

[HIGH COURT OF AUSTRALIA.]

THE SOUTH AUSTRALIAN RAILWAYS } APPELLANT ;  
COMMISSIONER . . . . . }  
DEFENDANT,

AND

RIGGS AND ANOTHER . . . . . RESPONDENTS.  
PLAINTIFFS,

ON APPEAL FROM THE SUPREME COURT OF  
SOUTH AUSTRALIA.

H. C. OF A. *Fire—Escape of spark from railway engine—Liability of Railways Commissioner.*

1950-1951.

ADELAIDE,

1950.

Oct. 3, 4, 5.

SYDNEY,

1951.

May 11.

McTiernan,  
Webb and  
Kitto JJ.

An action was brought against the South Australian Railways Commissioner for damage to property by a fire alleged to have been caused by the escape of a spark from a railway engine. The trial judge found that the fire was caused by the escape of a spark from the engine S 50 on a journey from Gawler to Adelaide. He made no finding of negligence in the manner in which the train crew operated the engine. There was a considerable body of evidence to the effect that the design of the spark-arresting device with which the engine was equipped was satisfactory and was in good condition. The judge would have accepted this evidence and found accordingly except for one circumstance, namely, that he found that three other fires had been caused by sparks emitted from the engine S 50 before it arrived at Gawler. There was no evidence of fires caused by other engines in the district on the same day. On that day the temperature, the atmospheric condition, the wind and the vegetation were such that fires could easily occur. Sparks can be emitted even though an engine is equipped with the most satisfactory spark-arresting device in perfect order. The trial judge's view was that (1) if sparks larger than the mesh in the spark-arresting device caused the fires, the commissioner was guilty of negligence, because there must have been openings in the equipment that needed repair or attention of some kind, and (2) if sparks smaller than the mesh caused the fires, having escaped despite the fact that the equipment was in perfect order, the commissioner was guilty of negligence because his officers in the control room at Adelaide, knowing that the engine S 50 had already possibly caused three fires, should have inferred that the engine was, or might be, peculiarly liable to emit



dangerous sparks and should not have allowed it to proceed. He, accordingly, gave judgment for the plaintiffs. On appeal to the High Court,

H. C. OF A.  
1950-1951.

*Held*, that, in view of the evidence that the engine was equipped with a satisfactory spark-arresting device in good condition, the trial judge was not justified in drawing any inference to the contrary from the fact that it had caused three other fires on the same day and that, accordingly, the plaintiffs had not discharged the onus of proving that the engine was not properly equipped with the best practicable means of preventing the escape of dangerous sparks and the commissioner was not liable.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.

Decision of the Supreme Court of South Australia (*Mayo J.*), reversed.

APPEAL from the Supreme Court of South Australia.

The plaintiffs in an action in the Supreme Court of South Australia against the South Australian Railways Commissioner alleged that the property of Albert Henry Riggs, near Gawler, South Australia, was seriously damaged on 22nd January 1948 by a fire caused by sparks which escaped from one of the commissioner's railway engines. They sued as the executors of the will of Albert Henry Riggs, who had since died.

The property in question was in the vicinity of the railway line between Adelaide and Gladstone, the locality where the fire started being about a mile from the Gawler Railway Station, towards Adelaide. The day was one of extreme heat, there was a northerly wind, and the atmosphere was dry. Vegetation in the locality was in a state of desiccation.

The fire started shortly after a train travelling from Gladstone to Adelaide and drawn by engine S 50 had passed. The plaintiffs alleged that the fire had been caused by sparks emitted from this engine, and they further alleged that such emission of sparks was consequent upon the negligence of the commissioner or, alternatively, of his servants or agents. The commissioner denied that the fire was caused by sparks emitted from his engine, and he also denied negligence.

The trial judge (*Mayo J.*) found that the fire was caused by sparks emitted from engine S 50, and this finding was not challenged on the appeal. His Honour also found that the type of spark-arresting device with which engine S 50 was equipped was in general use for Australian conditions and was satisfactory. He made no finding that the commissioner had failed to take any particular precaution in relation to the equipment on engine S 50, or that the equipment was in need of any particular repair or adjustment, or that the engine crew had been guilty of negligence in the manner in which they had managed the engine. He found that sparks



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.

may be emitted from an engine, even though it is equipped with a spark-arresting device in good condition. During the journey of engine S 50 from Gladstone to Gawler, three other fires had broken out shortly after it had passed, and his Honour found that these fires were also caused by sparks emitted from the engine. He took the view that, even if the spark-arresting equipment was in perfect order, the commissioner was, nevertheless, guilty of negligence because his officers in the control room in Adelaide, knowing of the three previous fires, should have inferred that engine S 50 was, or might be, peculiarly liable to emit dangerous sparks and should not have allowed it to proceed beyond Gawler. He, accordingly, gave judgment for the plaintiffs for an amount of damages to be assessed.

From this decision the commissioner, by leave, appealed to the High Court.

*A. J. Hannan K.C., R. R. Chamberlain K.C. and K. J. Healy,*  
for the appellant.

*F. Villeneuve Smith K.C. and M. C. Kriewaldt,* for the respondents.

*Cur. adv. vult.*

May 11.

The following written judgments were delivered:—

MCTIERNAN J. This was an action brought against the South Australian Railway Commissioner by the executors of the will of Albert Henry Riggs deceased, who had been a landholder in the district of Gawler. On 22nd January 1948, two days before his death, his property sustained damage by fire. In the action the plaintiffs alleged that the damage was occasioned by a wrongful act of the commissioner and that he was responsible for the damage. The action was tried by *Mayo J.* without a jury. A question arose as to the cause of action pleaded by the statement of claim. It was held to be an action of negligence. The action was dealt with on that basis. The commissioner was adjudged to be responsible for the damage by reason of the negligence of his servants. The reasons for the conclusion are directed particularly at the persons stationed in the train control room at the Adelaide Railway Station. Judgment was given in favour of the plaintiffs for damages to be assessed. Leave was given under s. 35 of the *Judiciary Act* 1903-1948 to the commissioner to appeal to this Court. The ground of the appeal is that the plaintiffs failed to establish negligence on the part of the commissioner or his servants.



It appears that the property occupied by Mr. Riggs is in the vicinity of the railway line that runs from Adelaide to Gladstone. The plaintiffs alleged that the fire was caused by sparks emitted from the funnel of the locomotive engine, S 50, which drew the Gladstone-Adelaide train. This allegation was denied. The finding on the issue was for the plaintiffs. The locality where the fire started was about a mile from the Gawler railway station towards Adelaide.

