

In the Matter of

**CERTAIN HEADBOXES AND PAPERMAKING
MACHINE FORMING SECTIONS FOR THE
CONTINUOUS PRODUCTION OF
PAPER, AND COMPONENTS
THEREOF**

Investigation No. 337-TA-82

USITC PUBLICATION 1138

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United States International Trade Commission / Washington, D.C. 20436



UNITED STATES INTERNATIONAL TRADE COMMISSION

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Washington, D.C. 20436
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Investigation No. 337-TA-82

COMMISSION ACTION AND ORDER

Introduction

The United States International Trade Commission conducted investigation No. 337-TA-82 to determine whether there is a violation of section 337 of the Tariff Act of 1930 (19 U.S.C. § 1337) in connection with alleged unfair methods of competition and unfair acts in the importation into the United States of certain headboxes and papermaking machine forming sections for the continuous production of paper, and components thereof, or in the sale of such articles, the effect or tendency of which is to destroy or substantially injure an industry, efficiently and economically operated, in the United States. On March 23, 1981, the Commission determined by a 3-to-1 vote (Commissioner Stern dissenting) that there is a violation of the statute in the importation and sale of multi-ply headboxes and papermaking machine forming sections, and components thereof, which infringe, contribute to the infringement, or induce the infringement of claims 1, 12, 15, 16, or 22 of

U.S. Letters Patent RE 28,269 and claims 4, 5, or 6 of U.S. Letters Patent 3,923,593. Having determined by a 3-to-0 vote (Commissioner Stern not voting) that the statutory public-interest considerations do not preclude relief in this case, the Commission also determined by a 2-to-1 vote (Chairman Alberger dissenting and Commissioner Stern not voting), that an exclusion order is the appropriate remedy.

Action

Having reviewed the record compiled in investigation No. 337-TA-82 and the recommended determination of the presiding officer, on March 23 1981, the Commission determined that--

1. There is a violation of section 337 of the Tariff Act of 1930 in the importation and sale of certain multi-ply headboxes and papermaking machine forming sections for the continuous production of paper, and components thereof, which infringe claims 1, 12, 15, 16, or 22 of U.S. Letters Patent RE 28,269 and claims 4, 5, or 6 of U.S. Letters Patent 3,923,593, the tendency of which is to substantially injure an industry, efficiently and economically operated, in the United States. 1/
2. The issuance of an exclusion order, pursuant to subsection (d) of section 337 of the Tariff Act of

1/ In determining that there is a violation of section 337, Commissioner Bedell determined that the unfair methods of competition and unfair acts of the respondents have had the effect or tendency to substantially injure an industry, efficiently and economically operated, in the United States.

1930, preventing importation of multi-ply headboxes and papermaking machine forming sections for the continuous production of paper, and components thereof, made in accordance with claims 1, 12, 15, 16, and 22 of U.S. Letters Patent RE 28,269 and claims 4, 5, and 6 of U.S. Letters Patent 3,923,593, for the remaining terms of said patents, except where such importation is licensed by the owner of said patents, is the appropriate remedy for the violation of section 337.

3. The public-interest factors enumerated in subsection (d) of section 337 of the Tariff Act of 1930 do not preclude the issuance of an exclusion order in this investigation.
4. The appropriate bond provided for in subsection (g)(3) of section 337 of the Tariff Act of 1930 during the period this matter is before the President is in the amount of 100 percent ad valorem of the headboxes and papermaking machine forming sections, and components thereof, concerned.

Order

Accordingly, it is hereby ordered that--

1. Multi-ply headboxes and papermaking machine forming sections for the continuous production of paper, and components thereof, which infringe claims 1, 12, 15, 16, or 22 of U.S. Letters Patent RE 28,269 and claims 4, 5, or 6 of

U.S. Letters Patent 3,923,593 are excluded from entry into the United States for the remaining term of said patents, except where such importation is licensed by the patent owner;

2. The articles ordered to be excluded from entry into the United States shall be entitled to entry under bond in the amount of 100 percent ad valorem (ad valorem to be determined in accordance with sec. 402 of the Tariff Act of 1930 (19 U.S.C. 1401(a)) from the day after this order is received by the President pursuant to subsection (g) of section 337 of the Tariff Act of 1930 until such time as the President notifies the Commission that he approves or disapproves this action, but, in any event, not later than 60 days after the date of receipt;

3. Notice of this Action and Order be published in the Federal Register;

4. Copies of this Action and Order, and the Opinions of the Commissioners be served upon each party of record in this investigation and upon the Department of Health and Human Services, the U.S. Department of Justice, the Federal Trade Commission, and the Secretary of the Treasury; and

5. The Commission may amend this order in accordance with the procedure described in Commission Rule 211.57 (46 Fed. Reg. 17533, Mar. 18, 1981).

By order of the Commission.


Kenneth R. Mason
Secretary

Issued: April 8, 1981.

OPINION OF CHAIRMAN BILL ALBERGER, VICE-CHAIRMAN MICHAEL J. CALHOUN,
AND COMMISSIONER CATHERINE BEDELL

PROCEDURAL HISTORY

This investigation was instituted on the basis of a complaint filed on behalf of the Beloit Corporation, a manufacturer, developer, and distributor of machinery for the manufacture of paper. The complaint alleged the violation of section 337 of the Tariff Act of 1930 in the unauthorized importation into the United States and in the sale of certain papermaking machine apparatus incorporating inventions which have been patented in this country. Specifically, Beloit alleged that complete papermaking machines which include headboxes and twin wire forming sections, as well as components therefor, which directly infringe, contributorily infringe and/or induce the infringement of U.S. Letters Patents RE 28,269; 3,923,593 and 3,876,498 have been imported into the United States and sold and offered for sale to customers in the United States in disregard of Beloit's rights as the assignee of the aforesaid patents.

U.S. Letters Patent RE 28,269 ('269 patent) covers a headbox having a slice chamber and a slice opening for delivering papermaking stock to a forming surface in which the improvement comprises a trailing element positioned in the slice chamber. The trailing element extends transversely of said headbox from pondside to pondside and is anchored only at its upstream end with its downstream portion unattached and constructed to be self-positionable so as to be solely responsive to forces exerted thereon by

the stock flowing towards the slice. 1/ The infringement allegations with respect to the '269 patent included claims 1, 12, 14-16, and 22.

U.S. Letters Patent 3,923,593 ('593 patent) covers a headbox for delivering a layered jet of stock to the forming surface of a papermaking machine. The papermaking stock in the different layers of the headbox may have different physical characteristics. The headbox has a slice chamber and a slice opening and the slice chamber is divided into multiple stock chambers by means of one or more partitions which are supported only at their upstream ends with their downstream portions unattached and constructed to be self-positionable so as to be responsive to forces exerted thereon by the stock flowing toward the slice opening so that the stocks from the multiple chambers exit through the slice opening at uniform velocity. 2/ The allegations of infringement concerned claims 1, 2, 4-6.

U.S. Letters Patent 3,876,498 ('498 patent) covers a twin wire papermaking machine and method for forming a fibrous web. The web former comprises first and second looped permeable forming wires wrapped around a convexly curved surface within the second wire so as to provide a web forming and dewatering run. At the end of the forming and dewatering run, the outer wire is separated from the inner wire at a separation point by a small angle while the inner wire continues on the convexly curved surface for a short distance beyond said separation point. The outer wire will be cleaned at the separation, and the web will uniquely follow the inner wire despite centrifugal force. 3/ The infringement allegations with respect to the '498 patent concerned claims 1-5 and 7-14.

1/ Complaint, paragraph 2.13, p. 8.

2/ Id.

3/ Id., p. 9.

The relief which the complainant sought was an order excluding the allegedly infringing headboxes and forming sections, either as complete assemblies or as components thereof or spare parts therefor, from entry into the United States. 4/

Notice of this investigation was published in the Federal Register on April 8, 1980 (45 F.R. 23832). The parties alleged to be in violation of section 337 and named as respondents in the investigation included a Swedish manufacturer of papermaking machinery, Aktiebolaget Karlstads Mekaniska Werkstad (KMW); a KMW subsidiary and distributor of KMW paper, machinery, and woodyard equipment in the United States, KMW Johnson, Inc. (KMW); and four domestic paper companies which have purchased and used the imported KMW machinery: Procter & Gamble Company, Scott Paper Company (Scott), Crown Zellerbach, and Fort Howard Paper Company. Although the domestic paper companies were not originally named as respondents in the complaint, the Commission voted to name them as additional respondents.

During the course of the investigation, certain respondents were terminated as parties, and the patent issues were narrowed. On the basis of complainant's stipulations of noninfringement, three of the domestic paper company respondents, Procter & Gamble Company, Fort Howard Paper Company, and Crown Zellerbach, were dismissed from the investigation. Consequently, the only respondents which are subject to the Commission's determination and order are the KMW companies and Scott.

4/ Initially, the complainant also sought an order excluding the subject articles from entry during the pendency of the investigation, except under bond. However, that request was subsequently withdrawn on June 5, 1980.

The narrowing of the patent infringement issues occurred as the result of several events. Following complications which arose during proceedings before the U.S. Patent and Trademark Office for the reissue of the '498 patent covering a twin wire web forming section, the complainant withdrew its allegations concerning that patent and the Commission subsequently terminated the '498 patent from the investigation. At the prehearing conference on October 22, 1980, the patent issues were limited further when the parties stipulated to the withdrawal of claim 14 of the '269 patent and to the removal of claims 1 and 2 of the '593 patent from the contested category. Consequently, the only patent issues before the Commission are the validity and infringement of claims 1, 12, 15, 16, and 22 of the '269 headbox patent and claims 4, 5, and 6 of the '593 headbox patent. 5/

An evidentiary hearing was conducted before the presiding officer, Administrative Law Judge Donald K. Duvall, from October 23 through October 29,

5/ Although the '498 patent was terminated from the investigation, the presiding officer's recommended determination and the Commission's determination and order cover certain headboxes and papermaking machine forming sections for the continuous production of paper and components thereof. The inclusion of papermaking machine forming sections was necessary inasmuch as claims 4-6 of the '593 patent are combination claims which include a "forming section" in combination with a specific headbox. Although the forming section or "forming surface" is only generally recited in the claims, it is nevertheless specifically included as a positive claim element in combination with the headbox. (See Appendix I and the discussion of the '593 patent which appears in the section of this opinion which addresses the violation of section 337.) Thus the complainant argued that the importation of a former in combination with the specifically-claimed headbox would infringe the '593 patent and thus should be excluded from entry, whereas a former imported by itself or ^{not} intended to be used in combination with the specifically claimed headbox would not constitute infringement and would therefore be entitled to entry. (See the complainant's written comments on relief, bonding and public interest, 'p. 23.) Because of the content of claims 4, 5, and 6, the Commission determination and order and this opinion cover papermaking machine forming sections as well as certain headboxes.

1980. His recommended determination was issued on December 26, 1980 (business confidential version), and on January 26, 1981 (public version). Judge Duvall found that the '269 and '593 patents are valid and that the claims in issue have been infringed by the acts of respondents KMW and Scott. Defining the relevant domestic industry as that portion of the complainant's Paper Machinery Division (PMD) which is devoted to the manufacture, sale, and maintenance of the multi-ply headboxes produced in accordance with the subject patents, Judge Duvall found that it is efficiently and economically operated and that the unfair acts of the respondents have the effect or tendency to injure that industry. Thus, the presiding officer recommended that the Commission determine that there is a violation of section 337 in the unauthorized importation and in the sale of the certain headboxes and papermaking machine forming sections and components thereof which infringe the asserted claims of the '269 and '593 patents, with the effect or tendency to substantially injure an industry, efficiently and economically operated, in the United States.

The complainant and the Commission investigative attorney concurred with the recommended determination. The KMW respondents filed written exceptions, but Scott, having only participated nominally in these proceedings, filed no response.

On February 24, 1981, the Commission heard oral arguments on the recommended determination and oral presentations on the issues of relief, bonding, and the public interest. Presentations were made by the Commission investigative attorney and by attorneys for the complainant and the KMW respondents. Scott was not represented.

VIOLATION

Having considered the presiding officer's recommended determination, and having considered the record developed in this investigation including the oral arguments before the Commission, and the written submissions, we determine that there is a violation of section 337 of the Tariff Act of 1930 in the importation into the United States and in the sale of certain multi-ply headboxes and papermaking machine forming sections for the continuous production of paper, and components thereof, which infringe claims 1, 12, 15, 16, and 22 of U.S. Letters Patent RE 28,269 and claims 4, 5, and 6 of U.S. Letters Patent 3,923,593, the tendency of which is to substantially injure an industry, efficiently and economically operated, in the United States. 6/ We hereby adopt the findings of fact (FF) and conclusions of law (CL) of the presiding officer, to the extent that those findings and conclusions are not inconsistent with this opinion. The reasons for our determination follow.

THE '269 PATENT1. The Patent.

The '269 patent (Complainant's Exhibit (CX) 1), a reissue of surrendered U.S. Letters Patent 3,607,625, was issued to Hill et al. on December 10, 1974, and is assigned to the complainant. (FF 8,9,11) The '269 patent expires on September 21, 1988. (FF 12) Each of the claims which Beloit has asserted for the purposes of this investigation are set forth in Appendix I. The contested claims are briefly described below.

6/ In determining that there is a violation of section 337, Commissioner Bedell determined that the unfair methods of competition and unfair acts of the respondents have had the effect or tendency to substantially injure an industry, efficiently and economically operated, in the United States.

Claim 1 of the '269 patent reads as follows:

In a headbox for delivering stock to a forming surface, the headbox having a slice chamber and a slice opening, the improvement comprising a plurality of trailing elements positioned in the slice chamber, each of said elements extending transversely of said headbox from pondside to pondside, means anchoring said elements only at their upstream ends at locations spaced generally perpendicular to the stock-flow stream with their downstream portions unattached and constructed to be self-positionable so as to be solely responsive to forces exerted thereon by the stock flowing towards the slice. (Emphasis in original).

Claim 12 describes the same structure described in claim 1 except that (1) it covers a single trailing element rather than a plurality of such elements and (2) it does not contain the specification that the elements are anchored at their upstream ends at locations spaced generally perpendicular to the stock-flow stream.

Claims 15, 16, and 22 cover specific forms of trailing elements. These claims specify trailing elements comprising of sheets (claim 16) or a rigid plate (claim 22) or a plurality of rigid plates (claim 15) with flexible trailing elements attached to the plates at the latter's downstream ends. ^{7/} (See Appendix I.) The trailing elements extend transversely pondside to pondside and project downstream generally in the direction of stock flow. As stated in the patent, "the invention is not limited to the specific form disclosed, but covers all modifications, changes and alternative constructions and methods falling within the scope and principles taught by the invention." ^{8/} Consequently, within the scope of the patent, the trailing elements may have different forms adaptable to suit particular operating

^{7/} Recommended Determination (RD) p. 64.

