Syllabus.

The law under which the right is claimed is the seventh section of the act of 1836, which, after limiting and specifying the three instances to which the Commissioner's examination is confined, says, in the event of the existence of either of the conditions, that he shall notify the applicant thereof, giving him briefly such information and references as may be useful in judging of the propriety of renewing his application, or of altering his specification to embrace only that part of the invention or discovery which is new.

If these references are to be considered by the judge as grounds on which his opinion in this appeal is to be based, then the rule of law above stated and relied on by the appellants is certainly applicable, more especially as it appears that the references originally referred to as the grounds of the Commissioner's decision, and from which this appeal was taken, so far from now being confided in, are virtually abandoned.

I have therefore thought proper, and do hereby decide, that the said decision of the Commissioner of Patents be, and the same is hereby, reversed for the purposes aforesaid, and the Commissioner is hereby directed to proceed in the said case accordingly.

P. H. Watson, for the appellant.

WILLIAM F. TYSON, APPELLANT,

vs.

JAMES RANKIN, JR., APPELLEE,

vs.

EBENEZER BEARD, APPELLEE. INTERFERENCE.

QUESTION OF PRIORITY OF INVENTION—IMPLIES INTERFERENCE—INTERFERING MACHINES.—The question of priority of invention can only arise in such manner as to defeat an application for a patent when there is an interference according to the principles of the patent law, by which principles

there must exist substantially an identity; and in the case of interfering machines the *modus operandi* may be looked to as a test.

INTERFERENCE DISSOLVED—DIFFERENCE IN CONSTRUCTIVE OPERATION—PURPOSE.—The interference dissolved, it appearing that while there was a general similarity in the inventions of the respective parties, in the fact that both inventions contemplated the addition of flanges to the ends of propeller blades, the disposition of the flange with reference to the blade was different in each case, was intended for a different purpose, and accomplished a different result.

(Before MORSELL, J., District of Columbia, June, 1853.)

STATEMENT OF THE CASE.

Tyson's application in interference in this case subsequently issued as patent No. 9810, June 21st, 1853, antedated December 21st, 1852. (For diagram of the invention, see Patent Office Report, 1853, vol. 1, page 236.) The application of Beard subsequently issued as patent No. 10,124, October 18th, 1853. (See Patent Office Report, 1853, vol. 1, page 373.)

MORSELL, J.

In the early stage of the proceedings in this case it appears that there were other opposing parties, but in the close the only real parties to the issue were the said Tyson and Beard.

Beard's original application, with his specification, was presented to the Office in June, 1845, and his claim was "the application to each of the helical wings of a propeller of one flange so as to extend in both sides at the outer edge or end of it for the purpose or purposes as herein described, and also the arrangement of the flange upon the outer edge of the wing in the diagonal manner herein explained." He claimed also the peculiar mode of constructing the propeller by making or casting the hub in sections, and each of said sections upon and with one of the wings, the whole being arranged and confined together, substantially as set forth. He also claimed the combination with each of the sections of the hub, and with the collars or other contrivances by which the parts of the hub are confined together, of a tenon and mortise formed in or upon the opposite sides of the said section, as therein above set forth, the same being for the purpose of transferring the strain upon each wing to the sections of the hub and parts adjacent to the aforesaid section.

Opinion of the court.

It appears from the report of the Commissioner that upon refusal of the Office of a patent to Beard he withdrew his said application, in which rejection he is informed "that a propeller with the curved wings referred to was then in the Office, and that it was rejected as unpatentable in the spring of 1844." Again, on the 27th of September, 1845, the Commissioner states to him "the opinion was expressed that the flange could not be claimed."

