

# Georgia-Pacific Corp. v. United States Plywood Corp., 318 F. Supp. 1116, 166 U.S.P.Q. (BNA) 235 (S.D.N.Y. 1970)

OPINION: TENNEY, District Judge.

By opinion dated October 26, 1956, entered in an action by Georgia-Pacific Corporation (hereinafter referred to as "GP") for a declaratory judgment of invalidity and non-infringement of three patents held by United States Plywood Corporation (hereinafter referred to as "USP") and upon a counterclaim by USP for patent infringement and unfair competition, my late brother Judge Herlands found USP's three patents (one Deskey and two Bailey patents) invalid for lack of invention, not infringed by GP's product and further, that there was no proof that GP engaged in acts of unfair competition. 148 F. Supp. 846 (S.D.N.Y. 1956). The Court of Appeals reversed and remanded in 1958, holding that Claim 1 of USP's Deskey Patent No. 2,286,068 covering "Weldtex" striated fir plywood valid and infringed by GP. 258 F.2d 124 (2d Cir.), cert. denied, 358 U.S. 884, 79 S. Ct. 124, 3 L. Ed. 2d 112 (1958).

Following the decision of the Court of Appeals, the case was referred to a special master to determine the amount of damages to be awarded to USP under 35 U.S.C. § 284 (1952), n1 which provides for "damages adequate to compensate for the infringement." The master, computing damages upon the basis of GP's profits derived from the sale of the infringing article, n2 awarded \$685,837.00 to USP. Judge Herlands, on exception to the Master's Report, concluded that under the instant circumstances and controlling statute GP's profits did not constitute the proper measure of recovery, and that the award to USP should have been computed on the basis of a reasonable royalty. 243 F. Supp. 500 (S.D.N.Y. 1965).

n1 The statute provides:

"§ 284. Damages

Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.

When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed.

The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances."

n2 In the proceedings before the special master, USP sought recovery on three alternative theories:

(1) "Lost profits" of \$1,101,520, representing the net profits on Weldtex that were diverted from USP by GP's infringement (on the assumption that USP would have sold 80% of the striated plywood footage sold by GP), supplemented by an additional lost profit of \$431,410, on "convoyed sales" of other USP products that would have been generated by and sold along with the projected sales of Weldtex;

(2) "Infringer's profits" of \$1,004,735, representing the net profits derived by GP from the infringing sales, and supplemented by an additional infringer's profit of \$431,000 on convoyed sales of other GP products generated by and sold along with the GP striated; and

(3) As an alternative method of computation, USP sought damages of \$974,953 on the "standard of comparison" theory, this sum representing the difference between GP's profits on the infringing sales of GP striated and the profits GP would have earned by selling an equal quantity of unpatented 1/4" AD panels.

In ruling on USP's claims, the master rejected the "lost profits" submission. Although finding that USP had proved, among other things, the fact of damage, -- i.e., that loss of sales of Weldtex occurred by reason of GP's infringement--the master found that USP had failed to establish that a measurable quantity of such sales had been lost or that such loss of sales resulted in the loss of a measurable sum in profits.

The master upheld, however, the claim for "infringer's profits," and computed these in the amount of \$685,837 -- as against USP's claim that they were \$1,004,735 and GP's claim that they were only \$145,090.73.

In recommending that the entire \$685,837 be awarded to USP, the master rejected GP's contention that the value of the infringing article had to be apportioned between the Deskey patent and the article's other, noninfringing elements. The master found that the entire market value of the infringing article is attributable to the Deskey patent.

On objections to the master's report, this Court sustained the finding that USP had proved the fact of harm in the form of lost sales due to the infringement, and sustained also the master's rejection of the lost-profits claim. 243 F. Supp. at 512-513. The master's conclusion that USP should be awarded the infringer's profits was rejected, however, on the ground that such an award falls outside the statute's provision for recovery of damages. 243 F. Supp. at 514-546.

Having rejected USP's claims for lost profits or infringer's profits, the Court decided that "the award to USP should have been and will be computed on the basis of a reasonable royalty." 243 F. Supp. at 505, 512, 514, 546.

Evidence relating to the issue of the amount of reasonable royalty to be paid by GP to USP was

presented to Judge Herlands on June 8 and October 2, 3 and 4, 1967, November 12 and 20, 1968, April 30, May 19-22, and June 23-24, 1969. During the course of these hearings, GP's Exhs. 1-38 and USP's Exhs. 1-47, 50, 53-56, 59-68 were received in evidence. Briefs were filed by both parties herein on September 22 and 23, 1966, November 28, 1966, January 22, 1968, and July 22, 1969 (proposed findings of fact and conclusions of law having been submitted with the briefs of November 28, 1966 and July 22, 1969).

After having viewed the demeanor of witnesses and examined the transcript, briefs, Master's Report (hereinafter referred to as "MR"), and applicable authority with a degree of care characterized by his judicial career, Judge Herlands died on August 28, 1969 without having filed a formal opinion on this issue. However, at the time of his death Judge Herlands had substantially completed a draft of his opinion.

Thereafter, on October 9, 1969, Chief Judge Sugarman referred this action to me for all purposes. On the basis of a conference held on December 16, 1969, the parties have stipulated that this cause be submitted for the purpose of determining the amount of the reasonable royalty upon the proceedings and briefs previously referred to herein, "it being specifically understood and agreed between the parties hereto that [the Court] shall have the full and unlimited right to use or not to use all or any part of said draft of opinion, notes and memoranda, with or without acknowledgment of its source, as though the same were a part of the record made herein." n3

### n3 STIPULATION

Whereas, the following facts appear herein:

1. On June 15, 1965, this Court, by The Honorable William B. Herlands, Judge, sustaining exceptions to the report of the Special Master herein, held and ordered that the proper measure of recovery by the defendant, United States Plywood Corporation, because of the infringement by plaintiff, Georgia-Pacific Corporation, of claim 1 of United States patent to Deskey, No. 2,286,068, should have been, and would be computed on the basis of a reasonable royalty, and that further hearings should be had to determine the amount of said royalty (243 F. Supp. 500, 546-547).

2. Pursuant to this order, a first hearing was duly held for the purpose of determining said reasonable royalty on June 29, 1965 (Tr. p. 1). \* The last of said hearings occurred on June 24, 1969 (Tr. p. 1272), at the conclusion of which it was ordered that briefs be submitted on July 22, 1969 at 5:00 P.M. (Tr. pp. 1427-1428A).

\* The hearings commencing with that of June 29, 1965 are reported and are consecutively numbered from page 1 through page 1428A, and are here designated as "Tr. p. -."

3. During the course of said hearings, Georgia-Pacific Corporation Exhibits Nos. 1 through 38, and United States Plywood Corporation Exhibits Nos. 1-47, 50, 53-56, 59-68 (including all subletterings or numbers) were received in evidence, together with two letters dated June 27,

1969 and June 30, 1969, respectively, from Raymond T. Heilpern to Judge Herlands, together with an enclosure, and from John Vaughan Groner to Judge Herlands.

4. Following the submission of this cause to Judge Herlands as set forth above, Judge Herlands on August 28, 1969 died without having made such determination, it being understood, however, that at the time of his death, Judge Herlands had prepared a draft of his opinion herein together with notes or other memoranda relating thereto.

5. Thereafter, on or about October 9, 1969, the Honorable Sidney Sugarman, Chief Judge of this Court, referred this action to the Honorable Charles H. Tenney, United States District Judge, for all purposes.

Now, therefore, it is stipulated by and between the parties hereto, by their counsel, that this cause be submitted for the purpose of determining the amount of said reasonable royalty upon the proceedings referred to herein, and upon the briefs filed by both parties herein on September 22, and September 23, 1966, November 28, 1966, January 22, 1968, and July 22, 1969 (proposed findings of fact and conclusions of law having been submitted with the briefs of November 28, 1966 and July 22, 1969), together with oral argument if desired or ordered by Judge Tenney; it being specifically understood and agreed between the parties hereto that Judge Tenney shall have the full and unlimited right to use or not to use all or any part of said draft of opinion, notes and memoranda, with or without acknowledgment of its source, as though the same were a part of the record made herein

Based upon this stipulation, and after a careful review of the entire record, the Court has accepted and adopted, with minor amendment, the reasoned opinion of Judge Herlands, which follows. n4

n4 Both GP and USP have declined the opportunity for further oral argument before this Court.

While the parties agree upon the doctrinal criteria of a reasonable royalty, they differ sharply in their application of those principles to the hard specifics of the evidence. The extreme divergence of the parties is reflected in the difference between GP's submission that the reasonable royalty herein should be fixed at a figure somewhere between a dollar and one-half to three dollars per thousand square feet and USP's claim that the minimum reasonable royalty should be the rate of fifty dollars per thousand square feet.

A comprehensive list of evidentiary facts relevant, in general, to the determination of the amount of a reasonable royalty for a patent license may be drawn from a conspectus of the leading cases. The following are some of the factors *mutatis mutandis* seemingly more pertinent to the issue herein:

1. The royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty.

2. The rates paid by the licensee for the use of other patents comparable to the patent in suit.
3. The nature and scope of the license, as exclusive or non-exclusive; or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold.
4. The licensor's established policy and marketing program to maintain his patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly.
5. The commercial relationship between the licensor and licensee, such as, whether they are competitors in the same territory in the same line of business; or whether they are inventor and promotor.
6. The effect of selling the patented specialty in promoting sales of other products of the licensee; the existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or convoyed sales.
7. The duration of the patent and the term of the license.
8. The established profitability of the product made under the patent; its commercial success; and its current popularity.
9. The utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results.
10. The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention.
11. The extent to which the infringer has made use of the invention; and any evidence probative of the value of that use.
12. The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions.
13. The portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer.
14. The opinion testimony of qualified experts.

15. The amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying to reach an agreement; that is, the amount which a prudent licensee -- who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention -- would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a prudent patentee who was willing to grant a license.

The drawing of proper conclusions from conflicting evidence concerning the amount of a reasonable royalty has been said to call "for the exercise of judicial discretion by the District Court." *General Motors Corp. v. Dailey*, 93 F.2d 938, 942 (6th Cir. 1937). Both sides agree that this Court has a broad range of judgment in evaluating the relevant factors.