^{8/} '269 Patent, Col. 8, lines 59-62.

conditions. 9/ Accordingly, the relatively stiff plates may be constructed of plastic or sheet metal and their cross-sectional area may be substantially constant or gradually decreasing in the direction of flow. The flexible trailing elements attached to the plates, while preferably made in the form of tapering flexible rods, may also be in the form of constant diameter monofilament threads. 10/ The patent further states:

"While it is theoretically desirable to construct the aforementioned trailing members so that they are both flexible and converging, it should be understood that a practical and workable solution may use relatively rigid and non-tapering trailing members or alternatively flexible non-tapering members. The material used for such members may be metal or non-metal such as plastics, rubber, epoxy resins, etc." (Col. 8, lines 48-51).

2. The Invention.

The headbox is the heart of the papermaking machine. (FF 203) Its primary purpose is to distribute the stock slurry, consisting of stock fibers evenly and randomly dispersed in water, uniformly across the width of the forming wire at the proper velocity (approximately 40 miles per hour). (FF 24-32) If the headbox does not perform properly, the paper sheet will not be formed properly on the forming wire and the result will be paper with streaks and a graining appearance. This is often caused by flocculation of the fibers, the tendency to coagulate and form clumps, resulting in uneven formation and less than optimum physical properties (FF 39), such as tensile ratio (uniform strength) and basis weight (even disposition of stock and stock purity). (FF 49-52) Thus, the principal problem or objective of the

9/ '269 Patent, Col. 7, lines 28-30; RD pp. 57-59.

10/ '269 Patent, Col. 8, lines 9-31.

papermaking industry has been the creation of controlled turbulence in the headbox which is of sufficient intensity and scale to prevent or breakup flocculation and to maintain uniform fiber dispersion while avoiding large scale turbulence and streaking. (FF 36-38, 43)

Beloit markets headboxes constructed in accordance with the '269 patent under the name Converflo Headbox. (FF 26). The Converflo headbox was designed to meet the need for uniform flow and good fiber dispersion by inserting self-positioning trailing elements in the slice chamber of the headbox. The free-floating elements are pivotably affixed to the perforated plate at the upstream end of the slice chamber, pondside to pondside, i.e., extending across the entire transverse width of the slice chamber, and form a plurality of relatively shallow passages in the direction of the stock (slurry) flow toward and up to the slice opening at the downstream end of the slice chamber. In place of rectifier rolls which tend to generate large-scale turbulence in conventional designs, the trailing elements of the Converflo headbox produce a lower scale turbulence which maintains fine scale dispersion of the fibers to achieve a minimum of turbulence and maximum of fiber dispersion at the slice opening where the jet discharges. The trailing elements are made of metal, plastic, rubber, epoxy resins, or similar materials, and are spaced further apart at the upstream end than the downstream end of the slice chamber. Thus these elements tend to converge and to decrease the scale of turbulence as the respective channels gradually narrow. A declining scale of turbulence and uniformity of stock dispersion and velocity of flow are simultaneously achieved also by the capability of the trailing elements to accommodate and to adjust uniformly to differences in

fluid pressures and the coarseness of stock particles in passage through the flexible channels defined by the trailing elements in such a way as to assure equal velocity and pressure from each flow stream when they merge to jet out at the slice opening. (FF 44-45, 53-54) 11/

3. Validity.

The presiding officer found that the '269 patent is entitled to the presumption of validity afforded by 35 U.S.C. 282 and that the respondents have not rebutted that presumption. (FF 28-29; CL 2) We agree.

KMW argued that the '269 patent is invalid under 35 U.S.C. 103 because of the obviousness of its inventive concept, in light of the prior art of numerous other U.S. and foreign patents. 12/

Section 103 of 35 U.S.C. requires that an invention, to be patentable, must be non-obvious-- 13/

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11/ The foregoing description of the invention was taken from RD pp. 57-59. Also see generally FF 28-55.

12/ Hill U.S. Letters Patent 3,939,037 (CX 36); Finnish Patent No. 27,191 (Respondent's Exhibit (RX) 6D); and German Patent No. 899,896 (RX 6E); French Patent No. 1,490,429 (RX 6M); Loynd U.S. Letters Patent 3,360,428 (RX 6A); Appel et al. U.S. Letters Patent 3,373,080 (RX 6B); and Graham U.S. Letters Patent 3,400,045 (RX 6C).

13/ Nonobviousness is one of the three explicit conditions of patentability. The other two are novelty and utility as defined in 35 U.S.C. 101 and 102. See Graham v. John Deere Co., 383 U.S. 1, 12 (1966).

The leading case on section 103 is Graham v. John Deere Co., 383 U.S. 1 (1966). In that case the Court discussed the concept of obviousness and set forth guidelines in the form of "basic factual inquiries" to be made in determining obviousness of the subject matter. 14/ The Court said that under section 103--

the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. 15/

We find that the presiding officer properly applied this test and that his findings are supported by the information on the record. (FF 30-101; RD pp. 64-74)

The Court in Graham also enumerated certain secondary considerations to be taken into account in determining whether an invention is obvious, such as commercial success, long-felt but unsolved needs, and unsuccessful efforts of others. 16/ The Court said that such considerations might be used to give light to the circumstances surrounding the origin of the subject matter sought to be patented. 17/ The Court reaffirmed these criteria in Sakraida v. Ag Pro, Inc., 425 U.S. 273 (1976).

The facts of the present case, when viewed in terms of the secondary considerations set forth in Graham, demonstrate further that the '269 invention is nonobvious. (See FF 97-101; RD 74-76) Moreover, since the

14/ Graham v. John Deere Co.; supra, at p. 17.

15/ Id.

16/ Graham v. John Deere Co.; supra, at p. 17.

17/ Id., at pp. 17-18.

invention involves a complex technical subject, such secondary considerations must, of necessity, be given considerable weight. Photoelectronics Corporation v. England, 581 F.2d 772 (9th Cir. 1978).

"Obviousness is a legal conclusion based on factual evidence." Id. at 549 (Quoting Graham v. John Deere Co., 383 U.S. 1, 86 (1966)). We have found no clear factual error or any flaw in legal reasoning which warrants the rejection of the presiding officer's conclusion on this issue, and we find that it is supported by the information on the record. 18/ Therefore, we determine that the '269 patent is not invalid for obviousness of its inventive concept.

Judge Duvall was also correct in concluding that KMW has not adduced sufficient evidence to rebut the statutory presumption of validity. (CL 2)

35 U.S.C. 282 states in pertinent part:

A patent shall be presumed valid The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

The burden was therefore on the respondents to rebut the presumption of validity.

In this case, the presumption of validity is unweakened. The subject matter of the '269 patent has been scrutinized several times by the U.S. Patent and Trademark Office since it was first issued as U.S. Patent 3,607,625, which was surrendered (FF 8,11), and then re-examined in connection with the application for the issuance of the '269 patent. Thus, the fact that it is a reissue patent strengthens the statutory presumption. In addition, the presumption is also strengthened where the most pertinent prior art was

18/ See notes 13 and 16, supra.

cited and considered by the Patent Office. Skid Corp. v. Cutler-Hammer, Inc., 162 U.S.P.Q. 132, 135 (7th Cir. 1979), cert. denied 396 U.S. 951 (1969). As the presiding officer pointed out some of KMW's challenges to the validity of the '269 patent were considered by the patent examiner but the '269 claims were nevertheless allowed (RD pp. 69, 72; FF 68-69, 72-74).

Although KMW questioned whether the U.S. Patent and Trademark Office had actually or fully considered certain foreign patents which the complainant had cited as prior art 19/ and although KMW cited other patents which admittedly were not part of the prosecution history of the '269 invention 20/, the presumption is not weakened, nor is the burden shifted, merely because the respondents have asserted alleged "prior art" apparently not considered by the patent examiner. Solder Removal Co. v. U.S. International Trade Commission, 582 F.2d 628, 199 U.S.P.Q. 129 (C.C.P.A. 1978). The presumption of validity can be rebutted only by a showing that the prior art which was not before the examiner was more pertinent to the subject matter of the invention than the art which was considered by the examiner. Wilden Pump and Engineering Co. v. Pressed and Welded Products Co., 199 U.S.P.A. 390, 299 (N.D. Cal. 1978). For the same reasons articulated by Judge Duvall, (FF 64-67; RD p. 74) we agree that the art submitted by KMW is not more pertinent than that considered by the patent examiner and we conclude that KMW has therefore failed to rebut the presumption of validity attaching to the '269 patent.

For the foregoing reasons, we adopt the presiding officer's determination that the subject matter of the '269 patent is a non-obvious improvement over the prior art, and the '269 patent is valid and enforceable.

19/ RX 6E and RX 6D. (See note 12.)

20/ RX 6A, RX 6B, and RX 6C.

4. Infringement.

The KMW headboxes are multi-layer headboxes whose basic structure is a stack of three shallow channel elongated single-layer headboxes whose three flow channels are separated by 1/2-inch-thick metal plates with flexible trailing foils attached at their downstream ends. The separator plates are pivotably attached at their upstream ends so that they can freely self-position themselves in response to the hydraulic pressures of the stock streams moving toward the slice opening. (RD p. 90)

These headboxes are operable in any one of three forms (RD p. 90; FF 108-111):

1. The "vane with foil" form (CX A), which has separator plates having air passages capable of discharging an "air wedge" from their downstream ends where the flexible foils are attached and extend beyond the slice opening outside of the headbox.
2. The "vane without foil" form (CX B), which uses the air wedge separator plates without foils.
3. The "short vane" form (CX C), which uses rigid separator plates without foils or air passages and has tapered downstream ends terminating short of the slice opening.

The statutory provision defining infringement is set forth in 35 U.S.C. 271 as follows--

- (a) Except as otherwise provided in this title, whoever without authority makes, uses or sells any patented invention, within the United States during the term of the patent therefor, infringes the patent.

The presiding officer determined (CL 3) that claims 1 and 12 of the '269 patent are directly infringed by all three forms of the KMW multi-layer headboxes on the grounds that--

1. There is a literal correspondence between the elements described in claims 1 and 12 and all three forms of the KMW headboxes (FF 105-109);

2. The claims are entitled to a broad construction on the basis of the pioneer status of the invention, secondary considerations, and patent law policies (RD pp. 91-94);

3. Minor variations in the form and structure of non-essential details of the KMW separator plates and the trailing elements covered by the claims of the '269 patent do not amount to patentably significant differences (RD pp. 94-99; FF 113-123); and

4. The KMW devices and the devices described and shown in the '269 patent are substantially the same structures performing the same functions and achieving the same results (FF 122).

Judge Duvall also determined (CL 3) that claims 15, 16, and 22 are directly infringed by the KMW "vane with foil" headbox (CX A) and KMW "vane without foil" headbox (CX B) inasmuch as--

1. There is literal correspondence between the elements described in claims 15, 16, and 22 and the KMW "vane with foil" headbox (CX A) (FF 106, 110-112);

2. Minor variations in the form and structure of non-essential details of the KMW separator plate and the trailing elements covered by the claims of the '269 patent do not amount to patentably significant differences (RD pp. 94-99; FF 113-123); and

3. The specified KMW devices and the devices described and shown in the '269 patent are substantially the same structures performing the same functions and achieving the same results (FF 122).

Although KMW had cited numerous differences between the accused structures and the patented devices, the principal grounds for objecting to the presiding officer's conclusion were that the '269 invention contributed little, if anything, to the state of the art, and that the claims of the patent should have been narrowly construed. The respondents also argued that correspondence between the elements of the '269 invention and the accused devices was not sufficient in and of itself to warrant either a finding of literal infringement or infringement under the doctrine of equivalence. However, we find that Judge Duvall correctly applied the law and we have found no legal or factual error in his analysis.

A leading case on patent infringement is Autogiro Co. of America v. United States, 384 F.2d 391 (Ct.Cl. 1967). In that case, the court said that the determination of patent infringement is a two-step process--(1) one must first determine the meaning of the claims in issue by studying the relevant patent documents (i.e., the specification, any drawings, and the file wrapper), and (2) the claims must be found to read on the accused structures. 21/

The presiding officer found that the elements described and claimed in claims 1 and 12 of the '269 patent read on all three forms of the KMW devices and that the elements described and claimed in claims 15, 16, and 22 of that patent read on KMW's "vane with foil" (CX A) headbox. (FF 105-112) We concur with his analysis and conclusion.

21/ Autogiro Co. of America v. United States, 384 F.2d 391, 401 (Ct.Cl. 1967).

We therefore adopt the findings and conclusions of the presiding officer respecting the literal infringement of the claims of the '269 patent.

6. Contributory infringement.

Judge Duvall found that KMW has contributorily infringed the asserted claims of the '269 (and '593) patents under 35 U.S.C. 279(c) by selling material components of infringing headboxes to Scott, said components being non-staples and having no substantial noninfringing use. (FF 199; CL 5; RD pp. 105-106) KMW argued that this conclusion was erroneous because it stemmed from an erroneous determination of direct infringement.

35 U.S.C. 271 provides that:

(c) Whoever sells a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

Four criteria must be met in order to prove contributory infringement. There must be (1) a sale, (2) of a material component of a patented invention, (3) with knowledge that the component was especially made for use in an infringement of such invention and (4) the component must not be a staple article of commerce capable of substantial non-infringing use. (35 U.S.C. 271(c); See, e.g., Reitch Manufacturing Company v. Barber Company, 302 U.S. 458 (1938)).

The criteria set forth above have been met in the instant case.

1. KMW has sold two papermaking machine wet-ends, including the infringing multi-ply headboxes to Scott for use in its 106 and 511 papermaking machines. (FF 230)

2. KMW was aware of the suit patents prior to the sale of its headboxes to respondent Scott Paper. (Tr. 357-358; RD p. 105)

3. KMW sold material parts of the inventions of those patents to its customer Scott knowing the headboxes to be made or adapted for use in the infringement of Beloit's patents. (Tr. 357-358; FF 230-235; RD p. 105)

4. The KMW headboxes in each of their three forms have no use other than an infringing use and are not staple articles of commerce suitable for substantial noninfringing use. (FF 199; RD p. 105)

We therefore adopt the presiding officer's findings and conclusion on the issue of contributory infringement.

c. Inducement of infringement.

Judge Duvall found that KMW has also induced the infringement of the asserted claims of the '269 patent. (CL 5; RD 104) KMW objected to this conclusion, arguing that it stemmed from an erroneous finding of direct infringement.

The statutory provision regarding inducement of infringement is set forth in 35 U.S.C. 271(b):

Whoever actively induces infringement of a patent shall be liable as an infringer.

