by the respondent does not go far enough in itself to establish that this defect was the cause of the breaking of the bolt. Neither do I think that the evidence offered by the appellant establishes that the breaking was caused by the weakness in the bolt brought about by the slight bend. The maximum strain on this bolt in operating the rudder was, according to the evidence, 3·4 tons. The tensile strength of the rudder chains and this bolt was 20 tons, assuming that the iron of the bolt was of the ordinary quality in such iron. The safety margin was therefore about six. The respondent's witnesses did not expressly say that the defect that they referred to in the quality of the iron would reduce its tensile strength from 20 tons to 3·4 tons, nor did the witnesses for the appellant say that the bend would make that difference in the tensile strength of the bolt. They talk about the weakening effect, particularly on the outer side of the bend. It is clear that the greatest amount of weakening by reason of the bend would be at the point of maximum bend. The bolt did not break at that point, but at a point where there was no bend or, at least, practically none. One witness assumes that the bending process caused a crack to commence at the point where the break subsequently occurred. There is no evidence that any such crack was produced, and his evidence is mere theorizing as to what may have happened.

In my opinion the breakage occurred by reason of the conditions that originally brought about the bend, and that the mere existence of the bend in the bolt observed by the engineer was an indication that ought to have brought to

his mind that some condition existed that ought not to exist, and which indicated danger. The evidence suggests two conditions, either one of which may have resulted in the bending of the bolt. One is that, with the turnbuckle screwed out to about its full extension, the "U" end of the bolt in question would project slightly beyond the outer point of the quadrant, so that the strain on this "U", instead of being in the direction of the axis of the bolt, would be at right angles or nearly at right angles to that axis, thus constituting the end of the quadrant a fulcrum on which the bolt would act as a lever, which would have a bending effect on the bolt and, of course, would subject it to a strain in a direction that it was not designed to take. If that condition existed, it would be evident to an intelligent engineer that it was a dangerous condition.

The other suggestion is that the bolt in operation came into collision with the iron housing, and there is evidence from which it might fairly be inferred that this condition at the time of the accident actually prevailed. The strain on the bolt, as I have said, was designed to be parallel to its axis, and if it had been subjected to that strain alone, it would have been impossible for the bolt to have taken a bend. On the contrary, the strain would have a tendency to straighten a bent bolt, rather than to bend a straight one. The engineer says that he did not put a new bolt in because he thought it would take the same bend. He is not asked, and he does not undertake to explain why he thought that a bolt which, working as the apparatus was designed to work, with a strain only in the direction of its axis, would tend to take a set or bend. If he really thought so, it must have been because he was aware of some condition existing that would have a tendency to make the bolt bend. As I have said, if such a condition did exist, it was a dangerous condition that he should have remedied.

I agree with the Chief Justice.

Appeal allowed with costs.

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Solicitors for the respondent: *Casgrain, McDougall & Demers.*

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