Tyson's application for a patent in this case was made in the year 1850. In his specification he says: "Having thus described my propeller, what I claim therein as new and desire to secure by letters-patent are the blades constructed with lips or rims which are sections of a cylinder concentric with the axis on which the propeller rotates, as herein specified. The object for which this propeller is designed is the propulsion of vessels; but it is believed to be peculiarly fitted for canal navigation, as the rims of the blades, by retaining the water, prevent it from moving laterally from the propeller-shaft, and thus prevent the production of waves, which would act injuriously upon the banks. Upon examination it was at first supposed that this claim was the same as that of Hollingsworth's propeller, which had been rejected as unpatentable. On further examination the Commissioner, by his letter of the 11th of November, 1852, informed Mr. Tyson that his claim was again rejected; and he was additionally referred to an application of Mr. E. Beard, withdrawn in August, 1846, wherein is described and represented the cylindrical flange applied to either or both sides of the helical blades.

On the 30th of October, 1852, the Commissioner addressed a letter to Mr. Beard, stating that since the rejection of his application for alleged improvements in propellers an application for the same contrivance has been filed by Mr. William F. Tyson, of Orwigsburgh, Schuylkill County, Pennsylvania.

"After some correspondence Mr. Tyson was rejected upon your propeller. He now proposes to prove that he invented the exterior flanges, which are portions of a cylinder whose axis is the same as that of the propeller-shaft, prior to the date of your invention thereof. If he succeeds in his purpose, the Office will be obliged to grant him a patent, as it has not, after diligent search, been able to find flanges of the same shape, and as it now believes that such

shape produces useful effects, differing from those produced by other shapes of flange.

"Mr. Tyson has been ordered to notify you of the time and place of taking the testimony, so that you may appear, &c. (See rules, &c.) You also are at liberty to take testimony under notice to Mr. Tyson. Such testimony, if taken, must be received by this Office prior to the first Monday in February, 1853; and if you thereby prove that you invented before Tyson, of which fact the Office judges, you will be given notice thereof; you may renew your application, and obtain a patent for your flange, if you in addition prove that you invented prior to the invention of the same thing by James Rankin, Jr., of Detroit, Michigan, who has now before the Office a pending application describing the same form of flange, your testimony must therefore be taken under notice to Rankin."

In this letter it will be observed that the Commissioner states the contrivance to be the same in Beard's specification of claim as in that of Tyson's; whether in all its material features or not, he does not say. In alluding to the peculiar form of the flanges in Tyson's specification, which is a section of a cylinder concentric with the axis on which the propeller rotates, he says, after diligent search he has not been able to find flanges of the same shape, and that said shape produces useful effects differing from those produced by other shapes of flanges; from which it would certainly appear that he thought the peculiar form or shape of Tyson's flange a very important and material feature. It is to be clearly inferred that he thought the invention new, useful, and patentable; perhaps he might think it especially so as designed and fitted for canal navigation.

The parties were authorized to take testimony according to the rules of the Patent Office to show which was the prior invention. From what I have above said, it is but reasonable to suppose that the Commissioner did not mean to say that the issue, "whether there was or not a substantial difference in the two inventions," was not also to be understood as a necessary part of the proof to be offered.

The witnesses on the part of Tyson prove his invention as far back as the 19th of October, 1844. This, Rankin seems to

admit, is prior to his claim; so there only remains to oppose Tyson, Beard's invention.

The depositions of several witnesses were taken on the part of Mr. Beard, the first of whom proves that Beard suggested the idea of the flange for preventing the water from passing off of the blades, and for making it pass off more in the direction of the wake of the screw-propeller in December, 1840. The next witness proves that in July, 1844, the said Beard made the portion of the pattern of a screw-propeller marked Exhibit "A," then produced and shown to him, and to be forwarded to Washington with the witness' deposition; that he assisted him in making it. The peculiarity of this model or pattern of a propeller consisted in its having attached to the outer rim or periphery of its arms or blades a flange projecting at right angles from both sides the plane or surface of the blade or arm, and resembling in form the tread of a cast-iron rail car-wheel. The object of this flange or rim was to prevent the water passing off the extremity of the blades and to give the water a direction aft in passing from the propeller when in motion. "After the pattern marked Exhibit 'A' had been made about a month, I saw the cast-iron model here present, marked Exhibit 'B;' it was then on board a steamboat then lying at a wharf in Boston harbor. This was the latter part of July, 1844, or the early part of August. He says he knows this date, from the fact that he was then employed on said boat as cook. The cast-iron model has the flange like the wooden model 'A.'" The depositions of the other witnesses are to the same effect.