Liability under section 271(b) is dependent upon a showing that (1) the conduct being induced constitutes direct infringement, 22/ and (2) the person

22/ Stukenborg v. Teledyne, 441 F.2d 1069, 1072 (9th Cir. 1971); Nordberg Mfg. Co. v. Jackson Vibrators, Inc., 153 U.S.P.Q. 777, 783 (N.D. Ill. 1967), rev'd on other grounds 393 F.2d 197 (7th Cir. 1968).

inducing the infringement "actively" and knowingly aided and abetted another's direct infringement of the patent. 23/

The information on the record indicates that the requisite criteria are present in this investigation.

1. KMW's customer, Scott, is currently operating a papermaking machine which utilizes each of the three forms of the KMW headbox (CX A, CX B, CX C), an act which amounts to direct infringement of the asserted claims of the subject patents. (RD p. 104; FF 103)

2. KMW was aware of the suit patents prior to the sale of its headboxes, yet it developed, sold, and assembled the infringing apparatus specifically for use by Scott. (RD p. 104)

3. KMW, therefore, knowingly caused, urged, and encouraged Scott to infringe the asserted claims of the '269 and '593 patents. (RD p. 104)

We therefore adopt the presiding officer's findings and conclusion on this issue.

THE '593 PATENT

1. The Patent.

The '593 patent (CX 4), issued to Verseput on December 2, 1975, is a continuation in part of patent application Serial No. 205,545 which was filed on December 3, 1971, and subsequently abandoned. (FF 8, 24) The '593 patent has been assigned to Beloit and expires on December 2, 1992. (FF 10, 15) Each of the claims which Beloit has asserted for the purposes of the

23/ While sec. 271(b) does not use the term "knowingly" (even though the concept is employed in sec. 271(c), which concerns contributory infringement, commentators are of the view, that sec. 271(b) requires a finding that the defendant have some knowledge of the patent as well as the nature of his acts and their consequences. See 4 Chisum on Patents sec. 17.04 (1979). For a dissenting view on the knowledge (i.e., intent) requirement, see Hauni Werke Koerber & Co. v. Molins, Ltd., 183 U.S.P.Q. 168 (E.D. Va. 1974).

investigation are set forth in Appendix II. The '269 patent is the generic patent; the inventive concept of that patent is improved by the teaching of the '593 patent. The contested claims of the '593 patent are briefly described below.

Claims 4-6 are combination claims which include a forming section or a forming surface in combination with a specific headbox.

Claim 4 of the '593 patent reads as follows:

In a machine for making a multi-ply web such as a paper from stocks having a slurry of fibers in a liquid carrier, the combination comprising:

a foraminous forming surface for receiving a liquid stock and dewatering the stock;

a headbox having a slice chamber formed by slice walls terminating in slice lips which form a slice opening for directing a jet stream onto the forming surface; said slice lips extending substantially the same distance toward said surface; said headbox also having a preslice chamber immediately upstream of the slice chamber; a first rigid partition extending across said preslice chamber dividing the preslice chamber into multiple stock chambers;

a second partition extending across said slice chamber forming a continuation of said first partition and dividing the slice chamber into multiple stock chambers to extend to the slice opening; said second partition being supported only at its upstream end with its downstream portion unattached and constructed to be self-positionable so as to be responsive to forces exerted thereon by the stock flowing toward the slice so that the stocks from the multiple chambers exist through the slice opening at uniform velocity;

and means for supplying stocks of different characteristics to each of said multiple stock chambers in the preslice chamber.

Claim 5 also refers to the multi-ply papermaking machine described in claim 4. The difference between the two claims is that the forming surface in

2. The Invention.

Beloit markets headboxes constructed in accordance with the '593 patent under the name Strata-Flo Headbox. (FF 27) The Strata-Flo headbox has a slice chamber with a slice opening through which the papermaking stock issues in the form of a jet. Within the slice chamber, there are one or more trailing elements extending transversely of the slice chamber. The trailing elements are held only at their upstream ends with their downstream portions unattached and are thus constructed to be self-positioning so as to be responsive to the forces exerted thereon by the papermaking stock flowing towards the slice opening. This slice chamber is additionally divided into multiple compartments from the upstream end of the slice chamber to the slice opening. Papermaking stocks of different characteristics are introduced into the slice chamber so that a composite jet of papermaking stock issues from the slice chamber. This arrangement permits the forming of what is known as layered sheet from a single or unitary headbox. The Strata-Flo headbox uses and extends the principles of the Converflo headbox in such a configuration as to produce multi-ply as well as single-ply paper of superior quality at lower cost than conventional methods which utilize multiple headboxes rather than a unitary or single headbox to produce multi-ply paper. (FF 20-25, 27, 148) The commercial importance of the multi-ply paper, especially in the making of tissue, lies in its capability of enhancing the desired qualities of strength, softness, absorbency, and improved appearance through the bonding together of a plurality of plies (layers) into a single sheet in a single process waller. (RD p. 59; CX 24, pp. 14-16, 21) The Converflo principle of multiple flow channels defined by flexible trailing elements is utilized in the Strata-Flo

headbox by simultaneously channeling separate slurries of different quality filler stocks (e.g., softer, short hardwood fibers; stronger, long softwood fibers) through separate compartments of the headbox which, upon merger at uniform velocity at the slice opening, interlock with each other without losing their layer identity or purity. Thus, a quality three-ply tissue can be more economically produced in that hardwood fibers with the softest, most absorbent qualities can be limited to the outer layers of the tissue, while the inner layer consists only of stronger softwood fibers. The resulting multi-ply sheet, while single in appearance, is qualitatively a better tissue than one produced by intermixing of the diverse fibers in a homogeneous single sheet. (Id.)

The chief problems encountered in making single-ply paper, such as securing a good cross-machine profile or basis weight, tensile ratio, and proper formation, also occur in making multi-ply paper, with the added problem of maintaining layer purity. (RD 60; CX 24, pp. 15-20; FF 161) 24/

3. Validity.

The presiding officer found that the '593 patent is entitled to the presumption of validity afforded by 35 U.S.C. 282 and that the respondents have not rebutted that presumption. (FF 157; CL 2) We agree.

KMW contended that the '593 patent is invalid for obviousness on the grounds that its invention is an obvious modification of the Conver-Flo single-ply headbox invention of the '269 patent accomplished by the provision

24/ The foregoing discussion was taken from, CX-26 p. 5 and the RD pp. 57-60.

of suitable flow separating walls to convert the single-layer headbox into a multi-layer headbox, and that the '593 patent was invalid for obviousness in view of the prior art of various other U.S. and foreign patents. 25/

Judge Duvall concluded that none of the prior art asserted was sufficient to render the inventive concept of the patent invalid for obviousness and that the respondents had failed to rebut the statutory presumption of validity. (CL 2)

We find that Judge Duvall correctly interpreted the prosecution file history of the asserted claims, and correctly determined that none of the prior art asserted by the respondents was more pertinent than that considered by the patent examiner and that none of the arguments asserted was sufficient to render the subject matter of the '593 patent invalid for obviousness. We therefore adopt the presiding officer's findings and conclusion that the '593 patent is valid and enforceable and that respondents have failed to rebut the statutory presumption of validity.

4. Infringement.

KMW's defense to the alleged infringement of the '593 patent is that the accused devices (all three forms, CX A, CX B, CX C) do not contain the pre-slice chamber described in claims 4-6. KMW contends that the structure and relation between the dividing partitions of the pre-slice chamber and the slice chamber are essential to the patentability of claims 4, 5, 6 because of

25/ CX 36; RX 6E; RX 6D; Beck U.S. Letters Patent 3,598,696 (RX 6J); Salomon U.S. Letters Patent 3,255,974 (RX 6I); Canadian Patent No. 565,469 (RX 6G); Okawa Patent No. 2,693,739 (RX 6H); Mason U.S. Letters Patent '975 (RX 6F); French Patent No. 1,490,429 (RX 6M); Stevens U.S. Letters Patent 3,730,881 (RX 6K); Japanese Utility Model Patent No. 23,285/72 (RX 6L).

the file wrapper history of claim 4 and the function of the pre-slice "stilling" chambers in both suit patents, namely, to provide a large open cross-sectional area to reduce and even out the pressure and velocity of the stock from the distributor tube bank across the full width of the perforated plate immediately upstream of the slice chamber.

Judge Duvall did not find literal infringement, but he did find that all three forms of the KMW headboxes infringed claims 4, 5, and 6 of the '593 patent under the doctrine of equivalence (CL 3; RD pp. 100-104) on the grounds that--

1. There is correspondence between the elements described and claimed in claims 4, 5, and 6 of the '593 patent and all three forms of the KMW headboxes (FF 187-192).

2. The pre-slice chamber is not essential to patentability and the structure functions and result of the KMW headbox up to the slice chamber are substantially the same as those taught in the '593 patent (and claims 4, 5, and 6). (FF 195; RD pp. 101-104)

3. The KMW devices are substantially the same structures performing the same functions and achieving the same results as the device shown and described in the '593 patent. (FF 196)

KMW took exception to the presiding officer's broad reading of the claims, his interpretation of the prosecution history, and the conclusion that the KMW tube bank and the '593 pre-slice chamber are structural and functional equivalents.

However, we find that the presiding officer correctly applied the law and have found no legal or factual error in his analysis.

In Autogiro, supra, the court said that it is of little significance that the claims in issue do not read literally on the accused structures. "What is crucial is that the structures must do the same work, in substantially the same way, and accomplish substantially the same result to constitute infringement." 26/

That is, infringement is not necessarily ruled out if the claims do not read literally on the accused structures. The doctrine of equivalence casts a "penumbra" around a claim, and this penumbra must be avoided if there is to be a finding of no infringement. The doctrine provides that a structure infringes, without there being literal overlap, if it performs substantially the same function in substantially the same way and for substantially the same purpose as the claims set forth. 27/ The rationale behind the doctrine was set forth by the Supreme Court in Graver Tank & Mfg. Co. v. Linde Air Products Co., 339 U.S. 605, 607 (1950), as follows--

(T)o permit imitation of a patented invention which does not copy every literal detail would be to convert the protection of the patent grant to a hollow and useless thing. Such a limitation would leave room for--indeed encourage--the unscrupulous copyist to make unimportant and insubstantial changes and substitutions in the patent which, though adding nothing, would be enough to take the copied matter outside the claim, and hence outside the reach of the law.

We find that the presiding officer correctly applied the pertinent law and we therefore adopt his findings and conclusion respecting infringement of the '593 patent.

26/ Autogiro, supra. at 401.

27/ Id.

b. Contributory infringement.

The presiding officer found that KMW has contributorily infringed claims 4, 5, and 6 of the '593 patent under 35 U.S.C. 271(c) by selling material components of infringing headboxes to Scott Paper Company, said components being non-staples and having no substantial noninfringing use (RD pp. 105-106; FF 199). See the preceding discussion on contributory infringement of the '269 patent.

Injury to an Efficiently and Economically Operated Domestic Industry

1. Definition of the relevant domestic industry:

Section 337 provides relief to a domestic industry which is substantially injured by reason of unfair methods of competition and unfair acts in import trade, provided that public interest considerations do not preclude such relief. For the purposes of this investigation, the complainant alleged the existence of an effect or tendency to substantially injure a domestic industry for the production of multi-ply headboxes by reason of the unauthorized importation and sale of multi-ply headboxes which infringe the claims of its single-ply '269 and multi-ply '593 headbox patents.

The complainant alleged effect or tendency of substantial injury only with respect to a single industry for the production of multi-ply headboxes in accordance with the teachings of the '269 and '593 patents in combination. 28/

KMW argued during the course of the investigation that the industry must be comprised of all of the PMD resources devoted to the engineering, manufacture, and sale of single-ply headboxes of the '269 patent as well as

28/ See the Complainant's Prehearing Statement pp. 6-9 and its post-hearing (oral argument) brief at 5-6.

the multi-ply headboxes produced in accordance with the combined teachings of the '269 and '593 patents.

The presiding officer defined the domestic industry as the portion of the complainant's Paper Machinery Division (PMD) dedicated to the manufacture, sale, and maintenance of multi-ply headboxes produced in accordance with the '269 and '593 patents (FF 201; RD pp. 107-109).

KMW objected to this definition on the basis that the relevant domestic industry must encompass the full exploitation of both patents in view of (1) the legislative history of section 337 indicating that the domestic industry in patent-based investigations consists of the domestic operations of the patent owner which are dedicated to the exploitation of the patent in issue, 29/ (2) the Commission's previous adherence to this standard, (3) the fact that there are two patents in issue in this case, and (4) the business realities of the manner in which the subject patents are exploited.

In previous decisions, the scope of the domestic industry encompassed virtually all facilities devoted to producing articles made in accordance with the subject patent(s), since the allegedly infringing imports were in direct competition with all domestically-produced articles under the patent. This appears to be the first case in which it has been argued by the complainant that the Commission should consider only a portion of complainant's facilities producing articles under the patent(s) in issue.

There are two products made by complainant in accordance with the claims of these patents--single-ply and multi-ply headboxes; under the facts in prior

29/ Trade Reform Act of 1973; Report of the Committee on Ways and Means, H. Rept. 93-751 (93d Cong., 1st Sess. 1973), at 78.

patent-based cases, these products would have served to define the domestic industry. However, the products being imported by KMW which infringe complainant's two patents are multi-ply headboxes. There are no allegations that imports of single-ply headboxes infringe either of these two patents. While multi-ply headboxes can be used to make single-ply paper, evidence on the record indicates that multi-ply headboxes and single-ply headboxes generally compete in separate markets.

Even though single-ply headboxes are produced in accordance with one of the patents in issue, our focus under section 337 in patent cases is on injury caused by infringing imports to the domestic industry producing articles, covered by the patent, which compete with the subject imports. Thus, we cannot look just at the domestic facilities devoted to the production of all headboxes made in accordance with the '269 and '593 patents. To do so would not focus on the actual point at which the infringing imports have an adverse impact. Rather, we must identify specifically that portion of complainant's facilities which produces articles under the patents in suit and which is adversely affected by the infringing imported articles--namely, in this case, the complainant's production facilities for multi-ply headboxes. Upon that segment only should we assess the economic impact which the unauthorized importations and sales have on the legal monopoly of the patent holder.

Therefore, we adopt the conclusion and findings of the presiding officer regarding the definition of the industry and focus our consideration of injury on that portion of Beloit's facilities devoted to the production of multi-ply headboxes.

2. Efficiency and economy of operations.

The presiding officer concluded that the domestic industry is efficiently and economically operated on the basis of Beloit's showing (1) that its patent-based operations function within the context of an efficient larger business, the PMD as a whole, (2) that the PMD has modern equipment, a budget for research and development, and (3) that the PMD appears to be more productive than the industry in general on the average. (FF 216-219; RD pp. 110-111) The Commission investigative attorney agreed with Judge Duvall's findings and conclusion on this issue.

