

question in this case, because the defender claims the right under the statute to apprehend a person in the position of this pursuer. One averment in the pursuer's condescence might throw some doubt upon the second point, for he says the pursuer gave him in charge without having first appealed to the captain. If this means that the right to apprehend offenders rested with the captain, and not with the pursuer, it might be difficult for the pursuer to show that the pursuer acted within the scope of his authority. But I think that this is not a fair construction of the averments, and that fairly read they disclose a *prima facie* case to go to a jury.

The only remaining question is as to the terms of the issue. I do not think it necessary that the pursuer should take an issue of malice and want of probable cause. The defender and his servants have no privilege to give persons into custody except that conferred by the statute, and he cannot plead the statute unless he has observed its conditions. He may have a good defence on the merits. But if he has not, it is no answer to the pursuer's complaint that his officer was not acting maliciously. On the other hand, I do not think the word "oppressively" which has been inserted in the issue is apposite. In *Mackay v. Grant*, June 14, 1865, 3 Macph. 944, where an issue in these terms was allowed, the Lord Justice-Clerk said—"Where wrongfully is combined with oppressively, I think it is open to the pursuer to proceed either upon want of legal warrant or upon the oppressive use of a warrant in itself legal." In the present case I cannot see that the pursuer has alleged any case of oppression in addition to or distinct from the illegality of the arrest of which he complains. If he committed an offence against the statute for which the defender's officer was entitled to apprehend him, and if in making the apprehension the officer acted in accordance with the provisions of the statute and not otherwise, I see no case of oppression. I do not know what is meant by that word as used in this issue, and I think there would be a risk of its misleading the jury if it were allowed to remain.

I think the more appropriate form of issue is that approved in the case of *Bringloe v. Stirling*, and I see no reason for departing from a style which has received the approval of the House of Lords.

I am of opinion therefore that we should affirm the judgment of the Lord Ordinary, but make this variation in the form of the issue.

**LORD M'LAREN**—Judging from the narrative in this case, it would appear that some people imagine whenever they have been wronged they are entitled to hand over the person who has wronged them to a police officer without a warrant.

I need hardly say that the constitution of this country confers no such right. It is a fundamental principle that no one can be deprived of his liberty or subjected to

restraint without the warrant of a judge or magistrate. An exception is admitted where the injured party has seen the crime committed, or has such evidence as is equivalent to personal observation. In that case he may detain the wrongdoer on condition of taking the person apprehended before a magistrate without delay, and he may if necessary call to his aid constables or officers of law.

This is not a case of a crime at common law, but an alleged contravention of a statute, and we must look at the statute to see the right of the person against whom the contravention has been committed. It is only where the address of the person alleged to have contravened the statute is unknown that his apprehension is authorised, and I think the pursuer is entitled to an issue of wrongful apprehension, because he avers that he, being a law-abiding citizen whose address was known to the officers of the steamer, was given into the custody of a police officer by the defender's servant.

I agree with Lord Kinnear in his discussion of the authorities on this point, and also as to the form of issue which should be adopted.

The LORD PRESIDENT concurred.

LORD ADAM was absent.

The Court appointed the following to be the issue in the cause, viz.—"Whether on or about 10th August 1893, on board defender's steamer 'Chevalier,' at Fort-William, John James Lawson, an officer in the service of the defender, acting within the scope of his authority, wrongfully and illegally caused the pursuer to be apprehended and taken in custody to the police office at Fort-William, to the loss, injury, and damage of the pursuer. Damages laid at £250."

Counsel for the Pursuer and Respondent—N. J. D. Kennedy—Macaulay Smith. Agent—James Ross Smith, S.S.C.

Counsel for the Defender and Reclaimer—Abel. Agents—Gill & Pringle, W.S.

Friday, July 20.

## FIRST DIVISION.

[Lord Low, Ordinary.]

DAVIES AND ANOTHER v. BLACK.

