CERTAIN MACHINE NEEDLES

Report to the President on Investigation No. TA-201-38 Under Section 201 of the Trade Act of 1974

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UNITED STATES INTERNATIONAL TRADE COMMISSION

COMMISSIONERS

Joseph O. Parker, Chairman
Bill Alberger, Vice Chairman
George M. Moore
Catherine Bedell
Paula Stern

Kenneth R. Mason, Secretary to the Commission

This report was prepared by
Larry E. Reavis, Investigator

assisted by
Wallace McMillen, Office of Industries
Wallace Fullerton, Office of Economic Research

John M. MacHatton, Supervisory Investigator

Address all communications to
Office of the Secretary
United States International Trade Commission
Washington, D.C. 20436

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CONTACT: Hal Sundstrom
(202) 523-0161

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USITC UNANIMOUSLY DETERMINES MACHINE NEEDLE IMPORTS ARE NOT A SUBSTANTIAL CAUSE OF SERIOUS INJURY TO THE DOMESTIC INDUSTRY

The United States International Trade Commission today reported to the President its unanimous determination, by a 5-to-0 vote, that imports of machine needles are not a substantial cause of serious injury, or the threat thereof, to the domestic industry.

Concurring in the determination were Chairman Joseph O. Parker, Vice Chairman Bill Alberger, and Commissioners George M. Moore, Catherine Bedell, and Paula Stern.

The investigation was instituted by the Commission on August 25, 1978, under the authority of section 201 of the Trade Act of 1974, following receipt of a petition filed by The Torrington Co., Torrington, Conn.

The investigation was undertaken to determine whether needles for machines for making nonwoven or nonknit fabrics; needles for knitting, embroidery, and other textile machines; and needles for sewing machines, except sewing machines designed for household use, are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles.

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Small and made of steel, machine needles are vital parts of certain machines used in manufacturing or decorating textiles, or in joining textiles or other types of material together. At least four domestic firms produce one or more types of machine needles. The largest firm, The Torrington Co., which has needle-manufacturing plants in several countries and accounts for the bulk of total U.S. production, and the Laconia Needle Manufacturing Co., Laconia, N.H., are among the largest importers of machine needles in the Unite States. Altogether, approximately 200 firms imported machine needles in 1977. Less than 10 of these firms, including the 2 U.S. producers, account for more than half of all imports.

Most of the imported machine needles are produced in West Germany and Japan. Worldwide, excluding the U.S. and non-market economy firms, there may be as many as 80 firms producing machine needles.

The domestic machine needle market consists almost entirely of manufacturers of textiles, apparel, and other made-up textile goods. Most of these plants are located in Southeastern States.

Total imports have decreased from their 1973 and 1974 levels. By 1977, imports fell from 413.1 million to 366.1 million needles, or by 16 percent. Imports of latch and industrial sewing machine needles, which together account for the vast majority of total imports, also declined. Apparent overall consumption fell from 724 million machine needles in 1973 to 608 million machine

needles in 1977, while imports as a share of consumption, increased from 57.0 percent to 60.2 percent. Consumption of individual needle categories also fell significantly between 1973 and 1977, while imports as a percentage of consumption increased moderately.

The decline in needle consumption is related to declines in domestic apparel and textile production and to technological innovations in the textile machinery industry. Recessionary factors and overexpansion have added to producers' difficulties.

The Commission's public report, Certain Machine Needles (USITC Publication 936), contains the views of the Commissioners in investigation No. TA-201-38. Copies may be obtained by calling (202) 523-5178 or from the Office of the Secretary, 701 E Street, NW., Washington, D.C. 20436.

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United States International Trade Commission,
February 7, 1979.

REPORT TO THE PRESIDENT

To the President:

In accordance with section 201(d)(1) of the Trade Act of 1974 (19 U.S.C. 2251(d)(1), 88 Stat. 1978), the United States International Trade Commission herein reports the results of an investigation relating to certain machine needles.

On the basis of the information developed in investigation No. TA-201-38 the Commission 1/ unanimously determines that needles for machines for making nonwoven or nonknit fabrics; needles for knitting, embroidery, and other textile machines; and needles for sewing machines, except sewing machines designed for household use; provided for in items 670.35; 670.58, 670.60, 670.62, 670.64, and 670.74; and 672.20 of the Tariff Schedules of the United States (TSUS), are not being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles.

The Commission instituted this investigation under the authority of section 201(b)(1) of the Trade Act on August 25, 1978, following receipt on August 7, 1978, of a petition filed by the Torrington Co., Torrington, Conn.

The investigation was undertaken to determine whether needles for machines for making nonwoven or nonknit fabrics; needles for knitting, embroidery, and other textile machines; and needles for sewing machines, except sewing machines designed for household use; provided for in TSUS items 760.35; 670.58, 670.60, 670.62, 670.64, and 670.74; and 672.20, are being imported into the United

1/ Chairman Joseph O. Parker, Vice Chairman Bill Alberger and Commissioners George M. Moore, Catherine Bedell, and Paula Stern.

States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles.

A public hearing in connection with the investigation was held in the Commission's hearing room in Washington, D.C., on November 20 and 21, 1978. All interested persons were afforded the opportunity to be present, to produce evidence, and to be heard. A transcript of the hearing and copies of briefs submitted by interested parties in connection with the investigation are attached. 1/ Notice of the investigation and hearing was duly given by publishing the notice in the Federal Register of August 31, 1978 (43 F.R. 38949).

The information contained in this report was obtained from fieldwork, from questionnaires sent to domestic producers and importers, and from the Commission's files, other Government agencies, and information presented at the hearing and in briefs filed by interested parties.

1/ Attached to the original report sent to the President, and available for inspection at the U.S. International Trade Commission, except for material submitted in confidence.

VIEWS OF COMMISSIONERS GEORGE M. MOORE AND CATHERINE BEDELL

The present investigation, conducted under section 201 of the Trade Act of 1974 (19 U.S.C. 2251), was instituted by the United States International Trade Commission on August 25, 1978, to determine whether certain machine needles, provided for in items 670.35; 670.58, 670.60, 670.62, 670.64, and 670.74; and 672.20 of the Tariff Schedules of the United States (TSUS), are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

The Trade Act of 1974 requires that each of following conditions be met before an affirmative determination can be made:

(1) There are increased imports (either actual or relative to domestic production) of an article into the United States;

(2) A domestic industry producing an article like or directly competitive with the imported article is seriously injured, or threatened with serious injury; and

(3) Such increased imports of an article are a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

Determination

After considering the information obtained in this investigation, we have determined that increased imports are not a substantial cause of serious injury, or the threat of serious injury, to the domestic industry producing machine needles which are like or directly competitive with the imported articles under investigation.

The domestic industry

In determining what constitutes the domestic industry, it is generally appropriate to follow a product-line approach--that is, to consider that each product line constitutes a domestic industry. In the present case we are of the view that the various types of machine needles manufactured by domestic producers constitute one product line, and we therefore conclude that the domestic industry producing articles like or directly competitive with the imported articles consists of the facilities, or appropriate parts thereof, of the four domestic firms producing machine needles. The Torrington Co., the petitioner, is the largest of the four domestic producers. The other three domestic producers are Arrow International Inc., Laconia Needle Manufacturing Co., and Foster Needle Co. Torrington is a wholly owned subsidiary of Ingersoll-Rand Co., and Laconia is owned largely by Theo. Groz & Sohne and Ernst Beckert (Groz-Beckert), GmbH, of West Germany.

In finding that there is one domestic machine needle industry, we note that several types of needles are often produced in the same plant by workers employing similar skills. We also find that the domestic firms which produce more than one type of needle do not maintain separate employment or financial data for the different types, apparently because they consider all their machine needles to be the same basic type of product.

Increased imports

Under section 201(b)(2)(C) of the Trade Act of 1974, the requirement of increased imports is satisfied if the actual quantity of imports has increased or if the level of imports is increasing relative to domestic production.

In actual terms, imports of machine needles of the type under investigation appear to be declining. Imports declined considerably between 1973 and 1975 and increased moderately between 1975 and 1977 to a level which was still 11 percent below the 1973 level. Imports during January-June 1978 were slightly higher than imports during the corresponding period of 1977, but were still below the level of the corresponding period of 1973. The ratio of imports to U.S. production of all needles, however, shows an increase from 121.3 percent to 143.5 percent over the period 1973-77. This growth was not steady, but the trend is definitely upward. Furthermore, this increase is also evident in each separate product type with the exception of needles for knitting machines other than latch or spring-beard needles. Thus, the statutory requirement that there are increased imports is satisfied.

Serious injury

The second criterion concerns the question of whether the domestic industry is suffering "serious injury or the threat thereof." The Trade Act does not define the term "serious injury" but instead provides guidelines in the form of economic factors which the Commission is to take into account. Under section 201(b)(2), the Commission is to take into account "all economic factors which it considers relevant, including (but not limited to) . . . the significant idling of productive facilities in the industry, the inabililty of a significant number of firms to operate at a reasonable level of profit, and significant unemployment or underemployment within the industry . . . ."

Production.--U.S. production of machine needles dropped from 341 million needles in 1973 to 212 million needles in 1975 and grew to only 262 million needles in 1976 before dropping again in 1977 to 255 million needles. Data on

production in January-June of 1978 indicate that production for the year will still be substantially below the 1973 level. The greatest declines in production have come in latch needles and in needles for industrial sewing machines, which account for the vast majority of U.S. machine needle production.

Capacity.--Capacity has remained relatively constant since 1974 in all but one of the categories of needles under investigation, declining somewhat in 1977 and January-June 1978 as one firm relocated production to other countries and scrapped some machinery. As a result of the relatively constant level of capacity, capacity utilization has followed the level of production closely, falling sharply from 1973 through 1975 and rising in 1976, 1977, and in January-June 1978. In January-June 1978, at an annual rate, however, it was still substantially below the levels achieved in 1973 and 1974.

Financial health.--Data provided by the domestic firms show declining profits. Torrington has shown overall net operating losses on its machine needle operations in each year since 1973. Laconia has remained consistently profitable in its machine needle operations throughout the period, but although its profit pattern has been erratic, it has generally trended downward since 1973. Arrow did not provide data on its net profits on machine needles, but the trend for gross profits on machine needles before selling and administrative expenses has been down since 1973.

Employment.--Employment in the industry declined sharply in 1975 and has not yet recovered. The average number of production and related workers producing machine needles dropped from 1,629 in 1973 to a low of 1,068 in 1977 and reached only a slightly higher level in January-June 1978. Man-hours

worked in producing machine needles also dropped by 33 percent from 1973 to 1977.

In view of the above, we have found that the domestic machine needle industry has experienced significant idling of production facilities and significant unemployment, and Torrington, its dominant producer, has incurred consistent operating losses on its machine needle operations, while Arrow and Laconia also appear to have experienced a decline in profits. Consequently, we have found that the serious injury criterion is satisfied.

Substantial cause

When the above two statutory criteria are met, the Trade Act requires the Commission to examine the statutory requirement relating to the question of whether increasing imports are a substantial cause of serious injury to the domestic industry. Section 201(b)(4) of the Trade Act defines the term "substantial cause" to mean "a cause which is important and not less than any other cause." Thus, increased imports must be both an "important" cause of injury and "not less than any other cause."

In determining whether increased imports are a substantial cause of injury to the domestic machine needle industry, we have considered several other possible causes of injury. Among these are (1) declining U.S. consumption of machine needles; (2) the transfer of production by domestic machine needle producers to foreign facilities; and (3) changes in machine needle technology and suggestions that domestic producers have not kept up with such changes. After considering each of these possible causes (including increased imports), we have concluded that increased imports are not a substantial cause of serious injury, or the threat thereof, to the domestic

industry within the meaning of the Trade Act of 1974. More specifically, we have concluded that the decline in consumption of machine needles is a more important cause of serious injury, or the threat thereof, than increased imports--that is, that the increase in machine needle imports, whether measured in the aggregate or with respect to any one type, is not sufficient to equal or outweigh the decline in domestic machine needle consumption as the most important cause of serious injury, or the threat thereof, to the domestic industry.

As noted above, imports of machine needles trended downward in actual terms during the past 5 years but trended moderately upward in terms of the ratio of imports to production. However, imports as measured in terms of market share have remained almost constant in recent years. The ratio of imports to consumption was 57.0 percent in 1973, 60.8 percent in 1974, 57.8 percent in 1975, 58.8 percent in 1976, and 60.2 in 1977. This ratio was 60.4 percent in January-June 1977 and 61.4 percent in January-June 1978.

Domestic consumption of machine needles fell by 16 percent between 1973 and 1977, from 724 million needles to 608 million needles; both domestic production and imports of machine needles also fell during this period. There are three basic reasons for this drop in consumption. First, there has been a decline in recent years in domestic textile and footwear production, and textile and footwear producers are by far the most important consumers of machine needles. Second, technological improvements have increased the longevity of many types of needles, permitting textile and footwear producers to manufacture more of an article with a given quantity of needles. And third, a decline in demand for knit fabrics and an increase in demand for

woven fabrics has resulted in a decline in consumption of knitting machine needles. Knitting machine needles account for more than 50 percent of domestic machine needle production, and consumption of such needles declined by about 20 percent between 1973 and 1977.

Conclusion

Thus, we have concluded that increased imports of machine needles are not a substantial cause of serious injury, or the threat thereof, to the domestic machine needle industry.

Views of Chairman Joseph O. Parker

The present investigation was instituted on the basis of a complaint filed by The Torrington Co., Torrington, Conn., to determine if certain machine needles, provided for in items 670.35; 670.58, 670.60, 670.62, 670.64, and 670.74; and 672.20 of the Tariff Schedules of the United States, are being imported in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles.

Domestic industry

In making a determination under section 201, it is necessary to consider the domestic industry or industries producing articles like or directly competitive with the imported articles. There are five basic types of imported needles under consideration in the present investigation: (1) needles for industrial/commercial sewing machines; (2) needles for knitting machines; (3) needles for embroidery machines; (4) needles for tufting machines; and (5) needles for felting machines. Since the functions and designs of each of the 5 types of needles are distinctly different from each of the other types, they are not commercially interchangeable. Domestic producers do not produce any of these five types of needles on the same machinery, nor is such machinery readily convertible to the production of a different kind of needle. Several firms produce only one kind of needle, although Torrington, the largest manufacturer, produces each of the five types. Whether the production facilities devoted to the production of these needles are considered as five separate domestic industries or as one domestic industry, the information obtained

in this investigation does not establish that whatever injury is being suffered is substantially caused by imports.

Injury

Four firms currently produce one or more types of needles under investigation. The Torrington Co., the petitioner and the only domestic producer to appear at the hearing in support of its petition, accounts for all domestic production of industrial sewing, tufting, and embroidery needles and a large proportion of domestic production of knitting and felting needles. Torrington reported to the Commission, however, that it does not keep separate accounting data on the different types of needles under investigation. Therefore, the information with respect to injury or threat of serious injury to Torrington must be examined on a total needles basis, rather than with respect to the various types of needles. Laconia Needle Manufacturing Co. testified that it was not being injured by increased imports, and Arrow International, Inc. and Foster Needle Co. did not provide the Commission with information which was specific enough to make a definitive determination of injury with respect to these firms.

The Torrington Co. experienced decreasing capacity utilization from 1973 to 1975 and then increasing capacity utilization from 1976 through January-June 1978. The increase in capacity utilization in 1977 and January-June 1978 was primarily the result of consolidation of some of its operations in 1977. Its production, shipments, and total sales of needles generally followed a similar trend, declining from 1973 to 1975 and recovering somewhat thereafter. The Torrington Co. reported that it had experienced a profit on its needle operations in only 1 year since

1972. The number of production and related workers employed by Torrington in the production of machine needles declined from 1973 to 1977. There was, however, an increase in such employment at Torrington in January-June 1978. The ratio of Torrington's inventories to shipments increased from 1973 to 1975 and declined steadily thereafter.

Laconia Needle Manufacturing Co., which manufactures only knitting needles, experienced fluctuating production and capacity utilization from 1973 to 1977. Its sales increased slightly over this period and, despite considerable fluctuation, it remained profitable. Employment declined from 1973 to 1977 and January-June 1978, and Laconia's inventories of needles declined moderately throughout the period. In its testimony before the Commission, Laconia stated that it was not suffering serious injury or threatened with serious injury. 1/

Arrow International Inc., which manufactures both knitting and felting needles, experienced declining capacity utilization from 1973 to 1975. Thereafter, its capacity utilization increased, and in January-June 1978, it was higher than at any other time in the previous 5 years. Arrow's production, shipments, and employment declined from 1973 to 1975 and increased somewhat thereafter. However, the company did not provide the Commission with profit-and-loss information.

Foster Needle Co., which manufactures only felting needles, provided no information to the Commission except estimates of its shipments, and production which indicate increasing shipments from 1973 to 1977.

From the above, it may be seen that there are indications that The Torrington Co. may be suffering serious injury within the meaning of

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1/ Transcript of the hearing, Nov. 20, 1978, p. 133.

section 201. However, other needle-producing firms seemed to have fared better: Laconia testified that it is not being injured, and information with respect to the two remaining domestic companies does not indicate serious injury. In my judgment, whether or not the domestic industry or industries are suffering serious injury, or a threat of serious injury, it is clear that increased imports are not a substantial cause of whatever injury is being suffered.

Substantial cause

Pursuant to section 201(c)(4), the term "substantial cause" is defined as a cause which is important and not less than any other cause. The information in this investigation clearly establishes that the decline in apparent consumption of needles is a greater cause of any injury than increased imports.

Consumption of all types of machine needles under investigation fell from 724 million needles in 1973 to 608 million in 1977, or by 16 percent. This decline is primarily the result of declines in domestic production of textiles and textile products and footwear.

There are two major kinds of knitting needles consumed in the United States, latch needles and spring beard needles. Consumption of both categories of needles declined sharply from 1973 to 1977, During this period, however, the share of apparent consumption accounted for by imported latch needles and spring beard needles increased far more gradually. Domestic producers, particularly Torrington and Laconia, accounted for a large quantity of total imports of latch and spring beard needles in the period 1973-77.

The same pattern exists with respect to industrial sewing machine needles, the second largest type of needle consumed domestically which,

together with knitting needles, account for the vast bulk of apparent U.S. consumption of machine needles. Apparent consumption of these sewing machine needles declined sharply while the ratio of imports to consumption increased only gradually. The share of apparent consumption accounted for by imports by U.S. producers more than doubled from 1973 to 1977 and continued to increase in 1978. Imports by firms which do not produce needles declined in both actual terms and relative to domestic consumption in this period. The largest growth in imported sewing machine needles during the years 1973-77 was in those from Portugal. Torrington is the only known producer of such needles in Portugal. Thus, it is clear that, to the limited extent imports have replaced domestically produced industrial sewing machine needles, it is the result of imports by domestic producers.

The ratio of imports to consumption of felting needles was lower in 1977 than in any year since 1973. Imports of felting machine needles by U.S. producers have increased sharply since 1974, while imports by all others have decreased. With respect to embroidery needles, domestic production was relatively insignificant in the last 5 years and the ratio of imports to consumption increased only marginally during this period. Domestic production of tufting machine needles was also relatively insignificant in the period covered by the Commission's investigation. The ratio of imports of tufting machine needles to domestic production has not changed significantly since 1975 and actually decreased in January-June 1978 to a level below that of 1975 levels.

The pricing data obtained by the Commission in this investigation were based on a small nonrandom sample of producers' and importers' prices and cannot be used to definitively determine pricing relationships

between the two. In addition, the average weighted price information obtained conceals a broad range of prices among various types of needles. However, the information does offer some indication that domestic producers' prices generally kept pace with U.S. producers' costs in the period 1973 to 1977.

Conclusion

On the basis of this information, I have determined that the needles of the types under investigation have not been imported in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry or industries producing like or directly competitive products.

REASONS FOR THE NEGATIVE DETERMINATION
OF COMMISSIONER BILL ALBERGER

On the basis of information obtained in this investigation, I determine that certain machine needles of the types described in the notice are not being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing the like or directly competitive products.

The Trade Act of 1974 (Trade Act) requires that each of the following conditions be met before an affirmative determination can be made:

(1) There are increased imports (either actual or relative to the domestic production) of an article into the United States;

(2) A domestic industry producing an article like or directly competitive with the imported article is seriously injured, or threatened with serious injury; and

(3) Such increased imports of an article are a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

Specifically, I find that the third criterion under Section 201(b)(1), as set forth above, has not been met -- increased imports are not a substantial cause of serious injury or the threat thereof to the domestic industry as defined below.

The Domestic Industry

For the purposes of this investigation, I consider the relevant domestic industry to include all those facilities in the United States producing machine needles like or directly competitive with those described in the notice.

Of the four firms which account for all domestic production, only one, the petitioner, the Torrington Co. (Torrington), produces all the needles covered. Counsel for Torrington urged the Commission to consider the industry in its broadest sense, rather than breaking it into four or five distinct industries (which is also a valid approach given the special characteristics and uses of each needle). I have chosen to use the broader definition since domestic firms producing more than a single type of needle do not maintain separate employment and financial data for each type of needle. My conclusions about injury and causation would be the same under either approach.

Increased Imports

While imports of all machine needles under investigation have risen from 1975 through the first 6 months of 1978, they continue to run below levels attained in either 1973 or 1974. The overall quantity of imports dropped from 1973 through 1975 before beginning a gradual climb that has continued into 1978. In terms of the statute, imports have not actually increased, but the Commission must look further to determine whether imports have increased relative to domestic production.

From 1973 through the first half of 1978, the import to production ratio has increased from 121.3 percent to 138.9 percent. This growth in the import to production ratio occurs in all product lines with the exception of needles for knitting machines other than latch or spring-beard. Thus, the requirements of the statute are met. Imports have increased relative to domestic production.

Serious Injury

The Trade Act does not define the term "serious injury" but does provide guidelines in the form of economic factors. Under Section 201(b)(2) the Commission is to take into account "all economic factors which it considers relevant, including (but not limited to) -- . . . the significant idling of productive facilities in the industry, the inability of a significant number of firms to operate at a reasonable level of profit, and significant unemployment or underemployment within the industry. . . ."

In addition, I have considered production, shipments, consumption, inventories and prices as relevant economic factors in arriving at my determination.

Capacity utilization and production -- The behavior of these two factors are parallel during the period 1973-78. This is due largely to the relatively stable capacity of the industry since 1974. Both production and utilization figures were at their peak in 1973, before dropping significantly through 1975. Although these levels have improved somewhat in 1976, 1977 and the first half of 1978, neither production nor capacity utilization have returned to the 1973 levels.

Profit -- Torrington, the major U.S. producer, has not shown a net operating profit since 1973. This runs in contrast to at least one smaller U.S. producer, Laconia Needle Manufacturing Co. (Laconia), which has shown operating profits since 1973. Net operating profits for Laconia and gross profits for Arrow, however, have exhibited downward trends in recent years with Laconia's being on the decline since 1976 and Arrow's having been on the wain since 1973.

Employment -- Employment in the industry followed a pattern of steady decline from 1973 through 1977. The average number of all employees dropped by over 30 percent and although there was a slight upswing in employment in January-June 1978, employment levels are well below 1973 levels.

Shipments and consumption -- From 1973 through 1977, shipments by all U.S. producers and consumption of all machine needles declined 20 and 16 percent respectively. These declines are, in large part, attributable to a decline in domestic apparel and textile production and technological innovations.

Inventories -- Actual year-end inventories for U.S. producers dropped steadily from 1974 through the first six months of 1978. As a portion of annual shipments, this downward trend began in December, 1975, and continued through the first six months of 1978. By the end of June 1978, the inventory/yearly shipments ratio was some 21 percentage points below December, 1975, levels.

Prices -- The pricing data obtained by the Commission is inadequate for a thorough comparative analysis. However, the information that was obtained indicates the average selling price and production cost of U.S. produced machine needles increased at about the same rate between 1973 and 1977. This amounts to nearly 30 percent in both instances.

Summary -- The economic indicia, for the most part, were highest in 1973, reached lows in the recession year, 1975, and recovered slowly in 1976, 1977 and the first half of 1978. Save for the petitioner, U.S. producers are showing profits. Production, capacity utilization, and shipments figures are up from 1975 but still below 1973 levels. Employment, though

up in 1978, remains substantially below 1973 levels. Inventory levels have been irregular during the period. This is a close call for me, but, on balance, I believe the serious injury standard is met. However, I must say this industry appears to be making a limited recovery and the injury should abate if current trends continue.

Substantial Cause

Section 201(b)(4) of the Trade Act defines the term "substantial cause" to mean "a cause which is important and not less than any other cause." Thus, increased imports must be both an "important" cause of injury and "not less than any other cause." Section 201(b)(2) further provides that, in determining "substantial cause", the Commission "shall take into account all economic factors which it considers relevant, including (but not limited to). . . an increase in imports (either actual or relative to domestic production) and a reduction in the proportion of the domestic market supplied by domestic producers."

The fact that imports have not increased in actual terms but have increased relative to domestic production has been established. In addition, the evidence in this investigation shows that portion of the market supplied by domestic producers has dropped slightly from 43 percent in 1973 to 40 percent in 1977. However, in spite of these facts, I cannot escape the conclusion that the 16 percent drop in overall machine needle consumption was a more substantial cause of injury than increased imports.