In this appeal the commissioner does not dispute what was found to be the origin and the locality of the outbreak of the fire. It was always admitted, of course, that the engine, train and railway belonged to the commissioner and were worked by his servants.

The plaintiffs gave particulars of their allegations of negligence. All the allegations were denied. Three matters covered by the particulars were faults in the construction and in the condition of the engine ; and in its management by the crew. The only matter covered by the rest of the particulars which it is now necessary to mention is this : it was alleged that the commissioner's servants, in control of the movement of trains, had notice of circumstances which made it negligence on their part to permit locomotive engine S 50 to draw the train from Gawler.

The commissioner has statutory authority under s. 95 of the *South Australian Railways Commissioner's Act* 1936-1941 to use locomotive engines to draw carriages and waggons on the railways for the transportation of passengers and goods. He relied upon this authority to save him from liability for the damage occasioned by the fire. In the absence of negligence this authority would save him from such liability. The legislature authorized him to use the locomotive engine S 50, as well as any other locomotive engine, to draw the train on the railway. He denies the allegation that the locomotive engine was negligently used. If that allegation was not established by the facts proved at the trial, the commissioner was entitled to succeed in the action.

Lord Blackburn said in the case of *Geddis v. Proprietors of the Bann Reservoir* (1) : " For I take it, without citing cases, that it is now thoroughly well established that no action will lie for doing that which the legislature has authorized, if it be done without negligence, although it does occasion damage to anyone ; but an action does lie for doing that which the legislature has authorized, if it be done negligently." Both powers and duties under statutes are within this principle. Lord *Atkin* said in *East Suffolk Rivers Catchment Board v. Kent* (2) : " I treat it therefore as established

H. C. OF A.  
1950-1951.  
THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.

McTiernan J.

(1) (1878) 3 App. Cas. 430, at pp. 455, 456. (2) (1941) A.C. 74, at p. 90.



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.

McTiernan J.

that a public authority whether doing an act which it is its duty to do, or doing an act which it is merely empowered to do, must in doing the act do it without negligence, or as it is put in some of the cases must not do it carelessly or improperly." These principles apply to the commissioner's powers under s. 95 of his Act to use locomotive engines. In *Vaughan v. The Taff Vale Railway Co.* (1) Lord *Blackburn* said that "when the legislature has sanctioned the use of a locomotive engine, there is no liability for injury caused by using it, so long as every precaution is taken consistent with its use."

The plaintiffs had the onus of establishing negligence. In *Port-Glasgow and Newark Sailcloth Co. v. Caledonian Railway Co.* (2) Lord *Herschell* L.C. said "It is now well-settled law that in order to establish a case of liability against a railway company under such circumstances it is essential for the pursuers to establish negligence. The railway company having the statutory power of running along the line with locomotive engines, which in the course of their running are apt to discharge sparks, no liability rests upon the company merely because the sparks emitted by an engine have set fire to adjoining property. But the defenders, although possessing this statutory power, are undoubtedly bound to exercise it reasonably and properly, and the test whether they exercise this power reasonably and properly appears to me to be this. They are aware that locomotive engines running along the line are apt to emit sparks. Knowing this they are bound to use the best practicable means, according to the then state of knowledge, to avoid the emission of sparks which may be dangerous to adjoining property; and if they, knowing that the engines are liable thus to discharge sparks, do not adopt that reasonable precaution they are guilty of negligence and cannot defend themselves by relying upon their statutory power." This law was laid down by the Exchequer Chamber in the well-known case of *Vaughan v. The Taff Vale Railway Co.* (3). The decision in that case was that a railway company authorized by the legislature to use locomotive engines is not responsible for damage from fire occasioned by sparks emitted from an engine travelling on their railway line provided they have taken every precaution in their power and adopted every means which science can suggest to prevent injury from fire and are not guilty of negligence in the management of the engine. It was the duty of the commissioner to observe this

(1) (1860) 5 H. & N. 679, at p. 688  
[157 E.R. 1351, at p. 1355.]

(2) (1893) 20 R. (Ct. of Sess.) (H.L.)  
35, at pp. 36, 37.

(3) (1860) 5 H. & N. 679 [157 E.R.  
1351].



standard of care, in the case of locomotive engine, S 50. The appeal turns upon the question whether the facts established that the commissioner failed to do so. The plaintiffs alleged that the commissioner was negligent in that he did not observe that standard of care in respect of the construction and maintenance of locomotive engine, S 50, and in respect of the management of the engine by the crew.

The mere fact that the fire was caused by the emission of sparks is not sufficient to establish liability; it is a necessary consequence of using a locomotive engine to draw a train. The commissioner's statutory power to use locomotive engines was not a charter "to commit torts and to damage third persons at large, but that which is necessarily incidental to the exercise of the statutory authority is held to have been authorized by implication, and therefore it is not the foundation of a cause of action in favour of strangers, since otherwise the application of the general law would defeat the purpose of the enactment". These observations were made by Lord Sumner in *Quebec Railway, Light, Heat and Power Co. v. Vandry* (1). He added: "Nor need a use of the power conferred which is injurious to others be excluded from the ambit of that which is necessarily incidental to their enjoyment merely because the progress of discovery or invention reveals some extraordinary means of preventing that injury to others which has previously been unavoidable. This point arose and was settled in connection with sparks falling from locomotive engines many years ago."

There is no evidence to support a finding that there was negligence in the management of the engine by the crew which resulted in a stronger or greater emission of sparks than was incidental to the careful management or drawing of the engine. Mayo J. did not find that the fire was caused by the negligent management of the engine by the crew.

There was evidence directly proving the design of the spark-arresting apparatus in locomotive engine, S 50, and its effect, when in good condition, in restraining the emission of sparks: and there was detailed evidence of the inspections made of the engine and of the work done in maintaining it. The train, drawn by this engine, was scheduled to arrive in Adelaide on the evening of 22nd January 1948. The evidence proved that an examination of the engine was made at 8 p.m. on the same evening and the foreman who made the examination reported that the smoke-box and ash-pan equipment were in "good order".

H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISS-  
SIONER

v.  
RIGGS.

McTiernan J.

(1) (1920) A.C. 662, at p. 680.



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER

v.  
RIGGS.

McTiernan J.