*Patent—Infringement—Bicycle Tyres.*

A person obtained letters-patent under a specification which claimed "in a wheel tyre the combination, with a 'jacket,' of wires held at the edges of such jacket, but adapted to move within it, the said wires forming a completed circle or section of a circle, and having overlapping ends, substantially as set forth and for the purposes specified." The ends of the wires after overlapping were left free, thus en-

abling the circumference of the circle to be increased or diminished as required for the purpose of adjustment or removal of the jacket, the jacket enveloped the edges of the rim of the wheel, and the wires were passed over hooks on its under or convex side, and kept in their place on that side by tension. Interdict for infringement of said patent was sought against a person who had employed wires free to move within a jacket for the similar purpose of adjustment, but which passed twice round the wheel, had their ends coupled together, and lay imbedded on the upper or concave side of the rim.

*Held (aff. Lord Low)* that there had been no infringement.

*Observed* by Lord M'Laren that "there can be no patent for the external form or design of an element of mechanism apart from the use to which it is applied. So much at least may be asserted when the design amounts to no more than passing a wire through a seam."

Preston Davies, 12 Kempson Road, Fulham, London, obtained letters-patent dated and sealed 6th October 1891, for the invention of improvements on elastic tyres, and in means for securing the same to the rims of wheels, especially intended for use on the wheels of bicycles. The complete specification, dated 6th July 1892, claimed . . . 3. In a wheel tyre the combination, with a "jacket," of wires held at the edges of such jacket, but adapted to move within it, the said wires forming a completed circle or sections of a circle, and having overlapping ends substantially as set forth and for the purposes specified." The description explained how the jacket, for covering and protecting an inflatable india-rubber tube, was made with wires passing through seams in the edges, but with ends free to move, was constructed. It also explained that "the rim is drilled with holes at intervals around it, through which hooks made in one piece of metal . . . are passed, but such hooks are not rigidly attached to or otherwise affixed to the rim. The two ends of the hooks, which are ground to a point, project towards the hub of the wheel for the purpose hereinafter mentioned. . . . The jacket is affixed to the rim of the wheel by passing it over the hooks, the wires at the same time being caught over such hooks and encircling the convex side of the rim of the wheel. The tube is then inflated . . . and as it expands the whole tyre is filled out, the circles, semicircles, or other sections of wires being free to move within the loops, can enlarge in diameter as expansion proceeds, and are drawn down and so made to bed in the covering on the rim of the wheel, whereby dust or wet is prevented from reaching the internal portions of the tyre.

"It will be seen that the tube can be easily reached for the purposes of examination, repair, or renewal and removed or replaced in the form of a ring without cutting and joining. It is only necessary to

deflate the tube, then slightly diminish the circumference of the wires on one side of the wheel by easing the overlapping portions . . . and release the same with their attachments from the hooks, thereby enabling the 'jacket' to be turned back or inside out. In my provisional specification I stated that for the purpose of attaching the 'jacket' to the rim of the wheel I might employ hooks or fastenings secured to the rim. I am aware that hooks have been so applied prior to the date of my invention, and I do not claim such as my invention. Since the date of my provisional specification I have found that many of the rims of velocipede wheels as now made are not sufficiently strong to bear the strain required to be so placed upon them when such hooks are affixed to them in that way. In carrying out my invention, therefore, I prefer to adopt the method stated alternatively in my provisional specification, and therein fully set out, of constructing the hooks in one piece and attaching them as hereinbefore described. . . . The hooks (being found in one piece and the wires on each side pulling equally against them), themselves bear the whole or the greater part of the strain, instead of the rim of the wheel having to do so. I am aware also that both tyres and 'jackets' have been secured to the rims of wheels by fastenings of cords and wires prior to the date of my invention, and I lay no claim to such combination generally."