A drop in domestic apparel consumption and textile production bears a direct relationship to the market for machine needles. The increasingly strong competition in textile imports from developing nations and the decline

in apparel consumption attendant to the recession in 1974-75 played the major roles in the drop of machine needle consumption.

Evidence of the effect the decline in consumption by user industries had on the machine needle market is manifested in the sharp drop in consumption of latch needles and industrial sewing needles which account for the vast majority of the market. While this sharp drop was occurring, imports were only able to increase their share of consumption by 4 percent for latch needles and less than 10 percent for industrial sewing needles.

Technological innovations in textile machinery have also contributed to the condition of the domestic industry. The machinery now uses higher quality needles which last longer, thus reducing demand for replacement needles. The Commission has some indications of quality problems with certain domestically produced needles. In addition, a good deal of the more advanced machinery and needles used therein are of foreign manufacture. When replacement needles are needed for these machines most users return to the same foreign manufacturer, further exacerbating the industry's situation.

The domestic industry itself plays a major role in imports of machine needles. Torrington and Laconia have accounted for a large portion of total machine needle imports since 1973 and are among the largest importers of needles in the United States. Torrington produces abroad for importation into the United States as well as foreign consumption. Laconia is a substantially owned subsidiary of Groz-Beckert, the largest producer of knitting needles in Europe.

In 1973, at a time that domestic capacity utilization was 82 percent, U.S. producers' imports of latch needles were at their highest levels for the years 1973 through 1977. Thus, it appears that the domestic industry was unable to satisfy demand at that time solely from facilities located in

the United States. As demand declined to its lowest level in 1975, producer imports plummeted by more than 50 percent. However, as demand for latch needles increased from 1975 to 1977, shipments of producer imports more than doubled the modest gains of domestically produced needles reported in 1976 and 1977. Furthermore, although shipments of the domestic product grew only modestly in the first six months of 1978, producers' imports increased substantially. Other importers entered fewer latch needles in 1978 than in the corresponding period of 1977.

With regard to industrial sewing needles, U.S. producers' imports nearly doubled from 1973 to 1977 while shipments of U.S. produced needles declined erratically for the same time frame. In addition, it appears that in 1978 imports by U.S. producers will exceed their 1977 levels. Imports by others have declined by 24 percent from 1973 and are apparently declining further in 1978. The only growth to be found is in imports from Japan and Portugal. The only known producer of needles in Portugal is The Torrington Company.

From this discussion, there appear to be several possible causes of serious injury to the domestic machine needle industry. Of these, the sharp decline in consumption emerges as the most important cause. Therefore, I do not find that increased imports are a substantial cause of serious injury, or the threat thereof, to the domestic industry.

DETERMINATION OF COMMISSIONER STERN

Having considered all of the information before me in this investigation, I have determined, pursuant to the standards set forth in Section 201(b) of the Trade Act of 1974, that imports of machine needles are not "being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or threat thereof" to the industry in the United States producing machine needles. In the process of making this determination, I found that imports of machine needles have actually declined in terms of quantity, while increasing only moderately relative to domestic production. I have also found that the domestic industry, particularly the petitioner, The Torrington Company (Torrington), is suffering serious injury. However, in my opinion the substantial cause of injury or threat of injury to the machine needles industry is not imports, but the decline in domestic demand for machine needles, resulting primarily from a general decline in U.S. production of textiles and nonrubber footwear.

The Domestic Industry

There are four firms in the domestic industry: Torrington, Laconia Needle Manufacturing Co. (Laconia), Arrow International, Inc. (Arrow), and Foster Needle Co. (Foster). Torrington, a subsidiary of Ingersoll-Rand Co., is the only producer of all of the types of needles under investigation and has accounted for the bulk of all machine needle production in the United States since 1973. Torrington produces the entire U.S. output of industrial sewing, tufting and embroidery machine needles, and is a major producer of needles for felting and knitting machines. (Knitting machine

needles include latch and spring beard needles as well as the category "other knitting needles.") Torrington also operates its own needle production facilities overseas and is a substantial importer. Laconia, a subsidiary of Theo. Groz and Sohne & Ernst Beckert, GmbH (Groz-Beckert), a large West German machine needle producer, produces only knitting machine needles and also imports substantial quantities of these needles from Groz-Beckert. Arrow produces needles for knitting and felting machines, and Foster, the smallest of the firms, produces only felting machine needles.

There are several different categories of machine needles and within each category of machine needles there are hundreds or thousands of varieties. The question, therefore, arises whether the producers of machine needles should be treated as a single domestic industry or several distinct industries. Torrington contended that production of the various types of needles utilizes similar capital equipment, raw materials, and labor skills and many similar production processes. Opponents of the petition argued that each category of machine needles represents a separate industry, pointing to differences in use, physical characteristics, distribution systems and inventory requirements.

Data was available for imports, shipments and production for each category of machine needles under investigation. I found that review of machine needles by individual category, when such data was available, provided a clearer understanding of whether imports had actually increased in quantity or relative to domestic production and whether increased imports constituted a substantial cause of serious injury. However,

Torrington, which is clearly the dominant domestic producer, does not maintain separate data on profits and employment. In addition, available figures for domestic capacity utilization were based on a hypothetical product mix. As a result, in the final analysis, the available data dictated that all the machine needles under investigation be treated as a single domestic industry.

Increased Imports

Imports of machine needles declined from a peak of nearly 417 million in 1974 to 277 million in 1975. (In the base year 1973, imports were 413 million needles.) Although imports have increased since 1975, through the first half of 1978 they are still less than the 1974 level. Similarly, a pattern of decline and partial increase was also found for latch needles and industrial sewing machine needles which, together, accounted for the vast majority of annual total machine needle imports since 1973, as well as for felting, spring beard needles and the category known as "other knitting machine needles." Import figures from 1973 through the first half of 1978 for embroidery and tufting machines show a gradual increase, but these two categories account for a very small proportion of total imports.

In contrast with the actual decline of needle imports as a whole from 1973 through the first half of 1978, imports have increased relative to domestic production of machine needles generally over the period of 1973-1977, from 121.3% to 143.5% and to 138.9% in the first half of 1978. This relative increase occurred for each product type, except "other knitting needles."

Serious Injury

To determine serious injury, Section 201(b)(2) of the Trade Act requires that "the Commission shall take into account all economic factors which it considers relevant, including (but not limited to) -

> "(A) with respect to serious injury, the significant idling of productive facilities in the industry, the inability of a significant number of firms to operate at a reasonable level of profit, and significant unemployment or underemployment within the industry;
>
> "B) with respect to threat of serious injury, a decline in sales, a higher and growing inventory, and a downward trend in production, profits, wages, or employment (or increasing underemployment) in the domestic industry concerned;"

Before reviewing these economic factors, however, it is important to note that Laconia argued vigorously that neither it, nor the U.S. industry as a whole, has been injured. Laconia explained that it had earlier reassessed product requirements and recognized that it had to produce better quality knitting needles. It rebuilt old equipment and purchased new; retrained supervisors, foremen and operators; and instituted an extensive quality control program. Laconia emphasized that this reorganization was accomplished with private capital obtained on its own credit. In fact, Commission data indicates that Laconia has remained more profitable than Torrington, its major domestic competitor in the knitting machine needle industry.

The available data for Foster, the smallest domestic producer, which only manufactures felting needles, tends to support Laconia's position. Foster did not provide data on profitability, capacity utilization or

employment. However, its shipments have increased sharply since 1973, and as a result, its share of the total U.S. market in felting needles has increased sharply as well.

Torrington, however, is experiencing serious injury. Accordingly, in considering the statutory indices of injury to the entire U.S. industry, it should be remembered that the figures reflecting the bad health of the dominant producer, Torrington, have affected the data for the entire industry.

The Commission received information indicating that during the period of 1973 through the first half of 1978, the production capacity of Arrow remained virtually constant while Laconia's and Torrington's capacity dropped slightly. Actual production dropped significantly for all three firms in 1975, most significantly for Torrington. Actual production increased from 1975 levels for all three firms during 1976 and 1977, although none of the firms returned to the peak 1974 levels. Arrow, however, has returned to the 1974 level of production during the first six months of 1978. Consequently, taking the three producers' data as a whole, the figures for capacity utilization (the ratio of actual production to production capacity) from 1973 through the first half of 1978 show a pattern of decline and partial recovery. Thus, capacity utilization during the first half of 1978 was the highest since 1974, but still 12% below 1974 levels.

Analysis of capacity utilization for different needle types reveals that latch needles experienced a similar pattern of decline and partial recovery, but capacity utilization for industrial sewing machine needles

showed far worse results, falling by nearly half from 1973 to 1977 and falling still further during the first half of 1978.

Data provided by the domestic firms painted a picture of declining profit. Torrington has shown overall net operating losses for each year since 1974. Laconia has remained consistently profitable throughout the period, but its pattern of profits has been erratic. Arrow did not provide data on net profits, but the trend for gross profits before selling and administrative expenses has been down since 1973.

Similarly, employment patterns for Torrington, Arrow and Laconia declined from peak years of 1973 and 1974 but recovered -- albeit moderately -- by the first half of 1978.

In sum, the domestic machine needle industry has experienced idling of production facilities and unemployment, and Torrington, its dominant producer, has incurred consistent operating losses while Arrow and Laconia also appear to have experienced financial declines. Consequently, the industry undoubtedly is suffering serious injury.

Substantial Cause

But the question remains whether imports are a substantial cause of serious injury to the industry. Section 201(b)(4) of the Trade Act of 1974 defines the term "substantial cause" to be both an "important" cause of injury and "not less than any other cause." Section 201(b)(2)(C) further provides that, in determining "substantial cause," the Commission "shall take into account all economic factors which it considers relevant, including (but not limited to) . . . an increase in imports (either actual

or relative to domestic production) and a decline in the proportion of the domestic market supplied by domestic producers."

As previously noted, imports of machine needles as a whole actually declined, while increasing relative to domestic production. In addition, market share served by domestic production has been reduced. The ratio of imports to domestic production of all machine needles has increased from 121.3% in 1973 to 143.5% in 1977 and 138.9% in the first half of 1978. The share of the domestic market supplied by domestic production declined from 43.0% in 1973 to 39.8% in 1977 and 38.6% in the first six months of 1978. Relative increases in imports and decreased market shares for domestic production were found for all categories of machine needles, except the category "other knitting machine needles."

However, as I noted at the outset, I have concluded that the decline of domestic demand for machine needles, primarily resulting from a decline in U.S. textile and footwear production, is the most important cause of injury. In short, increased imports are not a "substantial cause" of injury under the statute. This point can be demonstrated by looking at several different needle types.

During 1973-1977, the volume of domestic production of knit yard goods and knit garments, excluding hosiery, decreased by 16%, and declined still further in the first half of 1978. The combined impact of increased textile imports, the 1975 recession and changing consumer tastes created this highly significant decline in the knitting industry which is the major consumer of knitting machine needles. Furthermore, improved needle technology has produced more durable needles thereby reducing needle consumption on a per-item, per-pound and per-hour basis. As a result, U.S.

production of knitting machine needles declined by over 21% in the period 1973-1977, although it increased somewhat in the first half of 1978.

Declining domestic demand also affected domestic production of industrial sewing machine needles. The Singer Company, a major industrial sewing machine needle importer, provided data indicating that the trend in U.S. demand for industrial sewing machine needles was directly linked to economic activity in the U.S. apparel and nonrubber footwear producing industries, which respectively consume approximately two-thirds and 25% of these needles. Singer's data also showed that, while imports of apparel increased 35% from 1974 to 1977 and increased still further during the first eight months of 1978 (1973 data was not provided), domestic production of most major apparel products declined or remained stagnant, and overall employment in the apparel industry declined by over 10% between 1973 and the first eight months of 1978. In this same period, production in the footwear industry, which is relatively more important to the U.S. needle industry than to its foreign competitors, declined even more -- almost 20%. Naturally, as the apparel and footwear industries shrunk, their consumption of industrial sewing machine needles also declined -- by over 21% through the first half of 1978. While production trends of the other categories of needles varied, declining consumption of knitting and industrial sewing machine needles, accounting for an overwhelming proportion of the machine needles industries, resulted in a 16% decline in consumption of all machine needles between 1973 and 1977, with only a minor upturn in the first half of 1978. This drastic drop in consumption

dwarfs the modest gains of imports relative to consumption described above.

Another factor contributing to the decline in domestic needle production was the increase in imports of the machines which use needles. As might be expected, many of these machines use foreign needles as original equipment and create a bias in the direction of imports as replacement needles.

In addition, there were indications that Torrington's business practices and decisions contributed to the severity of its injury. It was alleged by a number of parties opposing the petition that Torrington produced inconsistent and poorer quality needles than its competitors, that it failed to produce specific types of needles, that it has had a poor record of customer service, and that it has lagged behind in technological innovations. Because needles represent only a minor cost item in the production processes of the industries which use them, while downtime caused by inferior or unavailable needles or inadequate service can be extremely costly, quality, technical assistance and service are important factors in needle selection. Needle consumers, whose market is fashion conscious and rapidly shifting, submitted affidavits unequivocally asserting that Torrington had unsatisfactory needle quality and unresponsive service which resulted in Torrington lost sales. The Commission investigation confirmed that Torrington had problems with the quality and uniformity of its knitting machine needles and also revealed that Torrington did not produce exclusively in the United States many of its best selling industrial sewing machine needles and produced domestically only a small portion of some of its best selling knitting machine needles.

Moreover, Torrington further contributed to its own injury by deciding to expand its knitting machine needle producing capacity in the early 1970's in anticipation of an expanding double-knit market which did not occur. The precipitous decline in double-knits coupled with decreased demand resulting from the recession left Torrington with substantial idle capacity. While Torrington sought to rebut these disclosures, it is clear that each of Torrington's domestic competitors expanded its market share at Torrington's expense during the period under investigation.

Complicating the analysis of relative causes of injury is the fact that Torrington and Laconia are substantial importers of machine needles into the United States. This is most significant with respect to Torrington's imports of industrial sewing machine needles. While shipments of Torrington's industrial sewing machine needles and imports from sources other than Torrington declined between 1973 and 1977, imports by Torrington increased sharply. Imports from West Germany, the principal exporting country, declined substantially and imports from Japan, the second leading exporter, increased only moderately during 1973-1977 and declined from 1977 levels during the first half of 1978. The most significant increase in sewing machine needle imports during this period, both in actual quantities and relative to other exporting countries, was from Portugal, where Torrington is the only known producer of needles. These Portugese imports are also the low cost needles which Torrington has described as the principal source of its import injury. While the unit value of both the higher cost West German and lower cost Japanese needles has recently increased significantly, the unit value of Portugese needles has remained virtually unchanged. Further, Portugal is the only major exporting country whose sewing machine needles

are eligible for, and have received, duty free treatment under the Generalized System of Preferences (G.S.P.). This treatment has made Portugese needles the least expensive import during the first half of 1978 when Portugal was a significant source of all imports. (Torrington also produces machine needles in Brazil, whose government has also petitioned the United States for G.S.P. status for machine needles.)

Torrington's foreign production clouds the issue of cause of serious injury in another respect. As production of textiles, apparel and footwear have shifted overseas during the 1970's, opportunities for export of machine needles have increased. United States exports of all machine needles, however, have remained relatively constant since 1973, with the exception of 1974, and exports of industrial sewing machine needles have actually declined since 1975. Torrington's decision to expand and use overseas facilities to fill the demand for machine needles outside the U.S., which might otherwise have been filled by U.S.-produced needles, may be appropriate in the context of its overall business operations, but must be considered another possible cause of injury to its domestic production facilities.

Conclusion

Therefore, I have concluded that whatever injury may exist in the machine needles industry is not substantially caused by imports. The overall decline in domestic demand for machine needles dominates the list of contributing causes of injury. Moreover, the major producer of machine needles in the United States, Torrington, may also be suffering

from self-inflicted wounds. It is a measure of Torrington's conflicting situation that had the Commission granted the relief requested by Torrington, Torrington's overseas operation would have been most adversely affected by the removal of Portugal's G.S.P. status and the preclusion of Brazil's obtaining G.S.P. treatment for its Torrington-made product. (See, Section 503(c)(2) of the Trade Act of 1974.)

INFORMATION OBTAINED IN THE INVESTIGATION

Summary

On August 25, 1978, the United States International Trade Commission instituted investigation No. TA-201-38 on certain machine needles following the receipt, on August 7, 1978, of a petition from The Torrington Co., Torrington, Conn. The petitioner submits that increases in machine needle imports are a substantial cause of serious injury to the domestic producers of machine needles and that an increase in tariff rates is necessary for U.S. producers' relief. Heretofore, the Commission has not conducted any import relief investigations on machine needles.

Relatively small and made of steel, machine needles are vital parts of certain machines used in manufacturing or decorating textiles, or in joining textiles or other types of material together. Five types of machine needles are under consideration in the present investigation: 1/ (1) needles for knitting machines, including latch needles, spring-beard needles, and other knitting-machine needles; (2) needles for industrial/commercial sewing machines; (3) needles for embroidery machines; (4) needles for tufting machines; and (5) needles for felting machines. Latch needles and industrial sewing machine needles comprise over 75 percent of domestic consumption of the foregoing needles and reflect by far the bulk of the data in this investigation. Within each of these basic categories of needles, there are thousands of variations.

At least four firms currently produce one or more types of machine needles within the United States, the largest of which is The Torrington Co., accounting for over * * * percent of total U.S. machine needle production. The Torrington Co., which has needle manufacturing establishments in several countries, and one other U.S. producer, Laconia Needle Manufacturing Co., are also * * * importers of machine needles in the United States. Besides these two producers, nearly 200 firms imported machine needles in 1977, although less than 10 of these, including the U.S. producers, account for well over half of all imports. By far the greatest proportion of imported machine needles is produced in West Germany and Japan. These countries accounted for * * * percent and * * * percent, respectively, of total machine needle imports in 1977. Excluding U.S. and nonmarket economy firms, there may be as many as 80 firms producing machine needles worldwide. West Germany, Japan, the United Kingdom, and Switzerland appear to be the only countries having more than one producer.

The U.S. market for the machine needles under investigation consists almost entirely of manufacturers of textiles, apparel, and other made-up textile goods, most of which are located in the southeastern region of the

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1/ These include all types of machine needles except household sewing-machine needles and are synonymous with the term "certain machine needles" used throughout the rest of this report.

United States. A multitude of market segments within this broad category, however, complicate the industry's planning and operations. Since 1972, many of these segments contracted as imports have assumed a greater share of consumption.

Total imports of the machine needles under investigation have clearly decreased from their levels in 1973 and 1974. Between 1973 and 1977, imports fell from 413.1 million to 366.1 million needles, or by 11 percent. Imports of latch needles and industrial sewing machine needles, which together account for about * * * percent of total imports, have fallen similarly. Relative to U.S. production, however, imports of all but one type of machine needle have increased.

For the most part, indices of the U.S. machine needle industry's performance reveal declining trends since 1973. Although annual capacity utilization increased from 48 percent to 58 percent between 1975 and 1977, the 1977 rate was still far below the 1973 level of 84 percent. During January-June 1978, the U.S. industry was operating at a little over 67 percent of capacity. U.S. production fell from 341 million needles in 1973 to 212 million needles in 1975 and rose to 255 million needles in 1977. Producers' shipments also increased after 1975, but are still below 1973 levels. From * * * needles in 1973, U.S. producers' shipments fell to * * * needles in 1975, but rose to * * * needles in 1977. The average number of U.S. production and related workers producing machine needles declined by more than 34 percent from 1,629 in 1973 to 1,068 in 1977. U.S. producers' yearend inventories of domestically produced machine needles decreased steadily from more than * * * needles at the end of 1974 to about * * * needles at the end of June 1978. As a percentage of annual shipments, inventories of U.S.-produced machine needles also appear to trend downward, at least since December 1975. According to financial data of the U.S. producers, The Torrington Co. has not shown an annual net operating profit on its machine needle operations since 1973, and the financial performance of the other reporting producers has trended downward.

While overall consumption of the machine needles under investigation fell from 724 million needles in 1973 to 608 million needles in 1977, imports, as a percentage of consumption, increased from 57.0 percent to 60.2 percent. The data for latch needles, spring-beard needles, and needles for industrial sewing machines are similar to the aggregate in that apparent consumption fell significantly between 1973 and 1977, while imports as a percentage of consumption increased moderately.

After contacting purchasers of machine needles, the Commission learned that, if buyers had increased their purchases of imported industrial sewing machine needles relative to U.S.-produced ones, the reason was price. Quality, on the other hand, was the primary reason given for any rejection of U.S.-produced knitting needles. Furthermore, of those knitting needles purchased from U.S. producers which the market rated satisfactory or excellent in quality, many were manufactured outside of the United States.

Because of extremely small, nonrandom samples, pricing data obtained in this investigation are less than adequate. What data that could be gathered, however, indicate that prices for imported machine needles have in many instances been lower than prices for U.S.-produced machine needles. Prices for all types of needles except latch needles have risen, and the average selling price and production cost have increased at about the same rate.

All three major producers reported efforts to compete more effectively with imports of machine needles. Strategies have ranged from improving quality control to realigning field sales territories. In addition, U.S. producers indicated several adjustments they would make during the period of any relief that would enable them to compete more effectively with imports once such relief was terminated.

Increased imports are only one of several possible causes of serious injury to the domestic industry. The 16-percent drop in overall machine needle consumption between 1973 and 1977 clearly implies the role of demand in the performance of U.S. producers during those years. The decline in needle consumption over the past 5 to 6 years is related to declines in domestic apparel and textile production and to technological innovations in the textile machinery industry. Recessionary factors and overexpansion have added to producers' difficulties. Finally, U.S. producers may not have been able to manufacture certain types of knitting machine needles that meet the market's standards of quality and uniformity.

Introduction

On August 7, 1978, the United States International Trade Commission received a petition from The Torrington Co., Torrington, Conn., for import relief under section 201(a)(1) of the Trade Act of 1974. Accordingly, on August 25, 1978, the Commission instituted investigation No. TA-201-38 under section 201(b) of said act to determine whether certain machine needles, provided for in items 670.35; 670.58, 670.60, 670.62, 670.64, and 670.74; and 672.20 of the Tariff Schedules of the United States (TSUS), are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing articles like or directly competitive with the imported articles. By statute, the Commission must submit its determination to the President within 6 months of its receipt of the petition--in this case by February 7, 1979.

In connection with the investigation, a public hearing was held in Washington, D.C., on November 20 and 21, 1978. Notice of the institution of the investigation and the public hearing was given by posting copies of the notice at the Office of the Secretary, U.S. International Trade Commission, Washington, D.C., and at the Commission's office in New York City, and by publishing the notice in the Federal Register of August 31, 1978 (43 F.R. 38949). 1/

1/ A copy of the Commission's notice of investigation and hearing is presented in app. A.

Heretofore, the Commission has not conducted any import relief investigations on machine needles. In July of last year, the Government of Brazil, where The Torrington Co. owns a machine-needle producing establishment, petitioned the President's Trade Policy Staff Committee for inclusion of latch needles into the Generalized System of Preferences (GSP). The Office of the Special Representative for Trade Negotiations has advised the Commission that action on this petition is being postponed until the Commission's report on the present investigation is received.

The petitioner submits that the domestic industry is suffering serious injury, particularly in regard to profitability and employment. Alleging that the increase in imports of certain machine needles is a substantial cause of this injury, the petitioner requests an increase in tariff rates for a period of 5 years.

The Product

Description and uses

Machine needles are vital parts of certain machines used in manufacturing or decorating textiles, or in joining textiles or other types of materials together. Relatively small and made of steel, their function is to manipulate fibers, yarn, or thread at high speeds in such a way as to create certain fabrics or to join or decorate fabrics or other types of materials.

Basically, machine needles are classified according to the function of the machine for which they are designed. In the present investigation five types of machine needles are under consideration: (1) needles for knitting machines, including latch needles, spring-beard needles, and other knitting machine needles; (2) needles for industrial/commercial sewing machines; (3) needles for embroidery machines; (4) needles for tufting machines; and (5) needles for felting machines. Latch needles and industrial sewing machine needles comprise over 75 percent of domestic consumption of the foregoing needles and reflect by far the bulk of the data in this investigation.

Latch needles are used to manufacture knitted fabrics and are readily distinguishable from other types of needles by their small moving arm, or latch, that opens and closes over a hook at one end of the needle (see app. B for typical examples of machine needle types). Spring-beard needles function similarly, but without two-piece construction. Other needles for knitting machines are of various configurations, some of which have features of both latch and spring-beard needles. Knitting machines accommodate hundreds or thousands of identical needles at once, all operating simultaneously or in very rapid sequence. Included in the fabrics or articles manufactured by such machines are seamless hosiery, double- and single-knit fabrics, men's socks, underwear, and sweaters.