It seems, from the learned judge's reasons, that if he had to decide, on the evidence which has just been mentioned, the issues whether there was negligence in installing the type of spark-arresting apparatus which locomotive, S 50, contained and negligence in maintaining it, his Honour would have decided that the apparatus was satisfactory for its purpose and was in good order. But the consideration and determination of those issues did not proceed solely upon this evidence. There was also the evidence that three fires had occurred at places between Gladstone and Gawler, near the railway line, shortly after the train passed. *Mayo J.* found that each of those fires was caused by sparks emitted from the funnel of locomotive engine, S 50. The commissioner disputed this finding at the hearing of the appeal. The evidence of the circumstances which are mentioned by *Mayo J.* strongly support the inference which he drew. It is true that the evidence shows that the conditions were conducive to outbreaks of fire from other causes. But no convincing reason is shown for interfering with this finding.

*Mayo J.* described the situation which determined the risk of fire incident to the use of locomotive engine S 50 in these words: "Thursday, 22nd January 1948, was a day fraught with great risk of fire throughout the districts with which these proceedings are concerned. The temperature was high. Wind from a northerly direction was blowing at all material times. Vegetation in the districts traversed by the railway track, consisting of grass, stubble and the like herbage had reached its summer state of desiccation. The atmospheric conditions were such as to remove any moisture. This vegetation was highly inflammable tinder. The presence of a pyrogenetic reagent in contact with, or in close proximity to, such dry material would be likely to cause a conflagration. Such was the general situation on the day that locomotive No. 50 of class S was put in commission to draw a train (No. 610 in the working time table then operative), from Gladstone to Adelaide". In the light of this finding it would not be unreasonable to conclude that the spark-arresting apparatus met with considerable success in keeping down the number of fires to three. The distance from Gladstone to Gawler is about 112 miles. If the spark-arresting devices were defective or out of repair, it is surprising that the train did not leave more conflagrations in its trail. The situation was calculated to increase the power of sparks emitted from the funnel to ignite the vegetation near the railway line. However the commissioner did not rely on the run from Gladstone to Gawler as a test of the capabilities of the spark-arresting apparatus, with which engine, S 50, was equipped, to do its work. If the finding that the



three fires which occurred before the train reached Gawler were wrong, the plaintiffs' case would collapse. For then, nothing adverse to the proof of the satisfactory character of the spark-arresting apparatus or of its maintenance would remain except the fact that sparks emitted from the engine caused the fire of which the plaintiffs complained. But that is fact not sufficient in itself to saddle the commissioner with liability for the damage which the fire occasioned to Mr. Riggs' property.

The finding that sparks from the locomotive engine caused the three previous fires must be accepted for the purpose of this appeal. The occurrence of these fires led *Mayo J.* to qualify his findings on the issues as to the efficiency and state of repair of the spark-arresting apparatus. His Honour said that apart from an inference drawn from repeated escape of sparks from locomotive engine, S 50, he would favour the conclusion that in respect of the provision of a spark-arresting apparatus, there was no negligence. It is necessary to consider whether an inference should be drawn from the previous fires that would be strong enough to countervail against the direct evidence upon which *Mayo J.* would have decided in the commissioner's favour if he had gone solely on that evidence. For this purpose it is useful to quote the following passage from his Honour's interesting and informative description of the details of the engine which were proved and explained in the evidence, "Brick arch, diaphragm, and wire screen are essential parts of the spark arrestor system. The design is intended to permit no solid matter, too large to pass through the mesh, from being ejected through the funnel. The size of the mesh and deflexion in passage of gases are planned so as not to interfere more than is necessary with the draught. The purpose is to allow the draught to create sufficiently high temperatures for raising steam to ensure efficiency, and yet to preclude, so far as consistent with that purpose the emission of material from the funnel likely to cause damage." The escape of sparks was therefore incidental to the use of the engine. The size of the meshes was a fourth of a square inch. No object which could not pass through these openings could be ejected through the funnel. Objects less than a quarter of an inch in two dimensions could get through the meshes and those objects, igneous matter, would be ejected through the funnel. The size of the meshes was not shown to be bigger than it was necessary to make it in order have an efficient locomotive engine. Then, in regard to the problem of keeping in sparks, *Mayo J.* made these statements:—"That cinders do emerge from locomotive funnels no matter what system

H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMIS-  
SIONER  
v.  
RIGGS.

McTiernan J.



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.

McTiernan J.

of spark prevention be installed is I think beyond dispute. It is true that some matter is sufficiently glowing to be observed after nightfall. Some sparks escape notwithstanding the Master Mechanics device. The particular kind in this State called floaters or floating sparks are said to follow a course that gives an impression that the glowing matter during part of its transit does not follow a parabolic course but soars". "It is accepted that no design, now used, can eliminate fire risk altogether, even in repair. Sparks can, and do cause fires, whatever the appliance, though as I understand it the standard of efficiency with designs now used represents a great advance in construction." "Unless floating sparks are accounted for by faults in the condition of the spark arrestor, the same must be less than one-quarter inch by one-quarter inch, and probably not much greater in their third dimension. The heat generating capacity may perhaps be accounted for as suggested by Watson (a witness). A piece of coal may leave the fire immediately after being ignited (perhaps soon after coaling or raking the fire-box content). The process of combustion may advance during transit through boiler tubes, the spark arrestor, reaching a maximum when, or after, being ejected. Notwithstanding Watson's opinion such incandescent matter may fall glowing to the ground and still be capable of giving off great heat when it reaches dry herbage. In this manner floaters could escape from a Master Mechanic apparatus, although the apparatus be in undamaged condition. But no uniformity of conditions under which such sparks appear has been ascertained by experiment, nor has any theory been formulated to account satisfactorily for the phenomenon, enabling the risk therefrom (if it be a risk) to be predicted in set circumstances, and further protective measures adopted." The mere fact that sparks escaped from the locomotive engine and caused these three fires does not prove whether, on the one hand, the fact was the sparks were such as it was not reasonably practicable to prevent them from escaping or, on the other hand, the fact was the sparks were of larger dimensions and such as would not have been ejected if the apparatus were not defective in design or out of repair. The emission of sparks by the engine without proof of the nature of the sparks, was not a fact which could countervail against the direct proof of the design of the spark-arresting apparatus or its condition. The fact was consistent with the evidence that the design was satisfactory and that the apparatus was in good condition.

However, the conclusion that the commissioner was responsible for the damage which the fire, a mile beyond Gawler, did to



Mr. Riggs' property turned mainly on a breach of duty found against the appellant's servants stationed in the train control room at Adelaide Railway Station. It was held to be wrongful for them to permit locomotive engine S 50 to draw the train out of Gawler Railway Station on to Adelaide because they had knowledge of circumstances that portended danger if the engine went further than Gawler. These circumstances were the three previous fires, the general situation governing the risk of fire, found by *Mayo J.* (whose description of the situation has been quoted) and the unsafe state of the engine to be inferred from the previous three fires.