In July 1893 Preston Davies and another brought an action of suspension and interdict against Alexander Black, cycle agent, Reform Street, Dundee, on account of alleged infringement of above patent "by making and selling wheel tyres, in the construction of which he has appropriated a material part of the complainers' invention. In particular, the respondent has infringed said patent by making and selling wheel tyres in which overlapping wires free to move within the jacket and having free ends are used in the manner described in complainers' specification, or in a manner essentially similar. By the use of overlapping wires free to move within the jacket, and having free ends, it becomes possible to obtain circumferential variation without breach of continuity, and thereby readily to attach or detach the tyre. This is a material part of the patentee's invention protected by the patent, and of which the patentee was the original inventor."

The respondent denied the alleged infringement, and explained that "the respondent's invention differs entirely from that contained in the letters-patent on which the complainers found. Between the respondent's invention and the invention in which the complainers are interested, there are, *inter alia*, these points of difference—(First) The respondent uses two or more circles of wires, whereas the complainers only use one circle; (second) the respondent's circles of wire are on the inside of the rim, whereas the complainers' circle of wire is on the outside; (third) the

respondent's wires are joined together either by screws or straps, whereas the complainers' overlapping is not joined; and (fourth) the respondent's wires are in tension, whereas the complainers' are in compression. . . . Further, the respondent explains and avers that the complainer Preston Davies in whose favour the letters-patent founded on were granted, was not the first and true inventor of the alleged invention described in the said letters-patent and relative specification which are referred to for their terms, and that the said alleged invention was not first published in Great Britain by the said Preston Davies. The said alleged invention was published and was publicly known in Great Britain prior to the date of the said letters-patent. Inventions or contrivances similar to or substantially the same with the alleged inventions described in the letters-patent founded on by the complainers were described and disclosed in the following letters-patent, all prior in date to the letters-patent founded on by the complainers"—[Here follows a list of said patents, the most important of which are referred to by the Lord Ordinary].

The respondent pleaded—“(2) The complainers' averments so far as material being unfounded in fact, the respondent is entitled to have the present note dismissed with expenses. (3) The alleged letters-patent founded on by the complainers are null and void or invalid in respect (1) the said Preston Davies was not the first and true inventor of the alleged invention described in the said letters-patent and specifications; and (2) the alleged invention was publicly known prior to the date of said letters-patent.”

The Lord Ordinary (Low) allowed a proof, the import of which sufficiently appears from his Lordship's opinion, and thereafter on 20th March 1894 sustained the respondent's pleas, repelled the reasons of suspension, and refused the prayer of the note.

*Opinion.*—The leading question in this case is, whether the method adopted by the respondent of fastening pneumatic tyres to the rims of the wheels of velocipedes is an infringement of the invention set forth in the third claim of the complainer's specification.

“The objects of the invention, as stated in the specification, are two in number. The first is to obtain increased strength in the tyre; but it is not necessary to consider how the complainer attains that object, as the alleged infringement is not of that part of the invention.

“The second object is to provide means of securing the tyre to the rim of the wheel without sewing or solution, so that the internal or inflatable tube may be readily exposed to view for the purpose of examination, removal, or repair.

“The way in which the complainer accomplishes that object is as follows:—

“The rim of velocipede wheels is crescent-shaped, convex on the inner side—that is the side nearest the hub—and concave on

the outer side. The inflatable tube lies in the concavity, and is not fastened to it. The complainer holds the tube in position by a jacket or covering, which is brought over the tube and over the edges of the rim, and is fastened to the convex side of the rim, in the way which I shall presently describe.

“The jacket or covering is joined at the ends, and forms a circle, and it has along each of its edges a loop or passage, within which a wire is run. The wire is taken completely round the circle, and the ends are taken past each other until they overlap. The ends are then brought through the jacket to the outside of it, and are there left free and unfastened. If the ends of the wire thus overlapping and brought out of the jacket are pulled from—that is to say, further out of the jacket—the effect is to diminish the circle formed by the edge of the jacket, and if they are pressed back further into the jacket the circle formed by the jacket is enlarged.