Rather than manufacturing fabrics, needles for sewing machines join fabrics or other types of materials, such as leather, together. Their basic

configuration is like that of a common hand-sewing needle, except that the eye is nearer the pointed end, they are grooved, and some--like those used in shoe manufacturing--are curved. On initial inspection, tufting needles resemble sewing needles; however, they are generally much larger, have larger eyes in proportion to their bodies, and, instead of fastening fabric together, they carry loops through woven fabric backing to create carpets and other types of tufted material. Embroidery needles resemble sewing needles even more closely, although their function is to form decorative designs of thread or yarn on fabric surfaces. Instead of an eye, felting needles have barbs spaced regularly along their shafts. Such needles are used to manufacture linings, filters, blankets, and other fabrics that are formed by intertwining a number of small random fibers into a cohesive unit.

Within each of these basic categories of needles, there are hundreds or thousands of variations depending upon: (1) the particular machine for which the needle is designed, (2) the thread, yarn, or fiber it is to manipulate, and (3) the exact nature of the fabric or product it is to produce. A single needle may have 25 or more critical dimensions--such as angle and sharpness of point, diameter and straightness of shank, and width and placement of eye--with tolerances as low as a few ten-thousandths of an inch. The metallurgical properties of the steel used in the manufacture of needles--like the quantity of carbon, size of ferric grains, and tensile strength--and the treatment it receives--like hardening, tempering, buffing, and plating, if any--may also vary slightly from needle to needle according to its particular end use. Tolerances, however, are no less critical. A needle that does not meet certain standards will damage threads and fabrics in the manufacturing process. Thus, controlling a needle's critical dimensions and composition (including metallurgical properties and treatment) and maintaining uniformity within a batch and between batches are matters of extreme importance to each manufacturer. Uniformity is particularly crucial to knitting needle manufacture because of the large number of identical needles used simultaneously in knitting machines.

During the last 10 years, the introduction of higher speed knitting and sewing machines, in addition to increased use of synthetic fabrics, has put additional requirements on needles, particularly the need for greater heat dissipation and strength. Needles operating at higher speeds generate more heat, and, unless sufficient means are devised to moderate that heat, fabrics will melt and needles will gum. Needles operating at higher speeds also have a greater tendency to break and wear. In these instances the durability, wear resistance, and elasticity of a needle become paramount considerations. Thus, new technologies for improving needle productivity or longevity have occupied the industry's resources no less than those for improving control and uniformity of dimensions and composition.

The manufacturing process is generally similar throughout the industry, consisting of a number of stations through which needles must pass during the course of their transformation from raw material to finished product. A production sequence for a typical sewing needle, for example, may require more than 30 separate machine and/or hand operations, from inspection of the raw

material, through various pressing, swaging, milling, straightening, polishing, hardening, and tempering operations, to final inspection and packaging. Because of the number and necessary exactitude of most needles' dimensions, set-up and retooling time for needle manufacturing machinery is extraordinary. Production equipment must be reset each time a needle with different dimensions is produced. For the most part, needle-producing machines are specifically designed and customized for the manufacture of a certain type of needle (i.e., latch, sewing, and so forth) and are thus not readily interchangeable. Converting a machine to the manufacture of another type of needle would require a capital investment comparable to that required for customizing a new machine.

Although no conclusion can be drawn as to the relative overall cost efficiency of U.S. and foreign producers, it is generally agreed that foreign producers are more automated, have newer equipment, and have individual machines that incorporate more operations or stages in production. Set up and retooling time, however, are roughly equivalent. Relative to U.S. producers, it is likely that the cost effectiveness of foreign producers increases directly with the size of a production run, and decreases directly with the number of different production runs, since the larger skilled-labor component of U.S. producers allows them greater flexibility in setting up and/or retooling production equipment.

U.S. tariff treatment

The types of needles under investigation are dutiable under the provisions of TSUS items 670.35 (includes needles for felting machines), 670.58 (latch needles), 670.60 (spring-beard needles), 670.62 (other knitting machine needles), 670.64 (needles for embroidery machines), 670.74 (parts of textile machinery not specifically provided for--including tufting needles), and 672.20 (sewing machine needles--including those for industrial and household sewing machines).

The current column 1 or most-favored-nation (MFN) and column 2 or statutory rates of duty are shown in the following table. All rates indicated have been in effect since January 1, 1972, when the final stage of the concessions granted in the Kennedy round of tariff negotiations under the General Agreement on Tariffs and Trade became effective. The Kennedy round provided for a duty reduction of approximately 50 percent between 1968 and 1972 on imports provided for under all the above items in five annual and approximately equal stages. With the exception of needles for knitting machines, imports of all the machine needles under investigation are eligible for duty-free treatment under the provisions of the GSP.

Certain machine needles: U.S. rates of duty, by TSUS items, as of Jan. 1, 1978

TSUS item No.	Description	Most-favored-nation rate	Ad valorem equivalent of Jan. 1, 1978, most-favored-nation rate of duty 3/	Statutory rate
	Machines for making or finishing felt and nonwoven fabrics including bonded fabrics, in the piece or in shapes, including felt-hat making machines and hat-making blocks; and parts thereof:			
670.35	Other 1/	6.5% ad val.	6.5%	40% ad val.
	Parts of textile machinery:			
	Needles for knitting machines:			
670.58	Latch needles	50¢ per 1,000 + 15% ad val.	15.4%	$2 per 1,000 + 60% ad val.
670.60	Spring-beard needles	37¢ per 1,000 + 12.5% ad val.	13.7%	$1.50 per 1,000 + 50% ad val.
670.62	Other	57¢ per 1,000 + 20% ad val.	20.9%	$1.15 per 1,000 + 40 % ad val.
670.64	Needles for embroidery machines.	37¢ per 1,000 + 10% ad val.	10.6%	$1.15 per 1,000 +40% ad val.
670.74	Parts not specifically provided for.	The rate for the machines of which they are parts. 2/	6.5%	The rate for the machines of which they are parts. 2/
	Sewing machines and parts thereof, including furniture specially designed for such machines:			
	Parts:			
672.20	Needles	37¢ per 1,000 + 10% ad val.	10.5%	$1.15 per 1,000 + 40% ad val.

1/ Other than finishing machines and parts thereof covered under TSUS 670.33.

2/ Tufting needles are classified by the U.S. Customs Service as parts of tufting machines, which are classified under TSUS item 670.29, and are thus dutiable at a column 1 or MFN rates of 6.5% ad valorem and a column 2 or statutory rate of 40% ad valorem.

3/ Based on total U.S. imports in 1977.

U.S. Producers

At least four firms currently produce one or more types of machine needles within the United States: The Torrington Co. (Torrington), with plants at Torrington, Conn., and Walhalla, S.C.; Arrow International Inc. (Arrow), Reading, Pa.; Laconia Needle Manufacturing Co. (Laconia), Laconia N.H.; and a small producer--Foster Needle Co.(Foster), Manitowoc, Wis. Torrington--a wholly owned subsidiary of Ingersoll-Rand Co., Woodcliff Lake, N.J.--presently accounts for all U.S. production of needles for industrial sewing, tufting, and embroidery machines and about * * * the production of needles for knitting and felting machines. Laconia--owned and licensed by Theo. Groz and Sohne & Ernst Beckert (Groz-Beckert), GmbH, West Germany--and Arrow manufacture needles for knitting machines and needles for knitting and felting machines, respectively, while Foster produces only needles for felting machines. Table 1 shows U.S. producers and their respective quantities, values, and shares of shipments of domestically produced machine needles for recent time periods. During the period this investigation covers, no firm has ceased production of machine needles; however, Torrington is currently transferring its knitting-needle operations in Torrington, Conn., to its plant in Walhalla, S.C.

Both Torrington and Laconia import machine needles in substantial quantities. Torrington owns needle manufacturing facilities in Canada, Brazil, Portugal, and West Germany, and in 1977 its imports of machine needles from these sources amounted to * * * percent of its total needle shipments. Laconia, whose imports accounted for nearly * * * percent of its total needle shipments in 1977, imports needles almost exclusively from Groz-Beckert through its importing affiliate, Groz-Beckert U.S.A., Inc., Union City, N.J. Table 2 shows the machine needle imports of Torrington and Laconia and the ratio of these imports to their total shipments of machine needles, respectively, for recent time periods.

In facilities separate from their machine needle operations, Torrington and Arrow manufacture products other than the needles under investigation, including other types of needles. The Bearing Division of The Torrington Co. accounts for about * * * percent of its overall sales, and more than * * * percent of Arrow's sales are accounted for by surgical needles and other medical tools in addition to flat parts and elements for knitting machines. With the exception of a few wire products, Laconia's operations are devoted exclusively to the manufacture of latch needles. Most of Torrington's and Arrow's machinery were conceived, if not built, in their own facilities or subsidiaries. Nearly all of Laconia's machinery, on the other hand, is of West German origin.

Importers

There were approximately 200 importers of machine needles in 1977, located primarily on the east coast and heavily concentrated in New York and New Jersey. Of these, fewer than 10, including Torrington and Laconia, have

Table 1.--Certain machine needles: U.S. producers' shipments, by firm, 1973-77, January-June 1977, and January-June 1978

Firm	1973	1974	1975	1976	1977	Jan.-June-- 1977	Jan.-June-- 1978
	Quantity (million needles)						
The Torrington Co	***	***	***	***	***	***	***
Arrow International Inc	***	***	***	***	***	***	***
Laconia Needle Manufacturing Co	***	***	***	***	***	***	***
Foster Needle Co	***	***	***	***	***	***	***
Total	***	***	***	***	***	***	***
	Percentage distribution, by quantity						
Torrington Co	***	***	***	***	***	***	***
Arrow International Inc	***	***	***	***	***	***	***
Laconia Needle Manufacturing Co	***	***	***	***	***	***	***
Foster Needle Co	***	***	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Value (million dollars)						
Torrington Co	***	***	***	***	***	***	***
Arrow International Inc	***	***	***	***	***	***	***
Laconia Needle Manufacturing Co	***	***	***	***	***	***	***
Foster Needle Co	***	***	***	***	***	***	***
Total	***	***	***	***	***	***	***
	Percentage distribution, by value						
Torrington Co	***	***	***	***	***	***	***
Arrow International Inc	***	***	***	***	***	***	***
Laconia Needle Manufacturing Co	***	***	***	***	***	***	***
Foster Needle Co	***	***	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ Estimate.

Source: Compiled from data submitted in response to questionnaries of the U.S. International Trade Commission.

Table 2.--Certain machine needles: U.S. producers' imports, by firm, 1973-77, January-June 1977, and January-June 1978

Item and firm	1973	1974	1975	1976	1977	Jan.-June--	
						1977	1978
U.S. producers' imports--							
Torrington--							
million needles--	***	***	***	***	***	***	***
Groz-Beckert U.S.A. (Laconia)--							
million needles--	***	***	***	***	***	***	***
Total 1/--------do----	***	***	***	***	***	***	***
Ratio of U.S. producers' imports to their total shipments 2/--							
Torrington------percent--	***	***	***	***	***	***	***
Laconia----------do----	***	***	***	***	***	***	***
Total 3/---------do----	***	***	***	***	***	***	***
Ratio of U.S. producers' imports to total U.S. imports--							
Torrington------percent--	***	***	***	***	***	***	***
Laconia----------do----	***	***	***	***	***	***	***
Total----------do----	***	***	***	***	***	***	***

1/ Arrow and Foster do not import.
2/ Includes shipments of U.S.-produced and imported machine needles.
3/ Includes Arrow's and Foster's shipments.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

accounted for well over half of the quantity and value of machine needle imports in recent years. Torrington and Groz-Beckert U.S.A. (Laconia) together have accounted for * * * of the quantity of total machine needle imports since 1973 and are * * * importers of machine needles in the United States. Table 2 shows the quantity of U.S. producers' machine needle imports and the ratio of these imports to total machine needle imports for 1973-77, January-June 1977, and January-June 1978. There are several large importers in addition to the U.S. producers, including The Singer Co. (industrial sewing, felting, and tufting needles), New York, N.Y.; Schmetz Needle Corp. (industrial sewing machine needles), Leonia, N.J.; Monarch Knitting Machinery Corp. (latch needles), Glendale, N.Y.; Superior Sewing Machine and Supply Corp. (industrial sewing machine needles), New York, N.Y.; and Needle Industries (U.S.A.) Inc. (latch and felting needles), Charlotte, N.C. Machine needles account for a relatively small percentage of most importers' overall sales. With the exception of some packaging, importers, including producers, add no value to the imported product.

Foreign Producers

Most of the machine needles imported into the United States are produced in West Germany and Japan. In 1977, these countries accounted for * * * percent and * * * percent, respectively, of a total of 366 million imported needles. Other major sources include the United Kingdom, Belgium, Portugal, Canada, and Switzerland. Table 3 shows the quantity and value of imports of certain machine needles, by principal sources, for 1973-77, January-June 1977, and January-June 1978. (Similar data are presented in appendix tables C-1 through C-7 for each machine needle type.) According to these data, West Germany's share of imports decreased by more than * * * percent after 1973, while Japan's share increased moderately from about * * * percent to more than * * * percent. Unit values are highest for machine needles from West Germany and lowest for machine needles from Belgium and Portugal. During the period this investigation covers, unit values of machine needles from all sources have increased, particularly in 1978.

Excluding U.S. and nonmarket-economy firms, there may be as many as 80 firms producing machine needles worldwide. West Germany, Japan, the United Kingdom, and Switzerland appear to be the only countries having more than one producer. Foreign capacities are unknown.

According to available data, the West German industry is composed of 2 relatively large manufacturers--Groz-Beckert, GmbH, and Ferd. Schmetz, GmbH, with about * * * and * * * employees, respectively--and perhaps as many as 16 smaller firms, including Torrington, GmbH; Singer, GmbH; Rhein-Nadl, GmbH; and Leo Lammertz, GmbH (owned by Groz-Beckert), each with between * * * and * * * employees. Most are located in or around Aachen, West Germany. Groz-Beckert, located in Albstadt, is reportedly the largest producer of latch needles in the world, manufacturing approximately * * * machine needles of all types annually.

Table 3.--Certain machine needles: U.S. imports for consumption, by principal sources 1973-77, January-June 1977, and January-June 1978

Source	1973	1974	1975	1976	1977	January-June-- 1977	January-June-- 1978
	Quantity (1,000 needles)						
West Germany	***	***	***	***	***	***	***
Japan	40,387	37,056	37,806	45,338	52,738	29,509	24,521
United Kingdom	***	***	***	***	***	***	***
Belgium	37,910	41,460	32,558	29,693	22,633	9,488	12,688
Portugal	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	413,144	416,750	276,781	331,269	366,101	193,978	198,718
	Percentage distribution, by quantity						
West Germany	***	***	***	***	***	***	***
Japan	9.8	8.9	13.6	13.7	14.4	15.2	12.3
United Kingdom	***	***	***	***	***	***	***
Belgium	9.2	10.0	11.8	9.0	6.2	4.9	6.4
Portugal	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Value (1,000 dollars) 1/						
West Germany	***	***	***	***	***	***	***
Japan	2,107	2,117	2,363	2,808	3,387	1,608	2,241
United Kingdom	***	***	***	***	***	***	***

See footnotes at end of table.

Table 3.--Certain machine needles: U.S. imports for consumption, by principal sources, 1973-77, January-June 1977 and January-June 1978--Continued

Source	1973	1974	1975	1976	1977	January-June--	
						1977	1978
	Value (1,000 dollars)--Continued						
Belgium	2,003	1,148	1,315	1,418	1,404	627	929
Portugal	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	30,062	30,641	23,669	28,780	32,797	15,418	22,024
	Percentage distribution, by value						
West Germany	***	***	***	***	***	***	***
Japan	7.0	6.9	10.0	9.8	10.3	10.4	10.2
United Kingdom	***	***	***	***	***	***	***
Belgium	6.7	3.7	5.6	4.9	4.3	4.1	4.2
Portugal	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Unit value (cents per needle)						
West Germany	***	***	***	***	***	***	***
Japan	5.2	5.7	6.3	6.2	6.4	5.4	9.1
United Kingdom	***	***	***	***	***	***	***
Belgium	5.3	2.8	4.0	4.8	6.2	6.6	7.3
Portugal	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	7.3	7.4	8.6	8.7	9.0	7.9	11.1

1/ F.o.b. foreign point of shipment or customs import value.

Source: Imports of all types of knitting needles and needles for embroidery machines were compiled from official statistics of the U.S. Department of Commerce; imports of felting and tufting needles were compiled from data submitted in response to questionnaires of the U.S. International Trade Commission. For industrial sewing machine needles from Germany and Japan, yearly ratios of industrial sewing machine needle exports to total sewing machine needle exports as derived from official Japanese and German export statistics were applied to official U.S. Department of Commerce import statistics; for all other countries except Portugal, whose imports of industrial sewing machine needles were compiled from data submitted in response to questionnaires of the U.S. International Trade Commission, a fixed percentage based on U.S. Customs Service estimates was applied to official U.S. Department of Commerce statistics.

The Japanese industry is composed of perhaps 30 small-scale producers and at least 2 large producers--Organ Needle Co., Ltd. (Organ), and Fukuhara Industrial and Trading Co., Ltd. (Fukuhara)--employing about * * * and * * * workers, respectively. Between 1973 and 1977, Organ's annual latch needle production declined from * * * to * * * needles, while its annual production of industrial sewing machine needles increased from * * * to almost * * * needles. Fukuhara, which manufactures latch needles only, increased its production from * * * needles in 1973 to * * * needles in 1977. The plants for both firms were established about 30 years ago, although their production facilities have been renewed periodically.

There may be as many as 11 firms manufacturing 1 or more types of machine needles in the United Kingdom, the largest being Needle Industries Group, Ltd. in Studley, with about * * * employees, and T. Grieve and Co. in Leicester, with about * * * employees. Other significant producers are located in Switzerland, France, Belgium, the Netherlands, Portugal, and Brazil. The establishments in the latter two countries are owned by Torrington.

Several sources mentioned the growing needle production capability of South Korea. Originally licensed by the Organ Needle Co. of Japan, KO Industries, located in Pusan, may produce as many as * * * machine needles of all types per year and employ as many as * * * workers.

U.S. Market

The U.S. market for the machine needles under investigation consists almost entirely of manufacturers of textiles, apparel, and other made-up textile goods, most of which are located in the southeastern region of the United States. Within this broad market, however, are hundreds of smaller segments associated with different products, different production machinery, and, thus, different needles. The latch needle market, for example, consists of at least eight major submarkets, including those for seamless hosiery, double-knit and single-knit fabrics, sweaters, men's socks, ribbed stockings, garment trim, and support garments and lace. In turn, these markets depend largely upon consumer fashion markets, which have been notoriously volatile.

Because of the multitude of market segments in the textile and apparel industry and the frequent changes to which they are susceptible, needle manufacturers must continually project optimum reallocations of their resources so that the capacities to produce certain needles coincide with the times they are demanded. Anticipating changes in consumer markets is further complicated by competition with markets that do not require machine needles at all. Woven goods, for example, compete with knitted fabrics, and, while neither has become particularly dominant over the other in the past 8 years, they have undergone cycles of relative increase or decrease in demand as preferences have changed.

Distribution networks vary with the market segments. Although it may take a considerable amount of time for a needle manufacturer or importer to

develop a distribution system, competitive pressures rarely allow them to become entrenched. Most industrial sewing needles are purchased through distributors and jobbers, while virtually all knitting needles are purchased directly from manufacturers and importers through selling agents and company sales forces.

Since 1972, total knit fabric and garment production in the United States has been declining. Although the demand for knitting and sewing needles during the 1970's has declined correspondingly, industry sources expect demand to increase in certain areas, like hosiery and finer gage knit materials. As the need for needles that can withstand high speeds without breaking or overheating has increased, needle productivity--in addition to quality, uniformity, and availability--has become a heavily weighted criterion in the market's purchasing decisions. This has accelerated the decline in the demand for knitting and sewing needles, since more productive needles require fewer replacements. To the extent that machine needles are used in conjunction with complicated production processes, technical service and assistance is also important to needle buyers. Price, of course, remains a primary purchasing criterion, though much more so in the market for straight sewing needles than it is for curved sewing needles or latch needles, where quality is of paramount consideration. Table 4 shows the quantity and value of U.S. producers' shipments, imports, exports, and apparent consumption for certain machine needles for 1973-77, January-June 1977, and January-June 1978. Appendix tables C-8 through C-14 show similar data for each machine needle type.

Table 4.--Certain machine needles: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1973-77, January-June 1977, and January-June 1978

Period	Producers' shipments	Imports: U.S. producers	Imports: All others	Imports: Total	Exports	Apparent consumption	Ratio (percent) of imports to consumption: U.S. producers	Ratio (percent) of imports to consumption: All others	Ratio (percent) of imports to consumption: Total
	Quantity								
1973	***	***	***	413.1	***	724.2	***	***	57.0
1974	***	***	***	416.8	***	685.7	***	***	60.8
1975	***	***	***	276.8	***	479.2	***	***	57.8
1976	***	***	***	331.3	***	563.9	***	***	58.8
1977	***	***	***	366.1	***	608.2	***	***	60.2
January-June--									
1977	***	***	***	194.0	***	321.0	***	***	60.4
1978	***	***	***	198.7	***	323.5	***	***	61.4
	Value								
1973	***	1/ ***	1/ ***	1/ 30.1	***	61.0	***	***	49.3
1974	***	1/ ***	1/ ***	1/ 30.7	***	60.2	***	***	51.0
1975	***	1/ ***	1/ ***	1/ 23.7	***	47.6	***	***	49.8
1976	***	1/ ***	1/ ***	1/ 28.8	***	57.0	***	***	50.5
1977	***	1/ ***	1/ ***	1/ 32.8	***	62.1	***	***	52.8
January-June--									
1977	***	1/ ***	1/ ***	1/ 15.4	***	31.2	***	***	49.4
1978	***	1/ ***	1/ ***	1/ 22.0	***	36.7	***	***	59.9

1/ F.o.b. foreign point of shipment or customs import value.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

The Question of Increased Imports

Total imports of the machine needles under investigation have clearly decreased from their levels in 1973 and 1974. Between 1973 and 1977 imports fell from 413.1 million to 366.1 million needles, or by 11 percent. Imports of latch needles and industrial sewing machine needles, which together account for about * * * percent of total imports, also declined. From 1973 to 1977 imports of latch needles declined from 157.4 million to 133.3 million, or by 15 percent, while needles for industrial sewing machines fell * * * percent, from * * * to * * * needles, in the same period. Declining imports are also evident for knitting machine needles other than latch or

spring-beard. Imports of other types of needles increased moderately to substantially between 1973 and 1977, ranging from 5 percent for spring-beard needles to over 600 percent for embroidery needles. From January-June 1977 to January-June 1978, imports of industrial sewing machine needles, tufting needles, and knitting needles other than latch or spring-beard declined by * * * percent, * * * percent, and 54 percent, respectively, while imports of latch needles, spring-beard needles, felting needles, and embroidery needles increased by 18 percent, 10 percent, * * * percent, and 40 percent, respectively.

Relative to U.S. production, imports of all but one type of machine needle--knitting needles other than latch or spring-beard--increased between 1973 and 1977. As a ratio to production, total imports of all machine needles increased from 121 percent in 1973 to 143 percent in 1977, declining, however, to 139 percent in January-June 1978. A decline in the ratio of imports to production from January-June 1977 to January-June 1978 is evident with respect to latch needles, spring-beard needles, other knitting needles, and embroidery needles, whereas a further increase is associated with felting needles, tufting needles, and needles for industrial sewing machines. Table 5 shows U.S. production, imports, and the ratio of imports to production for each type of needle under investigation for the years 1973-77 and for January-June of 1977 and 1978. Figures 1 through 15 in app. C show statistical regression (trend) lines for imports and for the ratio of imports to production for each needle type between 1973 and 1977.

The Question of Serious Injury or Threat Thereof

U.S. production, capacity, and utilization of capacity

Because of the many market segments in the needle industry, the many shifts in these markets' requirements, and the many changes in product mix the industry undergoes to adjust to these shifts, the industry's capacity is exceedingly hypothethical. A change in product mix within the industry, such as that that occurred in the early 1970's in anticipation of heavy double-knit needle sales, may increase or decrease overall capacity depending upon the types of machinery the industry has and the resource allocation decisions it makes to accommodate the shift. Then if demand fails to meet the industry's expectations, the industry will suffer excesses or deficiencies in capacity until readjustments can be made.

