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A Case Study of the Complicated History of Rice University's First Patents

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Abstract

Digitization and online public databases have made patent searches a much simpler pursuit in recent years. However, uncovering a pre-digital era patent's history and context remains challenging. A search for the first patents assigned to Rice University highlighted associated issues. Older patent formats often do not clearly indicate inventor-assignee relationships, and applications and official communications are not available online. To determine how Rice came to own three 1948 patents, extensive archival research was required. Were these patents assigned to the University by inventors, independent of its support or funding, or was their work performed at and for Rice, thus obliging the inventors to cede ownership? The lack of precedence or an extant intellectual property policy made for a complicated answer, the analysis of which forms the bulk of this case study. Other historical patent researchers may find similarly complex histories lie behind patents granted before widespread adoption of intellectual property policies at institutes of higher learning.

Keywords: patents, United States Patent Office, patent attorney, inventor, assignee, assignor, historical patent research, archival research.

A Case Study of the Complicated History of Rice University's First Patents

Among the many changes and modernizations made within the U.S. patenting system, one of the least disruptive was the alteration of the appearance and format of documents issued for a granted patent. However, this relatively minor change is the root of substantial challenges when researching historical utility patents from pre-1970. Older patent formats do not necessarily include clear statements of relationships between assignees and inventors, or acknowledgements of support or funding. Contemporary patents display much of this information on the front page in the assignee and application sections, which often indicate the inventors' associations. Further knowledge of intellectual property (IP) policies, which are generally easily found on institution websites, can help clarify an assignee-inventor relationship.

The earlier practice of listing inventor names followed by an "assignor to" statement can obscure the context of ownership and the inventor-institution relationship. It may be unclear if patent rights were gifted to a separate entity, wholly uninvolved in its development, or if the invention process was performed under the auspices of and supported by the assignee. Correspondence between concerned parties in historical patents is not easily obtainable through the USPTO websites or other industry tools.

For many years, it was generally acknowledged that Rice University (Rice) was granted its first patent in 1984 for John Freeman, Jr.'s "Device for Generating RF Energy from Electromagnetic Radiation of another Form Such as Light" (Freeman, 1984). The Rice institutional repository (IR) patents section, maintained by the author's predecessors, did not include earlier patents. In a spreadsheet recording additions of Rice-owned patents to the IR, notes on the first official deposition in 2015 claim that the date span searched started with the "Beginning of time"

(Carlson, 2015). Given the University's establishment in 1912, and the history of institutional interest in science and technical research, 1984 seems a shockingly late date to first obtain a patent.

Inquiries into the history of Rice's IP policies and pursuits provided background and substantiated 1984 as a plausible date. The first policy was adopted in 1990, due to the contemporaneous intense interest in carbon fullerene research (Rice University, 2022). Around the same time, the Office of Technology Transfer (OTT) was founded to pursue new IP interests (Williams, 2008). Following that, OTT developments and IP policy changes, updates, and implementations roughly mirror trends of higher patent and IP output.

Ignorance of these patents can be explained by a handful of factors. First, Rice University was named Rice Institute¹ until 1960. Second, the author and, most likely, the initial person who searched for historical patents, performed an assignee-field specific search; as is common practice. Even accounting for the name change when using that query strategy, there are no results prior to 1984 because pre-1970 patents are largely not indexed for field specific searches.

When an error in all previous searches came to light, new results revealed three patents assigned to Rice in 1948. Two inventors, Drs. Frank H. Hurley and Thomas P. Wier, Jr., were credited; one to each individually, and one joint. Applications were submitted in February 1944. U.S. patents 2,446,331, 2,446,349, and 2,446,350 were granted August 3, 1948, all titled "Electrodeposition of Aluminum" (Hurley, 1948; Wier, 1948b; Wier & Hurley, 1948).

The three patents from 1948 left the author with many concerns about ownership based on the above-described ambiguities—lack of context provided by the patent document itself,

unavailability of related documents and correspondence, and no extant IP policy to guide interpretation. Further research to provide contextual clarity was needed. Initial conversations with relevant university offices found most representatives were willing to accept the scant information as sufficient to declare them as Rice's first patents, not patent rights assigned to Rice. Input was requested from PTRC headquarters, who said the patents alone were not enough to determine. Thus, the pertinent research question was formed: Did the inventors of the three 1948 patents assign ownership and rights to Rice, the institute uninvolved; or did Rice support and fund the research, and thus inextricably linked to its ownership?

Initial information obtained increased confusion. Some seemed to support the theory that the patents' ownership was merely gifted to the Institute. School records show both inventors departed Rice before the applications were submitted, much less anything granted. In 1942, Hurley resigned from his position as a chemistry professor at Rice in favor of one at Reed College, which matches the Portland, Oregon address on his patents (Scott, 1943). Wier moved to the patents' Berkeley address after obtaining his materials science engineering PhD in 1943 (Wier, 1943).