“As I have said, the complainer brings his jacket over the edges of the rim, and he then fastens it to hooks upon the convex or inner side. These hooks project from the rim towards the hub of the wheel, and accordingly the imaginary circle formed by the points of the hooks is smaller than the circle formed by the convex side of the rim at the base of the hooks.

“The jacket is put on in this way—By pulling the projecting ends of the wires the circle formed by the jacket is made smaller than the circle represented by the points of the hooks, and the wires on each side are passed over the hooks, which are brought through eyelet holes in the jacket upon the inner side of the wires. The wires being then pressed down behind the hooks, the jacket is held in position. When the jacket is being put on the tube is not inflated, but when the wires are placed in position over the hooks the tube is blown up. The inflation of the tube puts pressure upon the jacket, drawing it away from the convex side of the rim. The pressure cannot, of course, pull the jacket off, the wires being caught behind the hooks, but the effect of the pressure is that the wires being free to move within the edges of the jacket, the circle which they form is enlarged, with the result that they are drawn down to the base of the hooks and bedded firmly upon the convex side of the rim. When they have attained that position there is no room for further movement.

“The advantage of this method of fastening the tyre is that if the tube is cut or pricked it can at once be got at. All that requires to be done is to get hold of the free ends of the wire, and pull them until the circle formed by the wire is sufficiently small to be brought over the hooks, when the jacket can be turned back or taken off, and the tube exposed to view.

“The complainer states in his specification that the crescent-shaped rim is no part of his invention, and that he is aware that both tyres and jackets have been secured to the rims by fastenings of wires. His first claim is for the combination in a wheel

tyre of an inflated tube with a protective wrapping between it and the rim, and a jacket of a particular description 'held in position on the under or convex side of the rim of the wheel by wires and hooks, all substantially as set forth.' The respondent is not said to have infringed the combination there claimed.

"The second claim is for a particular kind of hook, and the third claim is as follows—'In a wheel tyre the combination with a jacket, of wires, held at the edges of such jacket, but adapted to move within it, the said wires forming a completed circle or sections of a circle, and having overlapping ends substantially as set forth, and for the purposes specified.'

"The respondent is said to have infringed the invention set forth in the third claim. His jacket has wires running round the edges in the same way as in the complainer's jacket, but the respondent's wires instead of being brought outside the jacket, after overlapping once, are taken twice round the jacket. The ends are brought out of the jacket before overlapping a second time, and are not left free, but are coupled together. Further, the respondent's jacket is not, like the complainer's, brought over the edges of the rim and fastened to the convex side, but is embedded in the concave side, and is held in position entirely by tension. When the tube is inflated pressure is put upon the jacket, drawing it away from the rim. That drawing action enlarges the circle formed by the wires, and unless it was checked would ultimately cause the wires to slip over the edges of the rim, when the tyre would fall off. The respondent prevents that happening by coupling together the ends of the wires. The coupling has the effect of limiting the size of the circle which the wires can form, and when the drawing action has caused the circle to expand to its fullest extent, it then causes the wires to bite into the rim, and the jacket is thereby held in position.

"The respondent contends that he cannot be held to have infringed the third claim of the complainer, unless it can be read as a claim which protects every case in which wires whose ends overlap are used to fasten on a tyre or jacket. Such a wide claim could not, the respondent argued, be sustained, because, in the first place, the complainer made no such claim in his specification, and, in the second place, if he had done so, the claim would have been bad by reason of anticipation.

"The complainer, on the other hand, argued that the claim not only covered a particular method of fastening the jacket to the convex side of the rim, but also wires attached to the edge of a jacket in a particular way, and having particular characteristics, which might be used for fastening any jacket to either side of the rim.