Cognizant of these reservations, the Commission asked producers to indicate their machine needle capacity based on their 1977 product mix and on operating their facilities at two shifts a day, 5 days a week. The results are shown in table 6. After falling from * * * to * * * needles between 1973 and 1975, annual U.S. production of all types of machine needles by the three producers that reported their production capacities increased moderately to

Table 5.--Certain machine needles: U.S. production and imports for consumption, 1973-77, January-June 1977, and January-June 1978

Item	1973	1974	1975	1976	1977	January-June--	
						1977	1978
Production:							
Latch needles--1,000 needles--	***	***	***	***	***	***	***
Spring-beard needles----do----	***	***	***	***	***	***	***
Needles for knitting machines other than latch or spring-beard--------1,000 needles--	***	***	***	***	***	***	***
Needles for felting machines 1,000 needles--	***	***	***	***	***	***	***
Neeldes for embroidery 1,000 needles--	***	***	***	***	***	***	***
Needles for tufting machines 1,000 needles--	***	***	***	***	***	***	***
Needles for industrial sewing machines-----1,000 needles--	***	***	***	***	***	***	***
Total----------do----	340,617	329,551	211,737	261,688	255,083	128,183	143,030
Imports:							
Latch needles--1,000 needles--	157,350	132,048	87,453	115,192	133,311	66,974	78,845
Spring-beard needles----do----	14,631	19,007	15,868	10,635	15,401	8,105	8,924
Needles for knitting machines other than latch or spring-beard--------1,000 needles--	2,719	1,419	1,747	521	2,342	1,734	794
Needles for felting machines 1,000 needles--	***	***	***	***	***	***	***
Needles for embroidery 1,000 needles--	891	1,508	1,186	6,523	6,258	2,748	3,850
Needles for tufting machines 1,000 needles--	***	***	***	***	***	***	***
Needles for industrial sewing machines-----1,000 needles--	***	***	***	***	***	***	***
Total----------do----	413,144	416,750	276,781	331,269	366,101	193,978	198,718
Ratio of imports to production:							
Latch needles--------percent--	***	***	***	***	***	***	***
Spring-beard needles----do----	***	***	***	***	***	***	***
Needles for knitting machines other than latch or spring-beard----------percent--	***	***	***	***	***	***	***
Needles for felting machines percent--	***	***	***	***	***	***	***
Needles for embroidery machines----------percent--	***	***	***	***	***	***	***
Needles for tufting machines percent--	***	***	***	***	***	***	***
Needles for industrial sewing machines----------percent--	***	***	***	***	***	***	***
Total----------do----	121.3	126.5	130.7	126.6	143.5	151.3	138.9

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

* * * needles by 1977; however, production was still * * * percent lower than it was in 1973. Production increased * * * percent in January-June 1978 over the corresponding period in 1977. Capacity to produce all types of machine needles increased from * * * in 1973 to * * * needles in 1976, then fell to * * * in 1977, consequent to Torrington's scrapping of old latch needle machines and its shipping of other machines * * *. Capacity declined slightly again in January-June 1978 from the corresponding period in 1977. With the principal exception of latch needle capacity, which has undergone a decline as a result of Torrington's decision to relocate and scrap its latch needle machinery, the capacities for producing all the types of needles under investigation have remained constant since 1974. Between 1975 and 1977, annual capacity utilization increased from 48 percent to 58 percent, although this was still far below its 1973 level of 84 percent. Currently (January-June 1978), the U.S. industry is operating at a little more than 67 percent of capacity. * * *.

The ratio of production to capacity for each type of needle under investigation is shown in table 7. Capacity utilization for embroidery machine needles and knitting needles other than latch or spring-beard is considerably higher than the aggregate for 1976 and January-June 1978 and capacity utilization for tufting and industrial sewing machine needles is considerably lower than the aggregate for January-June 1978.

U.S. producers' shipments and exports

Aggregate data on U.S. producers' shipments of the machine needles under investigation reveal a decreasing trend from 1973 through 1975 and a recovering trend thereafter (table 4). Producers' shipments of machine needles fell from a high of * * * needles in 1973 to * * * needles in 1975 and rose again to * * * needles in 1977, still 20 percent lower than the 1973 level. U.S. producers' shipments of machine needles increased slightly in January-June 1978 from January-June 1977. In terms of value, producers' shipments dropped from * * * in 1973 to * * * in 1975, and then rose to * * * in 1977. U.S. producers' shipments of each of the major types of machine needles in question are shown in appendix tables C8 through C14. * * *.

With the exception of 1974, exports of machine needles remained relatively constant between 1973 and 1977, averaging * * * million needles per year. Between January-June 1977 and January-June 1978, however, exports increased by * * * percent. * * *. According to industry sources, exports of knitting-machine needles to third-world countries are limited, as these countries tend to favor woven as opposed to knitted fabrics.

Employment

From 2,119 in 1973, the average number of all employees in U.S. establishments producing machine needles declined by over 30 percent to 1,480

Table 6.--Certain machine needles: U.S. production, producers' capacity, and capacity utilization, by firm, 1973-77, January-June 1977, and January-June 1978

Item and firm 1/	1973	1974	1975	1976	1977	January-June--	
						1977	1978
Production:							
Torrington---1,000 needles--	***	***	***	***	***	***	***
Arrow 2/----------do----	***	***	***	***	***	***	***
Laconia----------do----	***	***	***	***	***	***	***
Total 3/----------do----	***	***	***	***	***	***	***
Capacity: 3/							
Torrington---1,000 needles--	***	***	***	***	***	***	***
Arrow 3/----------do----	***	***	***	***	***	***	***
Laconia----------do----	***	***	***	***	***	***	***
Total 3/----------do----	***	***	***	***	***	***	***
Capacity utilizatiion:							
Torrington---------percent--	***	***	***	***	***	***	***
Arrow----------do----	***	***	***	***	***	***	***
Laconia----------do----	***	***	***	***	***	***	***
Total----------do----	83.6	79.3	47.7	58.6	57.7	57.6	67.4

1/ Data on the capacity of Foster Needle Co. are not available; therefore, data on the production of Foster Needle Co. are not included in this table.

2/ Does not include needles for felting machines.

3/ Does not include Foster Needle Co. or felting machine needles produced by Arrow International, Inc.

4/ Based on 1977 product mix and operating facilities at 2 shifts a day, 5 days a week.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 7.--Certain machine needles: U.S. production, producers' capacity, and capacity utilization, by type of needle, 1973-77, January-June 1977, and January-June 1978

Item and needle type	1973	1974	1975	1976	1977	January-June-- 1977	January-June-- 1978
Production:							
Latch needles							
1,000 needles--	***	***	***	***	***	***	***
Spring-beard needles							
1,000 needles--	***	***	***	***	***	***	***
Needles for knitting machines other than latch or spring-beard							
1,000 needles--	***	***	***	***	***	***	***
Needles for felting machines 1/							
1,000 needles--	***	***	***	***	***	***	***
Needles for embroidery machines							
1,000 needles--	***	***	***	***	***	***	***
Needles for tufting machines							
1,000 needles--	***	***	***	***	***	***	***
Needles for industrial sewing machines							
1,000 needles--	***	***	***	***	***	***	***
Total 2/-------do----	***	***	***	***	***	***	***
Capacity: 3/							
Latch needles----------							
1,000 needles--	***	***	***	***	***	***	***
Spring-beard needles							
1,000 needles--	***	***	***	***	***	***	***
Needles for knitting machines other than latch or spring-beard							
1,000 needles--	***	***	***	***	***	***	***
Needles for Felting machines 1/							
1,000 needles--	***	***	***	***	***	***	***
Needles for embroidery machines							
1,000 needles--	***	***	***	***	***	***	***
Needles for tufting machines							
1,000 needles--	***	***	***	***	***	***	***
Needles for industrial sewing machines							
1,000 needles--	***	***	***	***	***	***	***
Total 2/-------do----	***	***	***	***	***	***	***
Ratio (percent) of production to capacity:							
Latch needles							
percent--	***	***	***	***	***	***	***
Spring-beard needles							
percent--	***	***	***	***	***	***	***
Needles for knitting machines other than latch or spring-beard							
percent--	***	***	***	***	***	***	***
Needles for felting machines 1/---percent--	***	***	***	***	***	***	***
Needles for embroidery machines------percent--	***	***	***	***	***	***	4/ ***
Needles for tufting machines------percent--	***	***	***	***	***	***	***
Needles for industrial sewing machines							
percent--	***	***	***	***	***	***	***
Total----------do----	83.6	79.3	47.7	58.6	57.7	57.6	67.4

1/ Does not include Arrow or Foster.
2/ Does not include Foster or felting machine needles produced by Arrow.
3/ Based on 1977 product mix and operating facilities at 2 shifts a day, 5 days a week.
4/ ***.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

in 1977. Data for January-June 1978 show that the average number of employees increased by 9 percent over its January-June 1977 level. Similar trends are evident with regard to all production and related workers and production and related workers producing the types of needles under investigation. Employment data, by firm, are shown in table 8. U.S. producers indicated that they were not able to segregate employment according to needle types.

Data with respect to man-hours worked by production and related workers in U.S. establishments producing machine needles reflect the trends shown by the average number of employees (table 9). Man-hours worked by all production and related workers decreased from over 3.9 million in 1973 to 2.5 million in 1977, a drop of 34 percent, and then increased slightly by 9 percent in January-June 1978 over the corresponding period in 1977. Man-hours worked by production and related workers producing machine needles fell by 33 percent between 1973 and 1977, and then increased by 12 percent between January-June 1977 and January-June 1978.

Inventories

U.S. producers' yearend inventories of domestically produced machine needles decreased steadily from more than * * * needles at the end of 1974 to about * * * million needles at the end of June 1978 (table 10). As a percentage of annual shipments, inventories of U.S.-produced machine needles also appear to trend downward, at least since December 1975. From December 31, 1975, to June 30, 1978, the ratio of inventories to yearly shipments declined from * * * percent to about * * * percent. U.S. producers' yearend inventories of imported machine needles also decreased after 1974, although a large increase is evident in June 1978 as compared to June 1977. The ratio of inventories to shipments for imported machine needles is higher than that for U.S. produced ones. Between December 31, 1973, and June 30, 1978, the ratio of inventories of imported machine needles to annual shipments has ranged from a high of over * * * percent as of December 31, 1973, to a low of * * * percent as of December 31, 1977. Currently, the ratio of imported machine needles to shipments is about * * * percent. U.S. producers' inventories by firm are shown in table 11. * * *.

Financial performance of U.S. producers

Selected information indicative of the financial performance of U.S. producers of machine needles on their U.S.-produced machine needle operations is reported in table 12. * * *.

According to its accounting data, the machine needle division of Torrington has not shown an annual net operating profit on its U.S.-produced machine needle operations since 1973. * * *.

Table 8.--Average number of employees in U.S. establishments producing certain machine needles, total, and all production and related workers engaged in the manufacture of certain machine needles, by firm, 1973-77, January-June 1977, and January-June 1978

Item and firm	1973	1974	1975	1976	1977	January-June--	
						1977	1978
All employees:							
Torrington	***	***	***	***	***	***	***
Arrow	***	***	***	***	***	***	***
Laconia	***	***	***	***	***	***	***
Total	2,119	2,086	1,593	1,671	1,480	1,476	1,608
All production and related workers:							
Torrington	***	***	***	***	***	***	***
Arrow	***	***	***	***	***	***	***
Laconia	***	***	***	***	***	***	***
Total	1,919	1,857	1,315	1,397	1,237	1,234	1,342
Production and related workers producing certain machine needles:							
Torrington	***	***	***	***	***	***	***
Arrow	***	***	***	***	***	***	***
Laconia	***	***	***	***	***	***	***
Total	1,629	1,584	1,150	1,223	1,068	1,069	1,192

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 9.--Man-hours worked in U.S. establishments producing certain machine needles by production and related workers engaged in the manufacture of all products and of certain machine needles, 1973-77, January-June 1977, and January-June 1978

(In thousands of man-hours)

Item	1973	1974	1975	1976	1977	January-June--	
						1977	1978
All production and related workers	3,870.7	3,729.4	2,383.3	2,741.5	2,541.5	1,300.1	1,414.9
Production and related workers producing certain machine needles	3,242.0	3,132.0	2,017.3	2,355.5	2,177.6	1,118.1	1,248.8

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 10.--Certain machine needles: U.S. producers' inventories of U.S.-produced and imported machine needles, as of December 31, 1973-77, June 30, 1977, and June 30, 1978

Date	U.S. produced 1/		Imported	
	Quantity	Ratio of inventories to shipments during the preceding 12-month or 6-month period	Quantity	Ratio of inventories to shipments during the preceding 12-month or 6-month period
	1,000 needles	Percent	1,000 needles	Percent
December 31--				
1973	***	***	***	***
1974	***	***	***	***
1975	***	***	***	***
1976	***	***	***	***
1977	***	***	***	***
June 30--				
1977	***	2/ ***	***	2/ ***
1978	***	2/ ***	***	2/ ***

1/ Does not include Foster or Arrow's inventories and shipments of felting needles.
2/ Data is based on shipments during the preceding 6-month period at an annual rate.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 11.--Certain machine needles: U.S. producers' inventories of U.S.-produced machine needles, by firm, as of December 31, 1973-77, June 30, 1977, and June 30, 1978

Item and firm 1/	December 31--					June 30--	
	1973	1974	1975	1976	1977	1977	1978
Inventories:							
Torrington							
1,000 needles--	***	***	***	***	***	***	***
Arrow 2/--------do----	***	***	***	***	***	***	***
Laconia--------do----	***	***	***	***	***	***	***
Total--------do----	***	***	***	***	***	***	***
Ratio of inventories to shipments during the preceding 12-month or 6-month period:							
Torrington--percent--	***	***	***	***	***	3/ ***	3/ ***
Arrow 3/-------do----	***	***	***	***	***	3/ ***	3/ ***
Laconia -------do----	***	***	***	***	***	3/ ***	3/ ***
Total--------do----	***	***	***	***	***	3/ ***	3/ ***

1/ Foster not available.
2/ Does not include felting needles.
3/ Data is based on shipments during the preceding 6-month period at an annual rate.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 12--Selected financial data for U.S. producers of certain machine needles on their U.S.-produced machine needle operations, by firm, 1973-77, January-June 1977, and January-June 1978

Item and firm 1/	1973	1974	1975	1976	1977	January-June--	
						1977	1978
Net Sales: 2/							
Torrington							
1,000 dollars--	3/ ***	3/ ***	3/ ***	3/ ***	3/ ***	3/ ***	3/ ***
Laconia---------do----	***	***	***	***	***	***	***
Total---------do----	***	***	***	***	***	***	***
Gross profit or (loss):							
Torrington							
1,000 dollars--	3/ ***	3/ ***	3/ ***	3/ ***	3/ ***	3/ ***	3/ ***
Laconia---------do----	***	***	***	***	***	***	***
Total---------do----	***	***	***	***	***	***	***
Net operating profit or (loss):							
Torrington							
1,000 dollars--	3/ ***	3/ ***	3/ ***	3/ ***	3/ ***	3/ ***	3/ ***
Laconia---------do----	***	***	***	***	***	***	***
Total---------do----	***	***	***	***	***	***	***
Ratio of net operating profit or (loss) to net sales:							
Torrington------percent--	***	***	***	***	***	***	***
Laconia---------do----	***	***	***	***	***	***	***
Total---------do----	***	***	***	***	***	***	***
Ratio of net operating profit or (loss) to fixed assets (cost less depreciation):							
Torrington------percent--	***	***	***	***	***	***	***
Laconia---------do----	***	***	***	***	***	***	***
Total---------do----	***	***	***	***	***	***	***
Ratio of net operating profit or (loss) to fixed assets (cost):							
Torrington------percent--	***	***	***	***	***	***	***
Laconia---------do----	***	***	***	***	***	***	***
Total---------do----	***	***	***	***	***	***	***
Ratio of net operating profit or (loss) to fixed assets (replacement cost):							
Torrington------percent--	***	***	***	***	***	***	***
Laconia---------do----	***	***	***	***	***	***	***
Total---------do----	***	***	***	***	***	***	***

1/ Data for Arrow and Foster not available.
2/ Includes inter/intra company transfers.
3/ Estimate.

Source: Compiled from data submitted in response to questionnaires of the. U.S. International Trade Commission.

While Laconia has continued to show * * * on its U.S.-produced machine-needle operations since * * *, its performance has been far from stable. * * *.

Data for Arrow are not available in the form requested by the Commission; however, company data indicate that annual gross profits, i.e. profit before administrative and selling expenses, have trended * * *.

Only Torrington reported data for machine-needle import operations. * * *.

The Question of the Causal Relationship Between Increased Imports and the Alleged Injury

U.S. consumption and market penetration of imports

Overall consumption of the machine needles under investigation fell significantly after 1973. From an aggregate of 724.2 million needles in 1973, apparent consumption fell to 608.2 million in 1977, or by more than 16 percent (table 4). Data for January-June 1978 show a slight increase over the corresponding period of the previous year. In terms of value, apparent consumption remained relatively stable, reflecting both inflation and the demand for higher quality needles. Apparent consumption fell from $61 million in 1973 to $47.6 million in 1975, increased to $62.1 million in 1977, and further increased by 18 percent between January-June 1977 and January-June 1978.

As a percentage of overall consumption, imports rose from 57 percent to 60.2 percent between 1973 and 1977 in terms of quantity and from 49.3 percent to 52.8 percent in terms of value. A further increase is evident in January-June 1978 over the corresponding period in 1977. If imports by U.S. producers are excluded from total imports, the ratio of imports to consumption increased similarly between 1973 and 1977 but declined in January-June 1978 from January-June 1977. Table 4 on page A-16 shows aggregate data on apparent consumption, the ratio of imports to consumption, and related data on producers' shipments, imports, and exports for all of the types of machine needles under investigation.

Appendix tables C-8 through C-14 show similar data for each major type of machine needle. The data for latch needles, spring-beard needles, and needles for industrial sewing machines are similar to the aggregate in that apparent consumption fell significantly between 1973 and 1977 while imports as a percentage of consumption increased moderately. If imports by U.S. producers are excluded from total imports, however, the ratio of imports to consumption for these types of needles drops considerably in January-June 1978 from the corresponding period in 1977. The apparent consumption of felting, tufting, and embroidery needles increased between 1973 and 1977 and the apparent consumption of felting and embroidery needles further increased in January-June 1978 from January-June 1977. While the ratio of imports to consumption increased relatively moderately between 1973 and 1977 for embroidery and

felting needles, that for tufting needles increased significantly--from * * * percent in 1973 to * * * percent in 1977. If U.S. producers' imports of felting needles are excluded from total imports of these needles * * *. Table 13 shows the percentage change in apparent consumption and the change in imports' share (percent) of consumption for all major types of machine needles between 1973 and 1977 and between January-June 1977 and January-June 1978.

Lost sales

Of the reporting producers, only Torrington documented lost sales: * * * latch needles valued at * * *, * * * felting needles valued at * * *, and * * * tufting needles valued at about * * *. Only about * * * worth of the latch needles reported, however, were being made exclusively in the United States at the time of the alleged lost sale. Of these sales, the Commission verified that sales of needles valued at no less than * * * had, indeed, been lost, all to Japanese imports. The reason for lost sales, with one exception, was price. * * *. While Arrow's managerial staff did not provide specific case information on lost sales, they did claim that for the past 2 years much of the market share of their high-volume items had been replaced by low-priced imports from Japan. For most industrial sewing machine needles and other machine needles that are sold through jobbers and distributors, rather than directly to purchasers, it is virtually impossible for producers to secure lost sales information.

In an effort to ascertain the market's views on machine needle suppliers and their respective products, 10 of the largest distributors and users of industrial sewing machine needles and at least 30 of the largest purchasers and users of knitting-machine needles were contacted and interviewed. The industrial sewing machine needle distributors and users indicated that, if they had increased their purchases of imported needles relative to U.S.-produced ones during the last 2 years, then price was primarily the reason. * * *. Ten purchasers of knitting-machine needles indicated that during the past several years they had increased their purchases of imported needles relative to domestically produced items, and several others indicated that, after sampling U.S.-produced needles, they did not continue purchasing them. Almost unanimously, the reason given was quality. * * *. Even of certain knitting-machine needles purchased from U.S. producers which the market had found excellent or acceptable in quality, such as Torrington's seamless-hosiery needles, many, according to labels on purchased shipments, were manufactured outside of the United States. * * *. Indeed, it is clear that not only do U.S. manufacturers have limited lines in certain types of U.S.-produced knitting-machine needles, but also that many of their best selling needles are manufactured exclusively or almost exclusively abroad. * * *.

Table 13.--Certain machine needles: Apparent consumption, and percentage increase or decrease in apparent consumption, 1973 and 1977, January-June 1977 and January-June 1978

Type	Apparent consumption				Increase or decrease (-) in ratio of--			
	Quantity		Percentage change--		Imports to consumption		Imports other than U.S. producers' imports to consumption	
	1973	1977	1977 from 1973	January-June 1978 from January-June 1977	1973-77	January-June 1978 from January-June 1977	1973-77	January-June 1978 from January-June 1977
	Million needles	Million needles			Percent	Percent	Percent	Percent
Latch needles	***	***	***	***	***	***	***	***
Industrial sewing machine needles	***	***	***	***	***	***	***	***
Felting needles	***	***	***	***	***	***	***	***
Spring-beard needles	***	***	***	***	***	***	***	***
Embroidery needles	***	***	***	***	***	***	***	***
Tufting needles	***	***	***	***	***	***	***	***
Knitting needles other than latch or spring-beard	***	***	***	***	***	***	1/	***
Total	724.2	608.2	-16.0	.8	3.2	1.0	3.5	-8.4

1/ Not available.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Prices

Producers and importers were asked to report, on a quarterly basis, prices and quantities of certain high-volume machine needles shipped to their three principal customers between January 1973 and September 1978. From this information, average weighted prices of U.S.-produced and imported needles for each 3-month period were calculated, the results of which appear in table 14. Because the data are not random and represent extremely small samples of U.S. consumption (less than 3 percent in most cases), their statistical reliability is less than adequate.

According to table 14, prices for U.S.-produced latch needles were between * * * and * * * cents per needle in 1973, rose to over * * * cents per needle in 1975, and then decreased again to 1973 levels in 1977. Prices for imported latch needles declined from 14 cents per needle in 1973 to between 11 and 12 cents per needle in April-December 1975, where for the most part they have remained. While prices for U.S.-produced latch needles were lower than imported ones in 1973 and 1974, they were generally higher in 1975, 1976, and 1977. Import prices increased unexplainably in January-June 1978 before again dropping below those of U.S.-produced needles in July-September 1978.

In addition to having the limitations described above, the data for industrial sewing machine needles are poorly representative. The average weighted prices for imports of these needles conceal a considerable range of prices among them, and, as a consequence of limited questionnaire returns, they are heavily biased by higher valued West German-produced needles. Thus, while average weighted prices of U.S. industrial sewing machine needles as presented in table 14 were lower than those for imports in nearly every quarterly period since January-March 1973, prices for Japanese-produced needles were consistently * * * to * * * cents per needle lower than U.S. producers' prices.

Table 14 also shows average weighted pricing data for felting and tufting needles. During the period under investigation, prices for U.S.-produced tufting needles increased from * * * cents per needle to * * * cents per needle while remaining consistently below prices for imported tufting needles. Felting needle prices rose only moderately; however, prices for U.S.-produced felting needles rose substantially between 1973 and 1976 before returning to 1973 levels. Between January-March 1973 and October-December 1976, prices for imported felting needles were consistently lower than prices for U.S.-produced needles; after 1976, prices remained roughly equivalent.

In addition to weighted average prices per needle, average values per needle were calculated on the basis of the value and quantity of machine needles shipped by U.S. producers and importers. The results are shown in table 15. The data show that while average unit values of both imported and U.S.-produced industrial sewing machine needles increased after 1973, average unit values of imported needles were consistently lower than those for U.S.-produced needles. Average unit values of felting and tufting needles

Table 14.--Average weighted prices 1/ of certain U.S.-produced and imported machine needles, quarterly, January-March 1973 to July-September 1978

(In cents per needle)

Period	Latch needles		Felting needles		Tufting needles		Industrial sewing machine needles	
	U.S.-produced	Imported	U.S.-produced	Imported	U.S.-produced	Imported	U.S.-produced	Imported
1973:								
January-March	***	14.0	***	***	***	***	***	***
April-June	***	14.0	***	***	***	***	***	***
July-September	***	14.0	***	***	***	***	***	***
October-December	***	14.0	***	***	***	***	***	***
1974:								
January-March	***	13.2	***	***	***	***	***	***
April-June	***	13.1	***	***	***	***	***	***
July-September	***	13.7	***	***	***	***	***	***
October-December	***	14.2	***	***	***	***	***	***
1975:								
January-March	***	14.0	***	***	***	***	***	***
April-June	***	12.1	***	***	***	***	***	***
July-September	***	11.1	***	***	***	***	***	***
October-December	***	10.8	***	***	***	***	***	***
1976:								
January-March	***	11.2	***	***	***	***	***	***
April-June	***	11.3	***	***	***	***	***	***
July-September	***	11.4	***	***	***	***	***	***
October-December	***	11.7	***	***	***	***	***	***
1977:								
January-March	***	11.9	***	***	***	***	***	***
April-June	***	11.8	***	***	***	***	***	***
July-September	***	11.5	***	***	***	***	***	***
October-December	***	11.8	***	***	***	***	***	***
1978:								
January-March	***	13.2	***	***	***	***	***	***
April-June	***	13.5	***	***	***	***	***	***
July-September	***	11.6	***	***	***	***	***	***

1/ Weighted on the basis of quantity sold.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 15.--Average unit values of certain machine needles shipped by U.S. producers and importers, 1973-77 and January-June 1978

(In cents per needle)

Year	Latch needles		Felting needles		Embroidery needles		Tufting needles		Industrial sewing machine needles	
	U.S.-produced	Imported	U.S.-produced	Imported	U.S. produced	Imported	U.S.-produced	Imported	U.S.-produced	Imported
1973	13.8	16.0	3.1	***	***	***	***	***	***	***
1974	15.4	13.5	3.5	***	***	***	***	***	***	***
1975	16.2	17.1	3.6	***	***	***	***	***	***	***
1976	17.9	16.5	3.6	***	***	***	***	***	***	***
1977	18.0	15.4	3.9	***	***	***	***	***	***	***
1978 (January-June)	16.5	16.9	4.4	***	***	***	***	***	***	***

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

also increased, though in these cases the values for U.S.-produced needles are the lowest. After rising from 13.8 cents per needle in 1973 to 18 cents per needle in 1977, the average unit value of U.S.-produced latch needles fell to 16.5 cents per needle in January-June 1978. The trend for average unit value of imported latch needles has been erratic, fluctuating above and below that for U.S.-produced needles.