In the present case there is a multiplicity of inter-penetrating factors bearing upon the amount of a reasonable royalty. But there is no formula by which these factors can be rated precisely in the order of their relative importance or by which their economic significance can be automatically transduced into their pecuniary equivalent. In discharging its responsibility as fact finder, the Court has attempted to exercise a discriminating judgment reflecting its ultimate appraisal of all pertinent factors in the context of the credible evidence.

The parties agree that there was no "established" royalty for USP's Weldtex or GP striated. Consequently, it is necessary to resort to a broad spectrum of other evidentiary facts probative of a "reasonable" royalty.

Two of the earlier and typical cases relied upon by both parties are *Dowagiac Mfg. Co. v. Minnesota Moline Plow Co.*, 235 U.S. 641, 35 S. Ct. 221, 59 L. Ed. 398 (1915) and *United States Frumentum Co. v. Lauhoff*, 216 F. 610 (6th Cir. 1914). In *Dowagiac Mfg. Co.*, supra, 235 U.S. at 648, 35 S. Ct. at 224, the Supreme Court said that, where a patentee could not prove lost profits, infringer's profits or an established royalty, the patentee could "show the value by proving what would have been a reasonable royalty, considering the nature of the invention, its utility and advantages, and the extent of the use involved." In *United States Frumentum Co.*, supra, 216 F. at 617, the Court referred to the following elements as relevant to the determination of a reasonable royalty: the nature of plaintiff's patent property; the extent to which defendant took it; and its utility and commercial value as evidenced by its advantages over other devices, by the extent of its use, and by the profits and savings that could be made upon its sale or adoption.

The parties rely upon the traditional array of facts probative of a reasonable royalty. But, in addition, USP places heavy reliance upon a later formulation called "the willing buyer and willing seller" rule.

The rule is pronounced in *Horvath v. McCord Radiator & Mfg. Co.*, 100 F.2d 326, 335 (6th Cir. 1938), cert. denied, *Carrier Engineering Corporation v. Horvath*, 308 U.S. 581, 60 S. Ct. 101, 84 L. Ed. 486, rehearing denied, 308 U.S. 636, 60 S. Ct. 171, 84 L. Ed. 529 (1939), in these terms:

"In fixing damages on a royalty basis against an infringer, the sum allowed should be reasonable and that which would be accepted by a prudent licensee who wished to obtain a license but was not so compelled and a prudent patentee, who wished to grant a license but was not so compelled."

A variant phrasing set forth in *Faulkner v. Gibbs*, 199 F.2d 635, 639 (9th Cir. 1952) reads:

"The primary inquiry, often complicated by secondary ones, is what the parties would have agreed upon, if both were reasonably trying to reach an agreement." (Footnote omitted.)

The rule is more a statement of approach than a tool of analysis. It requires consideration not only of the amount that a willing licensee would have paid for the patent license but also of the amount that a willing licensor would have accepted. What a willing licensor and a willing licensee would have agreed upon in a supposititious negotiation for a reasonable royalty would entail consideration of the specific factors previously mentioned, to the extent of their relevance. Where a willing licensor and a willing licensee are negotiating for a royalty, the hypothetical negotiations would not occur in a vacuum of pure logic. They would involve a market place confrontation of the parties, the outcome of which would depend upon such factors as their relative bargaining strength; the anticipated amount of profits that the prospective licensor reasonably thinks he would lose as a result of licensing the patent as compared to the anticipated royalty income; the anticipated amount of net profits that the prospective licensee reasonably thinks he will make; the commercial past performance of the invention in terms of public acceptance and profits; the market to be tapped; and any other economic factor that normally prudent businessmen would, under similar circumstances, take into consideration in negotiating the hypothetical license.

As pointed out in an earlier decision herein by this Court (243 F. Supp. at 539), the very definition of a reasonable royalty assumes that, after payment, "the infringer will be left with a profit." It is necessary to consider, as an element in determining the amount of the reasonable royalty, the fact that GP would be willing hypothetically to pay a royalty which would produce "a reasonable profit" for GP. See *Faulkner v. Gibbs*, 199 F.2d 635, 639 (9th Cir. 1952).

It is evidence, therefore, that the formulation called the willing seller and willing buyer rule represents an attempt to colligate diverse evidentiary facts of potential relevance. In applying the formulation, the Court must take into account the realities of the bargaining

table and subject the proofs to a dissective scrutiny.

In order to establish what USP "would have" demanded and what GP "would have" agreed to pay at the time of the supposititious negotiations, USP has hypothesized certain economic facts having experiential validity "as of" the time of the assumed negotiations.

USP's reconstruction is attacked by GP as a distorted fictional playback that trims the facts to fit USP's theory. For example, GP describes the trial testimony of USP's witnesses, Antoville and Heilpern, as:

"insulated from reality by assuming to recapture the mood of 1954 without any such modification as is required by subsequently developed facts. This is the direct result of a basic misconception by plaintiff of the 'willing seller' rule. The entire thrust of the Heilpern-Antoville testimony was to give expression to an opinion of what USP would have asked had there been a 1955 negotiation with GP for a Deskey license.

\* \* \*

Testimony of this nature is irrelevant and, if regarded at all, misleading.

The 'willing seller' rule does not contemplate a confrontation between adverse negotiators and the use of their campaign slogans as evidence.

It does contemplate a marshaling of all of the pertinent facts which, like cards dealt face up, are for all to see. And it then contemplates the supposititious meaning of buyer and seller, who are able, on the basis of the overall round-up of information, to become 'willing' buyers and sellers, at a royalty which will enable the buyer to make and sell at a reasonable profit."

Referring to the decisions expounding the willing seller rule, GP argues that "none of these cases has allowed the supposititious deal between buyer and seller to be infected by a guesswork opinion, unembarrassed by a single fact. And the realism of these cases is in stark contrast with the fictional character of the USP approach."

The Court, having considered GP's critique, finds that USP's presentation is, in decisive respects, rooted in reality. The total record has been sifted to separate the probative evidence from surmise, speculation, "guesswork opinion", and "campaign slogans". For the most part, where facts have been hypothesized by USP, they are premised on record evidence, direct and circumstantial. This is particularly true with respect to such elements as reasonably anticipated rates of profit, probable volume of sales, normal economic motivations, and the prevailing business outlook, all as of the time of the supposititious negotiations.

Moreover, the Court as taken into account the modifying effect of the facts developed subsequent to 1955 and has assessed them together with all other probative evidence so

far as they bear upon the reasonableness of the assumptions and expectations of the parties in their hypothetical negotiations in 1955.

There is some confusion in GP's analysis arising out of the circumstance that USP was unable to prove before the master the amount of its lost profits as damages. GP argues that the same deficiencies of proof which resulted in the master's finding -- that USP proved the fact of damage but not the quantum of such damage -- similarly vitiate USP's present effort to use, as one of the primary factors for evaluating a reasonable royalty, the profits that it would have reasonably anticipated it would make at the time when a royalty would have been negotiated hypothetically with G.P. Similarly, GP is in error when it argues that, because this Court rejected the master's use of GP's infringing profits as the legal measure of damages, evidence of GP's reasonably anticipated profits as of 1955 is irrelevant to the present inquiry.

Certain basic statistics are not in dispute. GP's sales of the infringing striated plywood totalled 15,899,000 square feet and amounted to sales proceeds to GP of \$2,547,393. The period of the infringement was March 1955 through September 1958.

The manufacturing part of the infringement began in February 1955. As pointed out by the Court of Appeals (258 F.2d at 127):

"The plaintiff, Georgia-Pacific Corporation, first manufactured its accused panels in February 1955 and in March delivered a sample to defendant's manager in Newark."

The hypothetical negotiations are, therefore, timeplaced in February 1955 and the relevant factors are viewed in that frame of time-reference.

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Usp's policy to maintain and its actual maintenance of a valuable monopoly on sales of striated fir plywood in the absence of gp's infringement.

Usp's undeviating policy was to maintain its patent monopoly on sales of striated fir plywood in the United States. Its exploitation of the Deskey patent through the sale of Weldtex was extremely successful and profitable. The Court of Appeals characterized the commercial success of Weldtex as a factor of "very great significance". 258 F.2d at 133.

USP manufactured and sold Weldtex in substantial quantities since 1946. From April 30, 1951 to January 31, 1955, the annual average sales of Weldtex was approximately \$6,000,000. During the last six quarter-annual periods before the infringement, extending up to January 31, 1955, sales of Weldtex totalled \$9,325,022, the quarterly average being \$1,554,170, compared with quarterly average sales of \$1,456,605 during the period from April 30, 1951 to January 31, 1955. During the quarter ending April 30, 1955, the Weldtex sales amounted to \$1,601,814.

In February 1955, USP had no reason to anticipate that there would be a significant decline in the demand for Weldtex in the foreseeable future. In fact, no such decline took place for two years subsequent to February 1955.

The commodity most relevant to the subject of USP's monopoly was striated fir plywood. GP argues that the relevant commodity is "decorative plywood" as a class, of which striated fir plywood (exemplified by USP's Weldtex) was only one of many; that USP's monopoly was diluted by the competition of other decorative plywoods with Weldtex; and that this competition in February 1955 was a factor that significantly tended to reduce the royalty for Weldtex that would have been negotiated hypothetically at that time. In fact, GP contends that the competition that Weldtex faced was so keen that only a minimal royalty can be justified.

Noteworthy is the fact that, despite the allegedly fierce competition between Weldtex and other decorative plywoods, GP deliberately decided to duplicate Weldtex notwithstanding the caveat of GP's own counsel that an expensive infringement suit was inevitable. GP's calculated infringement of Weldtex is an admission by conduct that it regarded Weldtex as occupying a uniquely favorable position in the market.

In this connection, it is also important to consider that, without a license from USP, GP could not legitimately manufacture striated fir plywood and, on the other hand, the granting of a license by USP to GP would place GP in direct and active competition with USP in the United States with respect to striated fir plywood. Obviously, only an adequate royalty would make this proposition palatable to USP.

The separate question -- whether there were other competing decorative plywood panels -- poses an inquiry into the extent of that competition and its ultimate bearing upon the determination of the amount of a reasonable royalty.

