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PATENTS, PATENT CAUSES
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March 27, 1930.

John J. Raskob, Esq.,
230 Park Avenue,
Manhattan, New York.

Dear Mr. Raskob:

This is to make a record of the patent situation in relation to the Billwiller process which we investigated during 1929, and which the writer examined in Germany. Briefly, it is our opinion that if this process is purchased, no reliance should be placed upon the hope of obtaining any real measure of patent protection.

Prior to the German trip, we reported that Billwiller United States Patent No. 1,649,281 was invalid because of the fact that a corresponding German patent had been filed more than one year before the United States application, and had issued before the United States patent.

In order to have a proper perspective on the situation, we think it advisable that apart from the technical defect, the subject matter of that patent be considered in the light of the information obtained in Germany.

In the United States, a patent is not granted because of a new discovery but because of the new process or machine which may be invented as a result of the discovery. Thus, if someone has carried on a process, even though it has been done inefficiently and without understanding any reasons for it, and another later discovers the principles involved, and, with knowledge of these principles, develops an efficient process, the second man cannot obtain a patent that would be broad enough in its terms to cover that which had been done earlier, and the later process must be defined in a way that clearly does not include the earlier one. Frequently, this creates a difficult, if not impossible situation. As far as we can see, this is much the situation that we find in the case of the Billwiller process.

Billwiller, going at the matter scientifically, discovered various principles relating to the freeing of fibre from encrusting gums, and with these principles evolved an apparently efficient process utilizing temperatures in the order

of 180° C. which, together with proper strength of solution permit results to be obtained in a time of half an hour or less. There are thus three factors involved in the process: The solution, the time and the temperature. Billwiller, by skillful manipulation, succeeded in reaching optimum conditions for the factors of temperature and strength of solution which permitted the time to be reduced, but he did not really introduce any new factor which can be defined with sufficient accuracy for the American Patent Law. Temperatures equivalent to his had been used and the same types of solution were old, and the utmost that can be said for his process is that these old factors were used in such a way that the time was cut down, and the process simplified.

The theory on which Billwiller's United States patent originally was granted was primarily that because of the high temperature, the time could be shortened to not over one-half hour. Our investigation in Germany showed that not only was the temperature important, but that exactly the right solution strength must be used to get the time down to this limit and that actually the best results are frequently obtained at a somewhat longer time. The number of variables that come into the matter are such that we believe that even if it had been applied for in time, it would have been substantially impossible to have obtained a good patent on the Billwiller process, which would have been valid and given real protection. A patent might have been obtained which would have been valid, but if so, it would have necessarily contained such limitations that it could easily have been avoided. Without close restrictions, there would have been no definition sufficient to give novelty to the claim.

In order to bolster up the situation, attempts have been made to reissue the United States patent. Two reissue applications have been filed, both of which admit the weakness of the broader claims of the original patent, due to the technical difficulty. One of the reissues attempts to obtain a series of claims on the use of a catalyzer in the process, and the other to cover the combination of the original process with subsequent steps which in themselves are old. The application files of these reissue cases have been opened for our inspection and we find that the Patent Office has taken the position that none of the reissue claims are patentable. It is our feeling that the applications for the reissue were a mistake, and if they had not been filed before we reached Germany we certainly would have done everything possible to prevent their being forwarded. We believe that they will meet with little if any success, and simply call attention to the defect of the original patent. In any event, we cannot see how

they can materially strengthen the situation even if allowed, for the subsequent use of earlier known methods of digestion, following the Billwiller high temperature treatment, is not essential, nor is the use of a catalyst of importance unless one considers that the metal of the autoclave itself has some catalytic action. If this is true, the reissue could not be broad enough to cover it as the original German patent disclosed the use of an iron autoclave and anyone in the United States is free to use the process shown in the original German Patent.

In the contract which was signed in Germany, reference is made to new inventions. At the time this contract was signed we did not have knowledge of what these were, but acquired such knowledge later. We do not find anything in the new patent applications which can be considered of any real importance as far as the United States is concerned.

The application on which the most importance was placed is Serial No. 399,078 filed by Billwiller, Elöd and Kessner. This case has to do with the treatment of material such as wood chips or the like for making paper and covers a process which the Germans do not use in connection with the production of bast fibres. It was found that when using a high speed process, there is little time for the liquor to impregnate the material under treatment, which is undercooked unless some method is utilized for continually freeing the surface of the chips from material which has been softened. The problem is solved according to the pending applications by subjecting the material to a particular form of agitation which causes the chips to rub against each other so that the surfaces are cleaned by this action as well as by the flow of liquid against the chips.

Here again we find nothing which can be defined sufficiently accurately to support a patent under the principles of American law, without limiting the patent in such a way that it would very easily be avoided. As agitation of all kinds is so well known, we cannot see how a patent can be obtained on a special form of agitation unless the specific proportions of the stirring equipment and its relation to the rest of the apparatus are defined as essential to produce the new result, and if these proportions are directly brought into the claims we feel quite confident that a skillful engineer could vary the proportions in such a way that a similar result would be obtained without infringement. Further, we have grave doubts as to whether any United States patent can be obtained on this score. The original Billwiller patent showed that the liquid should be circulated relative to the material under treatment.

This would necessarily result in some attrition to remove softened surface coatings and the extent to which this might be carried out in accurately designed agitators seems to us to differ only in a matter of degree, particularly in view of the fact that virtually all digestion processes subject the material to more or less violent agitation. Thus, in the United States it is frequently the custom to carry on the digesting processes in a rotary autoclave where the mass of material is being continually broken up and where there most certainly would be a tendency for the surfaces of the chips to be knocked away as they are softened. It is our opinion that while it may be possible for some limited patent protection to be obtained on some details or special features of this process we consider that there is no substantial possibility that this discovery can be made the basis of a United States patent which will give any real monopoly for the use of the Billwiller process on chips or the like. As stated above the process is not necessary for bast fibre recovery.

Summing the matter up, it is our opinion that Billwiller has made advances that may be of great technical value and which may be the result of highly important scientific discoveries, but unfortunately the previous developments do not permit these studies to be defined in the form of patentable inventions of sufficient breadth to give a valuable monopoly. As we do not wish in any way to belittle the European patent situation, we may point out that we reach these conclusions because of the nature of the patent law of the United States, and that the situation might be very different if here, the measure of patents was based solely upon the importance of the new discoveries or of new technical effects.

Yours very truly,

ANM:MR

P. H. Hill, B. L. Hill, H. Hill.