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PATENT—OHIO STATE UNIVERSITY—NEW ARTICLES MADE OR PROCESSES DISCOVERED THROUGH RESEARCH IN ENGINEERING LABORATORIES AND PATENTS GRANTED—EXPENSE OF RESEARCH BORNE BY OUTSIDE AGENCY NOT ENTITLED TO ASSIGNMENT OF PATENT IN ABSENCE OF CONTRACT.

SYLLABUS:

1. *The Ohio State University, through its Board of Trustees, may lawfully contract with persons, firms or corporations, or associations of persons, firms or corporations who seek the assistance of the Engineering Experiment Station affiliated with and operated in connection with the College of Engineering, and who bear in whole or in part the expense incident to such assistance, that any patents granted on processes discovered or devised or on articles of manufacture developed in the course of rendering such assistance, shall be assigned in whole or in part to the cooperator.*

2. *In the absence of contract, contributing agencies are not entitled to an assignment of patents obtained as a result of experiments or research work conducted by the Engineering Experiment Station affiliated with the College of Engineering at the Ohio State University, even though such contributing agencies bear a part or the whole of the expense incident to such experiments and research.*

COLUMBUS, OHIO, December 3, 1930.

DR. GEORGE W. RIGHTMIRE, *President, Ohio State University, Columbus, Ohio.*

MY DEAR DR. RIGHTMIRE:—This will acknowledge receipt of your communication requesting my opinion with respect to the proper construction and effect of the provisions of Section 7961-5, General Code of Ohio, insofar as those provisions may affect the ownership of inventions, or license rights in the use of patents, conceived and patented as a result of experiments conducted or discoveries made by the Engineering Experiment Station at the Ohio State University. The pertinent part of your letter of inquiry is as follows:

> "Under the provisions of the Ohio General Code, Section 7961-5, if an invention is made in carrying on research work, may it be patented, (a) for the benefit of the University, and (b) for the benefit of any individual, firm, or corporation for which the research work is being done?
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> Much research goes on at this Station in cooperation of the University with an individual or firm outside, who has certain questions about his business which he desires the University to answer after a series of research projects; these are expensive and ordinarily the individual or firm contributes money for the purchasing of materials or particular pieces of apparatus, or for the payment of research engineers who will work on his project, or contributions may be made for all of these purposes. The University furnishes its laboratories, some of the paid members of its staff for supervising the research and for consultation, and perhaps for actually doing some of the work.
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> Now, in the progress of the research work a method of proceeding, or what is usually called a process, may be devised or discovered which in itself is patentable, or the outcome of the research may be an article of manufacture, such as a building tile, which may also be patentable. Of course, the inventor is the only one who can make an application for the patent, if one is made, and a patent, if obtained, gives to somebody the exclusive right to make, use and sell the invention. Under the supposed circumstances the exclusive

right might be thought of as in the individual engineer who is the inventor, or it may be thought of as in the University, by assignment, or it may be thought of as in the cooperator on the outside who presented the question and who furnished much of the money.

The foregoing statements will somewhat illustrate the situation here, and may possibly be sufficient for your purposes now in rendering an opinion as to the effect of Section 7961-5 on the rights involved at this point."

The Engineering Experiment Station of the Ohio State University was established in 1913 by an act of the General Assembly (103 O. L. 647). The said act was codified as Sections 7961-1 to 7961-5, inclusive, of the General Code of Ohio.

By the terms of the aforesaid act, the Board of Trustees of the University was directed to establish an experiment station to be affiliated and operated in connection with the College of Engineering of the University, and the station was accordingly established.

It was provided that a director of the station be appointed on the recommendation of the President of the University, and an Advisory Council of seven members appointed by the Trustees of the University.

The purpose of the station as set forth in the act is to make technical investigations and to supply engineering data which will tend to increase the economy, efficiency and safety of the manufacturing, mining, transportation and other engineering and industrial enterprises of the state, and to promote the conservation and utilization of its resources. To that end, the various laboratories and the equipment of the College of Engineering are made available for the use of the station when such use does not interfere with their primary use for instruction and research in the regular work of the College. The Director of the station is authorized to procure any needed additional equipment, for either temporary or permanent use, and install the same in the laboratories of the College or elsewhere.

It is made the duty of the Director of the station and its Advisory Council to select suitable subjects for investigation, apportion the available funds and provide for the dissemination of the results of its investigations to the people of the State of Ohio.

