

Publication in the Official Journal Yes / No

File Number: T 588/88 - 3.2.3
Application No.: 81 304 527.5
Publication No.: 0 050 429
Title of invention: Machine for lasting side portions of shoe uppers

Classification: A43D 21/00

D E C I S I O N
of 10 April 1991

Proprietor of the patent: The British United Shoe Machinery Company Limited

Opponent: 1) International Shoe Machine Corp.
2) Schön & Cie. GmbH

Headword:

EPC Article 56

Keyword: "Inventive step - (yes, after amendment)"

Headnote



Case Number : T 588/88 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 10 April 1991

Appellant :
(Proprietor of the patent) The British United Shoe Machinery Company Limited
Union Works
Belgrave Road
Leicester LE4 5BX
GB

Representative :
Atkinson, Eric
c/o British United Shoe Machinery Limited
P.O. Box 88
Ross Walk
Belgrave
Leicester LE4 5BX

Respondent :
(Opponent 01) International Shoe Machine Corp.
Simon & Ledge Streets
Nashua
New Hampshire 03060
US

Representative :
Attfield, Donald James
BROOKES, MARTIN & WILSON
Prudential Buildings
5 St. Philip's Place
Birmingham B3 2AF
GB

Respondent :
(Opponent 02) Schön & Cie. GmbH
Maschinenfabrik
Im Gehörnerwald 2
DE-6780 Pirmasens
DE

.../...

Representative :

Keil, Rainer A., Dipl.-Phys. Dr.
KEIL & SCHAAFHAUSEN
Patentanwälte
Eysseneckstrasse 31
6000 Frankfurt am Main 1
DE

Decision under appeal :

Decision of the Opposition Division 2.3.04.120 of
the European Patent Office dated 21 September 1988
revoking European patent No. 0 050 429 pursuant to
Article 102(1) EPC.

Composition of the Board :

Chairman : C.T. Wilson
Members : W.D. Weiß
L. Mancini

Summary of Facts and Submissions

- I. European patent No. 0 050 429 was granted with effect from 27 March 1985 on the basis of European patent application No. 81 304 527.5 filed on 30 September 1981, priority being claimed from French patent application No. 8 022 148 dated 16 October 1980 and from British patent application No. 8 035 768 dated 7 November 1980.
- II. The patent was opposed by the two Respondents (Opponents 1 and Opponents 2).

The grounds of opposition invoked were lack of novelty and/or inventive step with respect to the state of the art (Article 100(a) EPC).

The following state of the art documents were relied on in the opposition proceedings:

- (D1) DE-A-3 015 053
- (D2) DE-B-1 685 513
- (D3) DE-B-2 103 721
- (D4) GB-A-1 378 631
- (D5) GB-A-1 155 414
- (D6) GB-A-1 154 871
- (D7) GB-A-1 079 611
- (D8) GB-A-1 559 171
- (D9) US-A-2 050 377
- (D10) US-A-1 722 499
- (D11) US-A-1 843 232

- III. By its decision dated 21 September 1988, the Opposition Division revoked the patent on the grounds that the subject-matter of the then valid amended claims lacked an

inventive step having regard to a combination of the document (D4) with (D3).

- IV. The Appellants (Proprietor) filed an appeal against this decision together with a Statement of Grounds on 18 November 1988 and paid the appeal fee on the same date.

In the Statement of Grounds the Appellants introduced into the procedure document

(D12) US-A-3 264 666

as intended proof for the patentability of their claims. This document belongs to the same patent family as (D6).

They requested that the decision under appeal be set aside and that the patent be maintained as amended.

- V. Both Respondents requested that the appeal be dismissed and, consequently, the revocation of the patent be confirmed. The Respondent II requested an oral proceedings on an auxiliary basis.
- VI. In a communication of the Board under Article 11(2) RPBA, the Board expressed as its provisional opinion that (D3) appeared to disclose a type of apparatus which only served to fold the marginal portions of the upper over the insole and which would, therefore, not be taken into consideration by a person skilled in the art when solving lasting problems which concerned the portion of the upper between the top and the feather lines.
- VII. At the oral proceedings held on 10 April 1991 the Appellants (Proprietors of the patent) presented a set of one independent Claim 1 and seven dependent claims together with a correspondingly revised description.