"The complainer contended that the wires claimed by him possessed four properties which had never before been combined, and all of which the respondent had copied. These four properties were—(1) The wires were held at the edges of the jacket; (2) they were adapted to move

within it; (3) they formed a complete circle; and (4) they had overlapping ends. Further, the complainer contended that his wires performed two functions, both of which were performed by the respondent's wires. In the first place, they rendered it possible to increase or diminish the circle formed by the jacket, and thus to pass the jacket over the hooks if fastened to the convex side, or over the edges of the rim if fastened to the concave side; and in the second place, the overlapping of the ends enabled the jacket throughout the whole circle to be bedded down closely upon the tyre, whereas in wire fastenings which had previously been used the ends of the wire had been brought out of the jacket and fastened to the rim before completing the circle, with the result that the part of the jacket between the ends of the wires was not bedded to the rim, and when the tube was inflated that part of the jacket bulged out.

"In regard to the latter point, there is no doubt that the overlapping of the wires obviated in a very simple and efficient way the defect which many prior fastenings had of leaving a portion of the jacket not bedded down to the rim. But the complainer does not make any claim upon that ground, nor does he suggest throughout his specification that one of the advantages of his invention was to obviate the defect to which I have referred. The complainer, therefore, cannot object to what the respondent has done in so far as he beds down the jacket all round by overlapping his wires.

"It is now necessary to consider the previous patents founded on by the respondent in order to see to what extent the complainer's invention has been anticipated.

"In the first place, there is Starley's patent in 1884. In it a wire was used for fastening a solid tyre to the rim. The wire was run along a groove formed in the lower part of the tyre, the ends of the wire were overlapped and then brought through the rim, at the under side of which they were secured by means of nuts. The wire in this case was used merely as a means of fastening, and did not perform the functions for which the complainer's wires were designed. As I have pointed out, the complainer's object was to be able to enlarge and contract the circle formed by the wires, so that they might be put over the hooks, and then, when the pressure was applied, bedded down on the rim at the base of the hooks. In Starley's patent there was no room for any such device, the tyres being solid. There is one respect, however, in which Starley's patent seems to me to attain the same end as the complainer's. If the ends of the wires in Starley's patent had not overlapped, a portion of the tyre would not have been fastened to the rim. Starley's patent therefore does just the same thing in the way of preventing a loose piece of a solid tyre, which the complainer's patent does in the case of a pneumatic tyre, and the principle seems to me to be the same in both cases. That fact may very possibly

explain why the complainer did not claim that by overlapping his wires he had remedied the defect of a portion of the tyre not being bedded down upon the rim.

"The next patent is Seddon's in 1891. The chief object of his invention was to overcome the defect to which I have referred, of an unconnected or loose piece of the tyre. He uses wires for fastening the tyre on to the rim, and the wires are run through a loop in the edge of the jacket, and are free to move in the loop, just as the complainer's are. Seddon, however, brings his wires out of the jacket before they have completed the circle, and he prevents the intervening piece of the jacket being loose by bridging it over with a piece of metal attached to the jacket. The bridge piece has a hole at each end, through which the ends of the wire come when they emerge from the jacket, and they are coupled together underneath the bridge piece. Seddon's wire, when the ends are coupled, forms a complete circle, and it is free to move in the jacket to such an extent that the circumference of the jacket can be opened out sufficiently to permit of its being passed over the edges of the rim. The jacket is applied to the concave side of the rim, and although nothing is said about it in the specification, I imagine that when the tube is inflated (if an inflatable tube is used) there must be tension upon the wires, causing them to bed into the rim just as in the case of the respondent's tyre.

"Finally, there is Robertson's patent. He makes the rim of his wheel with a groove running round each edge, and the jacket is fastened to the rim by wires running along passages in the edges of the jacket (as in the complainer's patent), and passing through the rim, to the under side of which they are fastened by nuts. Robertson says that each wire may pass 'entirely around the rim,' but he prefers 'to employ two or more wires on each side: each wire passing only around a portion of the rim.' Nothing is said in the specification about the wires overlapping, but I think that there was plainly intended to be some overlapping. If a single wire was used, it could not pass 'entirely around the rim' unless the ends overlapped, and if two or more wires were used, no one would think of fixing them otherwise than overlapped to some extent, because to do otherwise would involve leaving a piece of the tyre unsecured at both ends of each wire.