Section 7961-5, General Code, reads as follows:

"The engineering experiment station shall not be conducted for the private or personal gain of any one connected with it, or for the financial advantage of the Ohio State University as an organization, or for the sole benefit of any individual, firm or corporation.

Any commission, board, bureau or department of the state, or any institution owned by the state, may seek assistance of the engineering experiment station, and such requests shall have precedence over all other outside requests. The advisory council of the engineering experiment station is, however, empowered to decline such requests or to require that the expense of such investigations shall be borne in part or in whole by the commission, board, bureau, or department of state, or institution owned by the state, making such requests.

Any individual, firm or corporation may seek the assistance of the engineering experiment station; the advisory council of said station is, however, empowered to decline to render such assistance or to require that any expense incidental to such assistance shall be borne in part or in whole by the individual, firm or corporation seeking such assistance, and the advisory council of the engineering experiment station is further authorized at its option to publish the results of such investigation.

Nothing in this bill shall be construed as in any way limiting the powers of the advisory council of the engineering experiment station to carry on lines of investigation upon its own initiative."

Research work similar to that conducted by the Engineering Experiment Station of Ohio State University has come to be an important part of the work of all outstanding modern state universities. Much of this work is conducted with funds made available for the general use of the university and performed by members of the regular staff of the university. Other special projects and undertakings are financed by outside firms and individuals who cooperate with the university not only with funds but with suggestions and helpful leads, sometimes furnishing special equipment needed for the particular work, which equipment is installed in the shops and laboratories of the university. Oftentimes specially trained research engineers are employed for particular undertakings at the instance of cooperating agencies who furnish the funds for paying the salaries of such operatives.

Any funds contributed by cooperators for any purpose are paid to the university, placed in its treasury and paid out in the regular way upon vouchers of its proper officers as are the regular funds of the university disbursed. Special research engineers and workers are placed on the regular university payroll and paid in the same manner as regular members of the universitay staff are paid, whether the funds with which they are paid are contributed by cooperative agencies or not. Such workers are employes of the university even though they are employed at the instance of some cooperating firm or individual and paid with funds furnished by the cooperator.

Questions arising between employer and employe as to their respective rights in patents obtained as a result of the efforts of the employe while in the course of his employment, are not easy of solution, in the absence of express contract covering the subject. General rules are difficult to formulate as well as to apply. Courts have not always been in accord in applying such rules with reference to the matter as seem to have been recognized as established. Cases turn largely on the circumstances of employment, in the absence of specific contracts, and oftentimes on such minute considerations as to lead the courts to draw very fine distinctions.

It is well settled that the mere fact of the relationship of employer and employe does not necessarily entitle the former to inventions made by the latter in the course of the particular employment. A contract to assign or transfer to the employer a patent or whatever other rights an employe may have in an invention, as distinguished from a mere license to use the same, will not be implied in law from the mere relation of the parties.

An employer who hires the mechanical skill of an employe does not necessarily thereby secure his ability to invent. In the absence of special contract or special circumstances, the law, while giving the employer the benefit of the employe's mechanical skill, draws the line when inventive talents enter, and gives the result to the inventor, although the invention may have been developed at the employer's expense and by the use of his tools and materials. Under certain circumstances in such cases, the employe may have an implied non-exclusive irrevocable license to use and perhaps to make and sell the invention. Illustrations of this rule are the cases of *Hapgood* vs. *Hewitt,* 119 U. S. 226; *American Circular Loom* vs. *Wilson,* 198 Mass. 182; *Eustis Mfg. Co.* vs. *Eustis,* 51 N. J. Eq. 565; *Detroit Testing Laboratories* vs. *Robinson,* 221 Mich. 442.

There are many cases, however, holding that even in the absence of an express contract, circumstances may be such as to entitle the employer to assert a right to the invention of his employe and especially is this true where the real discoverer of a new principle or one who conceives a general principle or plan from which there is developed a patented process or article, employs another to perfect the details of the

invention. *Mineral Separation* vs. *Hyde,* 242 U. S. 261; *Wire Specialty Apparatus Co.* vs. *Mica Condenser Co.* (Mass), 131 N. E. 307; *Famous Players-Lasky Corp.* vs. *Ewing* (Cal. App.), 194 Pac. 65; *United States Shirt and Collar Co.* vs. *Beattie,* 79 C. C. A. 442.