It appears that the train control room permitted the train to leave Gawler subject only to an inspection made inside the smoke-box by the crew of the engine. The driver opened the smoke-box door and examined the spark-arresting apparatus as far as that could be managed by that manner of inspection. But, in that way he could not completely check all the parts of the apparatus. He could have seen the smoke-box door and the wire-mesh screen, but not the diaphragm, which is an essential part of the apparatus.

Passengers and goods in the train and the crew would have been much delayed at Gawler if an examination, capable of ensuring that there was no defect in the apparatus, had been made before it was decided to persist with locomotive, S 50, for the remainder of the journey to Adelaide. That consideration would not have exculpated the commissioner if there were a defect in the apparatus impairing its efficiency: it was negligence to use the locomotive engine if its spark-arresting apparatus were defective. If it was not defective the fact that only a cursory examination was made to detect faults could not be a breach of duty. However, the assumption was made by his Honour that the apparatus was defective, and for that reason sparks were emitted from the engine and set fire to the country at a spot one mile from Gawler in the direction of Adelaide. The ground for the assumption was that the engine caused the three fires before it arrived at Gawler. The negligence found against the commissioner's servants in the train control room amounted to this. An ordinary prudent officer in that department could not think that the cursory inspection which was directed to be made by the crew of the engine was proportionate to the risk portended by the circumstances known to the train control staff. A fact, which was taken to reinforce the proof of negligence, was that their action was all the more unreasonable because they took the risk of permitting locomotive engine, S 50, to leave subject only to the inspection by the crew, although they knew that at

H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.

McTiernan J.



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.

McTiernan J.

Mile End, twenty-four miles from Gawler, there was an emergency locomotive engine available for use, in lieu of the one S 50, attached to the train. The substance of the negligence found against them is that they did not give due consideration to the danger of occasioning damage by fire to the property of adjoining occupiers, if they used locomotive engine, S 50, and negligently omitted to detach it and substitute the emergency engine for it; or if that engine could not be got, they permitted locomotive engine S 50 to take the train to Adelaide, instead of discontinuing the journey by train and providing other means of transportation for passengers and goods bound for Adelaide and intermediate stations. The emergency locomotive engine and locomotive engine S 50 had the same type of spark-arresting apparatus. It is therefore implied in his Honour's view that the precaution ought to have been taken of changing the engine at Gawler, that the Master Mechanics pattern, with which both engines were furnished, was unexceptionable.

The need for inspecting the spark-arresting apparatus of the emergency engine is not suggested. The conditions under which the emergency engine would have drawn the train were the same as those under which locomotive engine, S 50, drew the train from Gawler to Adelaide. Those conditions were: "the vegetation was highly inflammable tinder", "the temperature was high", the atmosphere was without moisture, and a northerly wind was blowing. Its spark-arresting equipment, even if it were in good repair, could not keep in sparks less than a fourth of an inch in each dimension. The sparks that escaped through the mesh could cause fires. *Mayo J.* found "sparks can and do cause fires whatever the appliance". None of the conditions which have been mentioned deprived the commissioner of his statutory authority to use a locomotive engine so long as every precaution was taken consistent with its use. The commissioner is not guilty of negligence in using a locomotive engine as he is authorized by the legislature to do. The question then is whether the commissioner was not authorized to use locomotive engine, S 50, because it had already caused three fires and there was a risk that it would cause another between Gawler and Adelaide. It is not the law that where a locomotive engine is used under statutory authority without negligence, there is a limit imposed by the general law on the amount of nuisance it may commit. Lord *Halsbury* L.C. said in *London, Brighton and South Coast Railway Co. v. Truman* (1): "It cannot now be doubted that a railway company constituted for



the purpose of carrying passengers, or goods, or cattle, are protected in the use of the functions with which parliament has entrusted them, if the use they make of those functions necessarily involves the creation of what would otherwise be a nuisance at common law". His Lordship further said (1): "It would be strange, indeed, if the legislature could be supposed to have authorized the railway to commit a nuisance up to a certain point", and (2) "the Railway Acts were assumed to establish the proposition that the railway might be made and used whether a nuisance were created or not". The test of whether it was lawful to use locomotive, S 50, to take the train to Adelaide was whether the commissioner observed the standard of care laid down in *Vaughan v. The Taff Vale Railway Co.* (3). If he observed that standard of care it was not unlawful to use the locomotive engine, S 50, because the condition of the vegetation, the weather, the wind and the atmosphere, matters beyond the control of the commissioner, would contribute to the risk that sparks emitted from the locomotive engine, as a necessary consequence of using it, would cause fires. Further, if he took all reasonable precautions within his power, consistent with the use of the locomotive engine, he was not precluded from using it, because sparks emitted from the funnel had caused three fires. Those fires are relevant in so far as they may throw light on the issue whether he took all reasonable precautions. But the inferences which might be drawn from them are equivocal and cannot prevail against the direct proof given in this case that the engine was fitted with an efficient spark-arresting apparatus and that it was at all material times in good repair. There is no proof that the fire was caused by negligent management of the engine by the crew.

In my opinion the appeal should be allowed with costs, the judgment of the Supreme Court of South Australia set aside and in lieu thereof judgment entered for the defendant in the action with costs.

WEBB J. I agree and have little to add.

Mayo J. found that sparks from the railway locomotive S 50 caused four fires within a distance of sixty-seven miles between 12.30 p.m. and 3.07 p.m. on 22nd January 1948; that the sparks came through the smoke-stack of the locomotive; and that this was due to the negligence of the servants of the appellant railway commissioner. On that day the maximum temperature was

H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER

v.  
RIGGS.

McTiernan J.

(1) (1885) 11 App. Cas., at p. 51.

(2) (1885) 11 App. Cas., at p. 53.

(3) (1860) 5 H. & N. 679 [157 E.R. 1351].



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMIS-  
SIONER  
v.  
RIGGS.  
—  
Webb J.

111.3° F., and the grass and stubble were dry as a result of the summer's heat. Further, the wind blew the smoke from the locomotive to the ground—on the side of the railway line where the four fires occurred—so that any spark from the locomotive would have travelled rapidly, by the shortest route, to earth. The conditions then were very favourable for grass fires following any emission of sparks from the locomotive. But a locomotive fitted with the best spark-arrestor, and otherwise in good order and carefully managed—as the appellant commissioner's expert witnesses claimed locomotive S 50 was—may occasionally emit a spark capable of causing a grass fire. That is not contested. So it would not be very remarkable if this locomotive, in the exceptional conditions obtaining about the middle of the day on 22nd January 1948, caused four grass fires, even if it had the best spark-arrestor, was in good order otherwise, and was carefully operated. In persisting in the use of a locomotive with the best spark-arrestor and otherwise in good order and properly managed, instead of changing it after it had caused three fires, the servants of the appellant commissioner would not have been guilty of negligence. A change of locomotive in those circumstances would not have been likely to eliminate or reduce the risk of further fires: there would have been no reason for thinking that the substitute would give a better performance.