Arguing for the Institute's involvement in the invention process were two main factors. Documents generously provided by the Reed College archives included a 1942 correspondence from Hurley's colleague, William Sandstrom, addressed via Rice. Sandstrom inquired after Hurley's aluminum deposition work, "if it is not too secret", meaning he was performing relevant work under the auspices of Rice (Sandstrom, 1942). Second, the title of Wier's thesis dissertation was "The Electrodeposition of Aluminum" (Wier, 1943). The dissertation might

¹ Hereafter, when the author uses "the Institute", it is a reference to Rice University using its name at the time.

have been enough to declare in favor of Rice's ownership stemming from research support—if Wier was the only inventor.

Despite the contents of the letter, the slight discrepancy between the date of the applications submitted and Hurley's departure from the Institute left enough uncertainty to demand further research. If the patents were for processes established entirely while both men were at Rice, waiting almost a year to submit an application makes little sense. If the work was continued while Hurley was at Reed College, and combined with innovations from Wier's dissertation research, then it would be more reasonable to assign ownership to both Reed and Rice, or neither.

Indeed, the lack of patents assigned to the Institute between 1948 and 1984 seems to indicate that it had little interest in IP ownership. A patent granted to a student (applied 1964, granted 1970) further suggests Rice did not care to own IP generated by institution research (Wilson, 1970). Why bother pursuing patents in the 1940s, and then abandon further IP ownership for nearly 50 years? Even after 1984, there was a substantial hiatus until the above-mentioned surge in the early 1990s, which was partially due to intense interest in carbon fullerenes.

The author embarked on discovering the full story of Rice's true first patents with the assistance of archives at Fondren Library's Woodson Research Center. The first forays were failures—a brief courtesy search by an archivist found only a set of restricted files, containing information about an estate donation by Hurley unrelated to patents. Subsequently, the author requested any potentially relevant documents: faculty off-prints from Hurley's era, correspondences from or about Wier and Hurley, familial documents from relatives, and social club memorabilia. None provided any insight and thus still broader search terms were employed. Given the abundance of

material archives must process, there is a possibility that some documentation of patent ownership exists, but not obviously labeled in finding aids or bundled within a collection.

Finally, during an archival search session for an unrelated project, a file within former presidential correspondence labeled “patent matter” was discovered. Without any real hope that it might contain helpful documentation, it was nonetheless requested. At the end of that search period, the author opened this folder as the last quick task, only to find (almost) all of the answers.

The full title of the folder was, in fact, “Patent Matter (Hurley, Frank H. & Tom Wier, Jr.)”. Within minutes, the answer to the pertinent research question became clear: Yes. The suggested opposing origins of patent ownership are both true.

Hurley, Rice Institute, and the board of trustees were all uncertain of how patent ownership worked. This and the partially-recorded timeline of events and its length all contribute to a necessarily complex explanation. Frank Hurley initiated the process in an August 1943 letter to Harry Hanszen, chairman of the Rice Institute board of trustees (Hurley, 1943). Based on conversations dating back to 1941 and a recent visit with Tom Wier, Hurley suggests their research findings on electrodeposition of aluminum could have potential industrial value if patented. And, Hurley felt that as “a recipient of [Rice's] educational training and the advantages of its scientific facilities”, an understandable sentiment during the tuition-free era, the Institute logically had some claim to the patent (Hurley, 1943).

That generally falls in line with today's institutional IP policies, whether educational or commercial. Aside from rare exceptions, research performed at, on behalf of, or materially supported by an entity belongs to that entity, in whole or part. Many researchers must sign

agreements in advance ceding ownership to their employer.

Evidently, no consideration was given to ownership of patentable intellectual property generated from research before Hurley's proposal. Aware of that lack, Hurley suggested that Rice might investigate the possibility, citing the "great success" administering patents the University of Wisconsin enjoyed. He also mentioned Wesleyan College recently profited from patents, but expressed mild disapproval of their method, "for fear of its possible academic consequences" (Hurley, 1943). Both policies are later discussed.

Of material importance to answering the research question are Hurley's statements in the following paragraphs. He explains that despite his altruistic intent, practical matters must also be considered where finances are concerned.

For my own part, I can say that my principal interest lies in obtaining the recognition which may derive from the publication of this work, for I have cast my lot with the universities and colleges and am anxious to attain success as a teacher, researcher, or administrator. Should the process prove to be of value, it is my desire that the Institute should receive the greater part of any income deriving therefrom. [Emphasis added] (Hurley, 1943)

Ensuring that there is no misunderstanding of motivations, he continues:

Please let me be clear on this point. I am not seeking financial aggrandizement by riding on the coat-tails [sic] of The Rice Institute. I sincerely wish the Institute to be the beneficiary of this process, should it prove of value, for, as a native Houstonian and an alumnus, I am most loyal to Rice and hopeful for its future. On the other hand, I should not like to find myself in later life in a position of financial insecurity or want, having made a "bequest" of this sort so early. (Hurley, 1943)

[OK, Frank, we get it: you love Rice and Houston.] Despite all his affection, Hurley nonetheless wisely makes it clear that he intends to share patent income with Rice. This division of profits from licensing technology is not unusual. Rice University's current IP policy (Policy 333) clearly defines portion allotments, which stipulates 37.5% distributed to inventors/creators (Rice University, 2022).