If one is employed for the express purpose of using his inventive faculty for his employer, the latter is entitled to inventions made by the employe in the course of such employment. Of course, in all cases, a question of whether or not the contract of employment may be construed to require the employe to use his inventive genius for his employer's benefit is important. On questions arising in this connection, there is a lack of uniformity in the decisions. There is no question, however, that when it is clear that the employment is for the very purpose of making new discoveries and improvements as a result of which patentable processes or articles are developed, the employer is entitled to the result of the employe's work. In the leading case on this question, *Solomons* vs. *United States,* 137 U. S., 342, the court said:

> "If one is employed to devise or perfect an instrument or a means of accomplishing a prescribed result he cannot, after successfully accomplishing the work for which he was employed, plead title thereto as against his employer. That which he has been employed and paid to accomplish becomes when accomplished the property of his employer. Whatever rights as an individual he may have had in and to his inventive powers and that which they are able to accomplish he has sold in advance to his employer."

The doctrine of the above case has been consistently followed in later cases where the facts warrant it. *Gill* vs. *United States,* 160 U. S. 426; *Meissner* vs. *Standard R. Equipment Co.,* 211 Mo. 112; *Anmin* vs. *Wren,* 44 Hun. (N. Y.), 355; *Standard Parts Co.* vs. *Peck,* 264 U. S. 52; *Air Reduction Co.* vs. *Walker,* 195 N. Y. Supp. 120.

In the Air Reduction Company case, supra, where one was employed as a research chemist for the purpose, among others, of discovering or inventing some method or means for utilizing commercially a certain kind of gas and under the supervision of and in conjunction with another employe discovered a commercial use for this gas and made an invention involving its use on which he secured a patent, it was held that his employer was entitled to an assignment of the patent and not merely to a shop right to use the patent. In the course of the opinion, the court said:

> "There was no express agreement making any invention of the defendant the property of the plaintiff, nor was there any express agreement that the defendant would assign to the plaintiff any patent he might obtain; but he was employed to give his time and scientific skill for the very purpose of trying to discover and invent some practical use for this gas. In other words, he sold his inventive powers to plaintiff, during the period of his employment. Under these circumstances, I think there is an implied agreement that the result of defendant's work shall belong to plaintiff, and that any patent obtained by defendant should be assigned by him."

In carrying on the work of the Engineering Experiment Station at the University, the very nature of the work presupposes the development of processes and uncovering of principles hitherto unknown. The idea behind the project is to discover new processes and carry development beyond that which had theretofore existed. The very conception of research work is the leading of the worker into new fields. That is what he is being paid for and that is what the employer furnishes tools and equipment for and what he is expected to accomplish. There is included in his contract of hire the element of producing something new in addition to that which already exists

for the purpose, as stated in the statute, of increasing the economy, efficiency and safety of the manufacturing, mining, transportation and other engineering and industrial enterprises of the state, of promoting the conservation and utilization of its resources, and of disseminating the result of such researches to the people of the State of Ohio.

That purpose must be read into the contract of hire of research engineers and workers in the Experiment Station, and while in most instances the development of patentable processes and articles is not thought of and does not generally result, yet when such a result does obtain, it clearly belongs to the University as the employer, to be disseminated to the people of the state. Nor can the rights of the University as an agency of the state be denied because the state does not desire to monopolize the results of the work. A very similar question was passed upon and discussed at some length by the United States Circuit Court of Appeals in the case of *Houghton* vs. *United States,* 23 Fed. (2nd) 386. The sixth branch of the headnotes of this case reads as follows:

> "Where government employe was assigned to conduct experiments for producing safe fumigant for vessels, right of United States to employe's invention cannot be denied on ground that rule that inventions made by one employed to invent belongs to the employer will not be applied because the government does not desire a monopoly."

In the above case it appeared that the inventor, an employe of the public health service in the Treasury Department of the United States government, had consented to the use of his patent by the government, thus giving to the government an irrevocable license to the use of the patented product in any case, even though ownership remained in the nominal patentee. The court held, however, that the element of consent to the use was not the controlling factor and decisive of the particular case, but went further in holding that inasmuch as the facts presented a case of an employe making a discovery or invention while employed to conduct experiments for the very purpose of making such discovery, therefore, the employer was the equitable owner of the result of such discovery and entitled to an assignment of any patent granted as the result of such discovery. It is held as stated in the third branch of the headnotes of the said case:

> "Where one was employed as research chemist in the public health service to conduct experiments for the purpose of combining a warning or irritant gas with hydrodyanic acid gas, theretofore used in fumigating vessels, so as to produce gas which could be readily detected and safely used as a fumigant, held, that the invention of such employe combining such hydrocyanic acid gas and cyanegen chloride gas, was the property of the United States."