Initially, KMW contended that the complainant's delivery failures in 1978 and 1979 and the backlog of orders were indications of the inefficiency of Beloit's operations. However, KMW did not file written exceptions to the presiding officer's findings on this issue. Moreover, during the oral presentations on relief, bonding, and the public interest, counsel for KMW stipulated that Beloit is efficient. 30/

In view of the factors cited by the presiding officer and information on the record which demonstrates the measures which Beloit has taken to improve and increase the economy and efficiency of its operations, to expand its capacity, and to improve its delivery time, 31/ and in view of KMW's stipulation, we adopt the presiding officer's findings and conclusion that the domestic industry is efficiently and economically operated.

30/ Transcript, oral argument, p. 130.

31/ See the complainant's post-hearing brief filed on March 2, 1981, at pp. 14-15.

Injury.

In order to find injury, the Commission must determine that the unfair methods or acts which exist have had the "effect or tendency . . . to destroy or substantially injure an industry efficiently and economically operated in the United States." (19 U.S.C. 1337). In this investigation, neither Beloit nor the Commission investigative attorney argued that destruction of the domestic industry was an issue and the presiding officer did not find the existence of any effect or tendency to destroy the domestic industry. For these reasons, we will only discuss whether there is an effect or tendency to substantially injure the domestic industry.

Judge Duvall found that the unfair acts committed by the respondents in the unauthorized importation and sale of multi-ply headboxes have had the effect or tendency to substantially injure the domestic industry for the production, sale, and maintenance of multi-ply headboxes produced in accordance with the '269 and '593 patents. The complainant and the Commission investigative attorney agreed with this conclusion. KMW filed written exceptions.

The Justice Department submitted a written statement which essentially argued that the Commission should not find either "present or prospective" injury to the domestic industry since the showing of lost sales and diminished profits was based on a loss of business for the complainant's foreign subsidiaries and licensees rather than its domestic production operations.

We agree with the findings and conclusion of the presiding officer on the question of injury, to the extent that he found the unfair methods and acts

of the respondents have the tendency to substantially injure the domestic industry. 32/

The most significant indications are the complainant's lost sales, KMW's capacity to produce several times the current domestic demand for multi-ply headboxes, and its demonstrated intention to obtain additional orders in the United States. In view of the nature of the patented articles, the U. S. market, and the domestic industry, the loss of even a few sales, or the possibility thereof creates the potential for substantial injury to the domestic industry.

The record shows that KMW sold two wet-ends incorporating the infringing multi-ply headboxes to Scott in March 1979 after competing with Beloit in direct head-to-head bidding for those sales orders. (FF 237,230). The manufacture of multi-ply paper utilizing a single headbox is relatively new (FF 203) and the complainant and KMW are the only companies which offer such machines for sale. (FF 175) Thus it is likely that the sales orders would have gone to Beloit had KMW not received them.

Although the multi-ply headbox is gaining prominence and importance in the papermaking industry (FF 203), the U.S. market for such headboxes is still relatively small; only 2 or 3 are sold each year. (FF 253). Beloit has sold seven of its patented Strata-Flo headboxes in the United States since 1974. (FF 207) KMW has sought orders for the infringing multi-ply headboxes since 1977 (FF 264) and has made two sales to date, such sales represent an import

32/ In voting on the question of violation, Commissioner Bedell determined that there is an effect or tendency to substantially injure an industry, efficiently and economically operated, in the United States.

penetration ratio of 22.5 percent relative to the total of nine multi-ply headboxes sold in the United States.

KMW has the capacity to produce in excess of 5 or 6 multi-ply headboxes per year at its facilities in Sweden. (FF 254). The information on the record demonstrates that KMW is attempting to increase its share of the United States market for machinery for the production of multi-ply paper. (FF 255; CX 26, p. 11; CX 67, p. 9; RD p. 53). KMW is continuing to solicit sales orders and it regularly advertises the availability of such machinery in trade journals. (FF 255; CX 39, Admission Nos. 55 and 23) Moreover, KMW has indicated that it plans to compete with Beloit's PMD for business in the United States as it becomes available. (FF 255; Akeley Deposition, CX L, pp. 107-11). The fact that KMW has made two sales of infringing multi-ply headboxes to Scott, a recognized leader in the papermaking industry, enhances KMW's ability to compete more effectively with the complainant in the future. (FF 258)

As a result of the unfair competition from KMW and the lost sales to Scott, PMD lost the profits incident to those sales. Headboxes are expensive items and thus Beloit was deprived of _____ in profits. Moreover, the loss of the two Scott orders could mean the loss of all continuing repair maintenance and replacement business for the lives of those machines (FF 244), since the industry custom is to concentrate such business with one supplier. (FF 261)

The lost orders reduced substantially PMD's direct engineering and manufacturing backlog. (FF 241) The domestic industry is highly cyclical and the level of bookings varies widely, depending upon general economic

conditions and other circumstances affecting the paper industry. Maintaining a backlog of orders enables the domestic industry to operate at full capacity during low points in the cycle. (FF 263) Consequently, a reduction in backlog as a result of lost orders is particularly injurious during a downturn in business. (FF 243)

There is evidence that the lost sales also adversely affected employment in the domestic industry since PMD's contract draftsmen in the Engineering Department have been reduced from 42 in March, 1978, to zero in August, 1980, (FF 242) and Beloit has stated that PMD will be laying off employees, if orders do not increase. (FF 252)

Although Beloit does subcontract work to foreign affiliates, its policy is that any order booked by the PMD for a United States customer is to be manufactured domestically by the PMD if possible. (FF 210). When PMD must resort to subcontracting during peak business cycles, or in the event of a strike, all engineering work is still done at PMD for the patented Strata-Flo headboxes. (FF 210) In addition to the engineering work, even when PMD subcontracts the manufacturing component of an order, the sale and service activities in connection with that order are performed by PMD and all headbox parts that can wear out and require replacement, such as jacks and hydraulic loading units, are supplied by PMD. Moreover, half the profit on the components manufactured by the subcontractor are retained by PMD. (FF 211) For these reasons, Beloit's practice of subcontracting is not a sufficient indication, in and of itself, that Beloit is not being substantially injured by the loss of sales to KMW.

Judge Duvall found that of the seven Strata-Flo headboxes which Beloit has sold in the United States, five were manufactured or are presently being manufactured at PMD, and the other two were subcontracted by PMD to foreign subsidiaries in Canada and Italy. One of the subcontracts was necessitated by the 13-week strike at PMD in 1979 and the other subcontract was necessitated in order to meet the delivery requirements of the customer on a job that was delayed due to extended research done at PMD at the request of the customer.

(FF 207) As a result of current market conditions, PMD has no need to subcontract any manufacturing work and is actually pulling back work from its Canadian and Italian subsidiaries. (FF 251)

For the reasons discussed above, we determine that the unfair acts of the respondents in the importation and sale of the infringing multi-ply headboxes and papermaking machine forming sections for the continuous production of paper, and components thereof, have the tendency 33/ to substantially injure an industry, efficiently and economically operated, in the United States. 34/

33/ In voting on the question of violation, Commissioner Bedell determined that there is an effect or tendency to substantially injure an industry, efficiently and economically operated, in the United States.

34/ Chairman Alberger believes that to make a determination that imports have a tendency to injure requires that the Commission evaluate the effect of continued unfair acts on the domestic industry in light of the information presently known. In the instant case, while substantial injury to the domestic industry has not been demonstrated presently, if the KMW respondents are permitted to continue their practice of importing infringing headboxes (as the evidence of their continued solicitation of business in the U.S. market indicates they intend to do), the complainant will most likely suffer serious injury. Therefore, in making a determination of tendency to substantially injure, we must project, based on present information, the harm that would be suffered if the alleged unfair acts continued unabated.

Chairman Alberger distinguishes his injury finding in this investigation from his determination in Certain Surveying Devices (337-TA-68). In Surveying Devices, he determined that there was not the requisite injury to the domestic industry. His finding in that case was based on the facts that the industry producing surveying devices was basically healthy, complainant was operating

(footnote continued)

REMEDY, THE PUBLIC INTEREST, AND BONDING

Having determined that there is a violation of section 337 of the Tariff Act of 1930 and having considered the record developed in this investigation, including the oral presentations before the Commission, and the written submissions of the parties, interested agencies and members of the public, we determine (Chairman Alberger dissenting on the issues of appropriate remedy and the public interest)--

1. that the issuance of an exclusion order, pursuant to subsection (d) of section 337, preventing importation of multi-ply headboxes and papermaking machine forming sections for the continuous production of paper, and components thereof, made in accordance with claims 1, 12, 15, 16, and 22 of U.S. Letters Patent RE 28,269 and claims 4, 5, and 6 of U.S. Letters Patent 3,923,593 for the remaining terms of said patents, except under license, is the appropriate remedy for the violation of section 337 which we have found to exist,
2. that the public interest factors enumerated in subsection (d) of section 337 of the Tariff Act of 1930 do not preclude the imposition of an exclusion order in this investigation, and
3. that the appropriate bond provided for in subsection (g)(3) of section 337 of the Tariff Act of 1930 during the period this matter is before the President is in the amount of 100 percent ad valorem of the headboxes and papermaking machine forming sections, and components thereof, concerned f.o.b. port of entry.

(footnote continued)

at full capacity, there was no idling of facilities, no employee lay-offs, and no substantiated lost sales. Import penetration was low and the domestic industry was fully capable of meeting all market demand. There are certain parallels between these two investigations. At the present time, the industry producing headboxes is also basically healthy, and the industry is operating at full capacity with no idling of facilities. Additionally, there has been no increase in importation of KMW headboxes over the last 2 years. However, in this investigation, there have been sales lost to respondents in direct head-to-head bidding, employees have been laid off, significant profit has been lost by complainant because of the lost sales, and import penetration is at a level of 22.5 percent. These factors, coupled with KMW's intention to continue to solicit and supply business in the U.S. market whenever possible is sufficient for a finding that imports of infringing multi-ply headbox have the tendency to substantially injure the domestic industry producing multi-ply headboxes in the foreseeable future.

The reasons for our findings are discussed below.

Remedy. 35/

As a result of this investigation, we determine that the appropriate remedy for the violation we find to exist is an exclusion order. It is our belief that exclusion of the infringing articles is the most effective remedy to redress the wrong done to the patentholder. We further believe that an exclusion order can be made sufficiently precise in its coverage and is not precluded by the public interest.

Prior to the relief granted in Certain Apparatus for the Continuous Production of Copper Rod, Inv. No. 337-TA-52, the Commission had issued an exclusion order in all cases in which infringement of a U.S. patent was the subject of the violation and relief was provided. In Copper Rod, special considerations, including the problems associated with imports that infringed a method patent, made the issuance of a cease and desist order the more appropriate remedy. Those considerations are not present in this case.

Our view of the appropriate remedy in patent based section 337 cases stems from the unique Constitutional protection and statutorily protected temporary monopoly granted to those persons who provide the innovation and creative ideas vital to the advancement of this country and of our industries. We would be acting contrary to the federal scheme (including section 337) which encourages and protects such innovation if, barring special

35/ Chairman Alberger dissents from the views expressed in this section inasmuch as he has determined that a cease and desist order pursuant to subsection (f) of section 337 is the appropriate remedy. See the Views of Chairman Bill Alberger Regarding Remedy and the Public Interest.

considerations, we allow the infringing merchandise into this country after a finding that those imports have the effect or tendency to substantially injure an efficiently and economically operated industry based on the practice of the patent.

To argue that such relief is overly broad misses the point of the philosophy underlying our patent system and the systems of other countries. Only merchandise which appropriates the idea protected by the patent is excluded from this market. Noninfringing merchandise may be imported into this country. With a narrowly drawn exclusion order, the burden which is shifted to importers is not an unnecessarily burdensome one when compared to the scope of the patentholder's protection.

Moreover, a cease and desist order is an in personam remedy which could be avoided by shifting importations or sales to an importer who is not subject to the Commission's in personam jurisdiction.

We fully recognize, however, that whenever the remedy of an exclusion order, although appropriate, is precluded by the public interest factors set forth in section 337, it should not be granted.

The public interest 36/

Subsection (d) of section 337 provides that the Commission shall issue an exclusion order unless, after considering the effect of such exclusion upon the (1) public health and welfare, (2) competitive conditions in the United

36/ Chairman Alberger determined that there were no overriding public interest considerations which preclude the issuance of a remedy in this investigation. However, he believes that the issuance of a cease and desist order is the most appropriate remedy and better serves the public interest. His reasons pertaining to his consideration of the public interest are explained in the Views of Chairman Bill Alberger Regarding Remedy and the Public Interest.

States economy, (3) the U.S. production of articles which are like or directly competitive with those which are the subject of the investigation, and (4) U.S. consumers, it finds that the articles in question should not be excluded from entry.

This provision was added to section 337 by the Trade Act of 1974. The legislative history reflects a Congressional intention that the public interest factors be the overriding considerations in the administration of the statute:

The Committee believes that the public health and welfare and the assurance of competitive conditions in the United States economy must be the overriding considerations in the administration of this statute. Therefore, under the Committee bill, the Commission must examine (in consultation with the other Federal agencies) the effect of issuing an exclusion order or a cease and desist order on the public health and welfare before such order is issued. Should the Commission find that issuing an exclusion order would have a greater adverse effect on the public health and welfare; on competitive conditions in the United States economy; on the production of like or directly competitive articles in the United States; or on the United States consumer, than would be gained by protecting the patent holder (within the context of U.S. patent laws) then the Committee feels that such exclusion orders should not be issued. This would be particularly true in cases where there is any evidence of price gouging or monopolistic practices in the domestic industry. S. Rep. No. 93-1298, 93rd Cong., 2d Sess. (1974).

The Commission investigative attorney argued that there are no overriding public interest issues in this case which would preclude the issuance of an exclusion order. Conversely, KMW contended that such relief would have an adverse impact upon three of the four public interest considerations enunciated in the statute. For the reasons which are set forth below, we have determined that KMW's contentions are unfounded and that there is no public interest factor or policy reason for denying the complainant the relief which it has requested.

With respect to the contention that Beloit's competitive position in the market would be enhanced, an exclusion order would serve only to enforce and protect the legal monopoly to which the complainant is entitled as the assignee of the patents in issue. We find no information on the record which clearly demonstrates, or from which it can be inferred, that Beloit is seeking to extend its monopoly beyond the claims and limitations of the duly issued '269 and '593 patents. Moreover, an exclusion order would only prohibit the importation of infringing merchandise; thus it would not be effective for excluding non-infringing multi-ply headboxes. As the complainant pointed out in its written comments on the public interest, relief and bonding, the KMW apparatus can be modified so as to avoid the subject patents. 37/ Consequently, an exclusion order would not have the effect of completely eliminating KMW as a competitor in the U.S. multi-ply headbox market.