What Rice does not apportion to inventors/creators in the contemporary policy is ownership of any IP the University substantially supported. A series of correspondences between Hurley, Wier, Hanszen and others demonstrates the idea of shared ownership did not seem to occur to them.

Before pursuing Hurley's proposed patent, the trustees requested information from both Wisconsin and Wesleyan about their patenting policy. Wesleyan's attitude and procedures immediately clarify why Hurley expressed his dislike—absolutely no portion of any income derived was allotted to inventors (Hill, 1943).

The responses received from each school's chemistry department, along with some research into obtaining a patent, resulted in a memorandum widely circulated among board members and administration (the author assumes its circulation level due to the number of copies attached to various strings of correspondences) (Memorandum to the Board of Trustees, 1943). Though we cannot know the exact discussions held within the board room, the memorandum reveals a confusion similar to that behind the research question, which continues throughout the years.

According to the memorandum, a patent is taken out by an inventor, and then the inventor may assign a patent to a corporation (Memorandum, 1943). This is somewhat contrary to modern procedure; even if Rice University or another entity allocates some portion of profits to credited

inventors, it is representative(s) of Rice, not inventors, who contract with legal representation. The University or its appointed body is listed as the applicant. It is difficult to ascertain how that might have worked on older patents—given the lack of similar formatting and supporting documentation—but the first two items on the memorandum suggest that its author, and (likely) its subsequent readers, still did not perceive automatic ownership by the Institute or an employer.

Moving further down the memorandum, the summaries of how Wisconsin and Wesleyan handle patents lend further credence to that perception. Wisconsin's policies, which delegate patent administration to their Alumni Research Foundation and profit portions to inventors, are phrased very differently from those about Wesleyan. Both items describing Wesleyan's policies—full responsibility for obtaining a patent and all of its profits go to the university—are preceded by the modifier "it is proposed" (Memorandum, 1943). It might be over-analysis to read these as the memo writer's suggestion that Wesleyan's policies are somehow flawed, or might not be correctly implemented, but given the generally negative attitudes expressed towards Wesleyan's policy in multiple pieces of correspondence from more than one party, it seems possible. Additionally, Rice chose not to implement an agreement along such strict lines.

Within the context of that document, and much of the preceding correspondence, concluding that Hurley and Wier were sole owners of the patented technology, independent of Rice, would be more accurate.

Later correspondence and decisions regarding legal representation during the patenting process also lend that theory credibility. Copies of the letters explaining Wesleyan and Wisconsin's policies were forwarded to Wier and Hurley, so that they might provide their opinions (Hill, 1943; Mathews, 1943). At the board's suggestion, Wier

selected a patent attorney in San Francisco, who was closer to both his and Hurley's residences (Hanszen, 1943). A firm located in Houston or its environs would have facilitated easier, quicker communications with Rice—and regular communications were required. Though the Institute itself did not defray the expenses, it was two members of the board—Harry Hanszen and George R. Brown—who volunteered the funds (Dwyer, 1943). Both the attorney selection by the inventors and individuals assuming financial burdens makes this look less like the patents were property of Rice from their inception, than altruistic gifts provided by two researchers and generous board members.

Moreover, in a letter from December of 1943, before the patenting process could truly begin, Hanszen expresses the board's confusion and concerns about patent ownership:

The Trustees are not now clear as to whether or not we should eventually take the patent in the name of the Institute, or in the name of a foundation to be created by the Institute, and we are now having our attorneys here investigate this point. Therefore, I think that any application for patent should be made in your or Mr. Tom Wier's name, with the understanding that the patent will be later transferred either to the Institute or to some nominee of the Institute. (Hanszen, 1943)

This makes it clear that the root issue behind the question of ownership had not been settled when patent applications were submitted. Nonetheless, at the discretion of the San Francisco attorney, Robert H. Eckhoff, the submitted applications assigned ownership to Rice.

Still, Hurley felt obliged to inform Hanszen in February 1944 that "Wier and I have already executed assignments of all three patents to Rice Institute" but the trustees of the board should ultimately decide the assignments (Hurley, 1944). Without any policies or firm decisions regarding how to handle IP or patents, Rice, the inventors,

and the patent attorney all seem to hope someone else will take care of it.