On the first Monday of February, 1853, according to previous notice, the case was tried before the Commissioner, who says: "The testimony submitted by the parties having been fully considered, it is hereby decided that the interference be dissolved, the evidence showing that Ebenezer Beard is the prior inventor." From which decision this appeal has been prosecuted.

The first reason of appeal states that priority of invention of the improvement claimed by the said William F. Tyson "of a flange on the outer ends of the blades of propellers whose position and form coincide with a spiral section of the periphery of the figure described by the rotation of the ends of said blades ought not to have been adjudged by the Commissioner to Beard,

because it is not in proof, or pretended, that the said Beard at any time, even to this day, ever invented such flanges."

The second and third reasons are the same in substance with the first—"that Tyson's is a different contrivance from that which Beard claims."

The fourth reason is "because the form of the flanges of the blades of the propeller claimed by said Tyson, and which constitute the essence and only subject-matter of Tyson's invention, Beard neither proves he has invented nor claims that he has."

The Commissioner in his answer to these reasons states that it was upon the broad ground "that the evidence showed that priority of invention was in favor of Beard that the decision was so made.

According to previous notice given of the time and place of hearing the appeal, the appellant by his counsel and an examiner on the part of the Office appeared, and all the papers, with the models and evidence and the reasons of appeal and the report of the Commissioner, were produced and laid before the judge, as required by law. On which trial, at the request of the appellant by his counsel, the said officer so appearing on the part of the Office was examined on oath in explanation of the principles of the invention and models for which a patent is prayed for. The examiner in substance says to the seventh and eighth interrogatories "that the inner surface of the flanges of the blades of Tyson's propeller, he supposes, will be admitted to be concentric with the axis in which they rotate, and that the water thrown out by the blades of said propeller, he supposes, it will be admitted will be deflected by the flange considerably, and the formation of a lateral wave greatly prevented."

To the eleventh interrogatory he says, as he understands from Tyson's specification, his propeller is designed by him for canal propulsion.

In his answer to the twelfth interrogatory, after stating that he had not an opportunity of examining all the propellers in the model rooms of the Office, he says: "I do not recollect of any propeller having flanges to the blades where the inner surfaces of the flanges are concentric with the axis in which they rotate, except Tyson's, unless one of the models of Beard's rejected application deposited in the office of the judge (where the cause

was heard by the judge) shows such flanges; and with respect to them, I have not a definite recollection." (They have been carefully examined since, and found that they do not show such flanges as above described.)

To the fourteenth interrogatory he says Beard's models do not all show the flange placed in the same relative position to the blade, nor do they all show precisely the same direction of inner surface of the flange. No one of them, probably, would give the same deflection to the water as Tyson's, nor tend so greatly to lessen the formation of the lateral wave." There were further answers made by this examiner to other interrogatories, to which I refer, and proceed to state the answers of Mr. Examiner Peale made on the same subject at my request. On examining critically the various models hereinbefore alluded to, he says, in answer to the seventh question: "The flanges on the blades of Tyson's propeller are so formed that their inner surfaces are concentric with the axis on which they rotate."

To the eighth: "Water thrown out radially by the rotation of the blades will be arrested on striking the inner surfaces of the flanges at right angles to the radii or blades, which thus tend to prevent the formation of a lateral wave."

To the fourteenth he says: "The inner surfaces of the flanges in Beard's propeller slope outwards from the radial line at an inclination of at least ten degrees; consequently water thrown out radially by the rotation of the blades will be deflected an equal number of degrees backwards, which will lessen, but not destroy, the lateral wave."