The record in this case also does not support the assertion that Beloit is reaping excessively high profits for its multi-ply headboxes. The presiding officer found that Beloit has incurred sizeable average losses on the seven Strata-Flo headboxes sold in the U. S. (FF 262) and Beloit alleged that it has been forced to cut its prices as a result of the unfair competition from the respondent. 38/

We are also unable to agree with the contention that an exclusion order would abet a de facto tying arrangement. In our view, the record is devoid of any evidence that Beloit is seeking to extend its legal monopoly beyond the restrictions of its patents. Although Beloit has sold nearly all of its

37/ See p. 6.

38/ Complainant's Post-hearing brief at p. 9 and CX-26 at pp. 8-9.

patented headboxes in conjunction with the sale of new machines, wet ends, or rebuilds, the patented headboxes are also sold separately as replacements for the outmoded or worn out headboxes of existing papermaking machines (FF 260). Moreover, we do not find any indication that Beloit uses its economic power or leverage to induce its headbox customers to purchase Beloit's other papermaking machinery as a condition of the sale of the patented headboxes.

With respect to the availability of KMW's and Beloit's technology to the papermaking industry, we again point out that an exclusion order would not deprive the papermaking industry of KMW's technology as a whole, but only that which is covered and taught by the duly issued, valid, and enforceable patents.

With respect to the possibility that an exclusion order would have an adverse impact upon the competitiveness of prices, the record indicates that the two KMW multi-layer headboxes were sold to respondent Scott Paper Company at prices which were higher than the complainant's. 39/

We also find KMW's argument regarding constriction of consumer choice of product design and technology to be unpersuasive. We agree with the presiding officer's conclusion that the KMW headboxes are substantially the same as the '593 invention and the accused devices perform the same functions and accomplish the same results as the patented article. (FF 196) Thus we conclude that an exclusion order would not have the effect of depriving U.S. consumers of any feature which is unique, useful, and properly within the public domain.

39/ Transcript, Oral Argument, pp. 129-131

With respect to the U.S. production of articles which are like or directly competitive with those which are the subject of the Commission's determination, KMW pointed out that the complainant and KMW are the only suppliers of unitary multi-layer headboxes of any design (infringing or non-infringing). Despite this fact, we do not see any public interest problem which would preclude the issuance of an exclusion order. The issue in connection with the availability of like or directly competitive apparatus relates primarily to the supply of domestic demand. In this case, we find that the complainant is fully capable of meeting all domestic demand for these machines and components thereof.

The record indicates that Beloit's PMD has experienced some difficulties in meeting delivery obligations in 1978 and 1979. (FF 222). However, in light of the presiding officer's findings that Beloit has improved its delivery service and is meeting 80 percent of its delivery commitments, and KMW's stipulation that the PMD is efficiently operated, there is no information on the record which indicates that timely delivery of Beloit headboxes is likely to be a problem for U.S. consumers if an exclusion order is issued.

In conjunction with the issue of domestic supply of demand, it should be noted that the production of multi-ply paper through the use of a single headbox is a relatively new operation which has resulted in the creation of a new market for Strata-Flo headboxes and that Beloit has shown that it has the capacity and capability to supply domestic demand if an exclusion order is issued.

Additionally, multi-ply paper can be produced by apparatus other than the patented multi-ply headboxes, e.g., prior art headboxes using a plurality of single-ply headboxes arranged in tandem, the use of rectifier rolls for slower speed machines. In connection with this point, Beloit has pointed out that the KMW multi-ply headboxes can be modified to avoid the subject patents and thus can be utilized in the U.S. production of multi-ply paper.

Bond

Having determined that there is a violation of section 337, that the appropriate remedy is the issuance of an exclusion order, and that public interest considerations do not preclude relief, the Commission is required under subsection 337(3) to set a bond for the infringing articles which enter the United States during the period in which the President reviews the Commission's determination. As provided by the legislative history of the Trade Act of 1974 40/ and by section 210.14(a)(3) of the Commission's Rules, the value of the bond is to be set by determining the amount which would offset any competitive advantage resulting from the unfair method of competition enjoyed by the parties benefitting from the importation.

In this case, the competitive advantage heretofore enjoyed by KMW in the U.S. market was the ability to sell headboxes which infringe the asserted claims of the '269 and '593 patents. KMW has also derived tangible benefits from these sales by collecting the profit incident thereto, notwithstanding that such sales were in violation of United States law.

40/ S. Rept. No. 93-1298, 93d Cong. 2d Sess. (1974) at 198.

The Commission investigative attorney's recommendation was that the Commission impose a 100 percent ad valorem bond since there is no established price structure for either the patented or the imported articles since they are custom-made and subject to contract biddings and because each sale which the complainant loses has economic consequences far beyond the mere loss of profits. In his estimation, a full value bond is sufficient to offset the competitive advantage enjoyed by KMW and to deter the perpetration of additional unfair acts during the 60-day review period.

The complainant requested a 300 percent ad valorem bond on the theory that a multiple of the full value of the merchandise is necessary in order to provide an effective deterrent to future importations. Although they are essential to the machine production of paper, headboxes are only a relatively small component of a complete papermaking machine. The machine can cost \$15-20 million, whereas the headbox can cost approximately \$1 million. (RD p. 57) The complainant feared that the purchaser of the papermaking machine might be inclined to forfeit the bond and to import the headbox in order to prevent the more substantial losses which would result if the multi-million dollar machine were forced to stand idle for want of a headbox.

The KMW respondents argued that no bond should be imposed because none of the infringing headboxes are on order or scheduled for importation during the 60-day period for review and because there are presently no outstanding orders scheduled for delivery into the United States at any time subsequent to the review period. 41/

41/ Transcript of Proceedings, Oral Argument, p. 91.

We determine that a 100 percent ad valorem bond is sufficient to achieve the objectives of (1) off-setting any competitive advantage accrued by the KMW respondents as a result of the alleged unfair acts, (2) deterring future unlawful importations during the 60-day review period, and (3) protecting the rights of the complainant. Although KMW's representation that there are no importations pending or scheduled is not a sufficient basis for eliminating the bond completely, it is sufficient to overcome the complainant's contention that a bond in an amount which is a multiple of the full value of the articles is necessary in order to effectively deter future unlawful importations. We therefore find that a 100 percent ad valorem bond should be imposed.

Views of Chairman Bill Alberger Regarding
Remedy and the Public Interest

In this investigation, the Commission has found that there is a tendency to injure the domestic industry producing multi-ply headboxes made in accordance with the claims of the '269 and '593 patents. The KMW respondents have been found in violation of section 337. I have determined that the issuance of a cease and desist order directed to these specific respondents to prohibit future importation and sales of infringing multi-ply headboxes would appropriately remedy the type of injury found to exist.

I believe that it is the preferred practice to fashion the Commission's remedy finding to provide only that relief necessary to eliminate the injury to the industry. In the present investigation, the Commission identifies only the KMW respondents as being in violation of the statute. Although, in its submissions regarding remedy, the complainant has requested the issuance of an exclusion order in light of the possibility of future importations by non-party manufacturers of papermaking machinery, including headboxes, 1/ I believe that the issuance of such an order could provide relief exceeding the injury found to exist. There is no evidence in the record regarding possible importations of infringing headboxes by suppliers other than KMW. (See the Commission's Opinion In the Matter of Certain Apparatus for the Continuous Production of Copper Rod, USITC Pub. 1017, Nov. 1979 regarding the decision to issue a cease and desist order in that case.)

1/ The complainant has asserted that there are potential foreign infringers holding U.S. patents on papermaking machinery. The sole fact that these companies are engaged in production of papermaking machinery, including headboxes is not sufficient reason to speculate, let alone infer, that they will infringe complainant's patents at some future time, thus requiring the issuance of an exclusion order.

The cease and desist order I envisioned would be directed to the KMW respondents only. It would direct that KMW, KMW Johnson, Inc. and Scott Paper Company cease and desist from importing multi-ply headboxes which infringe, contribute to, or induce infringement of the patents in question. If, at some future time, Beloit became aware of additional infringing importations or felt that this relief was inadequate, it could then petition the Commission for additional relief as necessary. There would thus be no undue burden put on other importers of noninfringing headbox equipment. With an exclusion order, importers of noninfringing multi-ply headboxes might be subjected to administrative burdens at Customs with a shifted burden of proof. I believe that since Beloit only proved infringement with respect to the KMW respondents, they are entitled to an order against them, but not necessarily others, absent some evidence that there are multiple infringers. (For example, in cases such as Certain Novelty Glasses (337-TA-55), Certain Thermometer Sheath Packages (337-TA-56), and Certain Rotatable Photograph and Card Display Units and Components Thereof (337-TA-74) exclusion orders were necessary because products are easy to manufacture, producers change overnight, and many importers too numerous to keep track of must be dealt with to alleviate the injury.) Here, the allegations are simple and direct. An exclusion order is overkill. A cease and desist order is the appropriate relief.

There are no overriding public interest factors which would preclude the granting of relief in this investigation. However, I believe that the issuance of a cease and desist order is better for the public interest than an exclusion order. In fact, an exclusion order could unduly disrupt trade and prove harmful to competitive conditions in the broader market for paper-making machinery. The cease and desist order, alternatively, would address only the harm found to exist in the narrow market producing multi-ply headboxes

under the patents, and would affect only those respondents who were specifically found to be violating the statute. Therefore, in my view, the public interest would best be served by the issuance of a cease and desist order.

DISSENTING OPINION OF COMMISSIONER PAULA STERN

I dissent from the views of my fellow Commissioners on the question of injury and, therefore, from the decision reached by the majority in this investigation. 1/

The Commission is directed to determine the existence of:

Unfair methods of competition and unfair acts in the importation of articles into the United States, or in their sale by the owner, importer, consignee, or agent of either, the effect or tendency of which is to destroy or substantially injure an industry, efficiently and economically operated, in the United States (emphasis added) 2/

This is clear statutory language. The Supreme Court did find the statutory language in section 316 of the Tariff Act of 1922, which is virtually identical to section 337 of the Tariff Act of 1930 3/, "long and not happily drafted." 4/ Nevertheless, the requirement that the Commission find that the unfair act has the effect or tendency to destroy or substantially injure an efficiently and economically operated domestic industry is unambiguous, clear, and cannot and should not be read out of the statute by interpretation.

1/ I concur with my fellow Commissioners as to the procedural history, and the issues of validity and infringement. I do not reach relief, the public interest, or bonding. I adopt the findings of fact and conclusions of law of the administrative law judge, to the extent not inconsistent with this opinion.

2/ 19 U.S.C. 1337(a).

3/ Section 337 eliminated the provision for Supreme Court review; withdrew the authority of the President to impose additional duties to offset unfair acts; and provided the Secretary of the Treasury with authority to admit imported goods subject to a temporary exclusion order upon the payment of a bond.

4/ Ex parte Bakelite Corporation, 279 U.S. 438, 446 (1929).

In this dissent, I intended to discuss the standard necessary to demonstrate a tendency to substantially injure 5/ in patent-based cases, as it is the key difference between my determination and that of the majority. Furthermore, I shall discuss the proper scope of domestic industry in patent-based cases because the majority opinion implies that the majority would have reached a different result had its definition of the relevant domestic industry, like mine, followed the traditional Commission approach.

Patent-Based Claims Under Section 337

The vast majority of cases which have arisen under section 337 and its predecessor, section 316, have involved allegations of patent infringement in import trade. While the legislative history of section 337 is sparse concerning patent-based claims, both Congress and the CCPA have subsequently given their stamp of approval to such an application of section 337. 6/

It is interesting to note that it was the Commission and not Congress that first suggested the appropriateness of considering patent infringement an unfair trade practice and accordingly, applying section 316. In a 1919 report

5/ Chairman Alberger and Vice Chairman Calhoun, and thus the majority in this investigation, did not find an "effect," but a "tendency" to destroy or substantially injure. I shall, therefore, concentrate on the standard required to find a "tendency" to destroy or substantially injure.

6/ See McDermid, The Trade Act of 1974: Section 337 of the Tariff Act and the Public Interest. 11 Vand. J. Transnat'l L. 421 (1978) at 424-32; Musrey Tariff Act's Section 337: Vehicle for the Protection and Extension of Monopolies, 5 Law & Pol'y Int'l Bus. 56-61 (1973).

to Congress on unfair import practices, the Commission included an alleged incident of "exploitation of patents" as an instance of an unfair import practice. 7/ Then in a 1929 report to Congress with regard to the proposed reenactment of section 316 in the 1930 Tariff Act, the Commission articulated a view of section 316 as including patent infringement as an unfair act. 8/

At the time of this 1929 report, the Tariff Commission had pending its Synthetic Phenolic Resin investigation. 9/ The domestic complainant had alleged patent and trademark infringement. The Commission found that its jurisdiction under section 316 "is not defeated by the mere fact that the unfair methods or acts . . . arise from violation of rights granted under the patent laws." 10/ Moreover, it stated that its inquiry must include an examination of the validity of the complainant's patent because "there can be no infringement of an invalid patent." 11/

7/ U.S. Tariff Commission, Dumping and Unfair Competition in the United States and Canada's Anti-Dumping Law (1919).

8/ U.S. Tariff Commission, Letter and Report of the United States Tariff Commission (1929).

9/ Synthetic Phenolic Resin of Form C and Articles Made Wholly or in Part Thereof, Investigation No. 316-4 (1927).

10/ Id. at 7.

11/ Id.

In Frischer & Co. v. Bakelite Corporation 12/, the Court of Customs and Patent Appeals ("CCPA") apparently agreed that patent infringement could constitute an unfair act. In so doing, the CCPA emphasized Congress's intention that "unfair methods . . . and acts" include "every type and form of unfair practice."

However, the CCPA reversed the Commission and held that the Commission could not examine the substantive patent law issue of whether the complainant's patent was valid:

If no patents had been in fact issued, or if they had by their terms expired, or if some court of competent jurisdiction, whose judgment would be binding upon the Commission, had held them to be invalid . . . these circumstances might have been considered by the Commission This, however, in our judgment was as far as the Commission could go legally As no denial was made by respondents as to the issuance of the patents in question and no attack made upon them except that they were improvidently issued, they should have been treated as valid by the Commission. 13/

In sum, Bakelite left the Commission in 1930 in the position where the Commission could determine whether patent infringement had occurred under section 316, but not whether a given patent was valid. 14/

12/ 39 F.2d 247 (C.C.P.A. 1930), cert. denied 282 U.S. 852 (1930), hereinafter Bakelite. Commission Investigation, Synthetic Phenolic Resin, supra n. 9.