Yet the disagreements continued throughout that March. Eckhoff was certain that the wisest course of action was assigning ownership to Rice Institute; based on some internal uncertainty evidently caused by Rice's own lawyers, the board was convinced that transferring ownership back to Wier and Hurley was best. From the author's uninvolved perspective, Eckhoff and the inventors' reasoning is better. If either man unexpectedly died or was incapacitated, Rice's ownership would be assured. Despite this argument, the board felt that they had "so much confidence in these two men" that there was no concern about transferring the title ownership until a final decision was made (Eckhoff, 1944d; Hanszen, 1944).

Without the added insight of any records of discussions that took place among the trustees, either formally or conversationally, their line of reasoning is difficult to follow. It is potentially a platitude, a kind assurance in place of committing to paper the board's opinion that the entire matter was without merit. If Rice's lawyers and the board members did not feel that any future income or value could be derived from the patents, they may not have wanted to be burdened with future upkeep, fees, or responsibilities.

It could also be due to other concerns. In 1941, Rice first considered charging tuition to alleviate financial distress. Though it was abandoned thanks to an oil-based windfall, it would have remained very prominent in the minds of the trustees (Rice Historical Society, n.d.). Agreeing to take on a potentially long-term, high-cost property that had no guaranteed return on investment may have been unpalatable. However, reserving the right to later claim and profit from this venture provided it did pan out, through a fully reimbursed minimal investment in the present, would have been acceptable.

If the invention was not truly viable, it is unlikely a patent attorney would have been willing to take the case, and spend so much time drafting applications and corresponding with involved parties. Predatory firms do exist, taking advantage of would-be inventors, but Eckhoff does not seem to fit this role. The swift completion of the patent applications and very simple bills charging straightforward fees attest as much (Eckhoff, 1944c, 1944b, 1944a). Perhaps most important is Eckhoff's March 27 letter to Hanszen. It is short and direct to the point of being almost rude. In whole, it reads:

In accordance with the request of your letter of March 23, 1944, I am enclosing for your files copies of the assignments from Drs. Wier and Hurley. I am retaining the original executed assignments in my files, but I am not recording them in the Patent Office. [Emphasis added] (Eckhoff, 1944e)

Eckhoff could not have made his opinion of the board's decision—or lack thereof—clearer.

Around that same time, Hurley, Wier, and Eckhoff decided that there should be three separate patents to more accurately reflect the inventors' roles and innovations.

When the attorney bills were received in 1944, it is interesting to note that they were paid by Rice Institute, and reimbursement from Hanszen and Brown was requested after (Dwyer, 1944). It is a very complicated arrangement, needlessly so, but aligns with what looks like an unenthusiastic, almost wishy-washy, Board of Trustee attitude towards the whole affair.

Less than a year into the five it took to obtain the patents, confusion regarding ownership has only been exacerbated and it never really improves. Rice managed to never truly own the three patents for many years, by dint of no policies requiring researchers to agree to Institute ownership of produced IP, a paper trail thoroughly distancing the board from claiming

assignment, and records that ultimately tied Hanszen and Brown to financial responsibility.

Eventually, it was through a slow slog of patent examiner objections, several application revisions, continued research into prior art, and new rounds of experimentation showing process improvements and advantages that firmly shifted the burden of ownership to Rice. Judging by the correspondence in the archival collections, Hurley's somewhat central role in coordinating communications decreased. Wier appears to have returned to Houston by 1947, and he took up that position during new rounds of tests. Eventually, communications primarily passed between Eckhoff and Hanszen, frequently via assistants and secretaries.

In one of Wier's last lengthy letters before the patents were granted, he admits to Hurley that "Hanszen wishes to be cautious about putting further money into the project unless it appears reasonably certain that patents will be granted without much further skirmish" (Wier, 1947a). It's a brief glimpse into a likely reality: the board was no longer interested in a project that, after four years, had yet to pay off and continued to demand more time and money; a sense of weary resignation permeates Wier's letter.

Throughout the previous several years, Hanszen and the other trustees had continued to receive news of rejections and objections from the patent office examiner. The attorneys representing Wier, Hurley, and Rice had, by May 1947, concluded that the examiner had "been extremely stubborn", and was "rejecting the applications repeatedly [...] on grounds not in accordance with the Office practice" (Haynie, 1947a). Potentially, the trustees had been wise to refrain from claiming ownership of these patents. They were certainly not clamoring to have that detail corrected in any paperwork.

In response to the perceived unnecessary stubbornness, Eckhoff appealed to a Washington-

based associate to personally meet with the USPTO officer to hopefully provide some insight. Interviews with the objecting examiner led the Washington associate to believe that "the Examiner is of a mind to forget all the formal objections he has heretofore made" if direct comparisons with prior art, or specific advantages of the Wier and Hurley processes, were supplied (Haynie, 1947b). Affidavits to that end were requested. Wier easily sent the information for two applications (serial numbers 524,486 and 524,487) in a letter, and presumably also in an affidavit. For the third (application serial number 522,375), Wier did not have the information on hand (Wier, 1947b). With help from Rice's chemistry department, he scrambled to comply by performing experiments, directly observing differences, and then writing an affidavit.