To the fifteenth he says: "The flanges of Tyson's propeller being parallel with or in the line of circumference, are at less than a right angle with the radial line, and incline inwards about ten degrees. The inside of Beard's flanges slope outwards about ten degrees. Thus the first (Tyson's) may be said to form an acute angle with the blade, while the latter (Beard's) forms an obtuse angle with the blade."

To a supplementary question—"Is the difference between the flanges of Tyson's and Beard's propeller-blades so substantial and important as clearly to distinguish them and to constitute the subject-matter of letters-patent?"—he says: "If the object of Beard in constructing the flange to his propeller-blade was to prevent

a lateral wave in canal navigation—which appears to be the object aimed at by Tyson—the difference of construction would not be patentable; but if Beard aimed only at the propulsion of a sea or river boat, and disregarded the lateral wave, while Tyson had in view the prevention of the lateral wave only, the difference, in my opinion, is sufficient to authorize the issue of letters-patent—the object of the invention, as well as the specific construction of the apparatus in each case, being different, although bearing a close resemblance to each other; but as I have not read the specifications of either of the parties, I am not prepared to say that their objects were as I have supposed."

What, then, is the proper effect which ought to be given to the testimony?

The witnesses on the part of Tyson establish his invention, as stated and claimed by him in his specification, to have been discovered in October, 1844; those on the part of Beard prove his to have been at an earlier period. In their testimony to show the particular description of the invention they refer to the models "A" and "B," from which some inaccuracy in what they state is apparent. The models must, I suppose, be preferred in ascertaining the true shape and form of his flanges. This proof may be sufficient, perhaps, to support his claim for a patent. On this point, however, I do not deem it necessary in determining this issue to decide. What I am to consider is, whether there is an interference, according to the principles of patent law, between Tyson's invention and that of Beard's; because if there is not, then there is no such priority as ought to prevent Tyson from obtaining his patent as prayed, by which principles there must exist substantially an identity; and this being in the case of a machine, the *modus operandi* may be looked to as a test. In the application of the facts it will not be improper to notice what is said by Commissioner Ewbank in his letter addressed to Beard. In that letter he seems to consider the peculiar shape of Tyson's flange as material and important, and I think very correctly. He says that the one attached to Tyson's propeller was unlike any thing that he had been able to discover after a diligent search in the Office; and that he believed it would produce useful effects, differing from those produced by other shapes of flanges. On a particular examination and comparison of the different models in

the two cases, although in some respects they were found to be alike, in others they were found materially different—the invention of the one fitted and suited for canal navigation, for which it was intended, and the other only for sea or river navigation. In the one the flanges stand parallel to the circumference of their circle of rotation, and form an acute angle with the blade; the others stand across the circle of rotation, forming an obtuse angle with the blade. The one arrests the radial motion of the water and prevents the lateral wave, whilst the other, by deflecting, lessens it; the inside of the flanges of the one sloping outwards about ten degrees, and forming an obtuse angle with the blade, and the other being parallel with or in the line of circumference at less than a right angle with the radial line, and inclining inwards about ten degrees, as I have before partly said.

Such appear to me to be the differences between the two inventions, and which I consider very material and essential, and sufficient to show that they are not so identical as to sustain the issue of interference and the priority involved in it, and to justify the decision on that issue in favor of Mr. Beard.

I have been greatly assisted in this investigation by the able and lucid statements made by the two examiners from the Office in their answers made to the interrogatories put them on this occasion, whose answers will be herewith sent, and which upon examination will be found fully to justify the conclusion to which I have arrived.

I am therefore of opinion, and do so decide, that the said decision in favor of Mr. Beard is erroneous, and ought to be reversed, and that a patent ought to issue to Mr. Tyson for his said invention.

P. H. Watson, for the appellant.

Examiners Peale and *Everett*, for the Commissioner.