13/ Id. at 260.

14/ This result was reaffirmed by the CCPA in In Re Northern Pigment Co., 71 F.2d 447 (C.C.P.A. 1934) and in In Re Orion Co., 71 F.2d 458 (C.C.P.A. 1934).

Compounding this problem was the decision of the CCPA in In Re Amtorg Trading Corporation. ^{15/} In this case, the Commission had recommended issuance of an exclusion order under section 337 with respect to articles produced in the USSR by a method infringing the complainant's process patents and then imported into and sold in the United States. The Court reversed the Commission and held that there could be no unfair act because the foreign production which infringed the domestic process patents, even if viewed together with the sale of the foreign-produced merchandise in the United States, was not illegal under the patent laws of the United States. Accordingly, the Commission was left in a position where infringement of product patent rights was cognizable under section 337, but infringement of process patent rights was not. Therefore, while the Commission was still prohibited from determining the validity of a patent, it was now authorized to make another finding under substantive patent law: whether the patent was a product or process patent.

In 1940 and 1974 amendments to the statute, Congress removed the obstacle imposed by the CCPA in the Bakelite and Amtorg cases with regard to the Commission's determination of patent-based cases under section 337.

First, in 1940 Congress added 19 U.S.C. 1337a which explicitly stated that process patents "shall have the same status for the purpose of section 337 . . ." as product patents. ^{16/} This 1940 amendment marked the first time

^{15/} 75 F.2d 826 (C.C.P.A. 1935), cert. denied 296 U.S. 576 (1935), hereinafter "Amtorg," Commission Investigation, Phosphates and Apatite, Investigation 337-3 (1934).

^{16/} Ch. 514, section 337(a), 54 Stat. 724 (1940).

that Congress explicitly approved the Commission's application of section 337 to patent-based cases. 17/

Second, in the Trade Act of 1974, Congress removed the presumption that a complainant's patent is valid by amending section 337(c) to provide that "all legal and equitable defenses may be presented in all cases." As stated in the report of the Senate Finance Committee:

. . . The public policy recently enunciated by the Supreme Court in the field of patent law (cf., Lear, Inc. v. Atkins, 395 U.S. 653 (1969)) and the ultimate issue of the fairness of competition raised by section 337, necessitates that the Commission review the validity and enforceability of patents, for the purposes of section 337, in accordance with contemporary legal standards when such issues are raised and are adequately supported. The Committee believes the Commission may (and should when presented) under existing law review the validity and enforceability of patents, but Commission precedent and certain court decisions have led to the need for the language of amended section 337(c). 18/

In the meantime, the CCPA in 1954 in In Re Von Clemm 19/, had the opportunity to review an affirmative determination by the Commission under section 337 which was based solely on patent infringement. The CCPA affirmed the Commission's decision and, accordingly, laid to rest any argument that the Commission only had jurisdiction of patent claims under section 337 if the patent claim was included with allegations of other unfair acts.

17/ S. Rep. No. 1903, 76th Cong., 3d Sess. 4 (1940).

18/ S. Rep. No. 93-1298, 93d Cong., 2d Sess. 196 (1974). As the Commission's review of validity is "for the purposes of section 337," a finding of validity has no res judicata or collateral estoppel effect in federal courts.

19/ 229 F.2d 441 (1954), hereinafter "Von Clemm." Commission Investigation, Synthetic Star Sapphires and Synthetic Star Rubies, Investigation 337-TA-13 (1954).

This evolution of section 337 patent-based cases began more than fifty years ago in the 1927 Synthetic Phenolic Resin case and the 1929 report from the Commission to Congress. 20/ As a result of this development, there is today no longer any doubt that the Commission may consider the infringement of patent rights involving imported goods as an unfair act under section 337 and that the Commission has the power to determine all substantive patent law questions presented in a given case.

It is important to keep in mind that this historical extension of potential protection available for domestic patentees developed in the context of a trade and not a patent statute. Thus, we must never fail to pay heed to the injury requirements in the law -- that the allegedly infringing imported goods have the effect or tendency to destroy or substantially injure an efficiently and economically operated domestic industry. 21/

Domestic Industry

The bulk of this legal evolution was directed toward the establishment of patent infringement as an unfair act and the attendant jurisdictional problems, rather than toward the important questions of what constitutes the domestic industry and what is the standard of injury. There has, however,

20/ Supra notes 8 and 9.

21/ In the alternative, a complainant may demonstrate, under the "prevent the establishment" clause of section 337, that there is "a readiness to commence production," which is being thwarted by the unfair act. Certain Ultra-Microtome Freezing Attachments, Investigation No. 337-TA-10 (1975) at 10, hereinafter "Freezing Attachments."

been enough attention paid to the question of the definition of the domestic industry to draw a definitive standard to use as a guide in all Commission cases, including this one. As stated by the House Ways and Means Committee,

In cases involving the claims of U.S. patents . . . the industry in the United States generally consists of the domestic operations of the patent owner, his assignees and licensees devoted to such exploitation of the patent. 22/

The Commission in Synthetic Phenolic Resin, the first patent-based investigation, defined the industry to encompass the legal domestic exploitation of the patents in issue. 23/ The Commission, however, recognized the narrowness of that definition and quoted from Revolvers:

In reaching the conclusions here stated, it is hardly necessary to say that we have constantly borne in mind that section 316 is a part of the public law. The unfair methods of competition there declared unlawful must work injury to one or more individual producers, but in view of this statute the effect on the individual is incidental and secondary. For the purpose of section 316 is not to protect complainant's business as such, but to safeguard an industry of the United States. The considerations upon which the machinery of the statute is set in motion must therefore be considerations primarily of a public nature. 24/

The Commission has consistently and repeatedly adhered to the exploitation of the patent definition. In Rotatable Photograph and Card Display Units, the Commission defined the domestic industry as "the patentee" and its component

22/ H. Rep. No. 93-571, 93d Cong., 1st Sess. 78 (1973).

23/ Supra n. 9 at 991-92.

24/ Investigation No. 316-1 (1924), Ninth Annual Report of the Tariff Commission, p. 106.

suppliers to the extent they produce merchandise in accord with the teachings of the . . . patent." 25/

The reasoning of the Commission in Chain Door Locks 26/ is also directly on point. In that investigation there were three patents in issue and the Commission investigative attorney argued that there were two separate domestic industries. The investigative attorney's assertion of two separate industries in Chain Door Locks was based on the domestic licensee of the complainant-patent owner's exploiting only one of the three patents in issue. For this reason, he argued that the facilities of the complainant and its licensees devoted to the production of chain door locks covered by one patent constituted one industry and that the complainant's facilities devoted to producing chain door locks under the remaining two patents was a second industry.

The Commission rejected this position and determined that there was a single domestic industry consisting of the facilities of the complainant and its licensee which were dedicated to the manufacture of chain door locks produced in accordance with any one, or any combination of, the three patents in issue. The Commission pointed out that the three patents in issue were closely

25/ Certain Rotatable Photograph and Card Display Units and Components Therefor, Investigation No. 337-TA-74 at 13 (1980). See also Certain Roller Units, Investigation No. 337-TA-44 (1979); Certain Exercising Devices, Investigation No. 337-TA-24 (1977); Panty Hose, Investigation No. 337-TA-25 (1972); Meprobamate, Investigation No. 337-L-41 (1971).

26/ Investigation No. 337-TA-5 (1976).

related 27/ and that the complainant produced a product manufactured in accordance with all three patents.

In view of the foregoing discussion, it will be shown below that the majority in this investigation has apparently established a definition of an industry at odds with fifty years of Commission precedent -- precedents which were, as noted above, explicitly confirmed by the Congress in 1973. 28/

It was argued during the consideration of this case that the language from the Ways and Means Committee Report was intended by Congress to direct the Commission to a narrow definition of industry in patent-based cases for protectionist purposes and that by analogy it is possible to reach an even narrower definition, that is, a portion of the exploitation of the patents in issue. However, this legislative history is taken from a paragraph which, when read in context, is clearly directed toward confirming then current Commission practice. It is explicit confirmation of the "exploitation of the patent" approach to defining the domestic industry. It is not an expression of Congressional intent that the Commission draw industry definitions in patent-based cases as narrowly as possible.

The novel definition adopted by the majority in this case focuses on the imported article and then, through a like product analysis, limits the definition

27/ Id. at pp. 10-15. U.S. Patent No. 3,161,035 issued to Adamec et al. on December 19, 1974, entitled "Door Chain Lock"; U.S. Patent No. 3,275,364 issued to B.A. Quinn on September 27, 1966, entitled "Chain-Type Safety Door Lock"; U.S. Patent No. 3,395,556 issued to R. W. Waldo on August 6, 1968, entitled "Door Chain Lock" and purported to be an improvement in door chain locks of the Adamec patent type.

28/ Supra n. 22.

of the industry to a portion of the exploitation of the patents in issue. This takes what was an already artificial and rarefied definition of the term "industry" -- which was adopted to make a patent-based jurisdiction viable under section 337 -- and extends it beyond any reasonable interpretation.

The facts in this investigation show that prior to the submission of its prehearing statement and proposed findings of fact to the ALJ, Beloit had consistently alleged an effect or tendency to substantially injure an industry that exploited both its patents by the manufacture and sale of both the Converflo single layer and the Strata-flo multilayer headboxes. 28a/ In the complaint and throughout the entire discovery phase of the proceeding, Beloit supplied data concerning its manufacture and sales of both Converflo (single-ply) and Strata-flo (multi-ply) headboxes in connection with allegations and discovery requests relating to the exploitation of both of the patents in issue.

The ALJ found, and the majority agrees, that multi-ply headboxes represent a distinct market. Then looking to the imported product (multi-ply headboxes), the ALJ and the majority defined the domestic industry for purposes of this investigation as that portion of the complainant's operations dedicated to the production of a product like the imports. However, even as the ALJ attempts to make his industry argument, he contradicts himself by evoking the traditional, Congressionally confirmed definition of industry:

The legislative history of Section 337 evinces an intention, in patent-based cases, to define the relevant domestic industry as the domestic operations of the patentee, and its assignees and licensees, that are dedicated to the exploitation of the patents in issue. (emphasis added)

The nature of this investigation, and all patent-based Section 337 cases, is to narrow the focus to the

28a/ In fact, one form of the KMW multi-layer headbox can be utilized to produce single-ply paper. Transcript of oral arguments, p.99

economic effect on the legally protected monopoly of the valid patent holder. 29/

The ALJ's discussion goes on to state:

There was nothing in the /1979/ Copper Rod decision to indicate any divergence by the Commission from its traditional concept of what constitutes a domestic industry. 30/

However, looking at Copper Rod 30a/ is helpful for demonstrating how the majority's departure from the traditional method of defining the industry will further attenuate what is an already difficult analysis in patent-based cases, viz., the determination that the domestic industry is "efficiently and economically operated."

As the ALJ points out, in Copper Rod the alleged unfair acts involved an entire system and not, as here, a separable portion of a system. 31/ Thus, in Copper Rod, the Commission was able to consider data which covered operations with a close correlation to the industry as defined and data for a broader industry which was capable of allocation by accepted accounting standards to the narrower industry.

In this case, even with the traditional definition of industry, we are faced with a small portion of an operating division -- Beloit's Papermaking Division (PMD) -- which sells a variety of custom-made papermaking machinery. 31a/

29/ Recommended Determination, pp. 108-09.

30/ Id. at 109. See Certain Apparatus for the Continuous Production of Copper Rod, Investigation No. 337-TA-52 (1979).

30a/ I note that Copper Rod was not a purely patent-based case.

31/ Recommended Determination, p. 109.

31a/ Recommended Determination, Findings of Fact 2, 213; 204-205, 260.

Almost all of both types of the patented headboxes are sold as components of new papermaking machines, new wet-ends and machine rebuilds. 31b/ All parties agree that dissection of PMD data for allocation to the industry in this investigation is impossible.

Therefore, we are by inference finding a portion of an operation to have the same level of efficient and economic operation as the entire operation. 32/ This is a necessary judgment for the Commission to make in patent-based 337 cases where we have this narrow definition of industry.

In Certain Centrifugal Trash Pumps, Commissioner Alberger, in finding that the domestic industry was efficiently and economically operated, stated:

Some of the evidence summarized above is based upon complainant's non-patent operations as well as their patent production. While this might not accurately reflect the true state of /complainant's/ patent-based production, I think it would be unduly burdensome to require a complete breakdown of financial data. If a complainant can show an overall efficient and economical business, the burden should shift to respondent to demonstrate that the patent operation is an exception -- particularly where patent-based production has been as profitable as other components of the overall operation. We must not allow our restrictive definition of industries in patent-based cases to make it impossible for a complainant to show he is efficiently and economically operated. Our requirements of proof on these matters must comport with business realities. 33/

I agree with Commissioner Alberger's point of view. Unfortunately, further narrowing the definition of the industry, as the majority has in this case, turns a necessary analytic fiction into a nightmare.

In this investigation, there is an overall operation which is efficiently and economically operated, and there are no strong contrary inferences that the industry defined by the exploitation of the patents is having an experience different from that of the overall operation. 33a/ However, the Commission must

31b/ Recommended Determination, Findings of Fact 204, 260.

32/ See Pump Top Insulated Containers, Investigation No. 337-TA-59 (1979).

33/ Investigation No. 337-TA-43 (1979) at 23.

33a/ See Recommended Determination, pp. 110-11, Findings of Fact 205, 212, 216-29, Conclusion of Law 7.

realize that as it defines "industry" more narrowly and reaches smaller units far below a size for which business realities would require accounting data, the burden on the respondent will become unreasonable and the Commission's determination of efficient and economic operation will become little more than guesswork.

For the above reasons, I find an efficient and economically operated domestic industry consisting of that portion of the PMD of Beloit involved in the exploitation of both patents in issue.

Injury

The above discussion of industry in this investigation directly relates to the injury question since the majority's move from the traditional definition of industry to its newly enunciated definition also moves the import penetration ratio from a de minimus level to one worthy of note. However, even with the higher import penetration ratio figure relied on by the majority, a close analysis reveals that the unfair acts in this investigation do not have "the effect or tendency . . . to destroy or substantially injure . . ." a domestic industry.

Preliminarily, it should be noted that the Commission does not and should not require that precise quantitative standards be applied exactly the same in all cases in order to satisfy the injury requirement under section 337. The Commission has quite properly taken a case-by-case approach in examining the evidence of injury. It examines many economic considerations in every investigation 34/ and decides the weight to be given each factor based on the nature of the industry involved. 35/

34/ See, e.g., Meprobamate, Investigation No. 337-L-41 (1971); Convertible Games Tables, Investigation No. 337-34 (1974); Certain Rotatable Photograph and Card Display Units and Components Thereof, Investigation No. 337-TA-74 (1980).