Serial No. 522,375 received a formal rejection in early 1948, when affidavits attesting to the process's merits over prior art were not received in time (Haynie, 1948). Wier and Rice had attempted to perform experiments for a direct comparison illustrating substantial advantages, but they were unable to perform the procedures within the expected time frame. A note on Hanszen's copy of a letter to Wier from the attorney's office indicates that there was significant delay in receiving necessary materials for the experiments in December 1947 (Dwyer, 1947). Wier wrote in a March 1948 letter that the materials had been "received at Rice several weeks ago", and the procedures based on prior art resulted in poor results. Thus assured, he asserted that the Hurley and Wier processes would produce better results "by far" (Wier, 1948a).

Unfortunately, the applications were by then only able to overcome the final rejections by limiting their scope of claims. In accordance with Wier's recommendation, the trustees agreed to pursue the patent under limited scope rather than abandon the whole effort (Wier, 1948a).

Almost abruptly, given the lengthy process thus far, the amended applications were considered satisfactory. Rice received news mid-June 1948 that all three applications were allowed, and upon receipt of final fees, patents would be granted and recorded (Eckhoff, 1948a, 1948b). At this point, everyone seems tired of the process. Letters were brief and businesslike. No words were wasted on congratulations or accolades.

Patents 2,446,349 (application serial no. 524,486), 2,446,350 (application serial no. 524,487), and 2,446,331 (application serial no. 522,375) were officially issued on August 3rd, 1948. All three were assigned to the Institute (Eckhoff, 1948c).

The issue of assigning ownership appears to have been dropped. It's understandable that across years of frustration and the uncertainties of patenting and therefore profitability, the board may have lost interest in assuring assignors. By 1947, Rice was going through major changes, primarily the inauguration of a new president. Quibbling over ownership was not a primary concern; these patents were likely a mere annoyance.

Documentation surrounding the patents abruptly ceases when potential investors and licensees enter. We must wonder what, if any, financial benefits they might have earned Rice, Hurley, or Wier. (If there are more records, they are in restricted financial files that the author does not have the privilege to view, much less use in publication.) The Spool Cotton Company, John A. Roebling's Sons Company, and Ozark-Mahoning Company opened inquiries with Rice, each citing recent patent issuance news (Adams, 1948; Corson, 1948a; Hood, 1948). A November 1948 letter from Roebling Company explicitly expressing interest in licensing the patented technology was the final item (Corson, 1948b). Here, the story behind the patents comes to its end.

So, did the inventors of the three 1948 patents assign ownership and rights to Rice, independent of the institute; or did the institute support and fund the research inextricably linking Rice to its ownership?

Examining the available facts and history does not lead to a simple answer. Hurley's proposal to patent the techniques, unsolicited or contractually expected by the Institute; Wier's selection of the attorney; and early disputes about assignee on official legal paperwork are among arguments in favor of the inventors as owners, choosing to assign rights to a largely uninvolved Rice Institute. Yet participation of the board in the patenting process, most if not all of the research performed at Rice with Rice support, and payment of attorney and patent fees by Rice means the Institute had a stake in ownership from the start; it was just formalized by the legal assignment. The best answer is, therefore, "yes".

A single attribution is impossible. Without a prior agreement or extant IP policy, there is no definite determination. Rice Institute clearly did not prioritize patenting or licensing research performed within its governance; and did not care to make a written declaration of ownership for these patents. Multiple archival documents corroborate inferring Rice's disinterest. Letters from an external research grant-funding entity confer to Rice patent rights from resultant innovations and, later, directly encourage the president to implement a patent development system, both decades before any such notion was acted upon (Schauer, 1946; Thwaite, 1956).

In a similar vein, it is almost impossible to believe that Hurley or Wier would have pursued patents for aluminum plating without Rice's backing. Each party—inventors and Institute—was crucial. The ownership issue never really moved past the 1944 disagreement.

In the end, we are left with more questions than answers, as is often the case in archival research.

First and foremost: Why did Rice forget about these three patents? Their records have always existed in patent databases and archival collections. Was it a lack of income, due to industry disinterest or the patent term expiration? Or perhaps simply time was the culprit; as the researchers and administrators involved in the patent pursuits retired or left the University, so did the memory of the 1948 patents, which had little to no impact on Rice's day-to-day functions.

You will never get the full story, especially when relying on physical archival material from a pre-digital era. Beyond the inevitable losses over time, retained documents cannot convey the intent behind them; phone conversations, board meetings, lab experimentation, and personal interviews with patent examiners can be, at best, outlined. So much of human expression is lost when relying on written words. One imagines that by 1948, when board meetings reached the patents on their agenda, the trustees were rolling their eyes and grumbling about just getting past this to more pressing affairs.