Between 1973 and 1977, the average selling price and production cost of U.S.-produced machine needles increased at about the same rate. While the average selling price per needle rose from 9.9 cents to 12.8 cents, the average production cost per needle rose from * * * cents to * * * cents, * * *. From 1977 to January-June 1978, however, the average unit production cost increased by * * * cents per needle, or by * * * percent, while the average selling price decreased by 0.4 cent per needle, or by 3 percent. U.S. producers' average unit production costs and average unit selling prices for their sales of U.S.-produced machine needles, by firm, for 1973 through January-June 1978 are shown in table 16.

Efforts of U.S. producers to compete with imports

All three major U.S. producers reported efforts to compete more effectively with imports of machine needles, although it is unclear in many instances whether such competitive efforts were directed primarily against imports. * * *.

* * * * * * *

U.S. producers were also asked to indicate what adjustments they would make during the period of any increased tariff, quota, or other means of relief that would enable them to compete more effectively with imports once such relief was terminated. Torrington indicated that it would institute the following improvements:

* * * * * * *

Arrow simply stated that it would probably * * *. In contrast to the other producers, Laconia believes that it would not move more expeditiously if import relief were granted and is seriously concerned that any import relief might result in increased prices to needle purchasers and provoke a further reduction in U.S. manufacture of knitted products.

Table 16.--Certain machine needles: U.S. producers' average unit production costs and average unit selling prices for sales of U.S.-produced machine needles, by firm, 1973-77 and January-June 1978

(In cents per needle)

Firm	1973	1974	1975	1976	1977	January-June 1978
	Average production cost 1/					
Torrington	***	***	***	***	***	***
Arrow	2/	2/	2/	2/	2/	2/
Laconia	***	***	***	***	***	***
Average	***	***	***	***	***	***
	Average selling price 1/					
Torrington	***	***	***	***	***	***
Arrow	***	***	***	***	***	***
Laconia	***	***	***	***	***	***
Average	9.9	10.8	11.9	12.6	12.8	12.4

1/ Weighted by quantity sold.
2/ Data not available.

Source: Compiled from data submitted in response to questionnaries of the U.S. International Trade Commission.

Possible causes of serious injury to the domestic industry other than increased imports

The 16-percent drop in overall machine needle consumption between 1973 and 1977 clearly implies the role of demand in the performance of U.S. producers during those years. During the same period, imports increased their share of consumption by only 3 percent. For all of the major types of needles under consideration, consumption has decreased by more than import's share of consumption has increased (table 13). Whereas the percentage decrease in latch needle consumption was more than * * * percent between 1973 and 1977, the increase in the ratio of latch needle imports to consumption was only * * * percent. Similarly, while the consumption of industrial sewing machine needles declined by more than * * * percent, import's share of consumption increased by only * * * percent.

The decline in needle consumption over the past 5 to 6 years is related to declines in domestic apparel and textile production and to technological innovations in the textile machinery industry. As imports of textiles and apparel, including nonrubber footwear, have increasingly replaced U.S. produced goods, domestic demand for needles has declined accordingly. The

decline in demand is generally acknowledged to be worldwide. Within the past 2 years, Torrington has closed its plants in Italy and the United Kingdom, and many other overseas producers have curtailed production. Technological innovations have also contributed to the machine needle industry's declining shipments. Newer knitting machines reduce needle consumption on a per-item, per-pound, and per-hour basis, resulting in a demand for fewer, but higher quality, needles.

Recessionary factors and overexpansion have added to producers' difficulties. The recession of 1974 and 1975 was occasioned by large cutbacks in consumer spending for clothing, which affected the markets for textiles, apparel, and machine needles to a sizable degree. Even before the recession, the U.S. industry faced a serious readjustment. In the early 1970's, U.S. producers, particularly Torrington, had expanded and converted capacity in anticipation of a large demand in double-knit needle sales. When, after 1973, sales failed to meet their expectations, producers were faced with substantial amounts of idle capacity. Furthermore, as indicated earlier, U.S. producers have not been able to manufacture certain types of knitting-machine needles that meet the market's standards of quality and uniformity.

Finally, competitive pressures within the U.S. industry have more than likely contributed to Torrington's poor performance. Although it is not clear to what extent Torrington may have lost sales to other U.S. producers, it is certain that Torrington's share of the U.S. market has declined relative to other U.S. producers. Between 1973 and 1977, Torrington's share of U.S. producers' shipments declined from * * * percent to * * * percent, while Arrow, Laconia, and Foster increased their shares by * * * percent, * * * percent, and * * * percent, respectively (table 1).

APPENDIX A

U.S. INTERNATIONAL TRADE COMMISSION'S NOTICE OF INVESTIGATION AND HEARING

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

CERTAIN MACHINE NEEDLES

(TA-201-38)

Notice of Investigation and Hearing

Investigation instituted. Following receipt of a petition on August 7, 1978, filed on behalf of The Torrington Co., Torrington, Connecticut, the United States International Trade Commission on August 25, 1978, instituted an investigation under section 201(b) of the Trade Act of 1974 to determine whether needles for machines for making nonwoven or nonknit fabrics; needles for knitting, embroidery, and other textile machines; and needles for sewing machines, except sewing machines designed for household use; provided for in items 670.35; 670.58, 670.60, 670.62, 670.64, and 670.74; and 672.20 of the Tariff Schedules of the United States (TSUS), are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

Public hearing ordered. A public hearing in connection with this investigation will be held in Washington, D.C., at 10:00 a.m., e.s.t., on Monday, November 20, 1978, in the Hearing Room, U.S. International Trade Commission Building, 701 E Street, N.W. Requests for appearances at the hearing should be received in writing by the Secretary of the Commission at his office in Washington not later than noon, Wednesday, November 15, 1978.

There will be a prehearing conference in connection with this investigation which will be held in Washington, D.C., at 10:00 a.m., e.s.t., on Wednesday, November 15, 1978, in Room 117, U.S. International Trade Commission Building, 701 E Street, N.W.

Inspection of petition. The petition filed in this case is available for public inspection at the Office of the Secretary, U.S. International Trade Commission, and at the New York City office of the U.S. International Trade Commission, located at 6 World Trade Center.

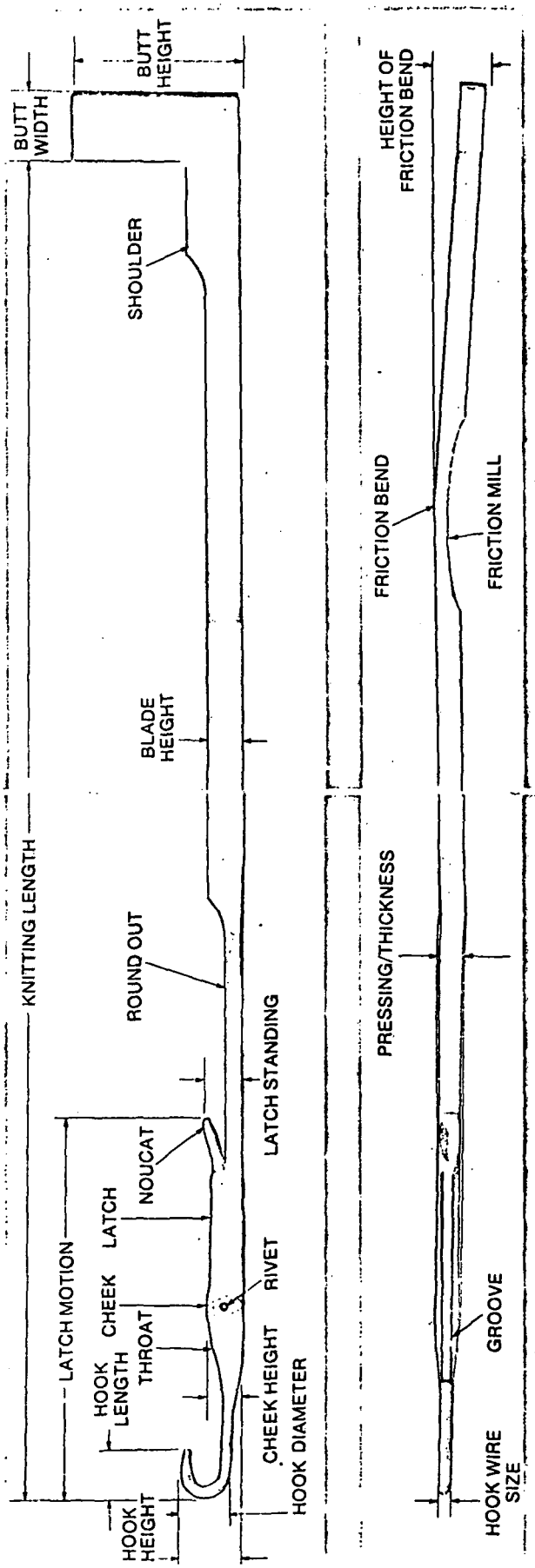
By order of the Commission:

Kenneth R. Mason
Secretary

Issued: August 28 , 1978

APPENDIX B

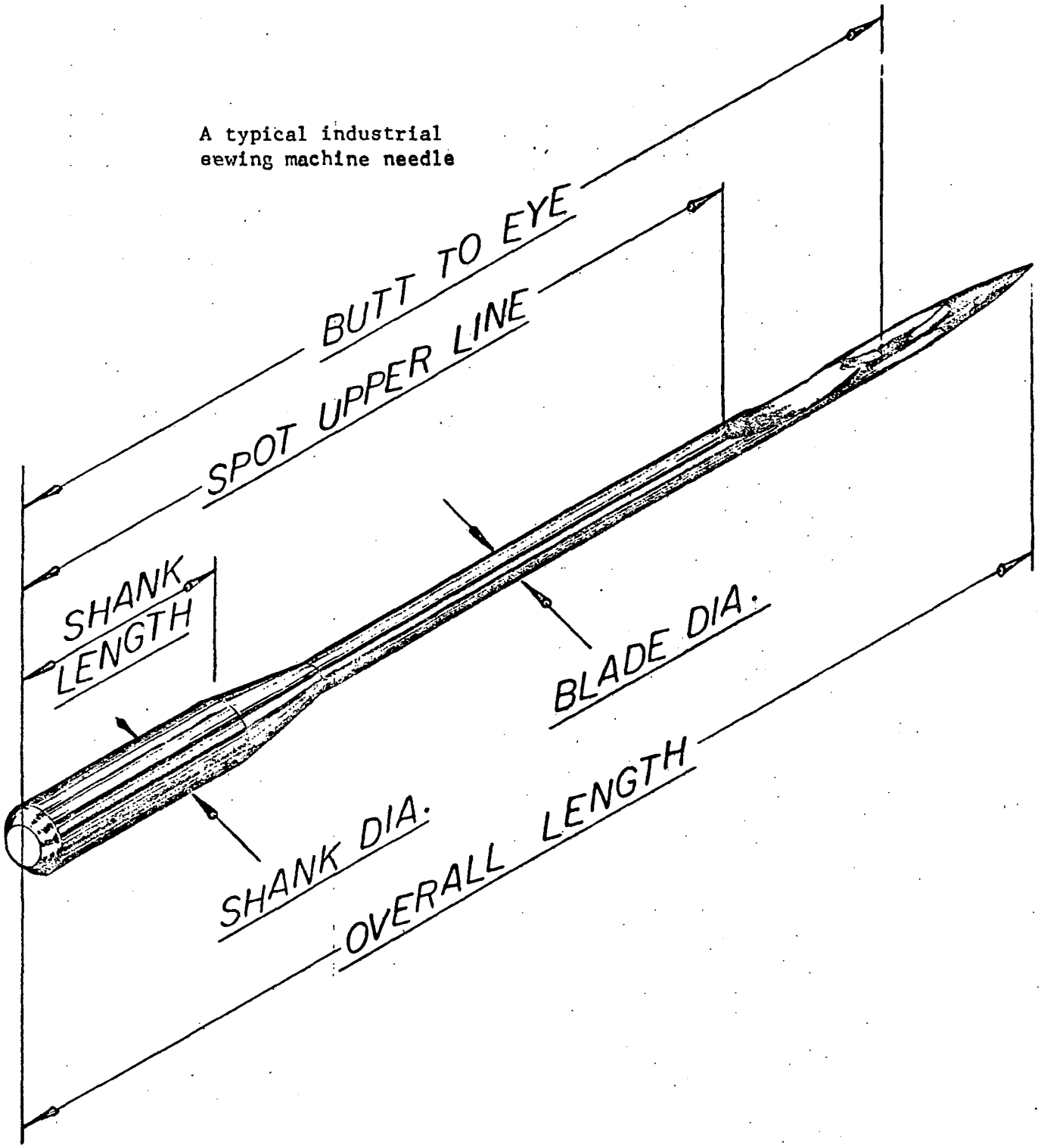
EXHIBITS OF CERTAIN MACHINE NEEDLES



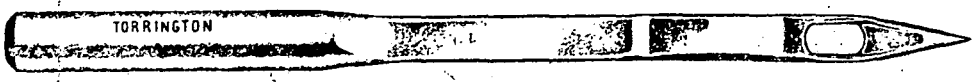
A typical latch needle

BASIC NEEDLE DIMENSIONS

A typical industrial sewing machine needle



Why you should specify Torrington Tufting Needles

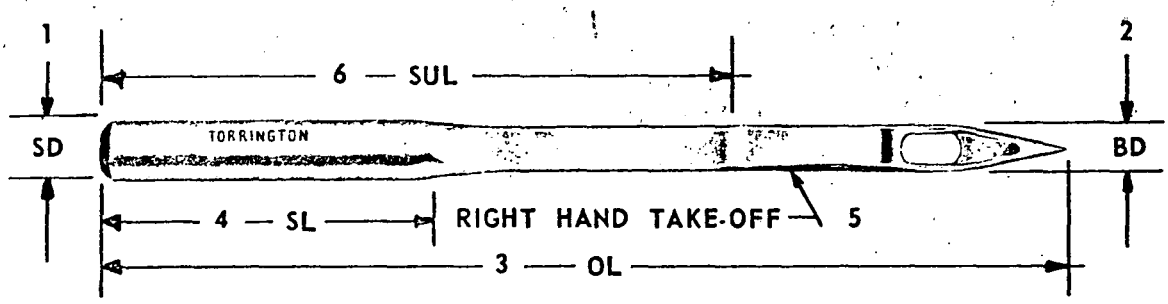


1. SPECIALLY DRAWN STEEL
2. PRECISE DIMENSIONAL CONTROL
3. SPECIALLY DESIGNED FOR ALL OF TODAYS BACKING
4. HIGHLY POLISHED NEEDLE EYES
5. POINTS DESIGNED FOR EASE OF PENETRATION
6. TECHNICAL ASSISTANCE
7. AVAILABILITY

The needles illustrated in this brochure represent our most popular types - however our line consists of over 150 different styles.

NOTE: For ease of selection the needles in this brochure are arranged in needle bar sizes ranging from .060 through .185.

To assist you further, we have displayed on page 7 the most popular needle point types and take off styles used in the industry today.



TERMINOLOGY FOR DIMENSIONS

1 SD – Shank Diameter

2 BD – Blade Diameter

3 OL – Overall Length

4 SL – Shank Length

5 Right Hand Take-Off Can be left, right or both

6 SUL – Spot Upper Line

NOTE: Use the above terminology whenever requesting a change or a new design in a tufting needle--it will enable us to speed up your request.

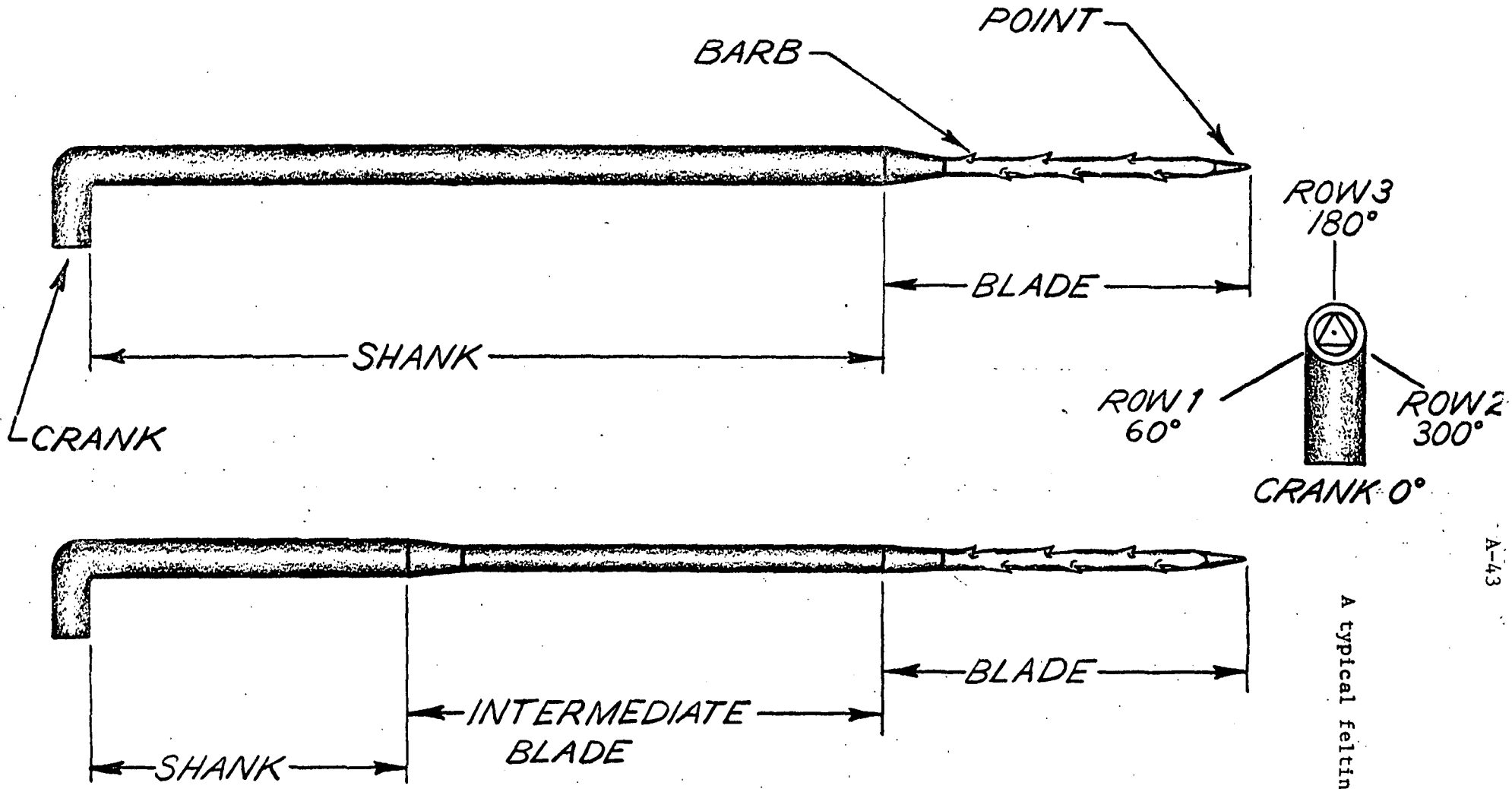


CHART SHOWING
SINGLE BLADE and DOUBLE BLADE
TYPES

A typical felting needle

A-43

APPENDIX C

SUPPLEMENTARY TABLES AND FIGURES

Table C-1.--Needles for felting machines (TSUS item 670.62): U.S. imports for consumption, by principal sources, 1973-77, January-June 1977, and January-June 1978

Source	1973	1974	1975	1976	1977	January-June-- 1977	January-June-- 1978
	Quantity (1,000 needles)						
West Germany	***	***	***	***	***	***	***
United Kingdom	***	***	***	***	***	***	***
Total	***	***	***	***	***	***	***
	Percentage distribution, by quantity						
West Germany	***	***	***	***	***	***	***
United Kingdom	***	***	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Value (1,000 dollars) 1/						
West Germany	***	***	***	***	***	***	***
United Kingdom	***	***	***	***	***	***	***
Total	***	***	***	***	***	***	***
	Percentage distribution, by value						
West Germany	***	***	***	***	***	***	***
United Kingdom	***	***	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Unit value (cents per needle						
West Germany	***	***	***	***	***	***	***
United Kingdom	***	***	***	***	***	***	***
Total	***	***	***	***	***	***	***

1/ F.o.b. foreign point of shipment value.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table C-2.--Latch needles (for knitting machines) (TSUS item 670.58): U.S. imports for consumption, by principal sources, 1973-77, January-June 1977, and January-June 1978

Source	1973	1974	1975	1976	1977	January-June-- 1977	January-June-- 1978
	Quantity (1,000 needles)						
West Germany	99,976	70,902	43,575	51,817	65,133	33,141	40,592
Japan	19,391	18,598	17,161	24,252	28,727	12,834	16,357
Canada	17,826	14,391	9,147	10,901	13,691	8,875	10,181
Switzerland	3,138	5,112	5,197	14,894	11,324	4,583	4,333
Other	17,019	23,045	12,373	13,328	14,436	7,541	7,382
Total	157,350	132,048	87,453	115,192	133,311	66,974	78,845
	Percentage distribution, by quantity						
West Germany	63.5	53.7	49.8	45.0	48.9	49.5	51.5
Japan	12.3	14.1	19.6	21.1	21.6	19.2	20.8
Canada	11.3	10.9	10.5	9.5	10.3	13.3	12.9
Switzerland	2.0	3.9	5.9	12.9	8.5	6.8	5.5
Other	10.9	17.4	14.2	11.5	10.7	11.2	9.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Value (1,000 dollars) 1/						
West Germany	12,939	10,521	7,612	8,499	10,047	3,825	8,626
Japan	1,445	1,485	1,423	2,025	2,530	1,098	1,751
Canada	2,103	1,785	1,347	1,711	1,715	1,003	1,130
Switzerland	355	600	569	1,007	1,398	582	691
Other	1,424	2,003	1,281	1,333	1,254	595	680
Total	18,266	16,394	12,232	14,575	16,944	7,103	12,878
	Percentage distribution, by value						
West Germany	70.8	64.2	62.2	58.3	59.3	53.9	67.0
Japan	7.9	9.1	11.6	13.9	14.9	15.5	13.6
Canada	11.5	10.9	11.0	11.7	10.1	14.1	8.8
Switzerland	1.9	3.7	4.7	6.9	8.3	8.2	5.4
Other	7.9	12.1	10.5	9.2	7.4	8.3	5.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Unit value (cents per needle)						
West Germany	12.9	14.8	17.5	16.4	15.4	11.5	21.3
Japan	7.5	8.0	8.3	8.4	8.8	8.6	10.7
Canada	11.8	12.4	14.7	15.7	12.5	11.3	11.1
Switzerland	11.3	11.7	11.0	6.8	12.4	12.7	16.0
Other	8.4	8.7	10.4	10.0	8.7	7.9	9.2
Total	11.6	12.4	14.0	12.7	12.7	10.6	16.3

1/ Customs import value.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table C-3.--Spring-beard needles (for knitting machines) (TSUS item 670.60): U.S. imports for consunption, by principal sources, 1973-77, January-June 1977, and January-June 1978

Source	1973	1974	1975	1976	1977	January-June-- 1977	January-June-- 1978
	Quantity (1,000 needles)						
United Kingdom	2,474	0	0	0	3,819	2,429	1,304
West Germany	12,155	17,521	14,794	9,630	11,221	5,453	7,413
Other	2	1,486	1,074	1,005	361	223	207
Total	14,631	19,007	15,868	10,635	15,401	8,105	8,924
	Percentage distribution, by quantity						
United Kingdom	16.9	-	-	-	24.8	30.0	14.6
West Germany	83.1	92.2	93.2	90.6	72.9	67.3	83.1
Other	-	7.8	6.8	9.4	2.3	2.7	2.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Value (1,000 dollars) 1/						
United Kingdom	47	-	-	-	74	38	40
West Germany	396	613	530	381	372	135	394
Other	-	45	34	49	28	17	36
Total	443	658	564	430	474	190	470
	Percentage distribution, by value						
United Kingdom	10.6	-	-	-	15.6	20.0	8.5
West Germany	89.4	93.2	94.0	88.6	78.5	71.1	83.8
Other	-	6.8	6.0	11.4	5.9	8.9	7.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Unit value (cents per needle)						
United Kingdom	1.9	-	-	-	1.9	1.6	3.1
West Germany	3.3	3.5	3.6	4.0	3.3	2.5	5.3
Other	-	3.0	3.2	4.9	7.8	7.6	17.4
Total	3.0	3.5	3.6	4.0	3.1	2.3	5.3