35/ See, e.g., In-the-Ear Hearing Aids, Investigation No. 337-20 at 23-24 (1966); Certain Surveying Devices, Investigation No. 337-TA-68 at 34 (1980).

However, there are some general guidelines which have correctly been followed by the Commission in interpreting the injury clause under section 337. These guidelines have arisen from administrative and judicial interpretations for making the prospective injury finding which can be made to satisfy section 337 -- "tendency" -- to cause substantial injury.

The seminal decision in this area is that of the CCPA in Von Clemm.^{36/} Because of the importance of this case in defining the injury standard under section 337, and the prevalent misunderstanding of its findings as reflected in the majority opinion in this case, it seems imperative for the Commission to reexamine the majority and dissenting views stated over fifty years ago in both the Commission and CCPA decisions.

In the majority opinion in Synthetic Stars ^{37/}, the Commission investigation out of which Von Clemm arose, three of the Commissioners pointed out that the complainant had made a substantial investment in research and development for the patented item and had conducted a "careful sales program" which "created a public demand" for its product, and that its "future operations will be successful, if not impaired by unfair import competition." ^{38/} Moreover, they found that the merchandise infringing the patented article had been "imported in ever-increasing quantities" for several years, was "entering in substantial quantities," and was "sold at prices lower than the prices at which" the complainant sold the patented item. ^{39/} From these circumstances, the Commission concluded that the injury clause of section 337 was satisfied. In affirming this decision, the CCPA characterized the injury as follows:

^{36/} Supra n. 19.

^{37/} Id.

^{38/} Id. at 20-21.

^{39/} Id. at 21.

While the record does not show that complainant has as yet been substantially damaged by Von Clemm's action, in our opinion it sufficiently supports the holding that such actions have a tendency to injure substantially . . . within . . . section 337 40/

A dissent was submitted by two of the Commissioners in Synthetic Stars and by two of the judges in Von Clemm. In the dissent in Synthetic Stars, it was argued that an "effect" to substantially injure required an injury "so substantial as to be severe, i.e., such as to jeopardize the continued existence of the industry," 41/ and that "any tendency" to destroy or substantially injure "must be sufficiently pronounced so as to constitute an imminent threat of severe injury such as would jeopardize the continued existence of the industry." 42/ In arguing that the injury requirement of section 337 was not satisfied, the dissenters pointed to the fact that the complainant had been experiencing increased sales and profits with respect to the patented articles. The dissenters in Von Clemm argued that "tendency . . . to . . . substantially injure" meant "a crippling injury, one which verged on the brink of destruction, rather than, as here indicated, a mere competitive nuisance."

From this reexamination two important points are apparent. First, the majority opinions in both Synthetic Stars and Von Clemm opt for a lower threshold of injury, but that lower threshold was relative to the imminent threat to survival threshold argued for by the dissenting opinions. This threshold -- lower than "crippling" -- has continued as Commission precedent.

40/ Von Clemm, supra n. 19 at 445.

41/ Synthetic Stars, supra n. 19 at 41.

42/ Id. at 41-42.

Second, the Von Clemm majority, by implication, also established another important proposition: lost sales that are conceivable in the future can support a Commission determination of tendency to substantially injure. That is not to say that any conceivable lost sale always establishes a tendency to injure. Rather, the Commission in looking at all of the economic factors relative to an industry under investigation may make the judgment that conceivable lost sales of a sufficient quantity and with a sufficient certainty of occurrence support a finding of tendency to substantially injure.

In the first Commission cases which included a discussion of Von Clemm, the Commission explicitly cited the Von Clemm majority favorably and explicitly rejected the Von Clemm minority as to the injury standard. More specifically in Furazolidone 43/, the concurring opinion of two Commissioners included the following rejection of the Von Clemm minority view:

The injury test urged by respondent and by the dissent herein has been implicitly disapproved by our reviewing court in In re Von Clemm, and that ruling is binding on the Commission. The point was vigorously argued . . . by the dissenting judge /in/ In re Von Clemm . . . but it did not prevail 44/

* * *

But the Commission should not adopt such a restrictive injury test even if it were free to do so. It would be repugnant to both law and reason to hold that a method of competition is unfair, but that it should be permitted to continue because, despite the injury it is causing the victim, he is still able to survive. If . . . adopted, it is doubtful that relief could ever be granted under section 337 because rarely will a single unfair act . . . have the effect of destroying an industry. 45/

43/ Investigation No. 337-21 (1969).

44/ Id. at 36.

45/ Id. at 37.

Four years after the Furazolidone decision, the House Ways and Means Committee indicated its approval of the Von Clemm majority view as to conceivable lost sales. In the Committee's report on the bill which became the Trade Act of 1974, it stated the following:

As in the past, the Commission would make its determination in cases involving the claims of a U.S. patent following the guidelines of Commission practices and the precedents of the CCPA Where unfair methods and acts have resulted in conceivable losses of sales, a tendency to substantially injure such industry has been established. (cf., In re Von Clemm, 229 F.2d 441 (CCPA 1955)) 46/

This paragraph is clearly directed toward confirming then current Commission practice which was enunciated in Von Clemm, that conceivable lost sales may be used as one factor in determining the existence of tendency to substantially injure. It is not an expression of Congressional intent that any conceivable lost sale establishes a tendency to substantially injure.

Since the Trade Act of 1974, the Commission has continued to cite Von Clemm in utilizing "the principle of conceivable lost sales," in conjunction with the requirement of showing probable adverse economic indicators by the complainant in order to establish a tendency to substantially injure.

For example, in Expanded Unsintered Polytetrafluoroethylene in Tape Form 47/, the Commission states:

46/ H. Rep. No. 93-571, 93d Cong., 1st Sess. 78 (1973).

47/ Investigation No. 337-TA-4 (1976).

* * * /Complainant/ excepts to /the findings of fact/ on the grounds that although the 1974 Trade Act (Public Law 93-618) retained the wording of the injury standard under former section 337, language in the report of the Committee on Ways and Means suggests that the standard is lower than a tendency . . . to destroy or substantially injure. We disagree and would therefore adopt /the ALJ's/ position. In citing the decision of the Court of Customs and Patent Appeals, we believe the Committee signaled that existing standards were to remain in effect, even though they paraphrased language from the decision In re Von Clemm, 229 F.2d 441 (C.C.P.A. 1955) that might be construed to describe an even lower standard than tendency to destroy or substantially injure. (emphasis added) 48/

In Certain Thermometer Sheath Packages 49/, the Commission reached the following conclusion:

While the specific instances of lost sales are few, their presence combined with the clearly superior marketing ability of respondents strongly supports a finding of a tendency to substantially injure. Further, complainant persuasively argues that because specific lost sales are difficult to identify since /complainant/ primarily sells to dealers who are directly competing with respondents, the overall picture of declining profitability is the important factor because it represents the lost sales to dealers who are in turn losing sales to respondents. 50/

48/ Id. at 18.

49/ Investigation No. 337-TA-56 (1979).

50/ Id. at 27.

Further, it is instructive to consider two cases in which the Commission determined that there was no tendency to substantially injure. First, in Certain Combination Locks 51/, the complainant showed that its domestic sales had declined, that foreign capacity to produce the infringing merchandise was substantial, and that such imports were priced lower than the complainant's product. The Commission, noting that total sales had increased, stated the following:

Evidence of foreign capacity even if coupled with a large U.S. market does not show a tendency to injure absent a strong showing that foreign manufacturers intend to direct their capacity toward penetrating the U.S. market. Such evidence of intent to penetrate the U.S. market could consist of outstanding orders or offers to sell in the United States or the existence of past importers in the United States which have demonstrated an intent to continue importing
Underselling in the absence of evidence of significant import penetration, lost sales, decline in profit, and so forth is not indicative, in our view, of the requisite effect of substantially injuring or tendency to substantially injure. (emphasis added) 52/

51/ Investigation No. 337-TA-45 (1979).

52/ Id. at 11.

The other case in which the Commission determined there was no injury under section 337 was Certain Attache Cases. 53/ Here the Commission emphasized that there was only one known shipment of infringing goods, which had occurred two years prior to the investigation, and that there was no other showing of any other import or sale.

The foregoing cases indicate that a domestic producer attempting to demonstrate the existence of a tendency to substantially injure must have some positive evidence that the unfair acts, if allowed to continue, will cause substantial injury in the foreseeable future.

Finally, in the Dissenting Opinion of Chairman Alberger and myself in Surveying Devices 54/, we anticipated what in effect the majority has done in this investigation regarding tendency:

We do not believe that the principle of "conceivable lost sales" enunciated in In Re Von Clemm dictates a finding of "tendency" to substantially injure. Although legislative history suggests a low threshold with respect to the "tendency" language of §337, the draftsmen never meant to permit findings based on purely hypothetical injury. There must be some positive evidence that the unfair acts, if allowed to continue, will cause substantial injury in the foreseeable future. If we were to find a "tendency" in this case, the Commission would be forced to render affirmative determinations each time there was a handful of lost sales and a hypothetical possibility of imports increasing, even if all other relative criteria the Commission normally examines pointed away from a showing of injury. 55/

53/ Investigation No. 337-TA-49 (1979).

54/ Investigation No. 337-TA-68 (1980).

55/ Id. at 44-45.

Before turning to the facts in this investigation, one additional point needs to be made: the majority in Surveying Devices 56/ misinterpreted the Senate Finance Committee report on the bill that became the Tariff Act of 1922 57/ in order to support their extremely low threshold of injury with respect to tendency to substantially injure, and it appears that the majority in this case is relying on the same misinterpretation. 57a/ The Finance Committee language reads:

The provision relating to unfair methods of competition in the importation of goods /section 316/ is broad enough to prevent every type and form of unfair practice and is therefore a more adequate protection to American industry than any antidumping statute the country has ever had. 58/

56/ Supra n. 54.

57/ U.S. Senate, Committee on Finance, Report to Accompany H.R. 7456; S. Rept. No. 595, 67th Cong., 2d Sess. (1922).

57a/ But see Welded Stainless Steel Pipe and Tube, Investigation No. 337-TA-29 (1978). That case is distinguishable from the one before us in that it involved the tendency to restrain or monopolize commerce in the United States. The incipency doctrine discussed there related to restraint of trade with parallels drawn to section 5 of the Federal Trade Commission Act of 1914. However, under section 337, when an unfair act is found in its incipency, there must still be a showing that it will, if allowed to continue, cause substantial injury or restrain trade and commerce in the foreseeable future. In fact, the Commission in Welded Stainless Steel Pipe and Tube found positive evidence that the unfair acts, if allowed to continue, "could result in full blown restraints of trade." Also, Certain Apparatus for the Continuous Production of Copper Rod, Investigation No. 337-TA-52 (1979). That case is clearly distinguishable from the one before us. There, the complainant had lost substantial profits and employment due to the imports. There was even evidence that the complainant might have completely lost the U.S. market. There was also positive evidence of the probability of imminent future sales with each sale representing a substantial portion of the market.

58/ Supra n. 57 at 3.

This passage relates to the broad range of unfair acts intended to be covered by the law. It does not relate to the threshold which may be required to establish a tendency to substantially injure. The correct interpretation becomes clear when read with the contemporaneous remarks of Senator Smoot, a well known authority in this area. These remarks, delivered on the floor of the Senate in the course of debate on the proposed section 316, are a paraphrase of the Committee's language:

We have in this measure an antidumping law with teeth in it -- one which will reach all forms of unfair competition in importation. This section (316) not only prohibits dumping in the ordinary accepted meaning of that word; that is, the sale of merchandise in the United States for less than its foreign market value or cost of production; but also bribery, espionage, misrepresentation of goods, full-line forcing, and other similar practices frequently more injurious to trade than price cutting. 58a/

In sum, any reading of section 337 which tries to read out of the statute the requirement for a legitimate domestic industry and a genuine injury determination is contrary to the clear meaning of the statute and Commission precedent. Any unfair act, regardless of its heinousness, is not reachable under section 337 unless its effect or tendency is to cause substantial injury to a U.S. industry.

Injury in this Investigation

In this particular investigation, there can be no showing of injury absent a standard which is so low as to be non-existent.

My analysis of the facts will proceed by first examining the validity of complainant's arguments on the indicators of injury, in order to show that in fact the indicators reveal no injury. Then, I shall focus on the relationship in time between the two lost sales and each of the alleged indicators of injury to show that no causal relationship exists. Finally, I shall discuss the lack of positive evidence that the unfair acts, if allowed to continue, will cause substantial injury in the foreseeable future.

The Indicators

There has been no loss in employment. During the period from July 1977 to July 1980, when KMW was soliciting orders in the United States for machines and rebuilds containing the infringing headboxes 58b/, PMD's total employment increased by percent. 59/ Between July 1977 and May 1980, PMD's manufacturing labor force increased by about percent, and its total employment increased by about percent. 60/

58b/ Recommended Determination, Finding of Fact 264.

59/ Respondent's Exhibit 9.

60/ Id.

Although PMD released 42 contract draftsmen between 1978 and 1980, 60a/ it increased its own payroll staff of engineers and draftsmen by 60b/ between July 1978 and June 1980. Moreover, as to the contract draftsmen, the head-box parts of the Scott orders represented not more than of direct engineering labor (engineering and drafting). 61/ Obviously that loss did not cause PMD to release about per annum of drafting labor. So, the element of causation is lacking, and the potential "loss" of labor (the 42 draftsmen) is exaggerated.

Further, the element of causation is totally lacking as regards the threat of reduced employment due to the decline in orders in 1980. 62/ Obviously, the two sales made by KMW in 1979 had nothing to do with the decline in PMD's orders one year later, in 1980.

Also of note in working with these figures is the problem of allocating financial data of PMD to a smaller industry, discussed earlier in relation to the finding of an efficient and economically operated industry. The only evidence in the record even remotely supporting a finding of reduced employment due to imports is (1) the undocumented and self-interested speculation of PMD's manager to the effect that if the level of orders being placed in 1980 do not pick up, PMD may have to lay off people in 1981 63/, and (2) the release of these 42 contract draftsmen since March 1978 64/, which I demonstrated above to be weak evidence.

60a/ Recommended Determination, Finding of Fact 242.

60b/ Respondent's Exhibit 9.

61/ Recommended Determination, Finding of Fact 252, Exhibit A to Answers to Investigative Attorney's Interrogatories.

62/ Recommended Determination, Finding of Fact 252. See infra n. 76.

63/ Id., Transcript of Evidentiary Hearing at 98.

64/ Recommended Determination, Finding of Fact 242.