In this case it seems that his Honour would have believed the expert and other witnesses for the appellant commissioner but for the fact that this locomotive S 50 had caused four fires that day; whereas his Honour understood it to be conceded, although it was not proved by evidence at the trial, that no other locomotive operating on that day on that line and in that vicinity caused a fire. Mr. *Hannan* for the appellant commissioner claimed that there was no such concession; but Mr. *Smith* for the respondents did not agree with this. In the circumstances I think we should take it that the concession was made, but, without further evidence as to the extent to which other locomotives were used, and where, in the particular locality, they were used, I do not think it warrants a finding that the spark-arrestor, or some other part of the locomotive S 50, was out of order, with the result that more sparks were emitted than would otherwise have been emitted; or that it warrants a finding that the locomotive was not properly managed when the fires occurred, and so was responsible for them, and more particularly for the fourth fire, in respect of which the action was brought. It is true that his Honour was not so greatly impressed by the appellant commissioner's witnesses that he felt obliged



to believe them in any event: it is clear that he thought it was more likely that their testimony was unreliable than that the locomotive if in good order and properly managed could cause four grass fires, even in the exceptional conditions prevailing, when no other locomotive caused a grass fire. But, in the absence of further evidence of the opportunities that other locomotives had of causing grass fires it cannot, I think, be held that it was probable that a change of locomotive after three fires had occurred would have prevented the fourth fire. No other locomotive may have travelled more than a short distance, or about the middle of the day, or through a part of the country as dry as that through which locomotive S 50 travelled. It is important to remember that locomotive S 50 travelled over 130 miles on that journey and caused no grass fires during half of it.

Accordingly, as the question is one of fact depending on the credibility of witnesses, i.e., the question whether locomotive S 50 with its spark-arrestor was in good order and properly managed on the 22nd January 1948; and as it is clear, I think, that his Honour would have believed the appellant commissioner's witnesses but for the bare concession that other locomotives in the area did not cause a grass fire on the 22nd January 1948; and, further, as that bare concession alone could not justify a different view of their credibility, I find that negligence on the part of the appellant commissioner's servants was not established.

I would allow the appeal.

KITTO J. This is an appeal from a judgment given by *Mayo J.* in the Supreme Court of South Australia in an action in which the respondents, as executors of the will of one A. H. Riggs deceased, sued the appellant, alleging that the deceased's property was seriously damaged on 22nd January 1948 by a fire caused by sparks which escaped from one of the appellant's locomotive railway engines. Judgment was given for the plaintiffs for an amount of damages to be assessed.

The statement of claim alleged negligence on the part of the defendant or alternatively of his servants or agents, and particulars of the alleged negligence were given under seven heads. The defendant denied that the fire was caused by an escape of sparks from his engine, and he also denied negligence, both generally and by specific reference to each head of the particulars.

The learned judge found that the fire was caused by sparks emitted from the defendant's engine, and that finding the defendant does not challenge. The defendant's contention on this appeal is,

H. C. OF A.  
1950-1951.  
THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.  
Webb J.



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER

v.  
RIGGS.

Kitto J.

in brief, that his use of the engine, at the time and place of the emission of the sparks which caused the fire, was authorized by statute, that therefore he should not have been held liable for damage caused by that emission of sparks unless it was established that the emission was due to failure on the part of his servants to take reasonable care as regards the design, maintenance or management of the engine, and that no such failure was established.

The relevant statute is the *South Australian Railways Commissioner's Act*, 1936-1941, and it is necessary first to examine its provisions. The Act provides that "for the purpose of carrying this Act into execution" there shall be a commissioner by the name of the South Australian Railways Commissioner, and it constitutes him a body corporate (s. 6) and vests in him, "for purposes of this Act", all railways and rolling-stock constructed or acquired by or on behalf of the State, whether before or after the passing of the Act (s. 81). The commissioner is required to supervise the railways and maintain them in a state of efficiency (s. 87), and he is empowered to use and employ locomotive engines or other moving power (s. 95). It is provided that every person injured in his person or property by the wrongful act, neglect, or default of the commissioner, or of any person, employed by him or by his authority, express or implied, upon any railway, shall have a similar right of action against the commissioner for the recovery of damages sustained by reason of that wrongful act, neglect, or default, to that which that person would have against a private company if that railway were carried on by a private company (s. 109).

It is not disputed that the engine, known as S 50, and the railway line upon which it was running at the time of the fire, were vested in the defendant under s. 81, or that engine S 50 was then being used by the commissioner in exercise of his power under s. 95.

The statutory authority which the defendant had for using a locomotive engine at the time and place in question absolves him from liability under the rule in *Rylands v. Fletcher* (1), for the escape of fire from his engine. But the Act must be construed as authorizing the use of such engines in a proper manner only, and the plaintiffs are therefore entitled to succeed if the injury suffered was caused by a failure on the part of the defendant or his agents "to use reasonable care to do no unnecessary damage" by the use of the engine: *East Fremantle Corporation v. Annois* (2). If the injury to the deceased's property was caused, not by negligence, but by the ordinary and normal use of the railway, the

(1) (1868) L.R. 3 H.L. 330.

(2) (1902) A.C. 213, at p. 218.



defendant is under no liability: *Canadian Pacific Railway v. Roy* (1). The onus of proving negligence rests upon the plaintiffs: *Parker v. London and N.E. Railway Co.* (2); *Sellwood v. London M. & S. Railway Co.* (3); cf. *Cox Bros. (Aust.) Ltd. v. Commissioner of Waterworks* (4). Both the onus of proof and the nature of the defendant's obligation of due care were the subject of some observations by Lord *Herschell* in the Scottish case of *Port-Glasgow and Newark Sailcloth Co. v. Caledonian Railway Co.* (5). The relevant passage was quoted by *Isaacs J.* in *Fullarton v. North Melbourne Electric Tramway and Lighting Co. Ltd.* (6), and its importance warrants its repetition. Lord *Herschell* said: "It is now well settled law that in order to establish a case of liability against a railway company under such circumstances, it is essential for the pursuers to establish negligence. The railway having the statutory power of running along the line with locomotive engines, which in the course of their running are apt to discharge sparks, no liability rests upon the company merely because of sparks emitted having set fire to adjoining property. But the defenders although possessing this statutory power, are undoubtedly bound to exercise it reasonably and properly, and the test whether they exercise this power reasonably and properly appears to me to be this: They are aware that locomotive engines running along the line are apt to emit sparks. Knowing this they are bound to use the best practicable means according to the then state of knowledge to avoid the emission of sparks which may be dangerous to adjoining property; and if they, knowing that the engines are thus liable to discharge sparks, do not adopt that reasonable precaution they are guilty of negligence, and cannot defend themselves by relying upon their statutory power. About the law, as I have expressed it, I do not think there is any controversy".