In pursuing this topic, the author learned three valuable lessons. First, and perhaps most obvious, there may not be simple answers to questions of patent ownership when supporting policies do not exist. It is not possible to try to impose today's IP standards onto historical documents. A supporting history and timeline can be established when sufficient archival material exists, but are only determinate if they reference or include IP policies.

Second, one should never give up on archives. The author had little reason to expect success from the file that was most informative. At present, more previously unavailable documentation has been requested from Reed College. The Woodson Research Center is migrating archival software; the new system may lead to different search results.

Finally, there is danger in over-reliance on digitization and external databases without understanding how those resources may have changed over time. Both previous PTRC representatives and this author were certain that computerized records held the full story of Rice's first patents. Better internal record keeping could have revealed that the earliest of Rice's patent librarians were fully cognizant of the Hurley and Wier patents. But Rice patents were not included in the IR until 2015, by which time librarians were performing field-specific searches in fully online databases.

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Appendix A

Letter to Mr. Harry Hanszen, August 20, 1943. Patent Matter, Box: 22, Folder: 9. Rice University President's Office Records : William Vermillion Houston, UA 085. Woodson Research Center, Rice University, Houston, Texas

REED COLLEGE
Portland, Oregon

Department of Chemistry

Mr. Harry Hanszen
William M. Rice Institute,
Esperson Building,
Houston, Texas.

Dear Mr. Hanszen:

During my years at Rice as a graduate student and later as an instructor, I spent a good deal of time thinking and working on a chemical problem of possible technical importance--the problem of depositing certain of the active metals by passing an electric current through mixtures of compounds of the metals with various organic substances. The work has now reached a point where certain decisions relative to possible patent rights must be made, and it is for this purpose that I am bringing it to your attention. In order that you may have more complete information, I shall describe the sequence of events.

I conceived the original idea for effecting the desired electro-deposition when I was a graduate student, probably early in 1937, but did no experimental work until the fall of 1938 when I performed a little preliminary experiment relative to the projected process. Due to the pressure of other work, I was unable to continue these experiments by myself and decided to wait until a properly qualified graduate student should come my way. This happened in the fall of 1940, when Tom Wier, Jr. began his graduate work under my direction. He was very interested in the problem and worked long and hard at it for three years. As the work progressed, Wier contributed some modifications and changes in the original process which proved to be of value. I left Rice last year and Wier continued his experimental work until the end of May of this year, when he received his Ph. D. degree and moved to Berkeley, California to take a position with Shell Development Company. During the past fall and spring at Reed College, I have had another student working on a phase of this same problem with some success.

The present state of this research is such that the patent question arises and must be dealt with in order that plans for publishing the work can go forward. Probably the most significant part of the work has to do with the electrodeposition and electroplating of aluminum on other substances, particularly iron and steel. While I cannot say with certainty that the process is of immediate commercial importance, it looks very interesting and certainly should be patented. During a trip to the East in September, 1941, I showed some samples

Mr. Harry Hanszen--(2)

of the early plates produced by this process to two chemists connected with the Du Pont organization. They were extremely interested and well impressed with the nature of these aluminum plates. Following this, I received a letter from L. R. Westbrook, research manager of the electroplating division of Du Pont, expressing interest in the process. He stated, however, that it was the policy of the Du Pont Company "to refrain from discussing new developments with inventors until after they have protected themselves by filing applications in the U. S. Patent Office." Since I felt that the process was not "ripe" just then and that further improvements might be made, I did not go ahead with the patent application at that time, and therefore have had no further communication with Du Pont.

When the process first began to show signs of possible utility, I turned over in my mind the patent problem and decided that I should like to make an arrangement whereby The Rice Institute would be assigned the rights to the patent. I first mentioned this in a conversation with President Lovett on April 9, 1941 and also discussed it with Professor Weiser about the same time. On a recent trip to Berkeley I discussed this idea with Tom Wier, and he agreed that it seems like a good one. My own attitude (and Wier's also, I believe) is that as an alumnus of Rice--a recipient of its educational training and the advantages of its scientific facilities--the Institute can rightly be said to possess some interest in this process.

Thus I come to the point of this long letter. Wier and I agreed that this idea should be presented to the Board of Trustees of Rice, and further, that I should write to you as a member of the Board whom we both know personally and ask you to present the matter. As you probably know, several universities (notably the University of Wisconsin) have in recent years administered patents assigned to them with great success. Only recently I had occasion to read of a research plan of Wesleyan College designed to make the investment in buildings and research equipment productive of both trained students and self-sustaining income. I doubt that I would favor the general adoption of the Wesleyan plan by colleges for fear of its possible academic consequences. However, I can see no objection on either academic or ethical grounds if a college accepts an interest in a patent offered by its staff, alumni, or friends in the same way that a gift of money or property might be offered.