During the period February 1955 to 1958, Weldtex was not confronted with significant competition except that created by GP's infringing striated. Judge Herlands sharply discounts the testimony before the special master (transcript of the proceedings before the special master herein referred to as "SM") of GP's witnesses Beggs, L.G. Buckley and Elmendorf, in determining the popularity, life cycle and competitive situation with respect to USP's striated fir plywood. Aside from their lesser credibility than USP's witnesses on the point, the questions put to Beggs, Buckley and Elmendorf were not directed to the relevant period 1955 to 1958 or to February-March, 1955, when the infringement commenced and hence the time when the reasonable royalty would have been negotiated. Beggs was questioned about the period "1955 to 1958" (GP Exh. 18, SM 3360-61). L. G. Buckley was asked a question in the then present tense (1960) with respect to "other wall covering products which are competitive with Weldtex" (GP Exh. 21, SM 3314). The same use of the then present tense was used with respect to Elmendorf, when he was asked about other products competing with Weldtex (GP Exh.

22, SM 3300, 3301). A similar irrelevant time period is reflected in the testimony of Monroe Pollack, then an officer and sales director of USP, when he described the competition "in 1957 or thereabouts" (GP Exh. 25, SM 389, 415) or "in about late 1958 or early 1959" (GP Exh. 25, SM 388).

The evidence that, in February 1955, Weldtex was without keen competition is corroborated by admissions from GP's own files relating to times both before and after the hypothetical negotiations. For example, GP's attorney, in a letter dated July 23, 1953, said that Weldtex "has been without any substantial competition" (USP Exh. 14a, at 1887a). Five years later, on May 13, 1958, a ranking representative of GP (Leonardson) wrote that Weldtex "is certainly one product on which they [USP] have very little competition" (USP Exh. 6).

While in a generalized sense Weldtex was only one of a number of decorative wall panels that were competitive (e.g., brushed fir plywood, Philippine mahogany plywood and embossed plywood) the Court accepts Mr. Heilpern's testimony that, to determine whether and to what extent various plywood and similar products were competitive with each other, it is necessary to know their respective price ranges and the respective markets that had been developed for them (Tr. 222-40). The Court is convinced that, in February 1955, the commercial value of Weldtex was not undermined by competition (Tr. 223-30, 234-35, 238, 330-31).

Particularly convincing on the point of the absence of substantial competition is the testimony of Monroe Pollack, USP's vice president in charge of sales from 1950 to 1957 (GP Exh. 25, SM 369, 383-388) which is corroborated by the Antoville testimony (Tr. 349-357) and the striated fir plywood statistics (USP Exh. 1). Pollack testified that Weldtex represented a unique decorative panel "which, to a large degree, were [was] non-competitive" and that there was no competition in this particular field until late 1958 or early 1959.

The master found and this Court approved the finding, that Weldtex and GP's infringing striated plywood were competitive with each other to a greater degree than with other decorative panels. 243 F. Supp. at 510, 511; MR 105. Competition in the form of imported products was not significant in February 1955. Such competition assumed substantial proportions only in 1957 or thereabouts. Mr. Heilpern's testimony proves that, while there were a number of other competitive decorative wall panels on the market during the period of infringement, they were not substantially significant as competitive items with Weldtex. This is corroborated by the fact that USP was able to maintain the volume of its sales at original prices. Mr. Antoville's credible testimony proves that, in 1955, the other decorative plywoods did not constitute a substantial competitive factor.

The Court reiterates its prior finding that, at the time of GP's infringement, Weldtex was relatively insulated from competition. See 243 F. Supp. at 510, 511.

It follows that, in February 1955, the time of the hypothetical negotiations, the determination of a reasonable royalty would have been strongly influenced by the then dominant market position of Weldtex. While this element cannot be converted into commensurable arithmetical terms, it is a highly significant fact in the mix of factors.

The evidence referred to must be considered in conjunction with USP's policy not to license anyone to sell Weldtex in the United States or in any other area where USP was capable of making its own sales. In the licenses that USP did grant for the manufacture of Weldtex in the United States, USP stipulated that the licensee could sell only to USP or USP's designee.

The master found that USP had the financial and physical capacity to market an additional amount of striated fir plywood equaling 80% of the amount infringingly sold by GP. While the master and the Court found that USP had possessed that capacity, the master found, and the Court approved the finding, that the proof was insufficient to establish that USP would have in fact manufactured and sold any measurable quantity of Weldtex between February 1955 and September 1958, in addition to the quantities of Weldtex which they did actually manufacture and sell during that period.

What is pertinent for present purposes is that, at the time of the hypothetical negotiations, USP did have the physical and financial capacity to market an additional 12,784,000 square feet of Weldtex between March 1955 and September 1958 and that, when it would have entered into the hypothetical licensing agreement with GP, it was not doing so because it could not have produced additional Weldtex itself.

Next to be considered is the matter of the market demand for Weldtex in or about February 1955 and the then reasonable anticipation as to the continuance of that customer popularity. GP argues that Weldtex had passed its apogee just before GP began its infringing sales of striated plywood. Citing sales statistics, GP claims that Weldtex lost standing in each succeeding year since early 1955.

The more persuasive fact is that, in February 1955, there was no reason to anticipate any significant decline in the foreseeable future in the demand for the striated fir plywood on which USP had a legal monopoly. USP executives in fact anticipated no such decline. Sales of striated fir plywood were still rising in February 1955, and did not fall off significantly until about two years later. During six of the eight quarterly periods following the start of the infringement -- up to April 30, 1957 -- the total combined sales of striated fir plywood by USP and GP exceeded USP's quarterly average over the period April 30, 1951, up to the beginning of the infringement. For the eighth quarter following the commencement of the infringement the combined sales by USP and GP were 88.2% of USP's pre-infringement average. For the entire four year period following the infringement up to January 31, 1959, the total striated fir plywood sales was more than 80% of the sales during the four years prior to the infringement.

USP recognizes the abstract proposition that specialty plywood products tend to go through cycles of popularity. But the record shows that in February, 1955 the popularity of striated fir plywood had not yet begun to decline; that (as the credible testimony of Heilpern and Antoville indicated) no one familiar with it thought it had; and that no one, least of all GP, considered that its commercial value and future prospects were anything but attractive. The very circumstance that GP decided to manufacture and sell infringing striated fir plywood reflects its sanguine view that this was a profitable item despite the almost certain litigation that would ensue.

The contemporaneous documentation indicates that GP's entrance into the striated fir plywood field met with enthusiastic sales inception; that shortages soon arose; that re-orders for the product were obtained; and that even in 1958 GP's pricing of striated fir plywood was holding up.

The evidence on which GP relies to show that Weldtex had lost its popularity was not focused on or near February 1955 (the time of the hypothetical negotiations) nor on the year 1955. For example, GP's witness Beggs, in testifying as to the decline of the market for striated plywood, was answering a question that was pegged to the time period of "1955 to 1958" (GP Exh. 18, SM 3363-64). The same period was used in the framing of a question to GP's witness L. G. Buckley about the "status of the life cycle" of Weldtex's popularity (GP Exh. 21, SM 3317); and, interestingly enough, Buckley answered that the peak of striated fir plywood had not yet been reached by 1955 (GP Exh. 21, SM 3317-18).

Similarly, the testimony of the retail lumber dealer Levine, concerning a "change of style" away from striated fir, was given in answer to questions concerning the level of Weldtex sales in 1961, as compared with the level in "past years" (GP Exh. 24, SM 3673-74).

The Court, therefore, finds that, in or about February 1955 and for approximately two years thereafter, the popularity of striated fir plywood was still a choice commodity; that it was viewed by USP and GP as one that would bring in substantial profits; that it was desirable in the eyes of GP; and that because GP coveted it, it deliberately proceeded to manufacture its own striated fir plywood imitation of Weldtex. Consequently, in considering the ultimate question of reasonable royalty, striated fir plywood must be evaluated in the foregoing context.

The entire and actual sales picture of striated plywood during the period from February 1955 through September 19, 1958 has been considered as a circumstance together with all of the other evidence in the case. Taking all of the historical facts into consideration the Court finds that, for purposes of determining a reasonable royalty, striated fir plywood was considered by the parties as a readily salable and highly profitable commodity; and that striated fir plywood had not lost its commercial value as a popular product at the time of the hypothetical negotiations.

The circumstance that the Deskey patent (which had issued on June 9, 1942) had only a little over four years to run from February 1955 until it expired on June 9, 1959 (GP Exh. 15) and the argument of GP that the reasonable royalty should therefore be minimal (as testified to by GP's witness L. G. Buckley, SM 3322 [GP Exh. 21]), are neutralized by certain practical business considerations: (1) because striated fir plywood was a product of demonstrated great commercial success, GP did not assume any risk in this respect; (2) a royalty calculated as a percentage of footage actually sold or volume of actual sales, as distinguished from a license fee expressed in advance as a flat amount of dollars, would mean that GP did not assume any fixed financial obligation (Tr. 373-74 [Antoville]; Tr. 295-96, 309, 313 [Heilpern]); (3) the opportunity to engage in the sale of a patented product even several years before the patent's expiration would constitute a definite advantage to GP who intended to market the product after the expiration of the patent (Tr. 386-87 [Antoville]); and (4) GP could get into the profitable production of striated fir plywood with only the modest investment required for a striating machine, amounting to approximately \$12,000 to \$15,000 (Tr. 148-49, 288-89, 323, 344-45).

## II

The factor of the profitability of weldtex.

The amount of profits that USP was making and could (in February 1955) reasonably expect to continue to make on its sales of Weldtex by licensing no one to sell Weldtex in the United States is of major relevance to the determination of the amount of royalty that USP would accept from GP and that GP would offer. USP was enjoying the profits of a readily salable product. USP was in a position to retain the entire market on striated fir plywood for itself. The result of GP's infringement was to interfere with that monopoly and, as planned, to put GP in direct competition with USP's Weldtex throughout the period of infringement. The hypothetical license would have been one whereby GP would have been permitted to market striated fir plywood throughout the United States (as GP infringly did).

GP admits that "one of the most pertinent factors in ascertaining the value of a patent for royalty purposes is the ability or inability of the invention of the patent to make money." GP does not claim that USP's profits on its Weldtex sales are not a proper factor for consideration in determining the amount of a reasonable royalty.

In the hypothetical negotiations, USP would have been reasonable in taking the position that it would not accept a royalty significantly less than the profit it was making by its policy of licensing no one to sell striated fir plywood in the United States.

In searching for and considering the available evidence of Weldtex's profitability -- evidence claimed by USP to exist but whose existence in the record is denied by GP -- it is necessary to distinguish sharply that inquiry from the entirely separate issue of the

amount of USP's damages in the form of lost profits attributable to GP's infringing sales. That latter issue of lost profits as the measure of damages had been litigated before the special master who found (and this Court affirmed that finding, 243 F. Supp. at 510) that USP had failed to prove that it had sustained a measurable amount of lost profits caused by GP's infringing sales after February 1955 although USP had proved the fact of such damages as distinguished from its quantum. 243 F. Supp. at 512-513.