1/ Customs import value.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table C-4.--Needles other than latch needles or spring-beard needles for knitting machines (TSUS item 670.62): U.S. imports for consumption, by principal sources, 1973-77, January-June 1977, and January-June 1978

Source	1973	1974	1975	1976	1977	January-June--	
						1977	1978
	Quantity (1,000 needles)						
Switzerland	6	0	0	0	609	601	2
Spain	18	0	0	0	478	478	4
United Kingdom	114	0	0	0	429	299	19
W. Germany	2,335	0	0	0	322	204	158
Ireland	0	0	0	0	266	0	295
Other	246	1,419	1,747	521	238	152	316
Total	2,719	1,419	1,747	521	2,342	1,734	794
	Percentage distribution, by quantity						
Switzerland	0.2	-	-	-	26.0	34.7	0.3
Spain	0.7	-	-	-	20.4	27.6	0.5
United Kingdom	4.2	-	-	-	18.3	17.2	2.4
W. Germany	85.9	-	-	-	13.7	11.8	19.9
Ireland	-	-	-	-	11.4	-	37.1
Other	9.0	100	100	100	10.2	8.7	39.8
Total	100.0	100	100	100	100.0	100.0	100.0
	Value (1,000 dollars) 1/						
Switzerland	1	-	-	-	39	35	2
Spain	5	-	-	-	1	1	1
United Kingdom	13	-	-	-	12	2	3
W. Germany	108	-	-	-	49	34	13
Ireland	0	-	-	-	9	0	13
Other	18	29	78	73	38	20	8
Total	145	29	78	73	148	92	40
	Percentage distribution, by value						
Switzerland	0.7	-	-	-	26.4	38.0	5.0
Spain	3.4	-	-	-	0.7	1.1	2.5
United Kindgom	9.0	-	-	-	8.1	2.2	7.5
W. Germany	74.5	-	-	-	33.1	37.0	32.5
Ireland	+	-	-	-	6.1	-	32.5
Other	12.4	100	100	100	25.6	21.7	20.0
Total	100	100	100	100	100.0	100.0	100.0
	Unit value (cents per needle)						
Switzerland	16.7	-	-	-	6.4	5.8	100.0
Spain	27.8	-	-	-	0.2	0.2	25.0
United Kingdom	11.4	-	-	-	2.8	0.7	15.8
W. Germany	4.6	-	-	-	15.2	16.7	8.2
Ireland	-	-	-	-	3.4	-	4.4
Other	7.3	2.0	4.5	14.0	16.0	13.2	2.5
Total	5.3	2.0	4.5	14.0	6.3	5.3	5.0

1/ Customs import value.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table C-5.--Needles for embroidery machines (TSUS item 670.74): U.S. imports for consumption, by principal sources, 1973-77, January-June 1977, and January-June 1978

Source	1973	1974	1975	1976	1977	January-June--	
						1977	1978
	Quantity (1,000 needles)						
West Germany	732	752	857	5,826	5,748	2,521	2,772
Other	159	756	329	697	510	227	1,078
Total	891	1,508	1,186	6,523	6,258	2,748	3,850
	Percentage distribution, by quantity						
West Germany	82.2	49.9	72.3	89.3	91.9	91.7	72.0
Other	17.8	50.1	27.7	10.7	8.1	8.3	28.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Value (1,000 dollars) 1/						
West Germany	62	78	104	311	351	167	192
Other	9	27	24	29	35	16	42
Total	71	105	128	340	386	183	234
	Percentage distribution, by value						
West Germany	87.3	74.3	81.3	91.5	90.9	91.3	82.1
Other	12.7	25.7	18.7	8.5	9.1	8.7	17.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Unit value (cents per needle)						
West Germany	8.5	10.4	12.1	5.3	6.1	6.6	6.9
Other	5.7	3.6	7.3	4.2	6.9	7.1	3.9
Total	8.0	7.0	10.8	5.2	6.2	6.7	6.1

1/ Customs import value.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table C-6.--Needles for tufting machines (TSUS item 670.74): U.S. imports for consumption, by principal sources, 1973-77, January-June 1977, and January-June 1978

Source	1973	1974	1975	1976	1977	January-June--	
						1977	1978
	Quantity (1,000 needles)						
West Germany	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	***	***	***	***	***	***	***
	Percentage distribution, by quantity						
West Germany	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Value (1,000 dollars) 1/						
West Germany	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	***	***	***	***	***	***	***
	Percentage distribution, by value						
West Germany	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Unit value (cents per needle)						
West Germany	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	***	***	***	***	***	***	***

1/ F.c.b. foreign point of shipment value.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table C-7.--Needles for industrial sewing machines (TSUS item 672.20): U.S. imports for consumption, by principal sources, 1973-77, January-June 1977, and January-June 1978

Source	1973	1974	1975	1976	1977	January-June--	
						1977	1978
	Quantity (1,000 needles)						
West Germany	93,521	87,373	47,392	61,410	64,657	36,935	29,609
Japan	20,813	18,458	20,645	21,086	23,822	16,558	8,128
United Kingdom	41,438	42,254	29,033	35,549	32,497	16,147	12,353
Belgium	37,514	41,460	32,558	29,693	22,603	9,458	12,166
Portugal	***	***	***	***	***	***	***
Other	11,289	9,684	6,837	8,835	11,805	6,454	8,749
Total	***	***	***	***	***	***	***
	Percentage distribution, by quantity						
West Germany	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***
United Kingdom	***	***	***	***	***	***	***
Belgium	***	***	***	***	***	***	***
Portugal	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Value (1,000 dollars) 1/						
West Germany	5,760	6,416	4,575	6,192	6,761	3,599	3,573
Japan	653	632	940	783	832	496	486
United Kingdom	1,838	1,992	1,698	2,060	1,891	969	924
Belgium	972	1,148	1,316	1,418	1,399	622	877
Portugal	***	***	***	***	***	***	***
Other	333	347	299	386	538	236	411
Total	***	***	***	***	***	***	***
	Percentage distribution, by value						
West Germany	***	***	***	***	***	***	***
Japan	***	***	***	***	***	***	***
United Kingdom	***	***	***	***	***	***	***
Belgium	***	***	***	***	***	***	***
Portugal	***	***	***	***	***	***	***
Other	***	***	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Unit value (cents per needle)						
West Germany	6.2	7.3	9.7	10.1	10.5	9.7	12.1
Japan	3.1	3.4	4.6	3.7	3.5	3.0	6.0
United Kingdom	4.4	4.7	5.9	5.8	5.8	6.0	7.5
Belgium	2.6	2.8	4.0	4.8	6.2	6.6	7.2
Portugal	***	***	***	***	***	***	***
Other	3.0	3.6	4.4	4.4	4.6	3.7	4.7
Total	***	***	***	***	***	***	***

1/ F.o.b. foreign point of shipment or customs import value.

Source: For Germany and Japan, yearly ratios of industrial sewing machine needles to total sewing machine needles as derived from official German and Japanese export statistics were applied to official U.S. Department of Commerce statistics; for all other countries except Portugal, whose imports were derived from responses to U.S. International Trade Commission questionnaires, a fixed percentage based on U.S. Customs Service estimates was applied to official U.S. Department of Commerce statistics.

Table C-8.--Needles for felting machines: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1973-77, January-June 1977, and January-June 1978

(Quantity in millions of needles; value in millions of dollars)

Period	Producers' shipments	Imports			Exports	Apparent consumption	Ratio (percent) of imports to consumption		
		U.S. producers	All others	Total			U.S. producers	All others	Total
	Quantity								
1973	73.1	***	***	***	***	***	***	***	***
1974	76.8	***	***	***	***	***	***	***	***
1975	55.8	***	***	***	***	***	***	***	***
1976	74.0	***	***	***	***	***	***	***	***
1977	82.2	***	***	***	***	***	***	***	***
January-June--									
1977	43.4	***	***	***	***	***	***	***	***
1978	41.2	***	***	***	***	***	***	***	***
	Value								
1973	2.3	***	***	***	***	***	***	***	***
1974	2.7	***	***	***	***	***	***	***	***
1975	2.0	***	***	***	***	***	***	***	***
1976	2.7	***	***	***	***	***	***	***	***
1977	3.2	***	***	***	***	***	***	***	***
January-June--									
1977	1.7	***	***	***	***	***	***	***	***
1978	1.8	***	***	***	***	***	***	***	***

1/ ***

2/ F.o.b. foreign point of shipment or customs import value.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

Table C-9.--Latch needles (for knitting machines): U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1973-77, January-June 1977, and January-June 1978

(Quantity in millions of needles; value in millions of dollars)

Period	Producers' shipments	Imports			Exports	Apparent consumption	Ratio (percent) of imports to consumption		
		U.S. producers	All others	Total			U.S. producers	All others	Total
	Quantity								
1973	154.6	***	***	157.3	***	***	***	***	***
1974	128.5	***	***	132.0	***	***	***	***	***
1975	105.3	***	***	87.5	***	***	***	***	***
1976	109.8	***	***	115.2	***	***	***	***	***
1977	116.9	***	***	133.3	***	***	***	***	***
January-June--									
1977	59.0	***	***	67.0	***	***	***	***	***
1978	62.3	***	***	78.8	***	***	***	***	***
	Value								
1973	21.4	***	***	1/18.3	***	***	***	***	***
1974	19.7	***	***	1/16.4	***	***	***	***	***
1975	17.1	***	***	1/12.2	***	***	***	***	***
1976	19.7	***	***	1/14.6	***	***	***	***	***
1977	21.1	***	***	1/16.9	***	***	***	***	***
January-June--									
1977	11.2	***	***	1/ 7.1	***	***	***	***	***
1978	10.3	***	***	1/12.9	***	***	***	***	***

1/ F.o.b. foreign point of shipment or customs import value.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

Table C-10.--Spring-beard needles (for knitting machines): U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1973-77, January-June 1977, and January-June 1978

(Quantity in millions of needles; value in millions of dollars)

Period	Producers' shipments	Imports			Exports	Apparent consumption	Ratio (percent) of imports to consumption		
		U.S. producers	All others	Total			U.S. producers	All others	Total
	Quantity								
1973	***	***	***	14.6	***	***	***	***	***
1974	***	***	***	19.0	***	***	***	***	***
1975	***	***	***	15.7	***	***	***	***	***
1976	***	***	***	10.6	***	***	***	***	***
1977	***	***	***	15.4	***	***	***	***	***
January-June--									
1977	***	***	***	8.1	***	***	***	***	***
1978	***	***	***	8.9	***	***	***	***	***
	Value								
1973	***	***	***	1/ 0.4	***	***	***	***	***
1974	***	***	***	1/ .7	***	***	***	***	***
1975	***	***	***	1/ .6	***	***	***	***	***
1976	***	***	***	1/ .4	***	***	***	***	***
1977	***	***	***	1/ .5	***	***	***	***	***
January-June--									
1977	***	***	***	1/ .2	***	***	***	***	***
1978	***	***	***	1/ .5	***	***	***	***	***

1/ F.o.b. foreign point of shipment or customs import value.
2/ ***

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

Table C-11.--Needles other than latch or spring-beard for knitting machines: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1973-77, January-June 1977, and January-June 1978

(Quantity in thousands of needles; value in thousands of dollars)

Period	Producers' shipments	Imports			Exports	Apparent consumption	Ratio (percent) of imports to consumption		
		U.S. producers	All others	Total			U.S. producers	All others	Total
	Quantity								
1973	***	1/	1/	2,719	***	***	1/	1/	***
1974	***	1/	1/	1,419	***	***	1/	1/	***
1975	***	1/	1/	1,747	***	***	1/	1/	***
1976	***	***	***	521	***	***	***	***	***
1977	***	***	***	2,342	***	***	***	***	***
January-June--									
1977	***	***	***	1,734	***	***	***	***	***
1978	***	***	***	794	***	***	***	***	***
	Value								
1973	***	1/	1/	2/ 145	***	***	1/	1/	***
1974	***	1/	1/	2/ 29	***	***	1/	1/	***
1975	***	1/	1/	2/ 78	***	***	1/	1/	***
1976	***	***	2/	2/ 73	***	***	***	***	***
1977	***	***	2/	2/ 148	***	***	***	***	***
January-June--									
1977	***	2/	2/	2/ 92	***	***	***	***	***
1978	***	2/	2/	2/ 106	***	***	***	***	***

1/ Not available.

2/ F.o.b. foreign point of shipment or customs import value.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

Table C-12.--Needles for embroidery machines: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1973-77, January-June 1977, and January-June 1978

(Quantity in thousands of needles; value in thousands of dollars)

Period	Producers' shipments	Imports			Exports	Apparent consumption	Ratio (percent) of imports to consumption		
		U.S. producers	All others	Total			U.S. producers	All others	Total
	Quantity								
1973	***	***	***	891	***	***	***	***	***
1974	***	***	***	1,508	***	***	***	***	***
1975	***	***	***	1,186	***	***	***	***	***
1976	***	***	***	6,523	***	***	***	***	***
1977	***	***	***	6,258	***	***	***	***	***
January-June--									
1977	***	***	***	2,748	***	***	***	***	***
1978	***	***	***	3,850	***	***	***	***	***
	Value								
1973	***	***	1/ ***	1/ 71	***	***	***	***	***
1974	***	***	1/ ***	1/ 105	***	***	***	***	***
1975	***	***	1/ ***	1/ 128	***	***	***	***	***
1976	***	***	1/ ***	1/ 340	***	***	***	***	***
1977	***	***	1/ ***	1/ 386	***	***	***	***	***
January-June--									
1977	***	***	1/ ***	1/ 183	***	***	***	***	***
1978	***	***	1/ ***	1/ 234	***	***	***	***	***

1/ F.o.b. foreign point of shipment or customs import value.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

Table C-13.--Needles for tufting machines: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1973-77, January-June 1977, and January-June 1978

(Quantity in millions; value in millions of dollars)

Period	Producers' shipments	Imports			Exports	Apparent consumption	Ratio (percent) of imports to consumption		
		U.S. producers	All others	Total			U.S. producers	All others	Total
	Quantity								
1973	***	***	***	***	***	***	***	***	***
1974	***	***	***	***	***	***	***	***	***
1975	***	***	***	***	***	***	***	***	***
1976	***	***	***	***	***	***	***	***	***
1977	***	***	***	***	***	***	***	***	***
January-June--									
1977	***	***	***	***	***	***	***	***	***
1978	***	***	***	***	***	***	***	***	***
	Value								
1973	***	***	1/ ***	1/***	***	***	***	***	***
1974	***	***	1/ ***	1/***	***	***	***	***	***
1975	***	***	1/ ***	1/***	***	***	***	***	***
1976	***	***	1/ ***	1/***	***	***	***	***	***
1977	***	***	1/ ***	1/***	***	***	***	***	***
January-June--									
1977	***	***	1/ ***	1/***	***	***	***	***	***
1978	***	***	1/ ***	1/***	***	***	***	***	***

1/ F.o.b. foreign point of shipment or customs import value.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

Table C-14.--Needles for industrial sewing machines (TSUS item 672.20): U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1973-77, January-June 1977, and January-June 1978

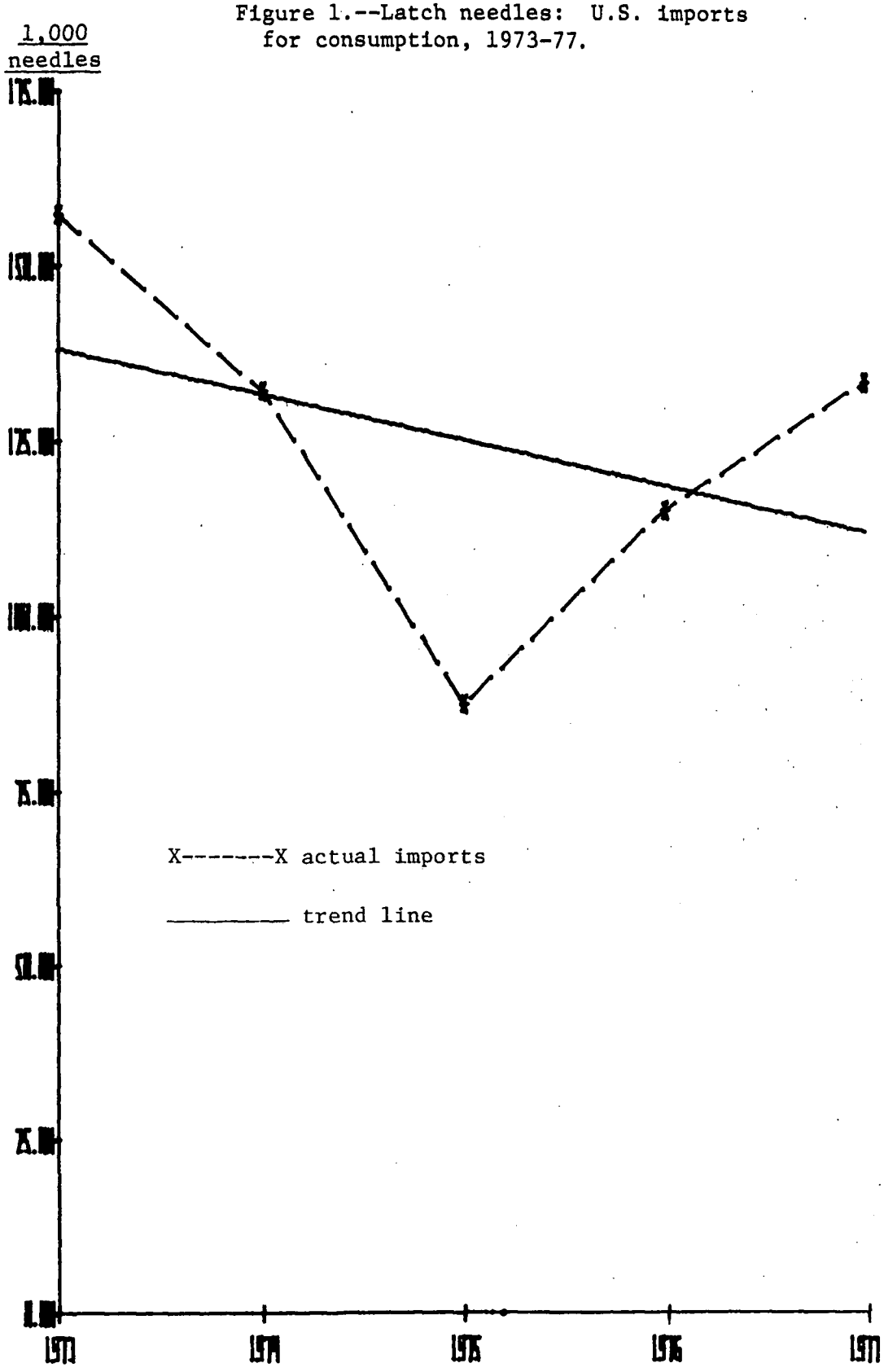
(Quantity in millions of needles; value in millions of dollars)

Period	Producers' shipments	Imports			Exports	Apparent consumption	Ratio (percent) of imports to consumption		
		U.S. producers	All others	Total			U.S. producers	All others	Total
	Quantity								
1973	***	***	204.5	***	***	***	***	***	***
1974	***	***	199.3	***	***	***	***	***	***
1975	***	***	136.5	***	***	***	***	***	***
1976	***	***	156.6	***	***	***	***	***	***
1977	***	***	155.3	***	***	***	***	***	***
January-June--									
1977	***	***	85.5	***	***	***	***	***	***
1978	***	***	71.0	***	***	***	***	***	***
	Value								
1973	***	1/	1/ 9.5	1/***	***	***	***	***	***
1974	***	1/	1/ 10.5	1/***	***	***	***	***	***
1975	***	1/	1/ 8.8	1/***	***	***	***	***	***
1976	***	1/	1/ 10.8	1/***	***	***	***	***	***
1977	***	1/	1/ 11.4	1/***	***	***	***	***	***
January-June--									
1977	***	1/	1/ 5.9	1/***	***	***	***	***	***
1978	***	1/	1/ 6.2	1/***	***	***	***	***	***

1/ F.o.b. foreign point of shipment or customs import value.

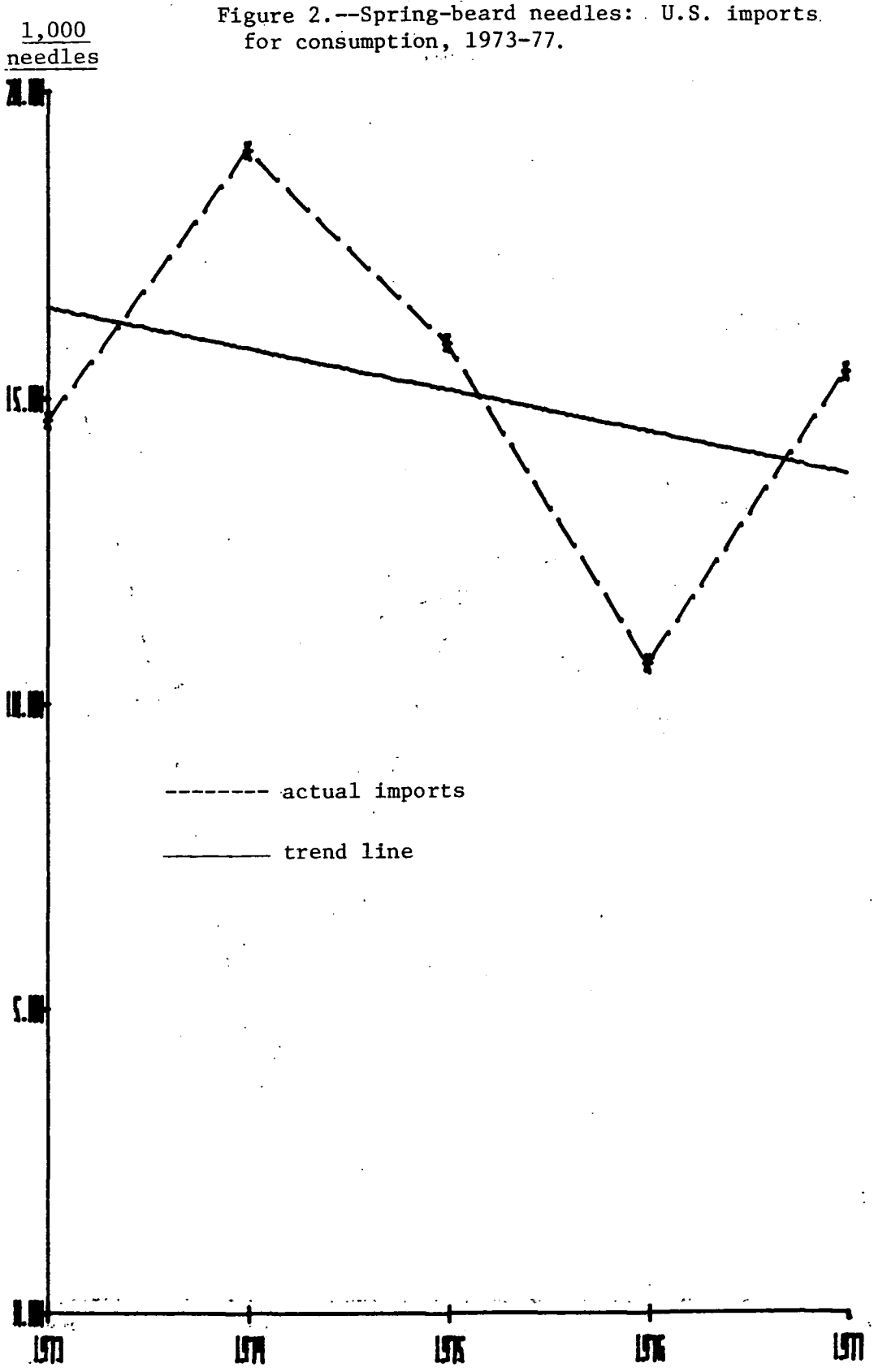
Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission and from official statistics of the U.S. Department of Commerce.

Figure 1.--Latch needles: U.S. imports for consumption, 1973-77.