"Therefore wires free to move in the edges of the jacket and by means of which the circumference of the jacket might be varied, were not a novelty, and the use of overlapping wires for securing tyres was no novelty.

"It therefore seems to me to be doubtful whether the complainer could claim as an invention wires free to move in the edges of the jacket, and having overlapping ends generally, and apart from the particular way in which they were to be used. But however that may be, it seems to me that his specification shows that he did not intend to make any such general claim, because the third claim is for wires having

the characteristics described 'and for the purposes specified.'

"These purposes are stated in the specification. It is there said that the jacket is affixed to the rim by passing it over the hooks, 'the wires at the same time being caught over such hooks and encircling the convex side of the rim.' It is then explained that when the tube is inflated, 'the circles, semi-circles, or other sections of wires being free to move within the loops, can enlarge the diameter as expansion proceeds, and are drawn down and so made to bed on the rim of the wheel.' Again, directions are given how to get at the tube for examination, repair, or removal. It is there said—'It is only necessary to deflate the tube, then slightly diminish the circumference of the wires on one side of the wheel by easing the overlapping portion . . . and release the same with their attachments from the hooks, thereby enabling the jacket to be turned back or inside out.'

"It therefore seems to me that the complainer's wires are designed and claimed only for the purpose of affixing a jacket to the convex side of the rim by passing them over hooks or studs. The wires perform that function, because it is possible to diminish the circle which they form, and thereby get them over the hooks, and then to enlarge the circle by inflating the tube, and thereby cause them to bend down upon the rim. The complainer limits his claim to the use of the wires for these purposes, and, in my opinion, he is not entitled to restrain the use of similar wires for a different purpose accomplished by a totally different mode of action.

"Further, it seems very doubtful whether if the complainer's jacket was applied to the concave side of the rim, his wires would hold it on. If the complainer's jacket was so applied, and the tube inflated, a drawing action would be communicated to the wires, which, unless it was checked or counteracted by some means, would draw the wires out of the rim altogether. The respondent, as I have pointed out, checks or counteracts the drawing action by bringing the ends of the wire out of the jacket before they overlap the second time, and then coupling them together. But it would be impossible to couple the ends of the complainer's wire together because they overlap before they emerge from the jacket, and are then pointing in opposite directions. The only other means by which the drawing action could be counteracted would be by friction, and whether the wires, if not coupled together, would create friction enough to resist the drawing action would, I imagine, depend on the extent to which they overlapped. But there is no suggestion in the complainer's specification that any means require to be adopted by joining the ends of the wires, or by having a sufficient length of overlap, or otherwise, to counteract the drawing action caused by inflation of the tube. Indeed, the idea of coupling the ends together is negatived, because it is said that they are to be left free. The reason is that the only method of fastening on the jacket which the com-

plainer had in view was by passing the wires over hooks, or some similar device, a method in which the necessity of counter-acting the drawing action did not arise.

"I do not suggest that the complainer's third claim is not a perfectly good claim for wires of the character described and for the purposes specified, but I am of opinion that the respondent has not infringed the invention set forth in that claim. In the first place, he does not use wires for the purposes specified in the complainer's specification, but for a different purpose, and acting in a different way. In the second place, the respondent's tyre is fastened by means of a wire, free to move in the edges of the jacket, having its ends coupled together, and made to grip the concave side of the rim by the tension caused by inflating the tube. That method seems to me to have been disclosed in Seddon's patent. In the third place, the only thing, so far as I can see, which makes it absolutely necessary that the respondent's wire should overlap within the jacket is that unless it did so there would be a piece of the jacket not bedded upon the rim. But that function of the overlapping wire is not part of the complainer's invention.

"I shall therefore refuse the note."