What must be considered now is the fixation of a reasonable royalty -- a determination prescribed by the statute and made necessary for the very reason that USP was unable to prove the quantum of its damages in the form of lost profits. What must be considered now as one of the elements, inter alia, relevant to the determination of the amount of a reasonable royalty, is the rate of profits that USP was making on Weldtex at the time GP began its infringement, and not the amount of profits that USP lost as the result of GP's infringing sales -- profits that USP made and was making on and before February 1955 and that it reasonably anticipated it would continue to make, not the profits that it actually lost after February 1955. The statute created the recovery of a reasonable royalty for the very purpose of affording fair compensation in cases such as this, where the victimized patentee is unable to prove that he lost a measurable amount of profits as the result of the infringement.

It is clear, then, that under the statute a reasonable royalty is an alternative way of recovering general compensatory damages and that it is not equitable or commensurable with actual damages computed in terms of demonstrably proved lost profits. This distinction must be emphasized because GP has obfuscated the issue by coalescing the two different concepts.

Still another preliminary clarification of the issue is needed.

GP makes the dual argument that "the proofs of 'profitability' of Weldtex are so unsubstantial, or are so unrelated to Deskey value that the backlash is proof that there is no Deskey value". The foregoing statement, phrased as it is in the disjunctive, embraces two independent points: (1) that USP has failed to prove the profitability of Weldtex and (2) that USP's evidence of Weldtex's profitability is "unrelated to Deskey value" -- the latter contention being one that poses the issue of apportionment and that will be discussed separately herein in terms of the value of the Deskey invention.

In this juncture, we are considering the issue of the profitability of Weldtex and the record evidence bearing upon that issue.

According to GP, Mr. Heilpern based his figures of value on USP Exh. 58 (Tr. pp. 141-45); Mr. Antoville "simply generalized about 'its great profitability' (Tr. p. 339), and 'the high profitability'" (Tr. pp. 353-55); "this record provides no clue as to what 'great profitability' or 'high profitability' means"; and "USP has failed utterly to give any semblance of meaning to the word 'profitability'" using "a false yardstick".

Mr. Heilpern testified that the profit on Weldtex sales was "extremely generous" (Tr. 132), "very substantial" (Tr. 138), and "extremely profitable" (Tr. 139).

That Weldtex commanded a high selling price in relation to its low manufacturing cost is evidenced by the statement of USP's former president and chairman of its board, as quoted by Mr. Heilpern: "We made a silk purse out of a sow's ear" (Tr. 132-33, 243, 247-51).

A considerable amount of the Heilpern testimony was devoted to explaining the computations contained in USP's Exh. 5B (the same as USP's Exh. 38A in the proceeding before the special master). The data in this exhibit includes, inter alia, the prices and costs involved in USP's actual production and sale of Weldtex and, hence provide some basis for computing the amount or rate of USP's profit on that production and sale.

Mr. Antoville testified that Weldtex had "great profitability" (Tr. 339); that it was "a highly profitable item" because it sold for a considerable premium over the price of one quarter AD panel and yet "cost practically no more to make" (Tr. 339-41) and that Weldtex possessed "high profitability" (Tr. 353).

During the years 1952 to 1958, Weldtex was manufactured at two sources: the contract mills where approximately 80 per cent of USP's total Weldtex was produced and sold to USP by said mills; and USP's own Seattle plant where approximately 20 per cent of the Weldtex was produced (GP Exh. 8). On an incremental or differential cost accounting basis (as distinguished from an absorption-cost accounting basis), USP made an average profit of \$54.25 per thousand square feet with respect to the Weldtex produced by USP from the contract mills; and USP made an average profit of \$86.16 per thousand square feet with respect to the Weldtex produced at USP's Seattle plant. When these two profit figures are weighed on the basis of the 80 per cent to 20 per cent production ratio, the ultimate result is \$60.63 as the average rate of profit per thousand square feet earned by USP on all its Weldtex sales at the time of the infringement, computed on an incremental cost accounting basis.

Incremental cost accounting, however, is not considered by the Court as appropriate in determining the actual profitability of Weldtex during the years prior to and up to February 1955. Arguably, that method of cost accounting might be appropriate in evaluating the factor of suppositious profit on additional hypothetical sales that USP would anticipate and preserve for itself by not licensing GP. But the absorption costbasis is more reliable and pertinent to a determination of the historical profitability of Weldtex during the years prior to and up to February 1955.

Computed by the absorption method, USP's average rate of profit on its Weldtex sales was \$48.64 per thousand square feet at the time of the infringement.

USP argues that, independently of USP Exhibit 5B, the Antoville and Heilpern testimony establishes that \$60.63 is the rate of profit per thousand square feet of Weldtex sold, and that that figure is "conservative". The Court has considered the Antoville testimony (e.g., Tr. 340-41, 343-44) -- which is the predicate for USP's contention that the overall profit on Weldtex was approximately \$68.00 per thousand square feet -- and the Heilpern testimony (e.g., Tr. 135) -- which is the predicate for USP's contention that the overall profit on Weldtex ranged from \$52.00 to \$60.00 per thousand square feet. That testimony does not impress the Court as sufficiently persuasive to warrant a finding other than that USP's average actual profit on Weldtex sales was approximately \$48.00 per thousand square feet; and the Court so finds.

### III

The asserted factor of increased potential profitability via operations of usp's plant at eugene, oregon.

Another factor -- in addition to the actual profitability rate of Weldtex -- urged upon the Court by USP as relevant to the determination of a reasonable royalty is "the higher potential profits" that USP anticipated it could and would make by producing Weldtex at its plant at Eugene, Oregon, which it acquired in February 1955. (Tr. 137). Mr. Heilpern testified that these estimated higher profits were among the factors that "would have been taken into consideration in negotiating a royalty agreement or a license agreement with Georgia-Pacific in 1955" (Tr. 137, 145).

However, it must be noted that the idea of producing Weldtex at Eugene was specifically considered by USP only in mid-1955, according to USP's president, Mr. Brewer. Both the special master and this Court have found that USP failed to prove that it would have manufactured Weldtex at Eugene in the absence of GP's infringement. 243 F. Supp. at 510-511.

Considering all the relevant evidence, the Court's opinion is that the proofs about USP's earning higher potential profits through the prospective operations of the recently-acquired plant at Eugene are not sufficiently reliable and persuasive to warrant a finding that that particular factor would have played a significant part in the formulation of a reasonable royalty at the hypothetical negotiations in February 1955.

### IV

The factor of usp's profits via collateral or convoyed sales.

Another element emphasized by USP as one that it would have taken into account in the hypothetical negotiations to fix a reasonable royalty was the profits it was making on collateral or convoyed sales of other USP products that were generated by Weldtex sales.

Both the special master and the Court have found that USP had failed to prove that it

would have earned a measurable or specific amount of additional profits on collateral sales in the absence of GP's infringement; and thus USP had failed to sustain a recovery of damages in any assessable amount under the heading of such lost profits. 243 F. Supp. at 512.

There is logic to USP's present argument distinguishing between the profits derivable from collateral or convoyed sales as one of the elements relevant to the fixation of a reasonable royalty (the current issue) and, on the other hand, the loss of profits from such sales as part of actually sustained damages (the issue previously litigated before the master). The fact of the existence and the substantiality of such profits and the fact of the loss of some of those profits in the event that GP were licensed to sell striated fir plywood were established by USP. And such facts have some bearing upon the determination of a reasonable royalty.

It would have been reasonable on USP's part in February 1955 to have expected to make future profits through collateral or convoyed sales, which USP would have anticipated losing at least in part by licensing GP to make striated fir plywood. Hence, "this expectant loss is an element to be considered in retroactively determining a reasonable royalty." *Egry Register Co. v. Standard Register Co.*, 23 F.2d 438, 443 (6th Cir. 1928); *Union Carbide Corp. v. Graver Tank & Mfg. Co.*, 282 F.2d 653, 671-672 (7th Cir. 1960), cert. denied, 365 U.S. 812, 81 S. Ct. 692, 5 L. Ed. 2d 691 (1961).

The testimony of Mr. Heilpern (Tr. 138-39, 323) and Mr. Antoville (Tr. 347-48, 353-55, 370) supports the finding that that element would have influenced them importantly in negotiating the hypothetical royalty with GP; and the Court so finds. The import of their testimony is corroborated by a similar statement emanating from GP's vice president in charge of sales, J.L. Buckley (USP Exh. 8).

The profitability of the collateral or convoyed sales was significant not only from the viewpoint of USP's bargaining position but also in terms of GP's own expectations of an economic advantage, obvious both to USP and GP. GP's reasonable expectation of collateral profits from convoyed sales of products sold along with its striated fir plywood is a factor in the hypothetical negotiations. *Union Carbide Corp. v. Graver Tank & Mfg. Co.*, supra. In point of fact, GP sales of striated fir plywood did generate collateral sales (USP Exhs. 8; 14c; 18, par. 12. B; James L. Buckley's testimony before the special master, SM 2590).

The record therefore leads to the finding that consideration of the collateral sales factor by both parties would have tended to increase significantly the amount of the reasonable royalty hypothetically negotiated between them; and the Court so finds. The record, however, does not enable the Court to quantify the monetary amount of that economic significance in terms of a dollar and cents figure although the factor of profits on collateral sales did possess the economic significance already pointed out.

## V

The factor of the substantial profits GP would reasonably have expected to earn on its production and sale of striated fir plywood.

GP was most eager to manufacture and sell striated fir plywood because, in the words of its attorney, it had been "extremely successful \* \* \* without any substantial competition" (USP Exh. 14a).

GP would not have been at a significant competitive disadvantage in marketing striated plywood because (1) GP's striated plywood was exactly the same product as Weldtex for which USP had developed the market; (2) GP had contacts with all of USP's customers; and (3) GP's striated plywood would have been welcomed by the trade as an additional source of supply that would make the market competitive (Tr. 371-72; USP Exh. 9).

This Court found that, if a one-quarter inch AD blank is "upgraded" by being converted into a "specialty", "the possibility of a substantial profit is presented", 243 F. Supp. at 507; and that "GP's purpose in producing GP striated" was to make a product that would yield "a substantial profit", supra.