In the course of the opinion of the lower court, which was affirmed on appeal in the case cited above, it is said:

> "An employe who undertakes upon the direction of his employer to solve a specific problem within the scope of his general employment, is as truly employed and paid for the particular project as if it had been described at the outset in the contract of employment * * * . Where an employe undertakes by direction of his employer to solve a specific problem and the solution constitutes a patentable invention, the invention belongs to the employer."
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> —*United States* vs. *Houghton,* 20 Fed. (2nd) 434.

It seems clear that as between the University and research engineers and workers

in the Engineering Experiment Station, employes of the University, equitable ownership of any patented process or article, obtained as a result of the researches conducted by the station, lies in the University and it is entitled to the assignment of such inventions. Research engineers and operatives at the station are not in any sense of the word employes of contributing cooperating agencies. Such agencies merely contribute to the University for the purpose of aiding in research work along designated lines and the University accepts such contributions for the specified purpose and allots the funds contributed to the particular purpose. That fact alone does not, in my opinion, entitle a contributor to a share of an invention brought about by means of researches and experiments of the station, other than an interest equal to that of any other resident of Ohio. Of course, it is possible that circumstances may be such, where a contributor originally conceived an idea or plan which was later developed by station employes at the request of contributor, resulting in a patentable invention, and perhaps for other reasons, that the contributor might successfully contest the granting of the patent to the station employe. Even then, however, the University may publish the result of its work.

By the mere force of the relation of the parties alone, the law does not, in my opinion, impliedly give to cooperators any exclusive rights whatever in inventions made possible as a result of researches and experiments conducted by the station, even though such work is financed by funds contributed by them.

Inasmuch as the law does not give to such contributors any rights either by way of title or exclusive license to patents obtained in this manner, it becomes important to inquire whether or not such contributors may lawfully be granted by contract, either the absolute title to any such invention or an interest therein, as is done by some state universities under similar circumstances, or an exclusive license to the use thereof in consideration of their contributions which make possible the researches and discoveries leading to the granting of the patent.

Obviously, if the station is to fulfill the purpose of its creation, that is, to make technical investigation and supply engineering data which will tend to increase the economy, efficiency and safety of the manufacturing, mineral transportation and other engineering and industrial enterprises of the state, and to promote the conservation and utilization of its resources, the results of investigations made by the station, and any data that may be supplied by it, must necessarily be made available for the manufacturing, mineral, transportation and other engineering and industrial enterprises, so that advantageous use may be made of the same. To that end, the Legislature, in fixing the duties of the persons in charge of, and operating the station, provided for the publication of the results of the work of the station by its dissemination to the people of the state. Section 7961-3, General Code, provides, in part:

> " * * * It shall be the duty of the director and advisory council to select suitable subjects for investigation, apportion the available funds, and provide for the dissemination of the results to the people of the state."

From the foregoing, it will be observed that the duty to disseminate to the people of Ohio, the results of the work of the engineering experiment station is stated in mandatory terms. It is significant, however, that this mandatory duty is somewhat modified by the language of Section 7961-5, General Code, wherein it is provided that when assistance is rendered by the station to an individual, firm or corporation (which in my opinion includes an association of individuals, firms or corporations) the advisory council of the station is authorized, *at its option,* to publish the results of such investigation.

Were it not for the language of Section 7961-5, supra, referred to above, the import of the act creating the engineering experiment station would clearly be to the effect that any discoveries made, or data that might be supplied as a result of investigations

carried on by the station, should inure to the benefit of all the people of Ohio, and that it is the duty of the Director and Advisory Council of the station to disseminate the results of the work of the station to the people of the state.

The fact, however, that the Legislature saw fit to provide that when the station had extended assistance to an individual, firm or corporation, after such assistance had been sought, the advisory council might, at its option, publish the result of its investigation, just as clearly evinces a legislative intent that if, in the opinion of the advisory council, the purposes of the station would best be carried on by withholding the publication of what may have been discovered or learned while rendering such assistance, it might lawfully do so.