In the present instance, it is my hope that the Board of Trustees will be willing to accept the assignment of the proposed patent or patents (more than one may be necessary) and agree to administer them through the business offices and legal counsel of The Rice Institute or through some other appropriate agency. The immediate necessity is for legal counsel and assistance in preparing the patent application, which I hope the Trustees will provide. I should like to be in a financial position to give to the Board a finished

Mr. Harry Hansen--(3)

application for its consideration, but this is not possible in my present circumstances. Assuming the Board of Trustees to look with favor on this proposal, there would remain the question of reaching a satisfactory agreement between the parties concerned relative to their interests. For my own part, I can say that my principal interest lies in obtaining the recognition which may derive from the publication of this work, for I have cast my lot with the universities and colleges and am anxious to attain to success as a teacher, researcher, or administrator. Should the process prove to be of value, it is my desire that the Institute should receive the greater part of any income deriving therefrom.

Please let me be clear on this point. I am not seeking financial aggrandizement by riding on the coat-tails of The Rice Institute. I sincerely wish the Institute to be the beneficiary of this process, should it prove of value, for, as a native Houstonian and an alumnus, I am most loyal to Rice and hopeful for its future. On the other hand, I should not like to find myself in later life in a position of financial insecurity or want, having made a "bequest" of this sort so early. Perhaps the experiences of the University of Wisconsin in dealing with this question would be of value here. They have presumably found a satisfactory solution to it.

I will appreciate very greatly your assistance in bringing this matter to the attention of the Board of Trustees and I hope that an early decision can be made so that it will be possible to publish the work without delay.

With kindest personal regards, I am,

Yours sincerely,

FRANK H. HURLEY (Signed)

Frank H. Hurley

Appendix B

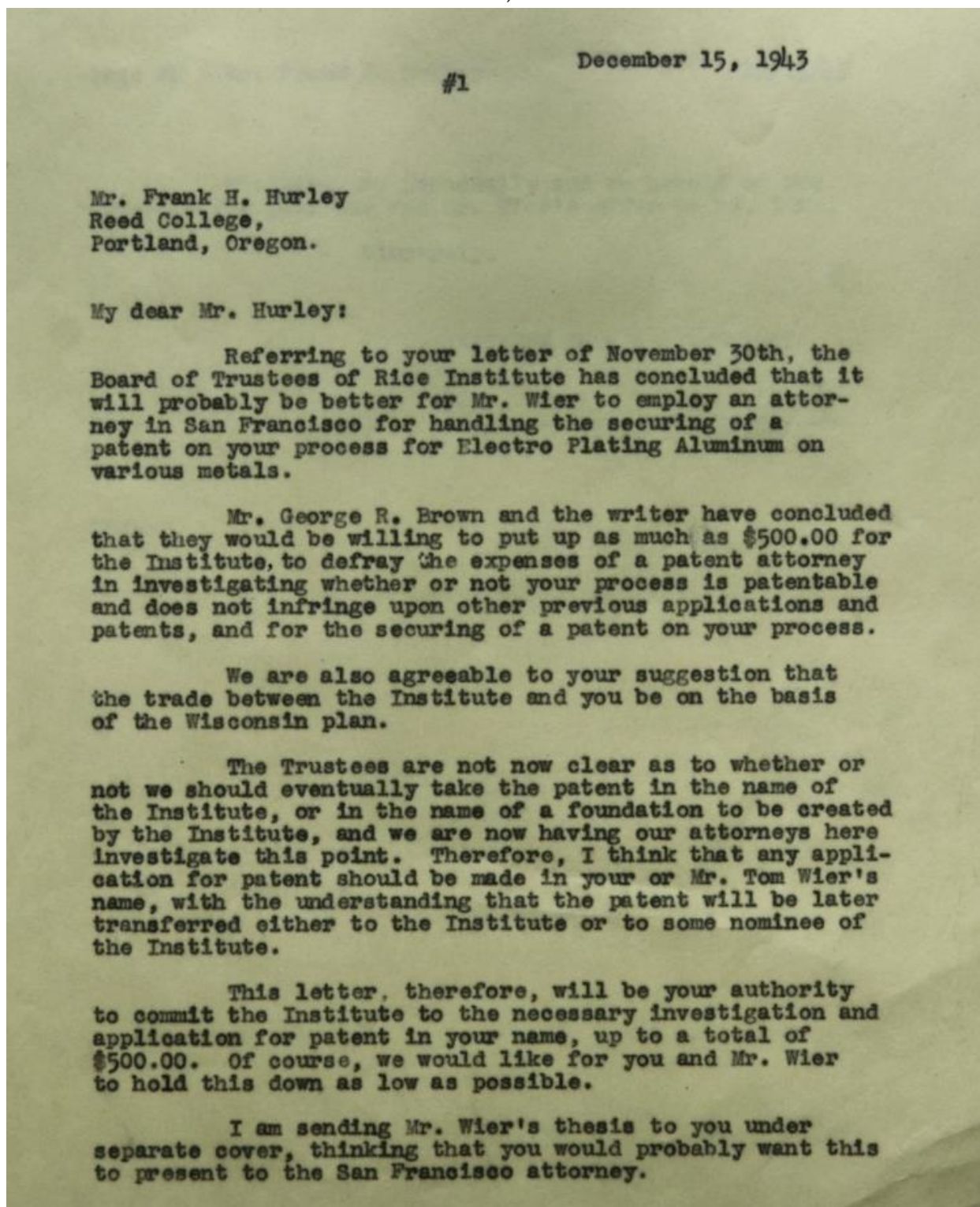
Memorandum to the Board of Trustees, October 1943. Patent Matter, Box: 22, Folder: 9. Rice University President's Office Records : William Vermillion Houston, UA 085. Woodson Research Center, Rice University, Houston, Texas