The Court of Appeals not only noted the "profitable market" that USP had developed for Weldtex but also quoted testimony that GP had begun to manufacture striated fir plywood because it was "extremely advantageous from a profit standpoint". 258 F.2d at 133-134.

The special master found "that the production of GP striated was planned as a high profit item". (MR 80.)

GP was willing to assume substantial risks and costs in order to make and sell striated fir plywood without authority from USP. The Court finds that GP would have been willing to pay a substantial royalty to USP in order to obtain reasonably anticipated large profits without the risk of infringement liability.

The Court has considered the evidence in order to quantify the amount of profits that GP would reasonably have expected, at the time of the hypothetical negotiations, to earn on its production and sale of striated fir plywood. This is a different question from the amount of infringing profits that GP actually did make -- \$685,837, according to the special master.

GP took, as its own guide for the purpose of profit expectations, the profit that USP was then making on its Weldtex sales. The evidence supports the inference that GP was able to estimate, fairly accurately, the amount of USP's costs on Weldtex; and that GP knew that its own costs would not be significantly higher.

It is undisputed that GP was also well aware of both the warehouse and the direct mill

prices of Weldtex (Tr. 136). GP would have expected to sell its own striated fir plywood at the same prices (as, in fact, it did).

Note has already been made of the fact that, in 1955, a striating machine cost \$12,000 to \$15,000 (Tr. 148-49).

GP had a good idea of what USP's profits on Weldtex were, and could reasonably have expected that it would make at least comparable profits on its own striated plywood.

In fact, there is some basis for the view that GP would reasonably have expected to enjoy a higher average profit margin than USP's because GP's production was predominately at GP's own mills (where average striated fir costs were lower than at contract mills), whereas about 80 per cent of Weldtex in the years 1952 to 1955 came from contract mills.

In any event, since the Court has found that USP's average rate of profit on its Weldtex sales was \$48.64 per thousand square feet at the time of the infringement, the Court also finds that GP would reasonably have expected to earn on its manufacture and sale of striated fir plywood profits at least approximately the same rate.

Moreover, this figure of \$48.64 per thousand square feet must be amplified by virtue of the collateral sales factor insofar as that factor would have reasonably entered into GP's thinking at the time of the hypothetical royalty negotiations.

## VI

The factor of the profits that gp would reasonably have expected to earn on collateral or convoyed sales.

The Court finds that, at the time of the hypothetical negotiations, GP would reasonably have expected to derive substantial additional profits from collateral sales of other products (particularly non-specialty items) sold along with its striated fir plywood, a specialty item. (USP Exh. 8, report of GP's vice president, James Buckley, dated June 29, 1956; USP Exh. 14c, letter of GP's attorney, dated February 8, 1954; USP Exh. 18, par. 12. B; testimony of James Buckley, SM 2590; testimony of Heilpern, Tr. 138-39, 223; Testimony of Antoville, Tr. 353-55.) This is a significant factor to be considered by the Court in determining the reasonable royalty because it has the logical tendency, as a matter of simple economics, to increase the amount of the reasonable royalty.

This factor is relevant to the question now under consideration notwithstanding the fact that USP's proof was found insufficient to show either a measurable amount of collateral profits diverted from it to GP (and, hence, recoverable as lost profits) or any specific amount of collateral profits earned by GP as the result of the sale of other products generated by the sale of GP striated.

Both the hypothetical licensor's expectant loss of collateral sales (*Egry Register Co. v. Standard Register Co.*, supra) and the hypothetical licensee's expectation of profits on its collateral sales (*Union Carbide Corp. v. Graver Tank & Mfg. Co.*, supra) are relevant elements to be considered in determining a reasonable royalty.

If GP had been negotiating with USP for a license, GP would have taken into consideration all advantages which might accrue to it in determining a royalty which it would be willing to pay. A license to sell the patented striated fir plywood would have enabled GP to expand its business, increase its sales of non-infringing materials and thereby increase its profits. Absent a license, GP accomplished the same result by the sale of its infringing GP striated.

In view of the foregoing, the figure of \$48.64 per thousand square feet of striated fir plywood sold, representing GP's probable expectation of profit on that item alone, would not reflect the factor of GP's expectation of profits on collateral sales generated by the sale of striated plywood.

The evidence does not permit an inference as to the quantum, even approximately, of the profits derivable from collateral sales by GP. To assess this factor separately and monetarily by assigning a dollar and cents valuation to it would involve impermissible conjecture and speculation. In the circumstances, therefore, the indisputable fact that such profits would be generated in a significant amount by the sale of striated fir plywood is treated by the Court as a factor strengthening USP's bargaining position and supporting the reasonableness of the figure of the profit rate on the sale of striated fir plywood.

## VII

The amount of the reasonable royalty.

a) GP's argument that the value of striated fir plywood was substantially attributable to elements other than the Deskey patent.

This case does not permit application of the principle of apportionment inasmuch as the Deskey patent was not one for an improvement on an article nor was GP's infringement of a patented feature sold together with unpatented parts. Decisions illustrating the rule applicable to patented improvements or to patented parts of articles also embodying unpatented parts are not apposite for the reason that the Deskey patent covered and Weldtex represented a marketable article -- a panel of striated fir plywood -- as an entirety.

The Deskey patent, though using the prior art to a degree, gives substantially the entire value to the structure represented by the infringing article. The present case well illustrates Judge Learned Hand's observation that "[patent] infringement often involves nice and casuistical questions \* \* \*." *Cincinnati Car Co. v. New York Rapid Transit*

Corp., 66 F.2d 592, 593 (2d Cir. 1933).

In terms of a structural test, for example, the contribution of the Deskey invention cannot be isolated as a separate physical part. The invention permeated the plywood panel to such a degree that it should be considered as covering the article as a whole. In this situation, the invention was not only for an improvement.

There is a basic distinction between a patent which is only a part of a machine or structure and which creates only a part of the profits and, on the other hand, a patented article or a patent which gives the entire value to the combination or an article patented as an entirety. Consequently, it is necessary to determine whether the invention extends to and affects the whole article, giving it its essential marketability, or whether it is only for an improvement. This distinction and the related problem of apportionment are expounded in such cases as *Westinghouse Elec. & Mfg. Co. v. Wagner Elec. & Mfg. Co.*, 225 U.S. 604, 32 S. Ct. 691, 56 L. Ed. 1222 (1912); *Cincinnati Car Co. v. New York Rapid Transit Corp.*, supra; *Rockwood v. General Fire Extinguisher Co.*, 37 F.2d 62 (2d Cir. 1930); and *Egry Register Co. v. Standard Register Co.*, supra.

Inspired by the distinctions discussed in the above-cited cases, GP attempts to attenuate the significance and value of the Deskey patent by arguing that approximately 50 per cent of the value of striated fir plywood (GP's proposed finding of fact #6) was not essentially attributable to the Deskey patent, but rather was allocable to the method employed on the three-ply panel to "balance" the striation of the face ply and to its decorative effect.

USP's method of "balancing" was covered by the Bailey patents (involving the use of an initially heavier ply for the exposed face) whereas GP's method was covered by the Leonardson patent (involving the cutting of wide channels at regular intervals in the reverse ply to remove enough wood to balance the striation of the face). 258 F.2d at 127, 129. Without some such balance, the fir plywood panel (being made of soft wood like Douglas fir) would have warped and been unsalable. (See, e.g., GP Exh. 19, SM 3664-65 [Brewer]).

Since USP and GP were the only manufacturers of striated fir plywood, the methods of avoiding warping that were used were, understandably, limited to the two methods taught by Bailey and Leonardson. Other methods, however, were commonly known and readily and economically available to solve this easy mechanical problem. SM 3597-98 (Brewer). They simply were not used by either USP or GP.

Many different and long-standing methods had been devised to solve the warping problem. But the solution of that problem did not evolve or create any commercially successful article like "Weldtex". The birth of "Weldtex" had to await the solution of the other problems of checking and edge separation. This was Deskey's achievement.

The Court of Appeals was fully aware of the warping problem and how it had been

solved prior to Deskey. That Court pointed out that "warping and curling" had been attacked in the prior art by the Hansen patent (by incising the face of the veneer panel with short slits); by three Maurer patents (by incising the face of the panel); and by two Elmendorf patents (by rupturing the veneer and then mounting it on an elastic plastic substance or on a flexible backing); and that those skilled in the art "were familiar with \* \* \* incising and rupturing as a means of controlling warping" (258 F.2d at 129). The Court of Appeals observed that striation "does not purport to have a significant effect on warp control" (258 F.2d at 129) and that, in fact, "striation increases the tendency of the entire panel to warp or curl." (258 F.2d at 129). The Court then declared that the "contribution of the Deskey patent" lies "beyond the area" of the problems of warping or curling caused by striation. (258 F.2d at 129.)

Balancing the panel to prevent warping was no significant problem to anyone possessed of the normal plywood industry skills. It is noteworthy, moreover, that the Deskey patent itself expressly suggested a solution to that recognized problem when it pointed out that the back ply as well as the face ply of the panel could be grooved. See patent, in USP Exh. 31 at 1, col. 2 (describing Fig. 2), at 2, col. 1, at 2, col. 2; Tr. 276-78, 305 (Heilpern); SM 3590-91, 3630-33 (Brewer) (USP Exh. 31).

GP has offered no proof, either before the special master or this Court, to establish that the Leonardson patent contributed any value to the infringing article. On the other hand, USP's president, Mr. Brewer, testified (SM 3581-3667; USP Exhs. 28, 31) persuasively that Leonardson contributed very little value to GP striated; that Leonardson merely taught another way to solve an easy problem; that the Leonardson nonwarping feature would have to be valued on the basis of the economy that it effected over the cost of controlling warpage by one of several other unpatented methods such as sanding or incising (SM 3597-99, 3608-15, 3617); and that the cost of using these other methods would vary from approximately \$1.00 to \$2.00 per thousand square feet, and the cost of the necessary incising machine would be about \$6,000. SM 3617-19. Mr. Brewer was corroborated by the trial testimony of Mr. Antoville. Tr. 361-65.