The fact, also, that the provision with respect to the optional right of the advisory council to publish the results of the work of the station under those circumstances is contained in the same section of the Code, wherein it is provided that the station shall not be conducted for the sole benefit of any individual, firm or corporation, clearly shows that in the judgment of the legislative mind, the rendering of assistance to such individuals, firms or corporations as might seek the same, does not constitute conducting the station for the sole benefit of such individual, firm or corporation, even though the results of the investigations and experiments made in rendering that assistance are not published. In other words, it seems to have been the intention of the Legislature in establishing the experiment station that the results of the work of the station should be made available to the people of the state, except, when assistance is rendered to individuals, firms or corporations upon request, and the advisory council, in its discretion, determines that the economy, efficiency and safety of the manufacturing, mining, transportation or other engineering and industrial enterprises of the State will best be served by withholding the publication of the results of such assistance, it may lawfully do so.

By applying the cardinal rule for the construction of statutes, to wit: that the intention of the law-making body which enacted the legislation shall govern, to the statutes in question, the conclusions stated above are inescapable.

It follows, therefore, that when the University authorities deem it to be for the best interests of all parties concerned, and in furtherance of the purposes of the station, it may lawfully contract with cooperators, who seek the assistance of the facilities of the experiment station and finance the rendering of such assistance, that any part of the results of such assistance, and any patentable processes developed or any patents obtained as a result of investigations or experiments made in rendering that assistance, or any interest therein, or use thereof, will pass to, and become the property of the cooperator, and that the results of such investigation will not be published.

The object of granting patents, as expressed in the Constitution of the United States is "to promote the progress of science and useful arts." The act of Congress providing for the granting of patents, relates the purpose to be:

> "To secure to the public the advantages to be derived from discoveries of individuals."

The Supreme Court of the United States, through Chief Justice Marshall in his opinion in the case of *Grant* vs. *Raymond*, 6 Peters, 242, states with reference to patents: "It is the reward stipulated for the advantages derived by the public for the exertions of the individual, and is intended as a stimulus to those exertions."

Granting that the purpose of granting patents is as stated above, it may well be asserted that those purposes are closely analogous to the purposes for which the engineering experiment station was established, as stated by the Legislature in Section 7962-1, General Code, and that one of the ways, at least, to carry out the purpose

for which the station is established, is to preserve to cooperators rights flowing from patents procured through their cooperation.

Some question may arise as to whether or not the provisions of the statute, Section 7961-5, supra, with reference to rendering assistance to individuals, firms and corporations, construed as I have construed it, is violative of Section 4, of Article VIII of the Constitution of Ohio, and that it authorizes the giving or loaning of the credit of the state to or in aid of an individual, association or corporation.

It has been the consistent policy of this office to refrain from holding statutes unconstitutional. After the Legislature has spoken, it is not the province of the executive department of the State government to say that such action is contrary to the Constitution; that function devolves upon the judiciary.

The Experiment Station with its corps of highly trained research workers and skilled mechanics, its extensive laboratory and shop facilities, and having at its command the most advanced scientific knowledge, is exceptionally well equipped for study and research along the lines for which it was created. It is of the highest importance that industry and trade bring their problems to the station to the end that the station may fulfill its mission, and that the economy, efficiency and safety of the manufacturing, mining, transportation and other engineering and industrial enterprises of the state may receive the benefit of the most highly developed technical skill possible in the solution of their problems. Unless, however, some protection is afforded to those by whose financial cooperation the research is made possible, so that they may receive a fair return for their cooperation, there might be considerable hesitancy in bringing their problems to the station, and thus its usefulness be somewhat thwarted.

For that reason, no doubt, the Legislature thought it proper to place in the hands of the Trustees of the University the power to decide whether or not it be for the best interests of the station and of industry and trade to contract wih cooperators to give to them the immediate benefits growing out of the assistance rendered to them, rather than publish at once the results of that assistance.

This power reposed in the trustees is purely optional on their part. The Legislature, after providing that the station should not be operated for the "sole benefit" of any person, firm or corporation inserted in the same section, a clause extending to the Trustees the power to publish the results of any investigations made by it "at its option" thus fixing the method by which the Trustees may, in their discretion, prevent the result of any such research work inuring to the sole benefit of any person, firm or corporation and thus inhibiting any person, firm or corporation from preventing the publication of the results of research and experiments made at the station whether such person, firm or corporation paid all or a part of the expenses incident to such investigation. The decision as to the publication lies wholly with the station. A contributor has no choice in the matter if the trustees choose to publish the results of their investigation unless the right of the contributor to patents growing out of such investigation is previously fixed by contract before the investigation starts.

Respectfully,

GILBERT BETTMAN,

Attorney General.