It has often been mentioned in the decisions of the courts, and it was established once more by the evidence in this case, that no method exists whereby the escape of sparks from a locomotive engine can be totally prevented. This was accepted by *Mayo J.*, who said in his judgment: "That cinders do emerge from locomotive funnels, no matter what system of spark prevention be installed, is, I think, beyond dispute. . . . It is accepted that no design now used can eliminate fire risk altogether even in repair. Sparks can and do cause fires, whatever the appliance".

H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER

v.  
RIGGS.

Kitto J.

(1) (1902) A.C. 220.

(2) (1945) 175 L.T. 137.

(3) (1946) 175 L.T. 366.

(4) (1933) 50 C.L.R. 108, at pp. 119, 121.

(5) (1893) 20 R. (Ct. of Sess.) (H.L.)

35.

(6) (1916) 21 C.L.R. 181, at p. 201.



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.  
—  
Kitto J.

It follows from this that proof that a fire was started by a spark from a railway engine is not sufficient to make even a *prima facie* case of negligence: *McKinnon v. Commissioner of Railways* (1); *Parker v. London and N.E. Railway Co.* (2).

The learned judge made no finding of negligence in the manner in which the engine crew managed engine S 50 at the time the fire was caused, and he negatived two other possible explanations of the fire by finding (1) that the smoke-box was not leaking by reason of insufficient contact between the perimeter of the door or of the frame with the asbestos cord placed between them, and (2) that the ash-pan slides had not been left partly open. His Honour reached the conclusion that it was probable that the fire was caused by incandescent or flaming material ejected from the smoke-stack. It would be negligence on the part of the defendant to omit any reasonable precaution available to him to prevent such an occurrence. It was his duty, not indeed to use the best spark-arresting appliance that might reasonably have been discovered, but to avail himself of all the discoveries which science had put within his reach for that purpose, provided they were such as, under the circumstances, it was reasonable to require him to adopt: *Fremantle v. London and N.W. Railway Co.* (3); *Parker v. London and N.E. Railway Co.* (4); *Cook v. Commissioner of Railways* (5); and if he equipped his engine with a spark-arresting device which satisfied this requirement, it was his duty to have that device in an efficient state of adjustment and repair.

Engine S 50 was equipped with a type of spark-arresting mechanism known as the Master Mechanics front end. Its design the learned judge found to be "in general use for Australian conditions and found satisfactory", and there was uncontradicted evidence from experts on both sides that it is as good as could be adopted. The plaintiffs' expert witness, Watson, who searched diligently for reasons to criticize engine S 50, said: "I think the Master Mechanics principle is the best that can be done. . . . I wouldn't recommend a better spark-arrester than Master Mechanics". Two essential elements in such a device are a back plate and a wire screen. Cinders and other hot or burning particles are projected against the back plate, with the result that they tend to break up and, in any case, fall down to a bed which extends beneath the boiler pipes to the smoke-box at the extreme front end of the engine. If carried by the draught to the smoke-box, they

(1) (1885) 6 N.S.W. L.R. 247, at p. 252.

(2) (1945) 175 L.T., at p. 138.

(3) (1861) 10 C.B.N.S. 89, at p. 92.

(4) (1945) 175 L.T., at p. 138.

(5) (1886) 7 N.S.W. L.R. 117, at p. 121.



may rise to the smoke-stack, but the screen is interposed to prevent the escape of large cinders or sparks. The screen has a square mesh of one-quarter inch dimensions, and, if it is in good order, only particles small enough to pass through that mesh are ejected through the smoke-stack. Some variations in the type of screen have been attempted, one variant, known as the draftac, having a rectangular mesh of three-sixteenths inch by three-quarters inch. Watson in his evidence seemed at times to have a preference for the draftac mesh, but its openings are of greater area than that of the quarter-inch mesh, and Watson found nothing to criticise in the adoption of the latter. He said: "I have no criticism of the wire-material or thickness. One-quarter inch mesh, if all other things are correct, seems to do the job. It would be safer if it were smaller, but there are other troubles to be handled". The other troubles he referred to he explained later, when he said: "The best mesh is one small enough to stop dangerous sparks and at the same time big enough to allow the engine to steam properly. . . . It is no use stopping sparks if you stop running your engine". He conceded that, taking engine S 50 as he found it on inspection some time after the relevant date, he had no criticism to make of the mesh; and later he said: "The wire satisfies me". Wilkinson, the locomotive superintendent, described the netting as "The best possible mesh for our South Australian conditions", though other meshes had been investigated from time to time.

As to the condition on 22nd January 1948 of the spark-arresting equipment as a whole, there was a considerable body of evidence by employees of the defendant to the effect that there was nothing about it which would permit of the escape of sparks larger than could pass through the mesh, and there was no evidence to the contrary. If there had been a hole in the back plate, large sparks, or sparks at an abnormally high temperature, might have escaped directly through the smoke-stack without encountering the screen; but the evidence, if accepted, established that there was no such hole. Likewise a damaged or mal-adjusted screen would have enabled large sparks to escape, but the evidence denied this.

The learned judge made no finding that the defendant had failed to take any particular precaution which he should have taken in relation to the spark-arresting equipment of engine S 50. But for one feature of the case, his Honour, as he expressly said, would have favoured two conclusions:—(1) that the spark-arresting equipment was not shown to be of such specifications and design

H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMIS-  
SIONER

v.  
RIGGS.

Kitto J.



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISS-  
SIONER

v.  
RIGGS.