The special master found (MR 89-91), and this Court reaffirms and adopts the findings, that any economy effected by the Leonardson patent (and any consequent value ascribable to the balancing function of that patent) was minimal; that GP has offered no proof of value attributable either to the prior art or the Leonardson patent; that GP has not offered any further evidence on that subject before this Court; that the matter of achieving balance through any of the readily available and commonly known methods was unimportant because the fir plywood panel has no commercial value at all unless the other side were striated; that whichever means was used to achieve the balancing of the panel the sales price of the striated fir plywood panel would not have varied; that it is the value of the striated face that created the value of the striated fir plywood panel; that the entire market value of Weldtex and GP striated was attributable to the Deskey patent; and that if any value was attributable to the contribution made by the Bailey patents, in the one case, and by the Leonardson patent, in the other, it would be of minimal character,

having little or no influence upon the amount of a reasonable royalty in this case.

There is no basis for GP's argument that the value of striated fir plywood is significantly attributable to elements other than the Deskey patent. Such a proposition is as illogical as a claim that, because an automobile needs wheels to run, an automobile motorized by a patented electronic device owes its substantial value to the wheels.

The Court reaffirms and adopts the special master's findings that Weldtex was an entity in itself, not a combination of things or elements separable in value or profit-producing potentialities; the commercial success of Weldtex was the result of the deep striation of the face, Deskey's invention, which created a new kind of plywood panel, a novel and useful work of craft and art; that no thing or structure or entity, part of Weldtex or of GP's striated, is separable in the manner suggested by subparagraph "c" of *Westinghouse Elec. & Mfg. Co. v. Wagner Elec. & Mfg. Co.*, supra, 225 U.S. at 614-615, 32 S. Ct. 691, 56 L. Ed. 1222; that the nonwarping or balancing feature of the Leonardson patent or the Bailey patents represents no separable "thing" within the meaning of said subparagraph "c" of *Westinghouse* because it made no substantial or significant contribution of value to the creation of the profits from the sale of the striated fir plywood; that substantially the entire market value of Weldtex and the infringing GP striated is attributable to the Deskey patent; and that, if any value were allocable to either the Bailey or the Leonardson patents, it would be minimal.

b) The significance of the decorative appearance of Weldtex and GP striated in relation to the question of the amount of a reasonable royalty.

Of course, Weldtex had a pleasing appearance and decorative effect. The Court of Appeals, in alluding to "the decorative appearance of Weldtex" as having "contributed toward this [Weldtex's] commercial success" (258 F.2d at 131), observed that "this commercial success may in considerable measure be due to the decorative appeal of Weldtex and the effectiveness of the striation in masking joints and checks." (258 F.2d at 133.) It is necessary to determine the relationship of these facts to the issue of reasonable royalty.

The decorative appearance or "decorative effect" of Weldtex was not per se a patented element of the Deskey invention. Upon that circumstance as a foundation fact, GP erects the argument that whatever value of Weldtex may be attributable to its decorative appearance must be disregarded in determining the amount of a reasonable royalty for the use of the Deskey patent because "decorative appearance" is a feature beyond the scope of that patent.

The face of GP's infringing striated fir plywood was, from the viewpoint of deep striations and appearance, structurally and esthetically a replica of USP's Weldtex. This was the inevitable result of the infringement because the decorative effect or appearance of Weldtex and GP striated is an inherent, indivisible, and inextricable characteristic of

Deskey's deep and random striations.

The originality or uniqueness of Deskey's striation from the viewpoint of inventive novelty was the deep and random grooving in relation to Douglas fir and other soft woods that solved the problems of checking and edge separation (the tendency of abutting panels to draw away from each other). 258 F.2d at 126-127. The heart of Deskey's invention was its effective solution of the old and very real problems of checking and edge effects by deep striation (258 F.2d at 130, 134); and "deep grooving is an inventive concept" in relation to soft woods like Douglas fir. 258 F.2d at 135. Because USP was able "to warrant Weldtex against checking", it "has used this feature as an essential element of its commercial production". 258 F.2d at 131. (Emphasis added.) "Indeed, \* \* \* it was a demonstration of the effectiveness of the Deskey patent in meeting these two problems which caused the Patent Office to issue the patent." 258 F.2d at 129.

But the Court of Appeals went further and addressed itself to the subject of decorative appearance. Declaring that the patent covers more than a decorative panel (258 F.2d at 130), the Court of Appeals pointed out that prior to the Deskey patent, striation and grooving of wood products, including plywood, had been used "for decorative effect" and were "well known". 258 F.2d at 128, 129.

The Court of Appeals pointed out, however, that Deskey's concept of striation turned a "decorative effect \* \* \* to a utilitarian advantage by cutting deeper into the surface of the plies". 258 F.2d at 131. (Emphasis added.) This was something not taught by the prior art; Deskey solved problems (i.e., checking and edge separation) "without loss of other features". 258 F.2d at 132. The Court explicitly recognized that "Basic to the Deskey patent is the fact that plywood panels covered by the claims are to be used where an esthetically pleasing appearance is essential. This emphasis on appearance raises several problems". 258 F.2d at 129. (Emphasis added.)

In discussing Weldtex's commercial success, the Court of Appeals stated that, over a sixteen-year period (1940-1956), Weldtex "has enjoyed an amazing success, with total sales in the United States exceeding \$56,000,000"; that "neither checking nor edge separation has been a source of complaints from users of Weldtex"; and that "the advantages stressed in the Deskey patent have played a significant role in the widespread and continued public acceptance of the product." (258 F.2d at 131.) (Emphasis added.)

On the same subject, the Court of Appeals also expressed the following opinion:

"\* \* \* this commercial success may in considerable measure be due to the decorative appeal of Weldtex and the effectiveness of the striation in masking joints and checks. It seems obvious, however, that effective relief of stresses substantially contributed to that success because striation was recognized as a novel and inventive solution to old problems, meeting a long standing need." (258 F.2d at 133.) (Emphasis added.)

The fact that Weldtex's decorative appearance, a non-patented feature, "contributed toward" its commercial success and that "the decorative appeal of Weldtex and the effectiveness of the striation in masking joints and checks" may account "in considerable measure" for its commercial success -- as pointed out by the Court of Appeals, 258 F.2d at 131, 133 -- has been given due and appropriate consideration and weight by this Court in evaluating all of the evidence bearing upon the question of the amount of a reasonable royalty, especially in light of the explicit references by the Court of Appeals to the subject of the decorative appeal of Weldtex.

Though it be reiteration, we draw attention to the view expressed by the Court of Appeals (quoted above) that "an esthetically pleasing appearance is essential" for plywood panels and that this "emphasis on appearance" is "[basic] to the Deskey patent". 258 F.2d at 129. The quoted language must, of course, be read and construed in factual and literary context with the other sections of the Court of Appeals' opinion, especially its sharply made point that Deskey turned a decorative effect to a utilitarian advantage thereby successfully elevating the prior well-known art of striation only for decorative effect to the height of invention.

In attempting to allocate to Weldtex's decorative appearance its proper economic significance in relation to the fixation of a reasonable royalty, the Court is mindful of the salient fact that the decorative appearance of striated fir plywood made under Deskey's patent was not created by an additive, that is, by some auxiliary substance or process accessory to the striations. The decorative effect represented the automatic and spontaneous appearance of the striations themselves. The deep striations, their decorative effect and their innovative utilitarian results were coupled in an indivisible union of form and function. That union cannot be split by the fission of formal logic to yield separate components of precisely measurable economic significance.

The Court has considered the evidence stressed by GP, that many purchasers of striated fir plywood were motivated to buy it only by its decorative appearance. This evidence does not tend to diminish or deflate the amount of a reasonable royalty in any significant fashion. Without the Deskey patent, GP could not lawfully have sold one square inch striated fir plywood. The Deskey patent created a new article, something that GP had never been able to sell before. GP was seeking the substantial profits it could obtain from the sale of striated fir plywood and of collateral products. To obtain any of those profits legitimately, GP would have had to have a license under the Deskey patent. The fact -- as we now know it in retrospect, according to the evidence of the motives of the purchasers of striated fir plywood -- that the buyers of that product were attracted to it by its decorative appearance is irrelevant to the hypothetical negotiations of a reasonable royalty where GP's expectations of profits could be lawfully fulfilled only by a license of the Deskey patent and where the rate of profit could be estimated by both USP and GP on the basis of a long and recognized record of past performance. In this setting of the relative bargaining positions of the parties and the economic realities of this particular situation, the Court rejects GP's argument based on the decorative appearance of striated

fir plywood.

It cannot be said that the fact that the purchasers' motivation in buying Weldtex was activated by its decorative appeal is irrelevant as a matter of logic or immaterial as a matter of law. That evidence, however, is only one of many other tiles in the mosaic of proof. Since GP could not have created that particular decorative appeal for striated fir plywood without USP's Deskey patent, the bargaining motivations of USP and GP as aggressive competitors vis-a-vis each other overshadowed the economic significance of the consumers' motivations. If the Deskey patent had untested commercial appeal, that is, if Weldtex had just been making its debut in the marketplace, motivational research and evidence as to the nature of the consumers' reactions would undoubtedly constitute a cogent consideration. Here, however, Weldtex was a well-established, highly successful product, with a consistent profit record of many years. In this particular factual context, psychological analysis of the consumers is largely academic.

c) Absence of a prevailing royalty or royalties in generally comparable circumstances.

GP claims that the amount of a reasonable royalty is strongly evidenced by the proofs concerning (1) the financial arrangements between USP and Deskey; (2) the royalties payable under the five licenses granted by USP to its contract or "captive" mills; (3) the royalties payable under the three licenses granted by USP outside the United States; (4) eight or more miscellaneous other licenses cited by GP; and (5) the opinion testimony of GP's experts.

Accepting GP's proofs as possessing sufficient probative value to render them admissible, the Court finds that that evidence does not significantly tend to indicate the amount of a reasonable royalty in the present situation. In each instance, the royalty or other payment cited by GP was made under circumstances that are sharply and fundamentally different from the congeries of controlling facts presently before the Court. Each of the alleged analogies will now be considered seriatim.

(1) The financial arrangements between USP and Deskey.

USP's original agreement with Deskey was made in 1940. Tr. 116, 150 (Heilpern); see GP Exh. 1. The royalty originally provided for was 5 per cent of the mill price. Tr. 150, 213-14. At that time no patent had been issued. As assignee of the patent application, USP prosecuted the application, paying all the expenses involved, and actually obtaining the patent. Tr. 115, 151, 213 (Heilpern); Tr. 345-46 (Antoville). At the time the agreement was made with Deskey "it was a gamble"; no one knew whether striated fir plywood "would sell or not sell" or whether the patent would be obtained. Tr. 115-16, 151-52 (Heilpern).