MEMORANDUM

1. The patent is taken out by the inventor.
2. The inventor may assign the patent to a corporation.
3. Processes similar to that of Hurley and Wier have already been patented in the course of the last ten years. References to such patents are cited in Wier's thesis. There may be others.
4. At Wisconsin, the Alumni Research Foundation bears all the expenses of securing and administering the patent.
5. At Wisconsin, the inventor receives 15% of the net royalties of the patented process.
6. At Wesleyan, it is proposed that the University assume responsibility for securing the patent, and pay all expenses incident thereto.
7. At Wesleyan, it is proposed that the inventor receive no compensation whatever either for the patent or from its use.

Appendix C

Letter to Mr. Frank H. Hurley, December 15, 1943. Patent Matter, Box: 22, Folder: 9. Rice University President's Office Records : William Vermillion Houston, UA 085. Woodson Research Center, Rice University, Houston, Texas



Page #2 - Mr. Frank H. Hurley

12/15/43

Thanking you personally and on behalf of the
Trustees for your own and Mr. Wier's offer to us, I am,

Sincerely,

WILLIAM M. RICE INSTITUTE

By _____
Trustee

HCH:IB

Appendix D

Letter to Dr. F.H. Hurley, October 6, 1947. Patent Matter, Box: 22, Folder: 9. Rice University President's Office Records : William Vermillion Houston, UA 085. Woodson Research Center, Rice University, Houston, Texas

THOMAS P. WIER, JR.
2321 DRYDEN ROAD
HOUSTON 5, TEXAS

October 6, 1947

Dr. F. H. Hurley
Reed College
Portland 2, Oregon

Dear Frank,

Several developments in the patent cases have turned up recently. These will require some action on your part, so I will bring you up to date.

On September 2, Mr. Eckhoff wrote to Rice stating that the only way to make any headway in the Patent Office on these cases seemed to be through a personal interview with the examiner in Washington. Mr. Hanszen then wrote me requesting information on where we stood and advice as to whether we should continue in our efforts to get the patents approved. In a telephone conversation with Mr. Hanszen, I told him that we would be in a far better position to judge the possibilities of success when the results of the interview were known. He agreed to await this information.

On September 19, Mr. Haynie, Mr. Eckhoff's associate, advised me of the results of the discussion with the Examiner. It was in this letter, a copy of which was indicated to you, that he revealed a need for us to "make a showing of improvement and advantage over the prior art particularly as represented by Mathers." I spent considerable time pouring over the patent and the publications of Mathers as well as reviewing our work to check the advantages. The results are expressed in a letter which I have written to Mr. Haynie, a copy of which I am attaching to this letter. You will note that I was unable to describe advantages for the case of the fused bath, although this was possible for the other two cases. Here I must call on you in the hope that you will be able to supply the necessary information to successfully prosecute the application. Will you please send a discussion of this application directly to Mr. Haynie with a copy to me?

As a further measure, I have just discussed the present status with Mr. Hanszen, who has requested that a test of Mathers' process be made Before filing affidavits of advantages. It will be impossible for me to carry out such a test, but we have hopes that you, or one of the students under your supervision, will be able to prepare the bath and make some plates under the conditions specified. If you do not have a copy of Mathers' patent in your

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file, I will be happy to send you my copy as this may be faster than requesting one directly from the Patent Office. If you can not perform the experiments at Reed, it may be necessary to call on the Chemistry Department at the Institute. Will you please advise me of your course of action immediately?

Regarding possible use of the inventions, you recall the interest shown by several people following your presentation of the work on the fused baths at the Chicago ACS meeting in September, 1946. One man who showed particular interest was to write you for further information. Since you have never mentioned the matter, I have presumed that nothing developed from this. What are the details?

This is the way matters stand now, Frank. Mr. Hanszen wishes to be cautious about putting further money into the project unless it appears reasonably certain that patents will be granted without much further skirmish. I will greatly appreciate anything you can do to assist an accurate assessment of our position.

Regards,

Tom

Thomas P. Wier Jr.

cc - HCH ✓
Enc.