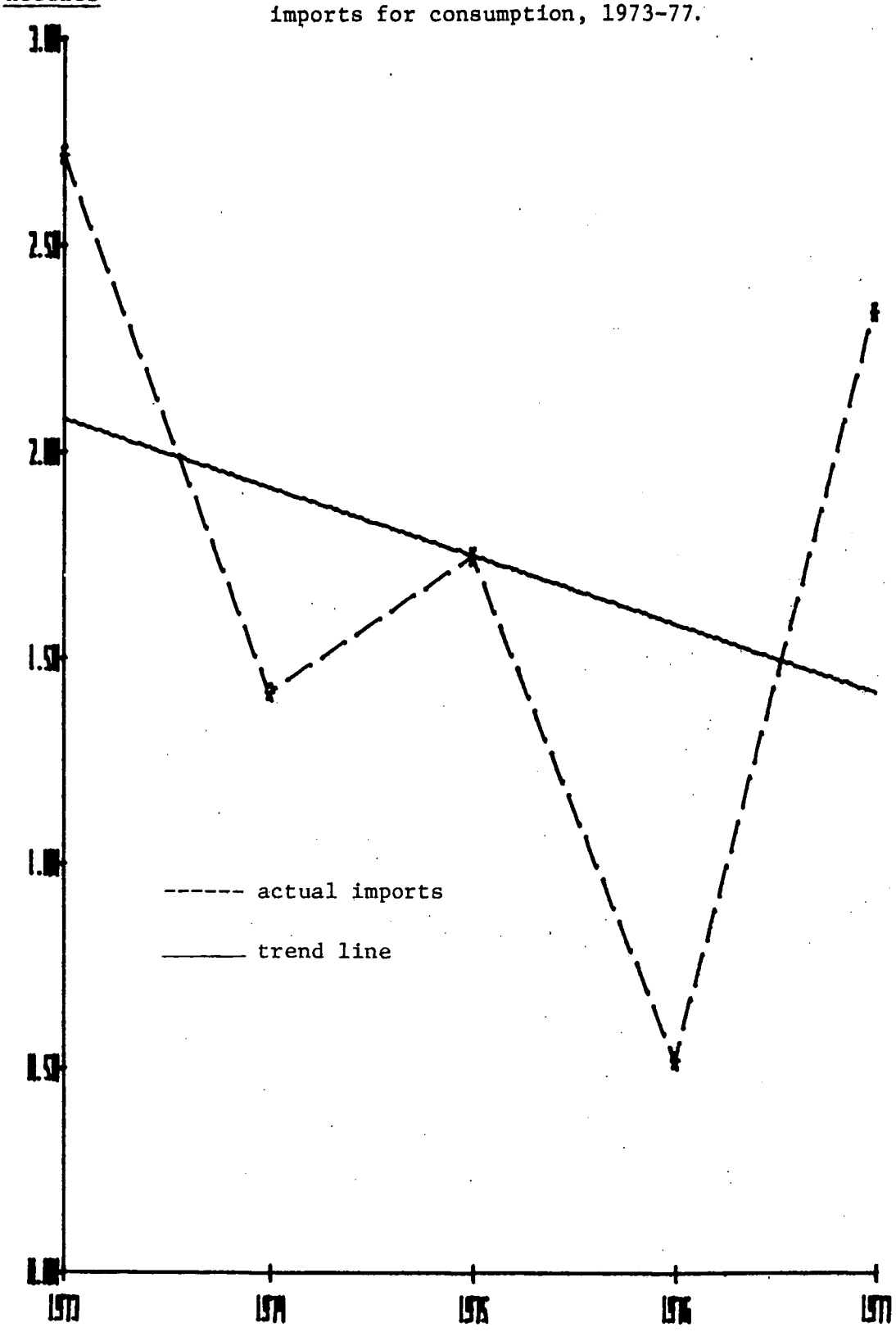
Source: Compiled and derived from data presented in table 6.

Figure 2.--Spring-beard needles: U.S. imports for consumption, 1973-77.



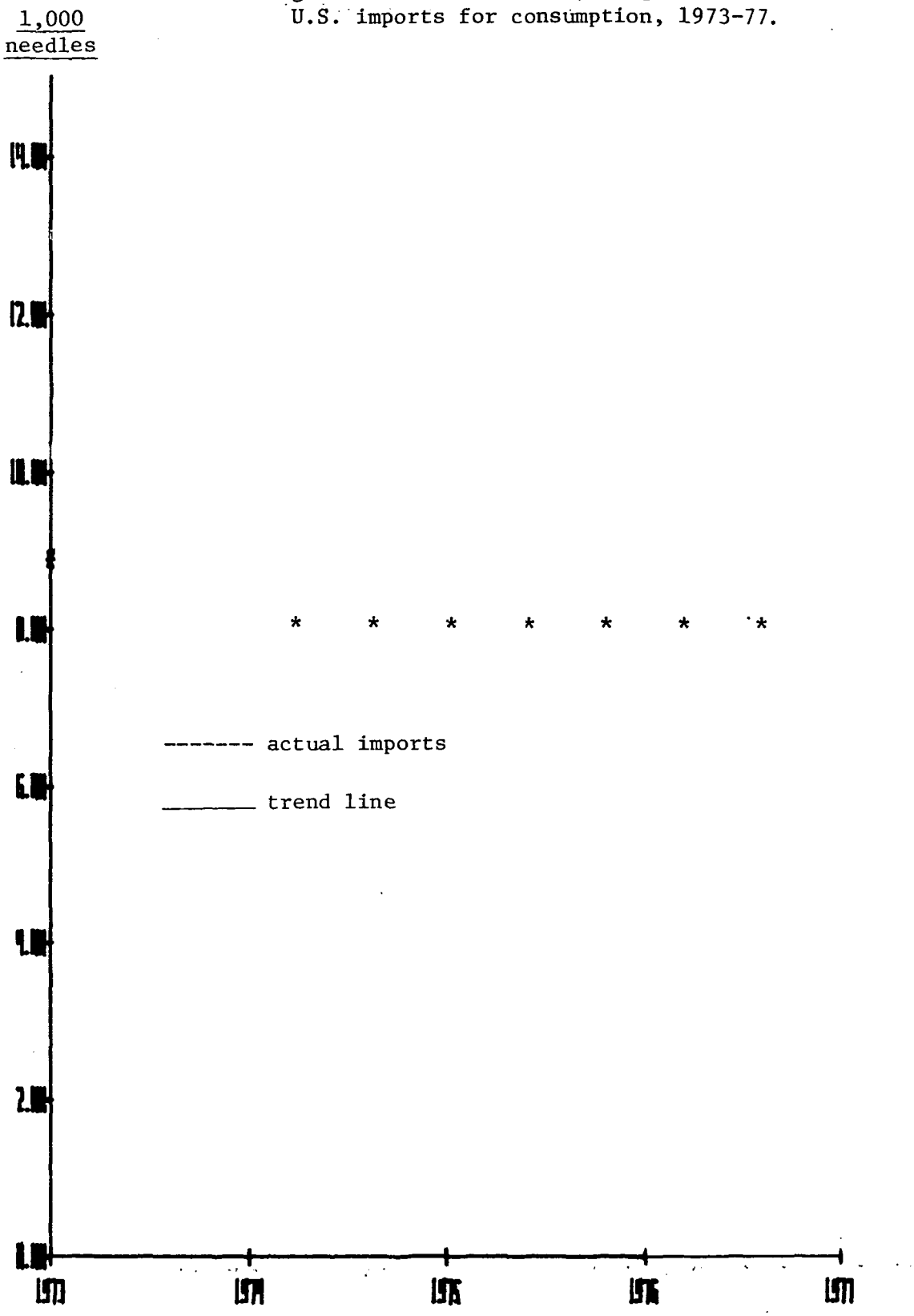
Source: Compiled and derived from data presented in table 6.

Figure 3.--Needles for knitting machines other than latch or spring-beard: U.S. imports for consumption, 1973-77.



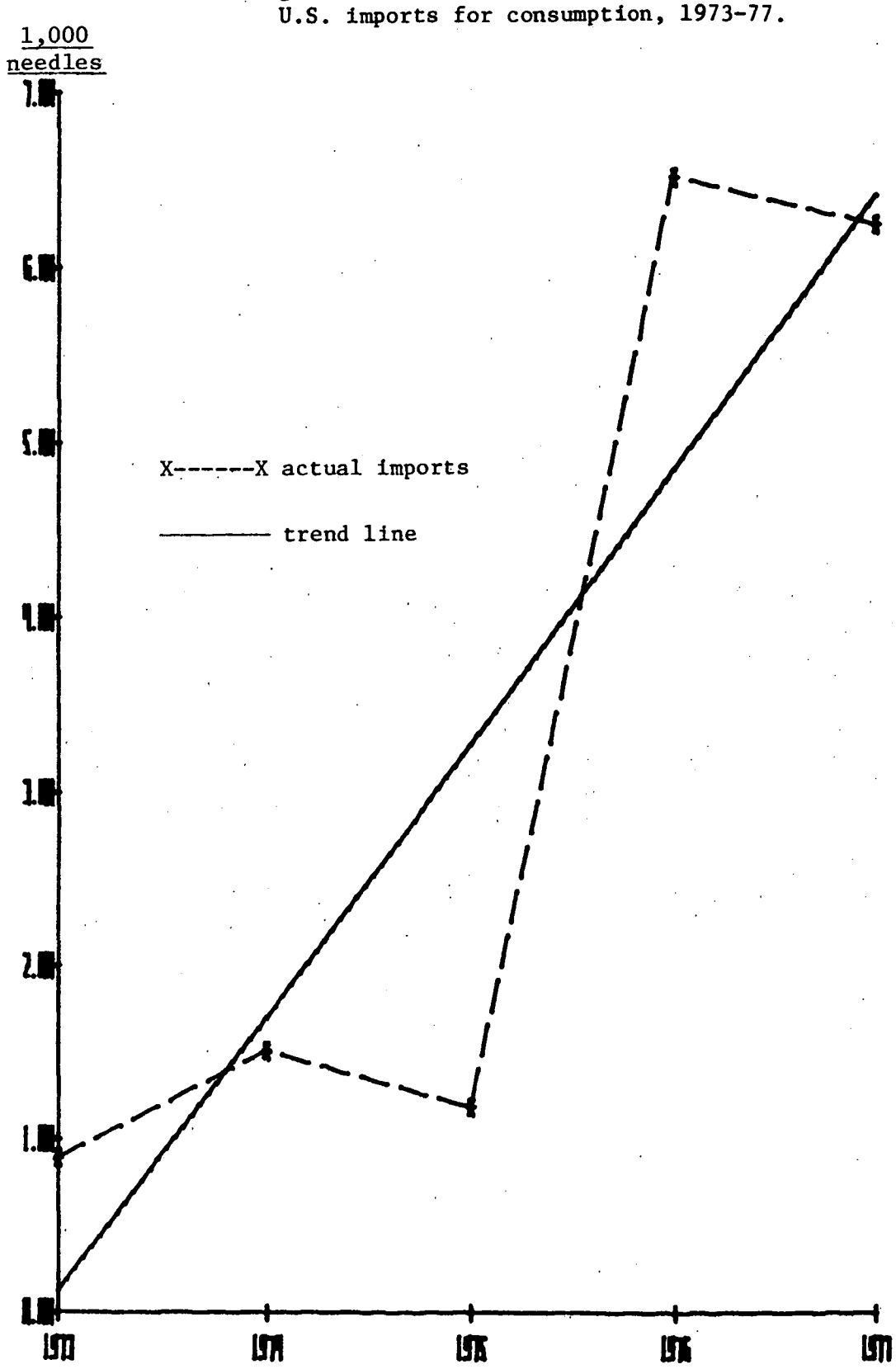
Source: Compiled and derived from data presented in table 6.

Figure 4.--Needles for felting machines: U.S. imports for consumption, 1973-77.



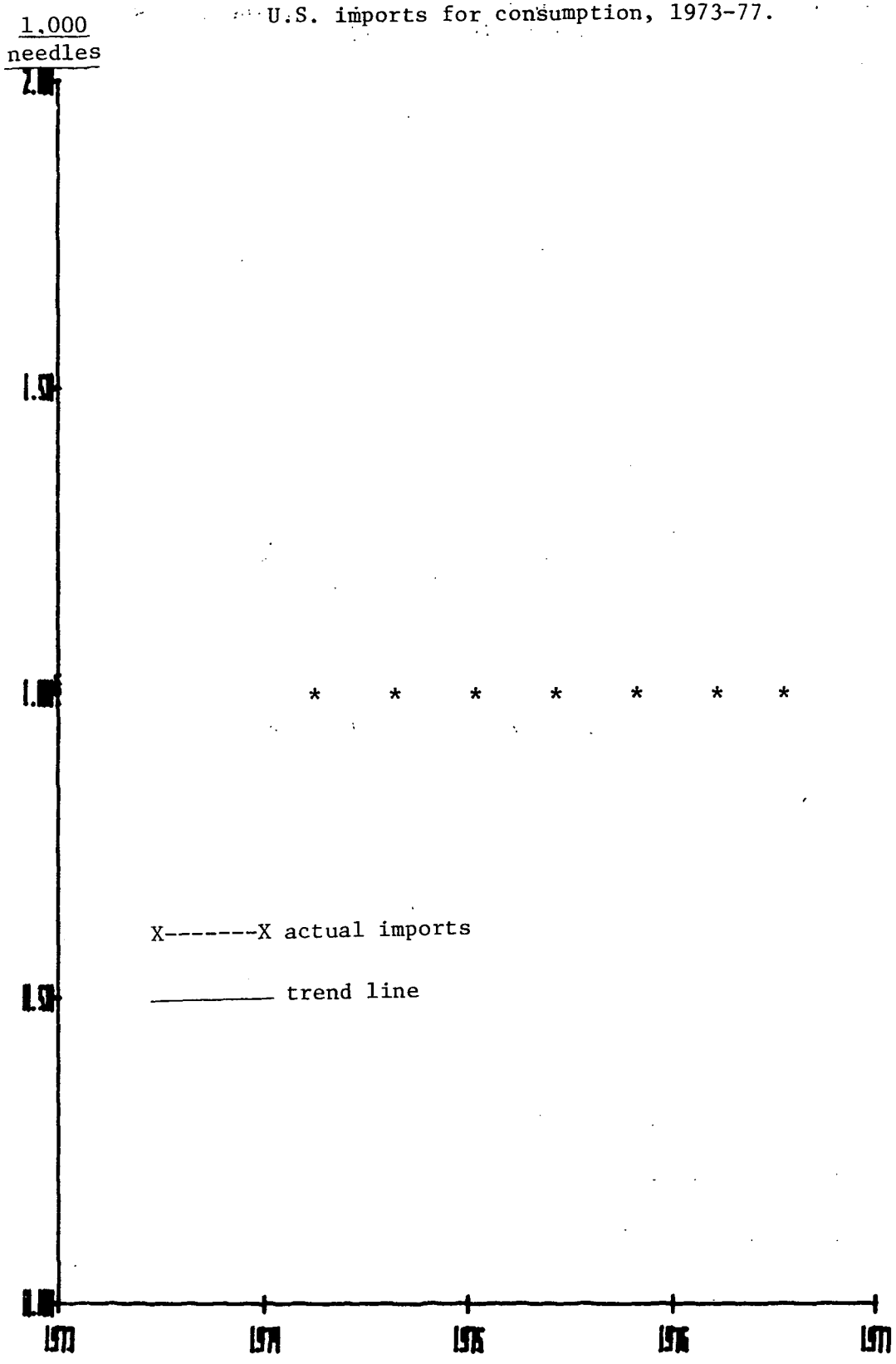
Source: Compiled and derived from data presented in table 6.

Figure 5.--Needles for embroidery machines: U.S. imports for consumption, 1973-77.



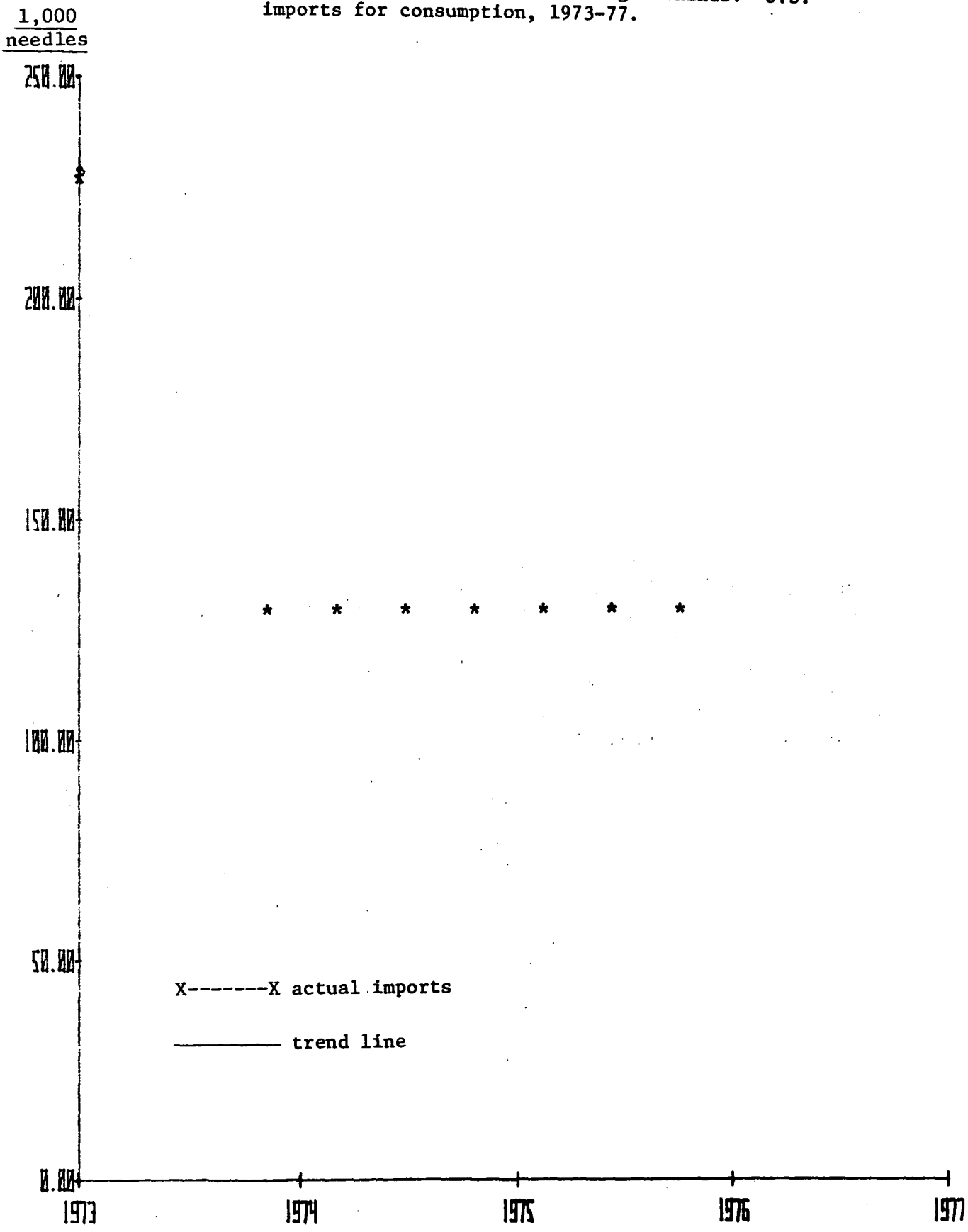
Source: Compiled and derived from data presented in table 6.

Figure 6.--Needles for tufting machines: U.S. imports for consumption, 1973-77.



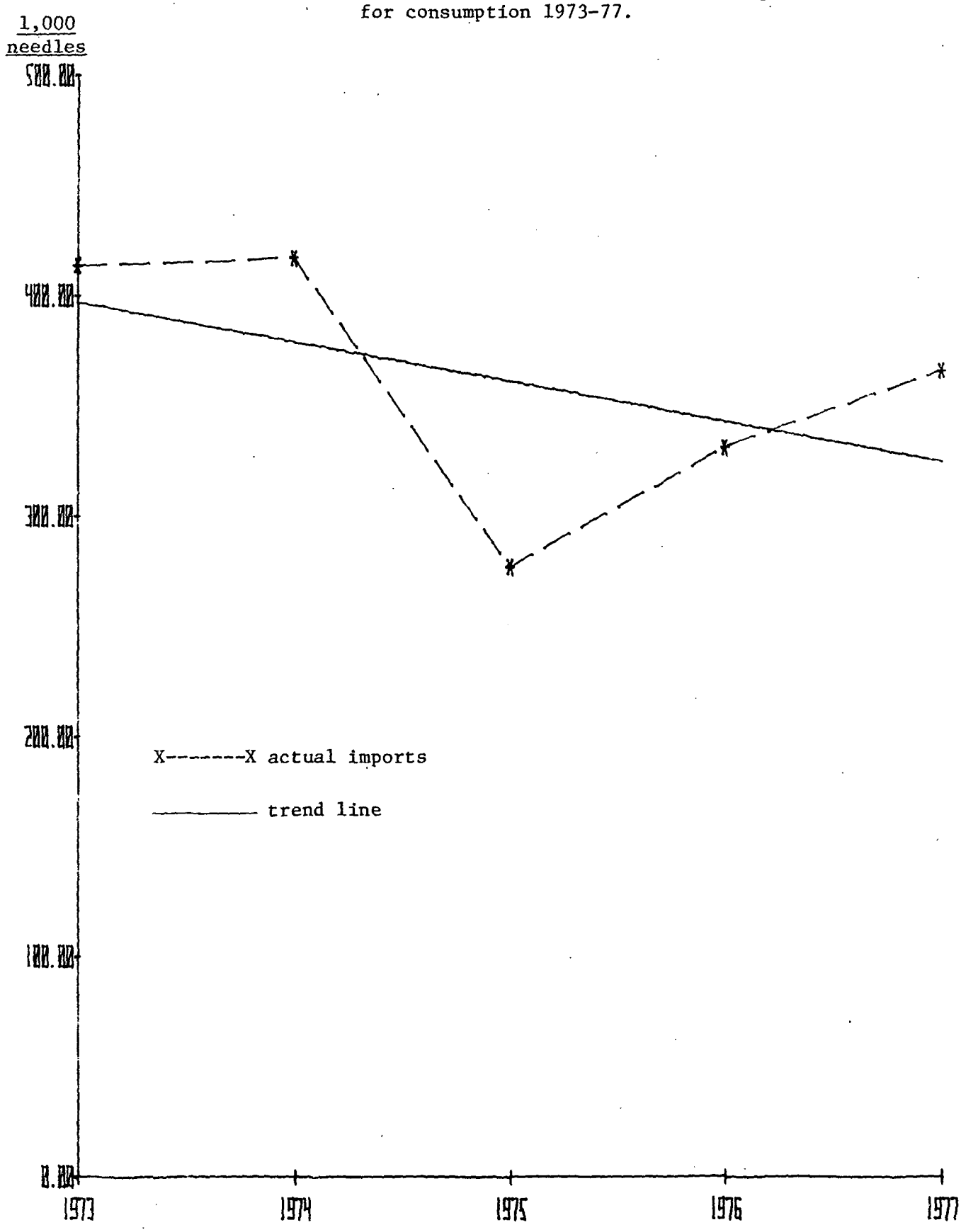
Source: Compiled and derived from data presented in table 6.

Figure 7.--Needles for industrial sewing machines: U.S. imports for consumption, 1973-77.



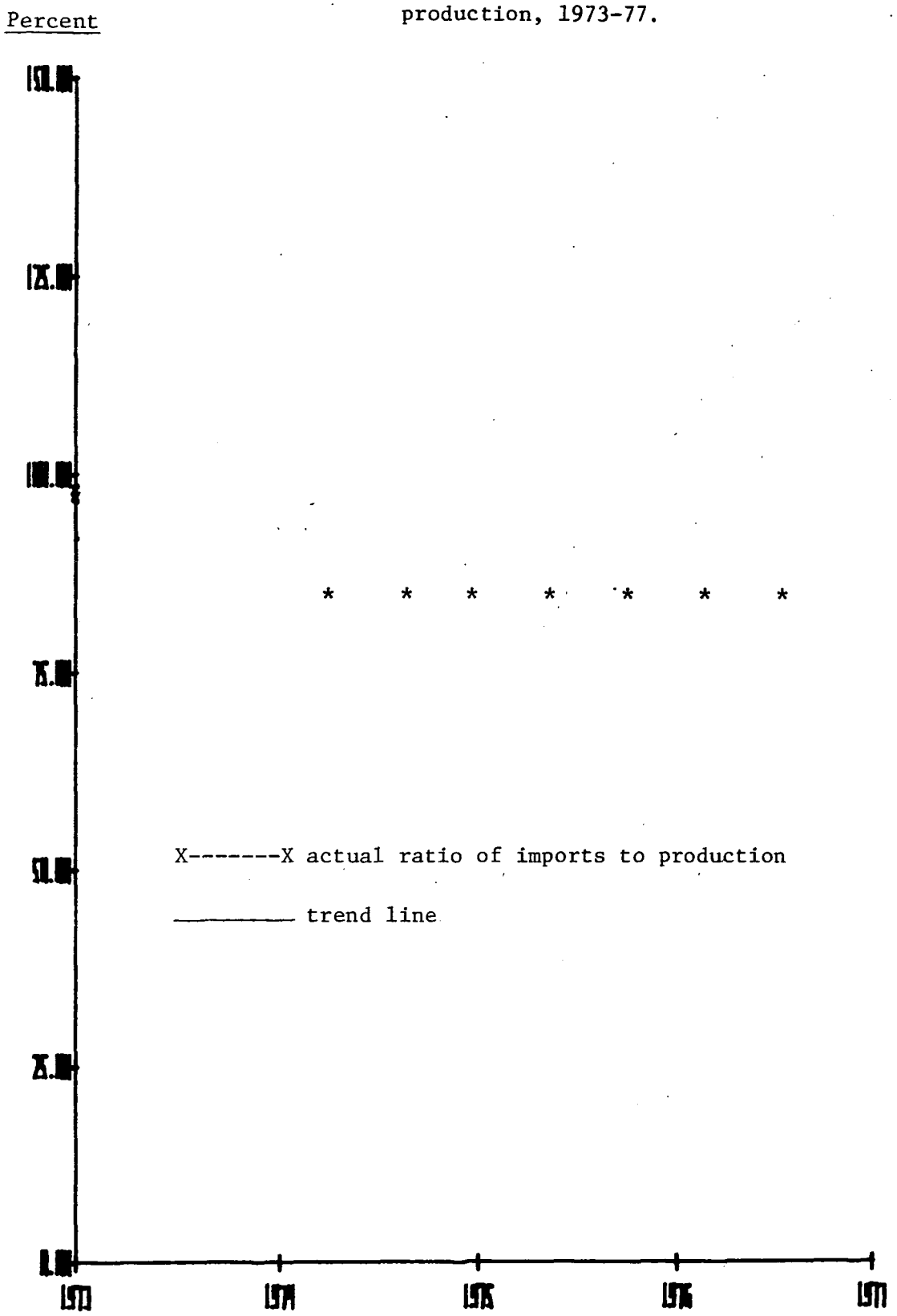
Source: Compiled and derived from data presented in table 6.