KMW's sales have not caused Beloit's prices to erode. Beloit's data 65/ show that the average price per inch of slice opening for Beloit patented headboxes has increased from about _____ for shipments in fiscal 1979 to about _____ for 1980 shipments, and to about _____ for booked orders not yet shipped. Thus, in just two years, Beloit's prices for its patented headboxes have increased on average about _____ percent. 66/

Although Beloit's PMD claimed losses on the headbox sections of orders booked in 1977 and 1978, it has made or projects profits on the headbox sections of orders booked in 1979, the year when the Scott machine orders were placed with KMW. 67/ Again, there is no causal link to any possible injury.

Significantly, also in 1979, PMD's plant was idled by a strike that lasted the entire fourth fiscal quarter and reduced profits by about _____

68/ But for the strike, PMD's return on shareholder investment in 1979 would have been roughly _____ percent, about _____ the average return on investment of all companies in the Fortune 500 and about _____ the average of PMD's customers, the paper, fiber and wood products industry. Even with the strike, PMD's return on investment was _____ percent. 69/ In fact, for all fiscal years 1975-79 Beloit's earnings, considered on a return-on-investment basis, have been far higher than the average for all industries in the Fortune 500 and the average for Beloit's customers. The

65/ Supra n. 59.

66/ Respondent's Exhibit 26, Table 1, at 3-5 and Table 2, at 10.

67/ Supra n. 59 and 66. See Recommended Determination, Finding of Fact 250; Complainant's Exhibit 46; Transcript of Oral Arguments, at 39.

68/ Respondent's Exhibit 19.

69/ Respondent's Exhibit 14 at 19.

profit picture demonstrates no indication of injury. There is, of course, some specific loss of profit on a lost sale, but unless that specific loss is related to the current condition of the industry it is not an indicator of injury.

Turning to possible injury from a reduction in backlog, we find that at the time that KMW booked the two Scott orders, PMD was operating at full capacity with a substantial backlog of orders. 70/ It is important to note that also during this period PMD was experiencing scheduling problems that had resulted in a serious erosion of its market place credibility for on-time delivery. 70a/

In the circumstances of a sharply rising backlog in fiscal years 1976 to 1978 when PMD's shipments were falling, presumably because of scheduling problems, PMD subcontracted about _____ labor manufacturing hours of work to domestic subcontractors and about _____ labor manufacturing hours to its foreign affiliates and licensees in both 1978 and 1979. 71/ The direct manufacturing labor that was subcontracted amounted to nearly _____ PMD's in-house direct manufacturing labor capacity of _____ hours per year 72/, and foreign manufacturing subcontracts alone amounted to about _____ of domestic manufacturing capacity (measured by direct manufacturing labor hours) in 1978 and 1979.

The extensive foreign subcontracting of domestic orders included _____ of the _____ patented headboxes included in orders placed with Beloit by domestic customers in calendar years 1978 and 1979, and these were or will be manu-

70/ Respondent's Exhibit 14; Respondent's Exhibit 19 at 89-92; Recommended Determination, Finding of Fact 241.

70a/ Respondent's Exhibit 17E; Recommended Determination, Finding of Fact 222.

71/ Transcript of Evidentiary Hearing at 193.

72/ Id. at 192.

factured by Beloit's Canadian and Italian affiliates and its Japanese licensee. 73/
Between 1977-80 Beloit shipped or had on order headboxes covered by patents
'269 and '593. Of these, have been or will be produced at Beloit's domestic
facility (PMD), have been or will be manufactured at facilities of Beloit's
foreign affiliates 74/, and the location where will be manufactured is
unknown. In effect then, Beloit has imported or will import of all
its headboxes destined for domestic customers since 1977. In terms of value
of shipments, Beloit imported or will import of all headboxes
shipped or on order since 1977. 74a/

During Beloit's fiscal year ending September 30, 1979, Beloit received
orders for its patented headboxes valued at , and of this amount
Beloit's foreign affiliates were given subcontracts for ., or
of total headbox orders received. 74b/

Any orders booked with KMW during the booking peak in 1977-79 75/
did not injure the domestic industry, and complainant was unable to demonstrate
that even in a slow bookings period that this level of lost sales would injure
the domestic industry. In fact, counsel for the complainant admitted that the

73/ Supra n. 66.

74/ Respondent's Exhibit 14, Table 1, at 3-5.

74a/ The total price of the headboxes that have been or will be produced
at PMD between 1977-80 amounts to , the total price of the head-
boxes that have been or will be produced at Beloit's foreign affiliates between
1977-80 amounts to ^ . The total price for all of the headboxes
to be made at a site yet to be designated amounts to , and the price
of one headbox is unstated (undetermined). See Respondent's Exceptions to the
Recommended Determination at 75.

74b/ Respondent's Exception to the Recommended Determination at 76.

75/ Complainant's Exhibit 45.

present reduction in the backlog is caused by the current economic slowdown. 76/

The cyclical nature of the papermaking machinery market and the need for Beloit PMD to subcontract the manufacture of domestic orders to its foreign affiliates and licensees during the peaks of the cycles means that there will inevitably be times in the future when Beloit's domestic orders will again be subcontracted abroad. PMD was unable to demonstrate satisfactorily that it could have filled the two 1979 Scott machine orders placed with KMW by domestic production without subcontracting an equivalent amount of work abroad in view of its large backlog and its heavy reliance on production capacity when those orders were placed. 77/

Lost Sales

A close look at the two lost sales which did occur shows that these did not in fact cause Beloit to lose its customer since Scott ordered a patented headbox and other equipment from Beloit almost contemporaneously with the placing of its orders with KMW. 78/ Further, although KMW has been soliciting orders for infringing machines and rebuilds since 1977, KMW has made no other sales in the United States. This solicitation has been at a constant rate during the period of the investigation; there has been no increase in intensity during the most recent period. In fact, since the 1979 date of the lost sales, while KMW has received no orders for infringing headboxes from U.S. customers, Beloit has received orders for new machines

76/ Supra n. 68 at 163-4. Bookings for years 1971 and 1972 were extremely depressed due to a high level of papermaking industry investment in pollution control equipment which diverted industry resources from new papermaking machinery. Bookings then rose sharply in 1973 and 1974, spurred by pent-up demand. When the '74-'75 recession came along, bookings fell sharply. From '76 to '79, the level of booked orders again rose, as did the general economy. Early in 1980, the 20 percent prime rate and years of recession virtually stopped new orders. See generally Recommended Determination, Findings of Fact 246-249.

77/ Supra n. 66; Recommended Determination, Findings of Fact 210, 263.

78/ Transcript of Evidentiary Hearing at 169.

and rebuilds that include its patented headboxes and/or for replacement headboxes for existing papermaking machines. 79/

Import penetration has been only approximately 1.5 percent, based on a comparison of the dollar value of comparable orders taken by Beloit and KMW. 80/ Beloit's domestic bookings for machines, rebuilds and replacements in exploitation of the Converflo and Strata-flo patents have totalled about _____, while KMW's two orders from Scott for allegedly infringing machines totalled only about _____.

Even if one uses the definition of the industry adopted by the majority, and therefore finds a higher import penetration ratio, the above analysis still demonstrates that any potential injury cannot be attributed to these lost sales. The traditional indicators of injury and the causal nexus with the two lost sales were lacking regardless of the level of import penetration. KMW has not received any orders for the infringing apparatus since March 1979 and there is nothing in the record in this proceeding, other than self-interested speculation of the complainant's witnesses 80a/, that might indicate that KMW's level of penetration into the domestic market will continue or increase. 81/

79/ Supra n. 66 at 3-5; Recommended Determination, Finding of Fact 266. This statement covers events through October 1, 1980.

80/ Supra n. 66.

80a/ Recommended Determination, Findings of Fact 252, 264; Transcript of Evidentiary Hearing at 98.

81/ This case is distinguishable from the recent case of Inclined Field Acceleration Tubes, Investigation No. 337-TA-67 (1980), where the Commission found both an effect or tendency to injure, but determined that public interest factors precluded the imposition of a remedy. In addition to substantial lost sales, the complainant had lost customers to the respondent with a likely replacement market. There was a very limited demand, and the complainant was able to expand capacity quickly and easily to meet it. The respondent was also able to expand to meet future demand and the Commission found that the respondent would have no difficulty maintaining its significant share of the domestic market, a situation clearly different from the one in the investigation before us.

Conclusion

Having considered the ALJ's recommended determination, the record developed in this investigation, including the oral arguments before the Commission, and the written submissions; and finding no indication of an effect or tendency to substantially injure an efficient and economically operated domestic industry, I determine that there is no violation of section 337 of the Tariff Act of 1930 in the importation and sale of certain headboxes and papermaking machine forming sections, and components thereof. This determination is based on the "exploitation of the patent" definition of industry as explicitly approved by Congress and based on the properly interpreted standard for tendency to substantially injure -- less than "crippling" -- derived from Von Clemm. To have made any other determination would have had the effect of reading the injury requirement out of the law.

APPENDIX I

Claim 1 of the '269 patent reads:

In a headbox for delivering stock to a forming surface, the headbox having a slice chamber and a slice opening, the improvement comprising a plurality of trailing elements positioned in the slice chamber, each of said elements extending transversely of said headbox from pondside to pondside, means anchoring said elements only at their upstream ends at locations spaced generally perpendicular to the stock-flow stream with their downstream portions unattached and constructed to be self-positionable so as to be solely responsive to forces exerted thereon by the stock flowing towards the slice. (Emphasis in original).

Claim 12 of the patent reads:

In a headbox for delivering stock to a forming surface, the headbox having a slice chamber and a slice opening, the improvement comprising a trailing element positioned in the slice chamber, said element extending transversely of said headbox from pondside to pondside, means anchoring said element only at its upstream end with its downstream portion unattached and constructed to be self-positionable so as to be solely responsive to forces exerted thereon by the stock flowing towards the slice. (Emphasis in original).

Claim 14 of the '269 patent reads:

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nvestigation

In a headbox for delivering stock to a forming surface, the headbox having a slice chamber and a slice opening, the improvement comprising a rigid member positioned in the slice chamber, said member projecting downstream generally in the direction of stock flow, means supporting said member only at its upstream end and trailing elements attached to the downstream end of said member, said elements being attached to said member only at their upstream ends with their downstream portions unattached and constructed to be self-positionable so as to be solely responsive to forces exerted thereon by the stock flowing towards the slice.

Claims 15 and 16 of the '269 patent read:

15. In a headbox for delivering stock to a forming surface, the headbox having a slice chamber and a slice opening, the improvement comprising:

perforate walls means mounted in said slice chamber transversely of said slice chamber and located in an upstream portion of said slice chamber,

a plurality of rigid plates,

means for attaching the upstream ends of said plates to said wall means,

said plates extending transversely of said headboxes from pondside to pondside and projecting downstream generally in the direction of stock flow,

and trailing elements attached to the downstream ends of said plates, said elements being attached to said plates only at their upstream ends with their downstream portions unattached and constructed to be self-positionable so as to be solely responsive to forces exerted by the stock flowing towards the slice.

16. The structure of claim 15 wherein said elements are in the form of sheets extending transversely of said headbox.

Claim 22 of the '269 patent reads:

In a headbox for delivering stock to a forming surface, the headbox having a slice chamber and a slice opening, the improvement comprising:

perforate all means mounted in said slice chamber and located in an upstream portion of said slice chamber,

a rigid plate,

means for attaching the upstream end of said plate to said wall means,

said plate extending transversely of said headbox from pondside to

pondside and projecting downstream generally in the direction of stock flow,

and a trailing element attached to the downstream end of said plate,

said element being attached to said plate only at its upstream end with its downstream portion unattached and constructed to be

self-positionable so as to be solely responsive to forces exerted

thereon by the stock flowing towards the slice.

APPENDIX II

Claim 1 of the '593 patent reads:

Incontested
in the
investigation

In a machine for making a multi-ply web such as a paper from stocks having a slurry of fibers in a liquid carrier, the combination comprising

a headbox having a lower wall and an upper wall;

a slice chamber connected to the headbox having a lower slice wall and an upper slice wall being extensions of the headbox walls, one of said slice walls being pivoted at its upstream edge with said slice walls tapered toward each other and terminating in a slice opening;

flow divider plates in the headbox extending completely across the headbox in the direction of flow and dividing the headbox into separate stock chambers;

separate stock supply means to each of said chambers for delivering stocks of different physical characteristics;

flexible sheet members in the slice chamber secured at their upstream ends in alignment with the plates with their downstream ends being unattached and extending to the slice opening whereby the stocks of the separate chambers do not intermix and remain separate for the full travel onto the forming surface and the pressure of the stock flows on opposite sides of said sheet members remains equal for uniform velocity flow at the slice opening;

and a forming surface positioned to have stock discharged thereon from the slice opening.

Claim 2 of the '593 patent reads:

Incontested
in the
investigation

In a machine for making a multi-ply web such as a paper from stocks having a slurry of fibers in a liquid carrier constructed in accordance with claim 1:

wherein the forming surface is formed of a pair of looped traveling forming wires with guides therein arranged to form a forming throat into which the stock is discharged followed by a forming run.

Claim 4 of the '593 patent reads:

In a machine for making a multi-ply web such as a paper from stocks having a slurry of fibers in a liquid carrier, the combination comprising:

a foraminous forming surface for receiving a liquid stock and dewatering the stock;

a headbox having a slice chamber formed by slice walls terminating in slice lips which form a slice opening for directing a jet stream onto the forming surface; said slice lips extending substantially the same distance toward said surface; said headbox also having a preslice chamber immediately upstream of the slice chamber; a first rigid partition extending across said preslice chamber dividing the preslice chamber into multiple stock chambers;

a second partition extending across said slice chamber forming a continuation of said first partition and dividing the slice chamber into multiple stock chambers to extend to the slice opening; said second partition being supported only at its upstream end with its downstream portion unattached and constructed to be self-positionable so as to be responsive to forces exerted thereon by the stock flowing toward the slice so that the stocks from the multiple chambers exit through the slice opening at uniform velocity;

and means for supplying stocks of different characteristics to each of said multiple stock chambers in the preslice chamber.

Claim 5 of the '593 patent reads:

In a machine for making a multi-ply web such as a paper from stocks having a slurry of fibers in a liquid carrier constructed in accordance with claim 4:

wherein said forming surface is comprised of a first looped traveling forming wire and a second looped traveling forming wire;

and guide means within said wires guiding the wires to provide a forming throat receiving stock from said slice followed by a forming run between the wires.

Claim 6 of the '593 patent reads:

In a machine for making a multi-ply web such as a paper from stocks having a slurry of fibers in a liquid carrier constructed in accordance with claim 4:

including a third partition extending across said preslice chamber so that the headbox is divided into at least three stock chambers comprising two outer chambers and one intermediate chamber and including a fourth partition being a continuance of the third partition which extends to the slice opening and is self-positioning.