—  
Kitto J.

as to involve a breach of duty to adjoining property owners, and (2) that the condition of the engine and its equipment was not faulty, by reason of lack of repair or the like, in any detail that would permit of the escape of sparks or fire-causing material that would otherwise have been held back by the mechanism. If he had finally reached these conclusions, it must have followed, from the principle above stated, that the defendant should succeed in the action. But the feature of the case which alone led his Honour to refrain from making absolute findings to the effect indicated was that the fire of which the plaintiffs complained had been preceded by three other fires which broke out during the same journey of engine S 50, and his Honour found on a balance of probabilities that all four fires were caused by the emission of sparks from that engine. These sparks may have been either larger or smaller than the mesh of the screen, and, as I understand the judgment, his Honour's view was that (1) if sparks larger than the mesh caused the fires, the defendant was guilty of negligence because the conclusion would be inescapable that there were openings in the equipment that needed repair or some kind of attention, and (2) if sparks smaller than the mesh caused the fires, having escaped despite the fact that the equipment was in perfect order, the defendant was guilty of negligence because when the engine reached Gawler, the last place at which the train stopped before the fourth fire occurred, the defendant's officers knew of the three previous fires, they knew that those fires had possibly been caused by engine S 50, they therefore should have inferred that the engine was or might be, for some reason not apparent, peculiarly liable to discharge such inflammatory matter, and they should not have allowed the engine to proceed. It is necessary to consider each of these alternatives.

1. The first alternative, as stated, may be conceded, but in my opinion, his Honour should have found that the equipment was not in need of repair or attention. He said that "apart from an inference drawn from the repeated escape of sparks", he would have reached the two conclusions I have already mentioned, to the effect that there was no negligence in relation to either the design or the condition of the spark-arresting equipment. But, in my opinion, the escape of four sparks which caused fires was not a sufficient ground for rejecting these conclusions. If there was anything clearly established by the evidence it was this, that not only may sparks be emitted despite the use of the best of spark-arresting equipments, but the occasions and frequency of their



occurrence are beyond explanation. The notes of Watson's evidence contain the following passage :—

“ To his Honour : Question—Even with best fire appliance in engine, a spark is almost certain to be emitted at some time ?

Answer—Yes, there is a hazard.

Question—With the best fire appliances used, is there a reasonable possibility that that spark might ignite something by the track ?

Answer—I think so. There is that hazard.

Cross-examination—The question of spark arresting engages the best engineers. Even though a great deal of time and care is expended on spark prevention there are numerous fires in the other States. They do have fires believed to have been caused by locomotives. So far as science has been able to do, the fire hazard has not been eliminated. There is still some hazard left. On a hot day with a bad wind I think it is right that you can't predict that a fire will occur, and when and where.”

The day of the fire was an exceedingly hot day and the wind was strong. His Honour himself in his judgment referred to “the fact that some phenomena such as floating sparks, are not demonstrated as occurring with regularity, when known conditions are present, but make their appearance, so far as experience has observed, fortuitously and at haphazard, yet with operative effect”. Again, he said : “Neither the defendant nor any member of his personnel yet fully understand the conditions under which some flaming or glowing matter, such as floating sparks, is liable to be ejected, nor can they recognize all the factors productive of that result when the same are present. These conditions, these factors, have not been ascertained in full detail by observation and experiment”. And again : “The wire mesh of engine S 50 will prevent objects having two dimensions exceeding one-quarter inch passing through. . . . Unless floating sparks are accounted for by faults in the condition of the spark-arrestor, the same must be less than one-quarter inch by one-quarter inch, and probably not much greater in their third dimension. . . . Notwithstanding Watson's opinion, such incandescent matter may fall glowing to the ground and still be capable of giving off great heat when it reaches dry herbage. In this manner floaters could escape from a Master Mechanics apparatus, although the apparatus be in undamaged condition. But no uniformity of conditions under which such sparks appear has been ascertained by experiment, nor has any theory been formulated to account satisfactorily for the phenomenon, enabling the risk therefrom (if it be a risk) to be

H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER

v.  
RIGGS.

Kitto J.



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.  
—  
Kitto J.

predicted in set circumstances, and further protective measures adopted ”.

While recognizing the uncertainty that exists as to how or when sparks emerge from engines properly equipped with spark-arresting devices, his Honour was apparently influenced by the fact that he regarded it as “conceded, if not directly proved, that no fire was started *on that route* (the italics are his) during 22nd January 1948, except coincident with the passing of S 50 ”. But, even assuming (although it has been denied) that this fact was conceded by counsel for the commissioner, it affords no basis for an inference which would warrant the rejection of evidence, otherwise considered by his Honour to be worthy of acceptance, to the effect that the spark-arresting equipment of S 50 was satisfactory in design and condition. For all the evidence showed, other engines may have started many fires on other routes on the day in question ; the evidence (Exhibit D35) showed that during the same summer a great number of fires were reported after the passage of various engines. But even if no engine in South Australia caused a fire on that day, engines may have ejected many sparks which by good fortune did not cause fires. Moreover, the fact that S 50 emitted fire-causing sparks on four occasions in a journey of 112 miles, taking more than four hours, is quite consistent with the sound condition of the spark-arresting devices, having regard to the impossibility of accounting for the ejection of sparks from an engine properly equipped. If the spark-arresting mechanism had been in fact out of order so as to emit sparks which it should have kept back, one would have expected a more or less constant stream of sparks throughout the journey ; indeed Watson, when dealing with the possibility of a hole in the diaphragm, agreed that if there were such a hole you would get an almost continuous succession of inflammable sparks going out into the atmosphere. Wilkinson also agreed with this. Yet there is no suggestion in the evidence that such a thing happened. The truth is, I think, that his Honour failed to make due allowance, not only for the vagaries of the best-equipped engines in regard to the ejection of sparks, but for the fact that on a day of extreme midsummer heat, when the herbage through which S 50 passed was as dry as tinder, the occurrence of four fires caused by sparks from that engine does not necessarily indicate the discharge of sparks in abnormal quantities or of a size larger than the mesh of a screen in perfect condition.

His Honour did not find that sparks must be of larger dimensions than the mesh of the screen in order to cause fires, and the evidence to the contrary was perfectly clear. In particular, Sir Kerr Grant,



called as an expert by the plaintiffs and accepted by his Honour as an impartial and highly qualified physicist, said: "I would not dispute that a spark that could escape through the screen might in certain circumstances—say with a strong wind and temperature of 110 in the shade—might come down and cause a fire". The conditions he described existed on 22nd January 1948. Watson described some experiments he had made which showed that a spark of one-quarter inch dimensions, leaving a wind tunnel with a thirty-mile-an-hour wind, could carry at least 110 feet and land while still producing sufficient heat to light a bag; and Harrison, the defendant's chief mechanical engineer, had conducted a standing test of an engine, during which a floating spark landed in a glowing condition sixty feet from the engine. In the light of evidence such as this, the occurrence of the four fires is perfectly consistent with the screen being in satisfactory condition and adjustment; and, in my opinion, the fact that four sparks were emitted by S 50 and started fires on a very hot day with a high wind among the desiccated herbage of a parched countryside affords no ground at all for any inference that spark-arresting equipment was not in perfect condition.