The complainers reclaimed, and argued—The very simplicity of the invention seemed to raise a presumption against its novelty and value, yet no one had thought of it before. By the device of overlapping ends of wires free to move within the jacket, the jacket could be easily adjusted so as to afford ready access to the inner tube. The Lord Ordinary was mistaken in saying that the function of the overlapping wire was not part of the complainers' invention. It was the principal part. At the same time, and as a consequence, the circle was completed, and the awkwardness of an unrestrained gap between two ends of wires unconnected or connected by a plate was avoided. There were four points in the complainers' third claim, viz., (1) wires at the edge of the jacket, (2) free to move within the edges, (3) describing a whole circle, and (4) with overlapping ends. All these points were taken advantage of by the respondent, and for the same purposes as those attained by the complainers. Difference of treatment after overlapping, as by taking the wires twice round, coupling the ends, imbedding the wires in the concave and not on the convex side of the rim, was immaterial, the real object of the patent having been already infringed. In Starley's patent the ends of the wires overlapped, but that was the totally different case of a solid, not a pneumatic, tyre. The wires there were used, not for adjustment, but for permanent fixture. In the other two leading patents cited against them there was no overlapping.

Argued for the respondent—The Lord Ordinary's interlocutor was right. (1) The prior patents were not founded upon as invalidating the complainers' claim when construed in its proper and narrow sense,

but as showing how much had already been known, and thus negating the wider meaning sought to be put upon it. There was no mention, *e.g.*, of the unsupported gap in the specification. It must be confined to the particular method of attachment the complainers had themselves adopted, whereas the respondent's method was quite different. (2) The complainers could not claim to have invented the principle of overlapping the ends of two wires. (3) It was, to say the least, doubtful whether their method was not a mere adaptation of well-known mechanical principles, and as such not a valid subject for a patent.

At advising—

LORD M'LAREN—This is an application for an interdict against the respondent Alexander Black restraining him from infringing the complainers' patent for "Improvements in Elastic Tyres." The Lord Ordinary has refused the prayer of the note on the ground that the respondent had not infringed the complainers' patent, and we have heard counsel on the question of infringement. This question resolves into a comparison of the complainers' specification and claim with the description of the things manufactured and sold by the respondent.

The subject of the patent is a covering or jacket (as it is termed) for the pneumatic tyres which are now so much used for the wheels of bicycles. The so-called pneumatic tyre is, as is well known, an endless indiarubber tube inflated with air and passed over the metal rim of the wheel. Now, as the exterior surface of this rim is concave, it follows that if the indiarubber tube were inextensible it would require no attachment to keep it in its place as a tyre, because being inextensible it could not get out of the circular groove in which it is imbedded. But as indiarubber tyres are extensible, it is necessary that they should in some way be made fast to the rim of the wheel. In the complainers' invention the indiarubber tyre is protected by a jacket or belt of canvas wrapped round it, and fastened by hooks to the interior surface of the rim, by which I mean that surface of the rim which is nearest the centre of the wheel. Then, as I understand, a seam is made on each side or border of this belt, and through each seam a wire is passed free to move within the seam, and with the ends protruding from the openings. Now, when the tyre is slipped over the rim of the wheel, and the canvas belt is wrapped round it, by drawing the wires tight the belt is made to fit close to the tyre, and is then ready to be fastened to the rim of the wheel by hooks or other equivalent fastening. If I have made the construction intelligible, it is plain that the wires have not the effect of securing the tyre and its enveloping belt; on the contrary, whenever the belt is unhooked, it has only a loose attachment, because the wires passing through it are not joined at the ends, and are free to extend themselves. This, indeed, is one of the merits of the invention as explained to us, because it is said that in

this way ready access can be got to the tyre for cleaning and repair.