Figure 8.--Certain machine needles: U.S. imports for consumption 1973-77.



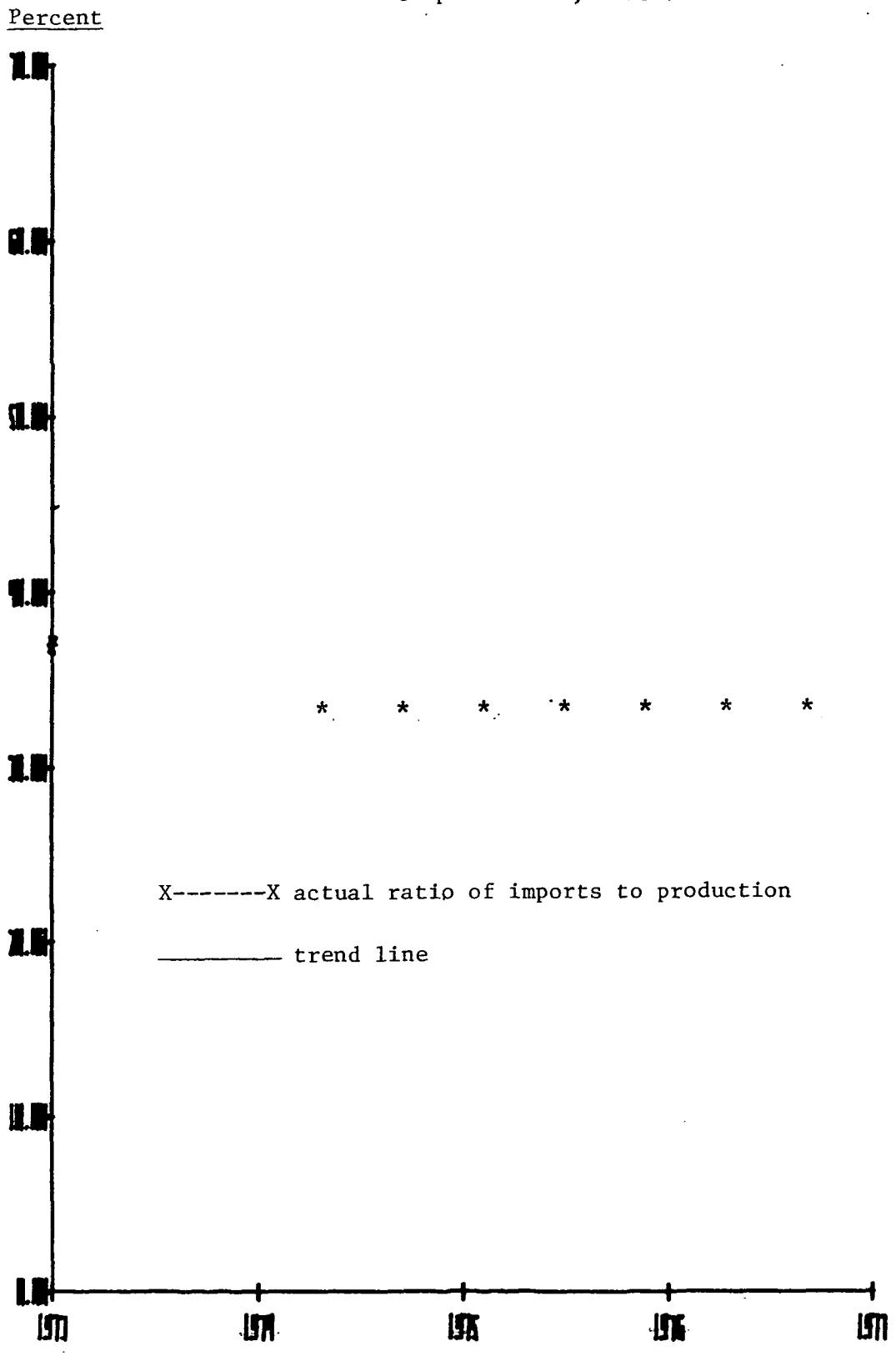
Source: Compiled and derived from data presented in table 6.

Figure 9.--Latch needles: Ratio of imports to production, 1973-77.



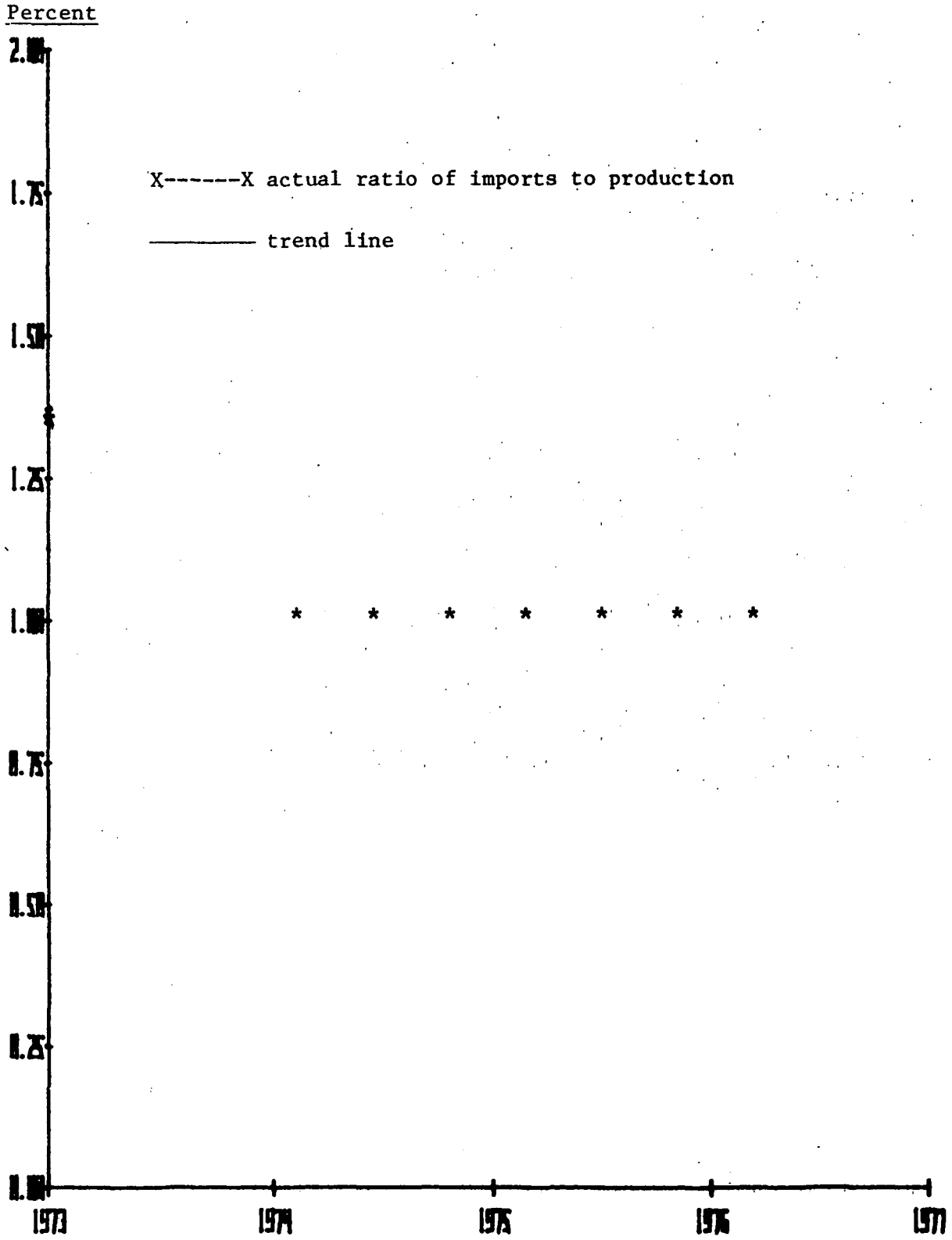
Source: Compiled and derived from data presented in table 6.

Figure 10.--Spring-beard needles: Ratio of imports to production, 1973-77.



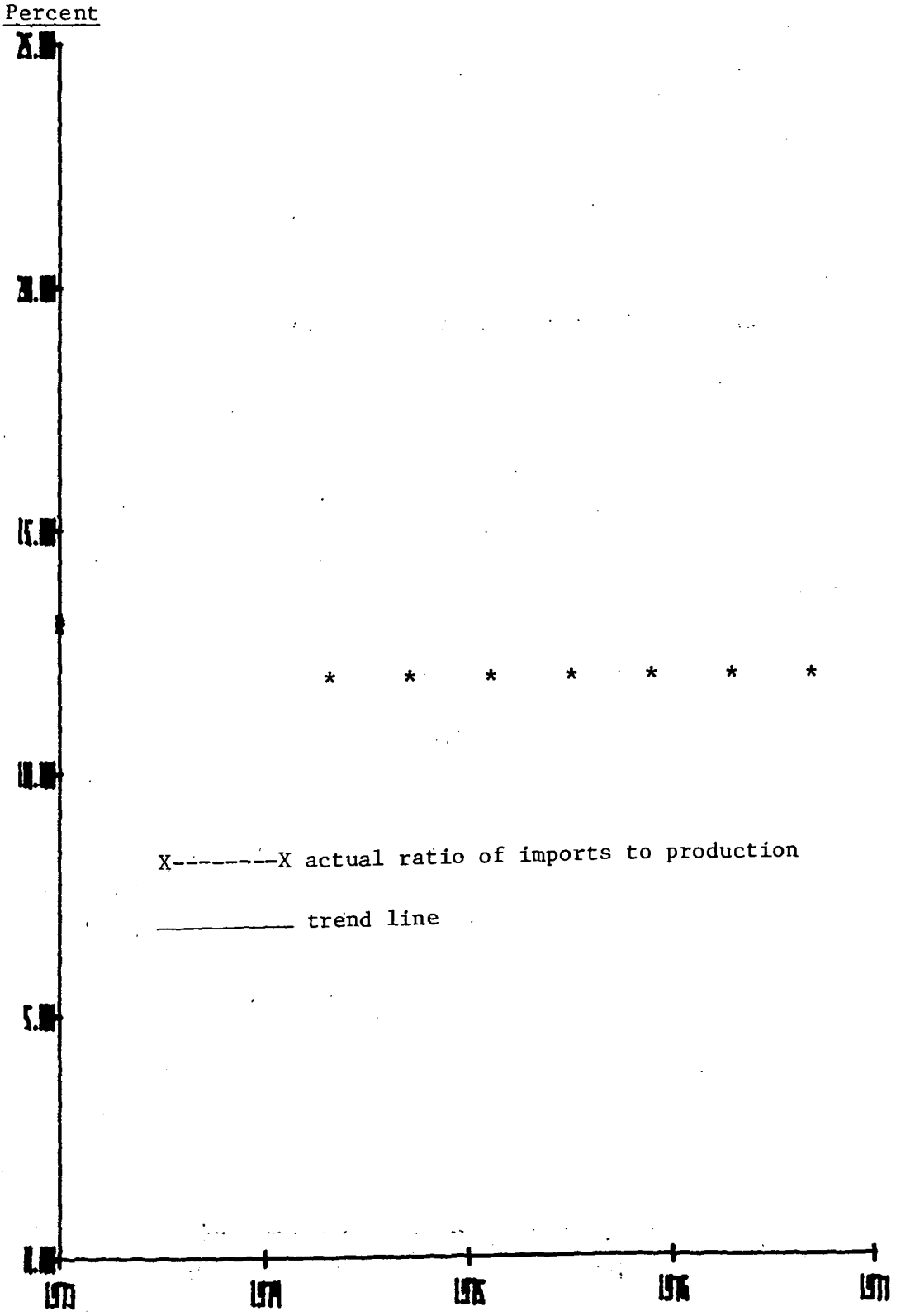
Source: Compiled and derived from data presented in table 6.

Figure 11.--Needles for knitting machines other than latch or spring-beard: Ratio of imports to production, 1973-77.



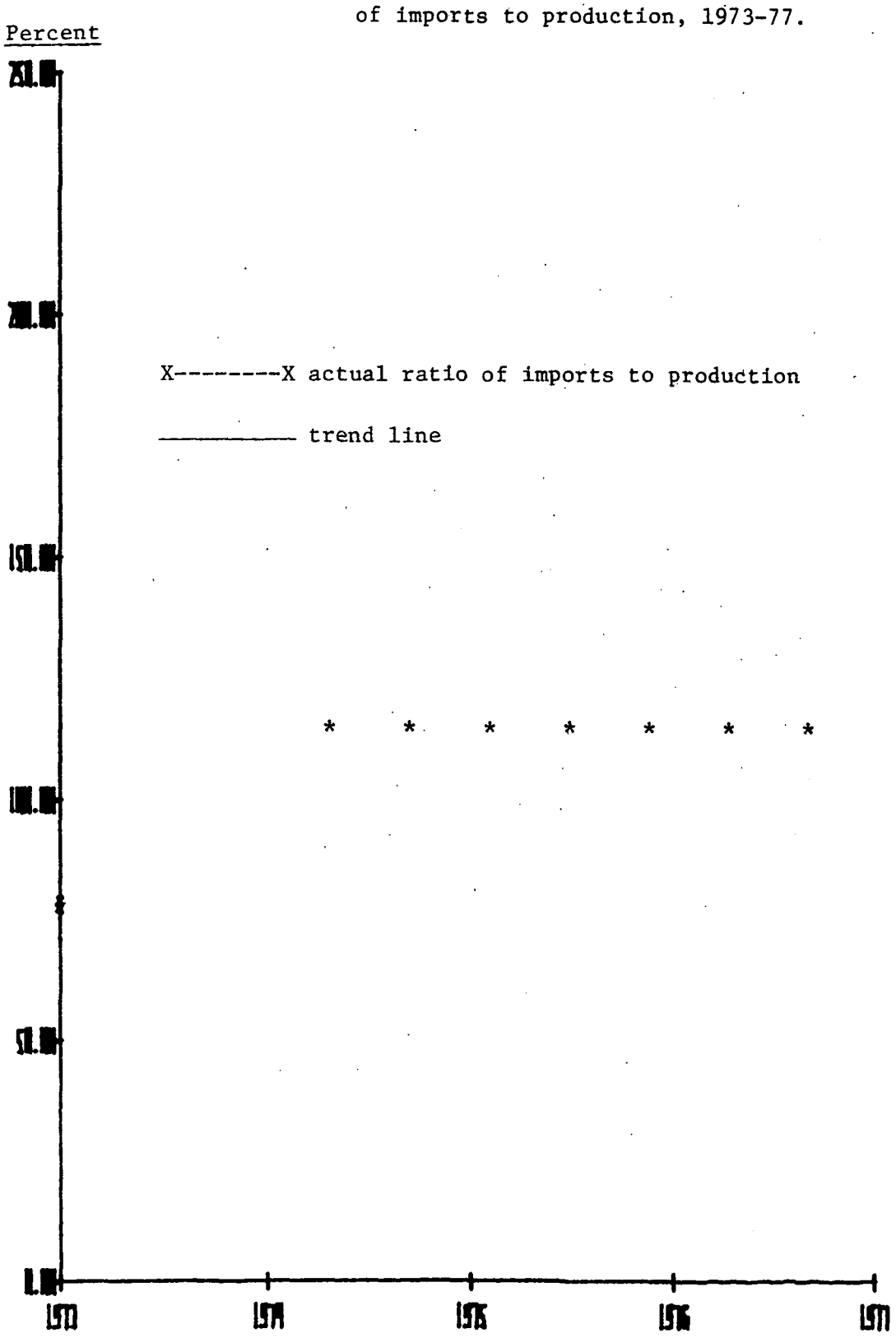
Source: Compiled and derived from data presented in table 6.

Figure 12.--Needles for felting machines: Ratio of imports to production, 1973-77.



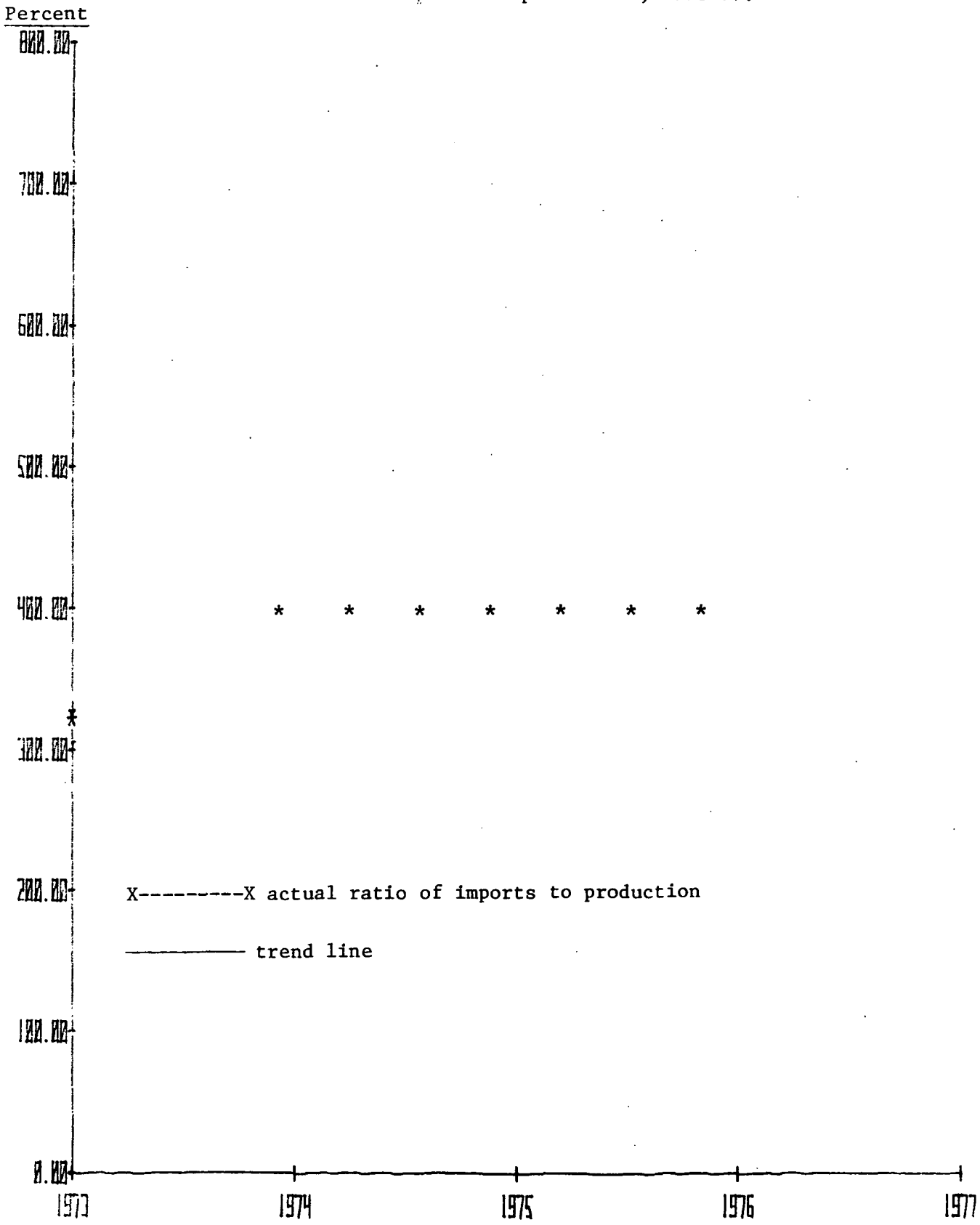
Source: Compiled and derived from data presented in table 6.

Figure 13.--Needles for tufting machines: Ratio of imports to production, 1973-77.



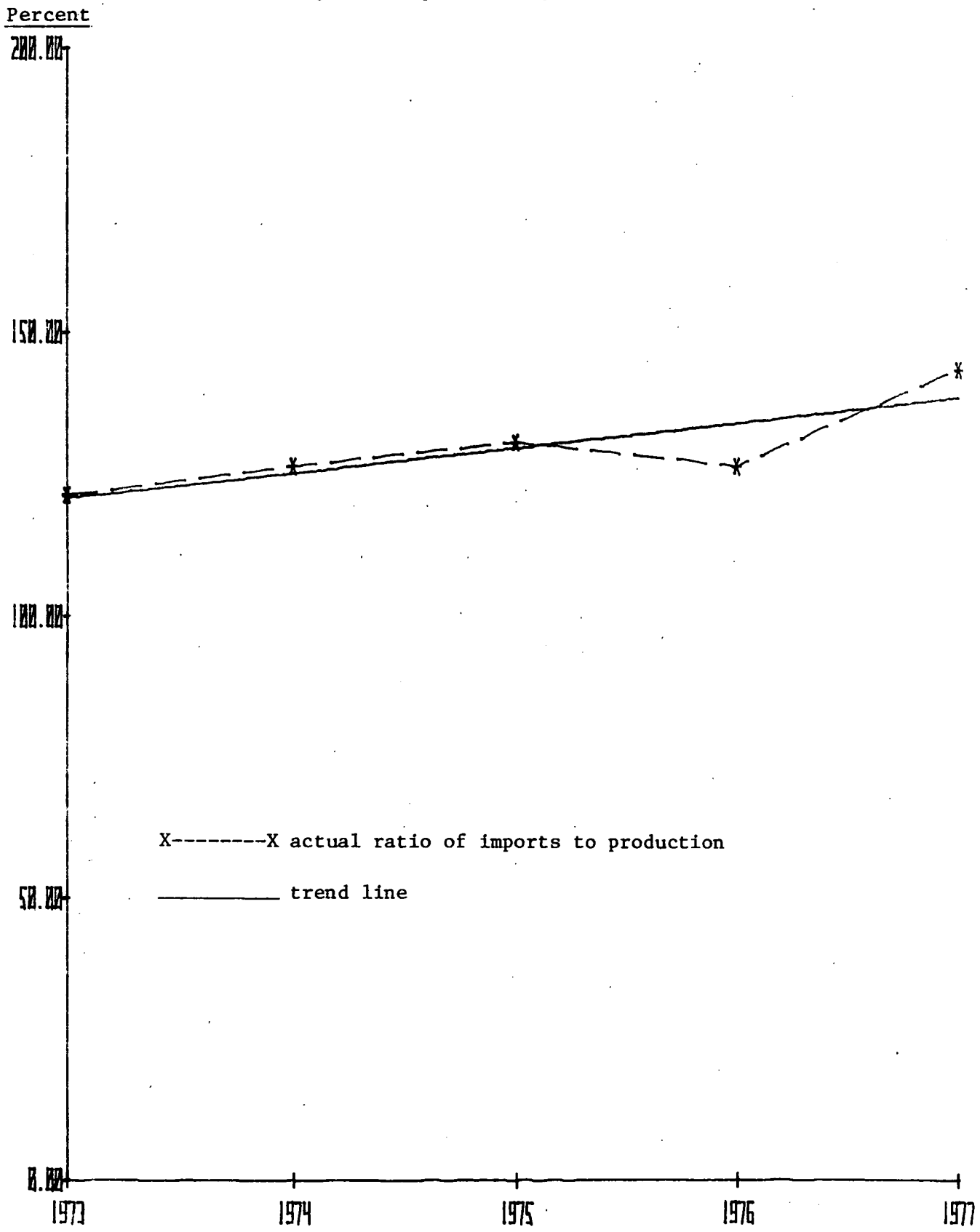
Source: Compiled and derived from data presented in table 6.

Figure 14.--Needles for industrial sewing machines: Ratio of imports to production, 1973-77.



Source: Compiled and derived from data presented in table 6.

Figure 15.--Certain machine needles: Ratio of imports to production, 1973-77.



Source: Compiled and derived from data presented in table 6.

APPENDIX D

PROBABLE ECONOMIC EFFECTS OF TARIFF CHANGES UNDER TITLE I AND TITLE V OF THE TRADE ACT OF 1974 FOR TRADE AGREEMENT DIGESTS NOS. 60236 AND 60237

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APPENDIX D

PROBABLE ECONOMIC EFFECTS OF TARIFF CHANGES UNDER TITLE I AND TITLE V OF THE TRADE ACT OF 1974 FOR TRADE AGREEMENT DIGESTS NOS. 60236 AND 60237

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