Contrary to GP's reference to this agreement as "a license from Deskey to make grooved plywood under the patent in suit", the agreement was an assignment by Deskey

to USP of his unpatented invention. USP Exh. 31 (Deskey patent); Tr. 149, 151 (Heilpern); Tr. 345-46 (Antoville); see 258 F.2d at 126; 243 F. Supp. at 502.

Significant production of striated fir plywood by USP did not begin until 1945 or 1946. Tr. 117-118. In 1946, the USP-Deskey agreement was revised to give Deskey a royalty of \$2.00 per thousand square feet on the first 12 million square feet each year, and \$1.00 per thousand square feet on the excess. Tr. 116, 188, 192 (Heilpern); GP Exh. 9; see GP Exhs. 1 and 1A, and Tr. 194-95. When, in 1946, USP gave Deskey an advance of \$48,000 on royalties, USP regarded it as "a real gamble because we [USP] did not know how much of the Weldtex we [USP] would sell at all" and "[we] [USP] had no means of knowing whether we [USP] would ever earn that royalty at that time." Tr. 116, 151-52 (Heilpern). USP agreed to pay the royalty to Deskey because it "hoped to make a good profit". Tr. 152 (Heilpern).

The circumstances and arrangements between Deskey, the inventor, and USP, the promoter, were basically different from those that would be applicable to the negotiation of a reasonable royalty between two keen competitors like USP and GP in February 1955, when striated fir plywood was already a firmly-established and widely-recognized success.

In February 1955, Weldtex was at the height of its "amazing success". 258 F.2d at 131. Its sales since 1951 totaled more than \$23 million and averaged almost \$6 million per year. USP Exh. 1. USP "paid out to Deskey in the period 1940-1956 over \$533,000 in royalties". 258 F.2d at 134. "[The] large profits to be made as a result of the strong commercial appeal of a product like Weldtex were well recognized." 258 F.2d at 134. Cornelius Reckers, GP's laboratory chief, testified that GP began the manufacture of striated plywood because it was "'extremely advantageous from a profit standpoint'". 258 F.2d at 134. GP's attorney described Weldtex as "extremely successful". USP Exh. 14a.

The preponderant weight of the credible evidence (see also Tr. 153 [Heilpern]; Tr. 373 [Antoville]) demonstrates convincingly that the commercial circumstances and economic relationships prevailing between Deskey and USP in 1939 or 1940 and in 1946 have no significant probative bearing upon the issue of a reasonable royalty as between USP and GP.

(2) The royalties payable under the five licenses granted by USP to its contract or "captive" mills.

In the years 1946 and 1950, USP granted licenses -- providing for the payment of a royalty to it of \$2.00 per thousand square feet -- to five "captive" mills as follows: Peninsula Plywood Corporation license on October 1, 1946 (GP Exh. 2; USP Exh. 19; Tr. 160-65); Cascades Plywood Corporation license on January 21, 1946 (GP Exh. 3; USP Exh. 20); Mutual Plywood Corporation license on October 26, 1950 (GP Exh. 4; USP Exh. 21); Davidson Plywood & Lumber Co. license re Weldtex on March 31, 1950 (GP

Exh. 5; USP Exh. 22); Davidson Plywood & Lumber Co. license on August 1, 1950 re Sketchwood (GP Exh. 6; USP Exhs. 23, 27 [sample of Sketchwood]; Tr. 165-69, 242).

With the exception of the Davidson "Sketchwood" license (which will be discussed separately), these licenses were limited to the right of the "captive" mills to manufacture Weldtex for sale only to USP, in effect, to manufacture for USP's account. (Tr. 146.) It was USP that made the substantial profits (of about \$54.25 per thousand square feet) by selling the Weldtex that the "captive" mills produced for it. There is, therefore, a world of difference between a restricted license to a non-competitive "captive" mill to manufacture (and only to manufacture) exclusively for USP and, on the other hand, an unrestricted license that would have enabled GP to manufacture and sell for its own account in competition with USP in the very same markets.

The economic value of the "captive" mills to USP consisted primarily of the assurance of its major supply of fir plywood and only incidentally of a royalty of \$2.00 per thousand square feet, most of which USP, in effect, passed on to Deskey. Tr. 146-47 (Heilpern).

Manifestly, the royalty prescribed by USP for its captive mills has hardly any relevance to the issue of the amount of a reasonable royalty to be negotiated by USP and GP nor does it afford any indication of what the Deskey patent was worth to USP.

The "Sketchwood" non-exclusive license to Davidson Plywood & Lumber Company, providing for a royalty of \$2.00 per one thousand square feet and terminable on 30 days' notice, does not materially aid GP. Tr. 169-70 (Heilpern). The credible evidence is that "Sketchwood", a specialty product of Davidson, did not involve striation, although the licensee was authorized to use the Deskey patent. Tr. 166 (Heilpern). "Sketchwood" was a completely different product from both Weldtex and GP striated. USP Exh. 27; Tr. 170 (Heilpern). Davidson's business was local. "Sketchwood" was never made or sold by USP. It had no impact on the market for Weldtex or GP striated. The "Sketchwood" license, therefore, does not have a bearing on the issue before the Court. The circumstances affecting the isolated and somewhat anomalous "Sketchwood" license were not comparable to those affecting the nationwide infringement by GP or the hypothetical license between USP and GP.

(3) The royalties payable under the three licenses granted by USP outside the United States.

The three foreign licenses were: a license on November 26, 1946 by USP to Canadian Forest Products, Ltd. and providing for a royalty of \$3.00 per one thousand square feet of Weldtex (GP Exh. 23; SM 3284-88; Tr. 170-74); a license on December 23, 1947 by USP to Proofwood, Ltd., in Australia, and providing for a royalty of \$3.00 per one thousand square feet of Weldtex (GP Exh. 23; SM 3281-84, 3290; Tr. 170-74); and a license on August 22, 1947 by USP to Fletcher Holdings, Ltd., in New Zealand, and providing for a

royalty of \$3.00 per one thousand square feet of Weldtex (GP Exh. 23; SM 3289-90; Tr. 170-74).

The significance of these royalties is largely neutralized by the credible evidence that these licenses were granted by USP outside the United States, in areas where USP itself had no established sales facilities. As to the Australian and New Zealand licenses, USP had no idea what kind of a market could be established there for Weldtex, which was a new product in those remote countries; and, therefore, USP fixed a minimum royalty. USP's purpose in granting the licenses was not so much to obtain royalty income as to establish relationships with the licensees. Tr. 173 (Heilpern).

As to the Canadian license, USP reserved the exclusive right to sell Weldtex in Ontario for its distributing subsidiary in that province, and obtained the licensee's agreement (which was USP's reason for granting the license) to provide that subsidiary with an assured supply of Weldtex and conventional fir plywood. USP had opened distribution in the Province of Ontario but did not have a supply of fir, while the Canadian duty on imported Weldtex was prohibitive. In order to obtain a source of fir and Weldtex, USP gave Canadian Forest Products, Ltd. a license. Tr. 172-73 (Heilpern); GP Exh. 23, including SM 3281-90 (Heilpern).

Because there is no sound basis for a meaningful comparison, the amounts of the royalties payable under the foreign licenses do not carry any significant weight with respect to the issue of a reasonable royalty between USP and GP.

The foreign licenses, like the licenses with the domestic captive mills, were consistent with, and an important part of, USP's policy of reserving for itself the exclusive right to sell Weldtex wherever it had facilities with which to do so, and refusing to license anyone else to sell Weldtex wherever USP itself was able to do so. The rights granted by USP to the foreign licensees were completely different from the rights appropriated by GP, which sold its infringing product in competition with USP throughout the United States.

(4) Eight or more miscellaneous other licenses cited by GP.

As part of GP's thesis that there is a "pattern of royalties" in the "plywood and panel industry" "in generally comparable circumstances", GP relies upon the evidence of royalties payable by USP under three licenses to it; royalties payable by GP under four licenses to it; and several other license royalties.

The three licenses to USP were: a license covering "Novaply", a three-ply particle board, originally at the rate of 5 per cent of the sales price, which rate was later substantially reduced (Tr. 174-78 [Heilpern]); a license covering "Planktex", a decorative plywood panel, at the rate of \$3.00 per thousand square feet (Tr. 179-80 [Heilpern]); and a license covering "Techwood", made of a core of wood, a thin veneer of wood and paper on each side of it, at the rate of 50 cents per thousand square feet (Tr. 180-83 [Heilpern]).

The four licenses to GP were: a non-exclusive license for a plastic overlaid plywood, at the rate of 80 cents per thousand square feet (GP Exh. 20; SM 2622-24 [J. L. Buckley]); an exclusive license for a laminated oak flooring at the rate of 1 1/2 to 3 1/2 per cent (GP Exh. 20; SM 2625-26 [J. L. Buckley]); an exclusive license for "Fiberply", an overlaid plywood, made from green rather than dry veneer, at the rate of 1 1/2 per cent. (GP Exh. 20; SM 2627 [J. L. Buckley]); and an exclusive license for hot pressed plywood having no overlay, at the rate of one-half of one per cent. (GP Exh. 20; SM 2627-28 [J. L. Buckley]).

The other license royalties cited by GP were a license granted by L. G. Buckley, providing for an overall royalty of \$8.00 per one thousand square feet (GP Exh. 21; SM 3326-28 [L. G. Buckley]); and two or more unspecified licenses to Armin Elmendorf, providing for various royalty rates ranging up to \$3.00 per thousand square feet. (GP Exh. 22; SM 3304 [Elmendorf]).

Much, though not all, of the probative force of the foregoing evidence is dissipated by the radically different features and controlling circumstances pertaining to the compared but widely diverse products and the various respective licensors and licensees. While there appear to be some surface similarities to the situation at bar involving striated fir plywood, the dissimilarities as to the products and the parties' relationships preponderate; the relevance of the cited instances to the issue before the Court is superficial, inconclusive and not persuasive.

In assessing the probative value of a royalty rate offered by the infringer to prove a rate lower than that claimed by the patentee, the Court may not uncritically accept that numerical evidence. The Court must consider the economic ambiance of that statistic; special circumstances may explain why that particular rate was depressed or lower than others. See *General Motors Corp. v. Dailey*, 93 F.2d 938, 941-942 (6 Cir. 1937). The district judge, in determining the true measure of reasonable royalty, should not consider a "diminished royalty rate" which represented an amount that the patentee may have been compelled to accept in individual cases "by the disrepute of his patent and the open defiance of his rights." *General Motors Corp. v. Dailey*, supra.