The respondent's wrapper in general form resembles the complainer's. It is a canvas belt with wires passing through seams on each border. But the mode of attachment and the mechanical principle on which the attachment depends are quite different. In the respondent's wheel the belt only incloses the indiarubber tyre; it does not inclose any part of the metal rim of the wheel, but rests with its contained tyre in the grooved exterior surface of the rim. How, then, is the tyre secured to the wheel? In this way—The wires are just long enough to pass twice round the great circle of the rim, and their ends are clasped together either with hooks-and-eyes or by a buckle and leather tongue. By this simple but ingenious device the tube and its wrapper are transformed into an inextensible tyre, because the wires are inextensible and incapable of being drawn out of the groove of the rim, and as the wires are virtually in rigid connection with the indiarubber tyre, it also is unable to get out of the groove—that is, over the edge of the rim of the wheel. In the respondent's belt the resistance to any pressure tending to displace the tyre is the reaction of the endless wire passing round the circumference of the wheel. In the complainers' belt the resistance to displacement depends entirely on the hooks which attach it to the rim of the wheel.

From the explanations which I have given it will be seen that if the exclusive privilege granted to the complainers is for a new mode of securing indiarubber tyres to these wheels they have no case at all of infringement, because the respondent's mode of attachment is different, and depends on mechanical reactions which do not exist in the complainers' tyre when secured in the manner described. It is, I think, a fundamental point in patent law that mere external resemblance in mechanism does not in itself constitute infringement, because all machines are made for the most part of mechanical elements which are well known, and it is the construction of these elements into a machine or part of a machine directed to a definite use that constitutes the invention. Accordingly, the view pressed upon us in the argument was that under the third head of the complainers' claim the belt or "jacket" was itself the subject of the patent. It was urged that the jacket in itself had this value, that the overlapping ends of the wires acted as a stiffening to the jacket at the opening where but for the presence of the wires the tyre would not be sufficiently supported, and the jacket would not be fitted tight to the tube or tyre. It appears that this advantage is incidentally noticed in the specification, but I cannot read the third head of the claim either as a claim to a use of the jacket conferring this advantage, or as a claim to the design of the jacket independently of its application to the support of indiarubber tyres in the manner de-

scribed. The claim in question begins with these words, "In a wheel tyre, the construction with a jacket of wires held at the edges of such jacket, but adapted to move within it," and it ends with the words, "substantially as set forth and for the purposes specified." Now, the thing would not be a wheel-tyre if it were put on without attachment, and it is certain that the complainers' "jacket" would be perfectly useless if it were not secured to the rim of the wheel by hooks or a mechanical equivalent. I can only read this claim as a claim to the construction of wires, fitted as described with a jacket, which is to be attached to the wheel in the manner described, so as to form a tyre or an element of the tyre. This seems to me to be a more reasonable construction of the claim than the supposition that it covers the canvas belt with its contained wires, which would not, in my opinion, be a proper subject of a patent. But if I am right in holding that the respondent's tyre is a different tyre because put together in a manner depending on different mechanical principles, then the use of wires in such a tyre, not for the purpose of stiffening but for clasping the tyre about the circumference of the wheel, is no infringement. There can be no patent for the external form or design of an element of mechanism apart from the use to which it is applied. So much at least may be asserted when the design amounts to no more than passing a wire through a seam. But the use which the respondent makes of the wire is excluded by the complainers' specification, in which it is plainly implied that the ends of the wires are to be free.

Being of opinion that the respondent has not infringed the patent, it is unnecessary that I should consider the defence of anticipation, or the evidence explanatory of the specifications of other designers which are said to be anticipations of the complainers' design. If your Lordships agree with me the Lord Ordinary's interlocutor will be affirmed.

The LORD PRESIDENT, LORD ADAM, and LORD KINNEAR concurred.

The Court adhered.

Counsel for the Complainers and Reclaimers—Ure—C. N. Johnston. Agents—T. & W. A. M'Laren, S.S.C.

Counsel for the Respondent—Graham Murray, Q.C.—Craigie. Agents—Fyfe, Ireland, & Dangerfield, S.S.C.