2. In considering the other alternative, namely, that the equipment was in perfect order and the fires were caused by sparks smaller than the mesh of the screen, his Honour, in my opinion, fell into error. The first three fires occurred before the train reached Gawler. His Honour considered that before the train was allowed to leave Gawler the defendant's officers should have realized that the limited inspection of the engine which the train crew were able to make and did make was insufficient to negative the possibility that the engine may have constituted a special fire hazard, and they should have adopted some course other than that of allowing S 50 to proceed on its journey. He said: "The continuation of the journey after an inspection within the smoke-box door, and of the ash-pan, involved an infringement of the obligation to take care owed to the plaintiffs' predecessor in title as an occupier of property adjacent to the track".

The question, however, was not whether the inspection was adequate. If no inspection at all had been made, that fact would not have established negligence for which the defendant would have been liable. His liability depends, not upon what inspection was made, but upon what a complete inspection would have revealed, or, in other words, what the actual state of the engine was. On the authorities I have cited it is clear that if the engine was equipped with the best spark-arresting equipment available,

H. C. OF A.  
1950-1951.  
THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.  
Kitto J.



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.  
—  
Kitto J.

and if that equipment was in perfect order, the defendant was entitled by virtue of the statute to use the engine without liability for any fires it might cause. The evidence showed that the equipment was of the best type available, and, as I have said, his Honour found, subject to an inference which I consider was not open to him, that it was in perfect condition. In that situation, the railway officers who decided to send the engine on from Gawler did no more than exercise the right which the statute conferred on the commissioner. They took the risk of its subsequently being found that there was a defect in the equipment of the engine which inspection had failed to reveal; but to entitle the plaintiffs to succeed it would have had to be found as a fact that such a defect existed, and it was not so found.

Of course the defendant's officers could have adopted a different course; indeed a variety of courses that may have been open to them was suggested during the argument. The passage in which his Honour dealt with this matter should perhaps be quoted in full:—"This group (i.e., the defendant's officers responsible for sending the engine on) were, or should have been, aware at the time when a decision had to be made, in regard to the progress of train No. 610 from Gawler, of the following:—(i) that there had been fires possibly due to engine S 50 at or near Kybunga, Halbury and Roseworthy (not merely one fire or two, but three): (ii) that the risk of further fires between Gawler and Adelaide owing to nature of the dried vegetation and subsisting weather conditions was such as to demand consideration: (iii) that there were causes of fire, not fully understood, for example, floaters, which were elements in the risk, that might be active notwithstanding that the spark arrestor equipment were in order: (iv) that examination of the smokebox door and wire mesh screen at Gawler by the engine crew would not be likely to disclose faults (if any) that had developed in some parts of the equipment, e.g. the diaphragm, nor would such an investigation disclose to the crew whether conditions were favourable to the emission of floating sparks: (v) that an emergency engine, as a routine practice, was held in readiness at Mile End, twenty-four miles distant from Gawler, which was available as a substitute without causing very great delay, when the exigencies of the service, in the opinion of a member or members of the group, required its use: (vi) that a delay to passengers for any station south of Gawler, and to the train crew would be caused as well as to delivery of freight, by retaining engine S 50 at Gawler. But that delay would *prima facie* be no more than an inconvenience greatly transcended by the serious damage likely to follow the



consequences of fire. In so far as the opposing detriments had to be allowed for, and arrangements made with due regard thereto, the calamity from fire would heavily outweigh disabilities to persons and in respect of goods from such delay.

Mr. *Chamberlain* agreed that there was nothing fantastic in a resort to the use of the emergency engine. The evidence is that in emergencies that often occur the accessory engine is put into commission. Other engines could have been used, although the delay might have been greater. What proper substitution might have been made in the opinion of the responsible officer, if engine S 50 had been superseded at Gawler, need not be discussed, save to observe more alternatives than one were open."

The obvious comment on the suggestion that another engine might have been used is that, if risk of fire from causes not understood exists even in the case of an engine whose equipment is in order, the substitution of another engine in place of S 50 would have achieved nothing but the exchange of one risk for another of the same kind and magnitude. But, with all respect to his Honour, the question he had to decide was, not whether alternatives were open, but (to apply Lord *Herschell's* words), whether engine S 50 was equipped with the best practicable means according to the then state of knowledge to avoid the emission of dangerous sparks. If it was, Lord *Herschell's* "test" for deciding whether the statutory power was exercised reasonably and properly was satisfied, and the defendant was entitled to judgment.

The importance of the fact that S 50 had possibly caused the three fires before it reached Gawler (or even of the fact, if it had been known, that S 50 had actually caused the three fires), lay in the warning it gave that there may have been something out of repair or proper adjustment. To send the engine on in the face of that warning, after an inspection which left it uncertain whether the spark-arresting equipment was in good order, was, as I have said, to run the risk of its turning out that there actually was some defect in the spark-arresting equipment; and if it had proved to be so the defendant would have been defenceless in the action. But that means no more than that the railway officers concerned exposed the defendant to a possible liability; whether they involved him in an actual liability depends upon the question whether the fourth fire was caused by any defect actually existing in the condition of the spark-arresting mechanism. To that question the plaintiffs had to obtain an affirmative answer in order to succeed, and an affirmative answer the learned judge was not prepared to give.

H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER

v.  
RIGGS.

—  
Kitto J.



H. C. OF A.  
1950-1951.

THE SOUTH  
AUSTRALIAN  
RAILWAYS  
COMMISSIONER  
v.  
RIGGS.  
—  
Kitto J.

In the result, I am of opinion that his Honour should not have allowed himself to be deterred, by any inference from the sequence of fires caused by S 50, from finding that the engine had the best practicable equipment for avoiding the emission of sparks and that that equipment was in good order. But it would be enough to dispose of this case to say that the plaintiffs failed to obtain from his Honour a finding that the engine, which the defendant had statutory power to use if it was properly equipped with the best practicable means of preventing the escape of dangerous sparks, was not so equipped. In the absence of such a finding, the plaintiffs were not entitled to succeed.

In my opinion the appeal should be allowed with costs, the judgment of the Supreme Court should be set aside, and judgment should be entered for the defendant with costs.

*Appeal allowed with costs. Judgment of the Supreme Court (Mayo J.) set aside. In lieu thereof judgment for the defendant in the action with costs.*

Solicitor for the appellant, *A. J. Hannan*, Crown Solicitor for South Australia.

Solicitors for the respondents, *Wallman, Kriewaldt and Palmer*.

B. H.