This rudimentary principle of analysis has been largely disregarded by GP's simplistic discussion of the figures of royalty rates. There is an absence of meaningful evidence about such obviously pertinent factors as the relative economic positions of the licensor and licensee at the time the particular royalty was negotiated, in terms of their respective bargaining strength and their competitive status inter se; the economics of the market for the particular product before and at the time the particular royalty was negotiated; the character of the particular product itself, as either new or commercially accepted, at the time the particular royalty was negotiated; the past performance of the licensed product in terms of profit-bearing and the degree of its commercial success; and many other similar features that would enable the Court to make a sound businesslike evaluation. Without

such evidence, bare data as to a royalty rate and cursory information as to the nature of a particular license transaction are gravely deficient in probative value. They lack the dimension of reality. The Court finds that the preponderant weight of the credible evidence does not establish a meaningful pattern of royalties relevant to the issue now before the Court.

5) The opinion testimony of GP's experts.

GP also relies upon the opinion testimony of four experts as to the amount of royalty which they thought "would be fair to both of the parties". None of these witnesses appeared before the Court. Their testimony was put into the record by introducing the transcripts of their prior testimony given before the special master, as follows: Armin Elmendorf (GP Exh. 22; SM 3290-3306); L. G. Buckley (GP Exh. 21; SM 3307-36); Robert Beggs (GP Exh. 18; SM 3338-64); and James L. Buckley (GP Exh. 20; SM 2535, 2612-30).

Elmendorf, a wood technologist, is a research engineer in forest products, including plywood. He invented "Flexwood", which was licensed to USP (Tr. 255 [Heilpern]). Since 1933, he has had his own research and development company, primarily devoted to developing new wood products. He has taken out over 90 patents and has granted approximately 15 licenses, "almost all of [which] \* \* \* licenses were made very soon after the development of the invention." He was asked what royalty would represent a fair value for a product like Weldtex under a non-exclusive license granted about four years before the expiration of the patent. In his opinion, his "own experience" would indicate that "a fair royalty would be less than 3 per cent."

L. G. Buckley is in the business of developing and licensing wall panels of various sorts. He also was asked what royalty would represent a fair value for a product like Weldtex under a non-exclusive license granted about four years before the expiration of the patent. His opinion was that "The figure would be in the range of \$3 per thousand square feet"; that he "would have a great deal of difficulty in negotiating a contract of any kind with less than six or eight years left on the patent"; and that the two most important factors to be considered in negotiating a license are "probably, the nature of the product" and how competitive the market was for that product.

Beggs was associated from 1936 to 1959 with Roddis Plywood Corporation, a very substantial enterprise; and from 1945 until 1959 he was first vice president of that company. In response to the same question that had been put to Elmendorf and L. G. Buckley, he expressed the opinion that "the value of any license that would be granted under" a patent that had three or four years to run and the amount of a "royalty payment [under such license] would be de minimis"; and that a royalty for Weldtex would amount to "maybe one or two per cent at the outside".

James L. Buckley, GP's vice president in charge of sales, has been connected with GP

since 1942 and has been GP's chief license negotiator. After enumerating the considerations that influenced him in making or not making a license, he testified that he would have been willing to pay as a royalty for a Deskey license "[not] over 2 1/2 per cent" and then "[only] if our [GP's] net profit were 5 per cent or more."

Judge Herlands does not find the testimony of Elmendorf, L. G. Buckley and Beggs persuasive on any of the material points now in issue. They were questioned about "licenses" in abstract terms; they did not know anything about a licensing situation realistically comparable to that presented by the present case; they were not conversant with the business considerations in the marketing of striated fir plywood; and L. G. Buckley and Elmendorf did not know of any instance where a company successfully marketing a patented product had licensed the patent to a major competitor. Beggs' qualifications were described by the special master as "thin but not so thin as to dissolve into a nullity." (GP Exh. 18, at SM 3355). The Elmendorf, Buckley, and Beggs testimony, designed to completely deflate the value of the Deskey patent and to support only a nominal royalty, is at odds with the preponderant weight of the credible evidence.

The testimony of James L. Buckley furnishes some indication, though slight, that GP would have been willing to pay a royalty equal to one-half of the net profit that GP could expect to make on its striated fir plywood sales (GP Exh. 20; SM 2620-21). For the sake of argument premised on the foregoing Buckley position, GP would have been willing to pay a royalty of about \$25.00 per thousand square feet, inasmuch as GP's reasonably expected rate of profit on the sale of striated fir plywood would have been \$50.00 per thousand square feet. It would then be reasonable to assume further that the negotiations would have led to a compromise at about the midpoint between approximately \$25.00 (that GP would have been willing to pay according to the foregoing assumption) and approximately \$50.00 (that USP would have found acceptable). The result would be a royalty of about \$37.50 per thousand square feet.

Both Raymond T. Heilpern and Sol W. Antoville testified in person before Judge Herlands in behalf of USP. The Court exercised the opportunity thus presented of questioning them. Their extensive appearance on the stand also afforded the Court ample opportunity to observe their demeanor and manner of testifying. Their professional and technical qualifications and their testimonial credibility and reliability appear to have impressed Judge Herlands, and their testimony is equally impressive to me.

Mr. Heilpern had served USP since 1937. In 1955, he was USP's general counsel. He was not only attorney to the company but also business counselor. He attended all the USP board meetings and virtually all management meetings when he was in town and participated in business negotiations and decisions. He had participated in the decision to take an assignment of the Deskey invention in 1940 and in subsequent negotiations with Deskey in 1945 or 1946 concerning modification of the agreement. He had handled the agreements between USP and the contract or "captive" mills.

Moreover, not only did Mr. Heilpern participate in more than a dozen license or royalty agreements in the course of his services for USP, but he actively practiced law, in connection with which he represented other clients in matters involving the formulation of license agreements providing for royalties for the use of various products.

In addition to his general familiarity with the various factors entering into the determination of a royalty to be paid under a license agreement to manufacture a given product, he was intimately familiar with the business and legal factors involved in USP's marketing of Weldtex under the Deskey patent. He would have been personally and significantly involved in the decisions and negotiations concerning the hypothetical licensing of the Deskey patent to GP in February 1955. He was preeminently qualified, on the basis of his first-hand knowledge as well as his expertise, to state the factors that would have been taken into account by USP and the ensuing conclusions by USP in determining the amount of the royalty to be required from GP in February 1955 for a license under the Deskey patent.

Mr. Antoville, now retired, had been vice president in charge of sales of USP from 1944 to 1953, and was the company's president and chief executive officer in early 1955, at the time of the hypothetical negotiations. He thus would have made the final decision concerning the hypothetical royalty to be negotiated with GP.

The Heilpern and Antoville testimony was factually supported, authoritative, forthright, realistic, reasoned and specifically and concretely directed to the subject of striated fir plywood.

Mr. Heilpern testified that the range of royalties that USP would have considered accepting in negotiating the hypothetical royalty was between \$50.00 and \$54.00 per thousand square feet of striated fir plywood manufactured and sold by GP, with \$50.00 representing "the cheapest rate we [USP] would have consented to" (Tr. 132, 324) and that, in his judgment, GP would have been willing to pay at least that minimum rate (Tr. 132-41, 316).

Mr. Antoville's testimony is that USP "would have asked for \$55.00 to \$65.00 per thousand." (Tr. 357-58.)

In their opinion, they regarded those figures as representing a reasonable royalty that should be awarded by this Court for GP's infringement. It is USP's submission "that the minimum amount of the reasonable royalty to be awarded by the Court should be \$50 per thousand square feet of the infringing product made and sold by GP."

The Court accepts the substance of the Heilpern-Antoville testimony (and finds as facts) that a royalty of \$50.00 per thousand square feet payable by GP to USP would have enabled GP to realize a reasonable profit; that GP's average realization on all its striated fir plywood sales throughout the infringement period was \$159.41 per one thousand

square feet (USP Exh. 15, col. 3); that, after paying \$50.00 per one thousand square feet to USP, the remainder of about \$109.41 would enable GP to make a substantial profit; and that, in addition, GP would have the benefit of profits on collateral sales, though that amount cannot be quantified.

## CONCLUSION

The amount of the reasonable royalty fixed by the Court has been derived from a close factual analysis of the total record. The reasonable-royalty case law analysis, based on all the reasonable-royalty decisions in this circuit and the most pertinent decisions elsewhere, has furnished general guidelines in the form of the applicable criteria of legal principles and operative facts. To the extent that there is precedential guidance, that factor has been subjected to the qualifications and modifications required by a realistic comparison of the particular facts and individual circumstances in the prior decisions and those in the case at bar.

The Court finds and concludes that \$50.00 per thousand square feet of the patented product, striated fir plywood, made and sold by GP, represents a fair reasonable royalty that should be paid by GP. This amounts to \$800,000, which is hereby awarded to USP, together with interest on the said award computed from the date of the last infringement, September 1, 1958, to the date of payment of the award, at the rate of 6 per cent per annum. *n5 Cincinnati Car Co. v. New York Rapid Transit Corp.*, supra at 595; *Rockwood v. General Fire Extinguisher Co.*, supra 37 F.2d at 66; *Egry Register Co. v. Standard Register Co.*, supra, 23 F.2d at 442.

*n5* The Supreme Court in *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 505-506, 84 S. Ct. 1526, 1542, 12 L. Ed. 2d 457 (1964), referred to the legislative history:

"The object of the bill is to make the basis of recovery in patent-infringement suits general damages, that is, any damages the complainant can prove, not less than a reasonable royalty, together with interest from the time infringement occurred, rather than profits and damages.' H.R. Rep. No. 1587, 79th Cong., 2d Sess. (1946), to accompany H.R. 5311, at 1-2; S. Rep. No. 1503, 79th Cong., 2d Sess. (1946), to accompany H.R. 5311, at 2, U.S. Code Cong. Service 1946, p. 1387." (Emphasis supplied.)

This opinion contains the findings and conclusions required by Fed. R. Civ. P. 52(a).

Within ten days from the date of the filing of this opinion and decision, proposed additional or supplemental findings and conclusions may be exchanged and submitted.

Within twenty days from the date of the filing of this opinion and decision, a judgment shall be settled.