Independent Claim 1 is worded as follows:

"1. Machine for lasting side portions of shoe uppers comprising a support (10) for a shoe last on which an upper, the side portions of which are to be lasted, and an insole are positioned, and two side lasting assemblies (16) arranged to act on opposite side portions of an upper positioned on a last supported by said support (10), wherein each side lasting assembly (16) comprises clamping means (72), comprising at least one clamp member (72), movable towards the support (10) to clamp a side portion of the upper against its last at a locality spaced from the feather line thereof, lasting element means (46), comprising a plurality of lasting elements (46) arranged side-by-side and movable inwardly towards the support (10) so as to cause lasting marginal portions of the side portion of the upper to be wiped over corresponding marginal portions of the insole and to be pressed thereagainst, and lasting band means (128) comprising at least one band portion (128) of flexible sheet material arranged to be interposed between the shoe upper on the one hand and the lasting elements (46) and the clamp member(s) (72) on the other, whereby the side portions of the upper are clamped as aforesaid by the clamp members (72) acting through the band portions (128), the or each band portion (128) of each side lasting assembly (16) being connected at one end to the lasting elements (46) of said assembly (16), characterised in that the or each band portion (128) of each side lasting assembly (16) is flexible but substantially non-stretchable and is yieldingly secured at its end opposite to the lasting elements (46), whereby inward movement of the lasting elements (46) towards the support (10) as aforesaid is effective to draw the band portion(s) (128) heightwise of

the shoe in a direction from the top line to the feather line thereof, and in that the or each band portion (128) is pressed by the clamp member(s) (72) against the side portion of the upper as aforesaid under a pressure which, as the or each band portion (128) is so drawn by the inward movement of the lasting elements (46), allows the band portion(s) to slide between the last and the clamp member(s) (72), but by which the or each band portion (128) is pressed against the shoe upper sufficiently to cause the portion of the upper engaged thereby to be drafted on its last in said direction."

Dependent Claims 2 to 8 relate to preferred features of the machine according to Claim 1.

The Appellants accordingly requested that the decision under appeal be set aside and that the patent be maintained on the basis of the amended Claims 1 to 8 and description as granted but amended as submitted at the oral proceedings together with the Figures 1 and 2 as granted.

VIII. The Respondents maintained their request that the appeal be dismissed and hence the patent be revoked in its entirety. Their arguments in support of this request can be summarised as follows:

Considering first the formal allowability of the new Claim 1, it is not clear where the basis is found in the original disclosure of the feature that the band portion is yieldably secured. In the original as well as in the granted description only a connection by springs is disclosed. Also the feature starting with "whereby" was questioned in this respect. The amended Claim 1 was, therefore, not admissible having regard to the requirements of Articles 123(2) and (3) EPC.

The Respondents, further, questioned the clarity of Claim 1, because they considered the attribute "substantially not stretchable" of the band portions to be a relative feature.

On the question of inventive step the Respondents relied mainly on the combination of (D4) with (D3) or with (D6). Firstly, (D4) only discloses that the top line has to be clamped in the initial stage of the lasting procedure when the full pressure is not yet applied to the side portions of the upper and the wrinkles and the air bubbles are only removed. Therefore, during the actual lasting procedure, it is not precluded that the top line might move freely and that, therefore, the lasting bands disclosed in (D4) carried out the same function as the yieldably secured lasting bands according to Claim 1 of the patent in suit. It was, therefore, just an obvious and equivalent measure to a person skilled in the art to exchange the fixedly secured but elastic bands of (D4) against yieldably secured but inelastic bands disclosed for instance in (D3) or (D6). Moreover, it was evident that the material of the cyclically stressed bands disclosed in (D4) would soon be worn out and require replacing after a relatively short time of operation. The search for a remedy to this drawback would guide the skilled engineer to a yieldable suspension of the bands. (D3) could also be taken as the basis document to start from. It was evident that the lasting element disclosed in this document presented only a small conforming surface to the upper. It was obvious to solve this problem with the clamping pads disclosed in document (D4).

- IX. In support of their request, the Appellant drew attention to the fact that according to the invention the lasting bands were required to bodily move relative to the

clamping means in a completely controlled manner. (D3) as well as (D6) were yieldably secured at both ends. Consequently, a combination of (D4) with (D3) or (D6) would still not result in the invention as further modifications would still be necessary.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rules 1(1) and 64 EPC; it is, therefore, admissible.
2. Formal allowability of the amendments

There are two substantial features by which the amended Claim 1 differs from its predecessors in the original and granted versions, respectively.

Claim 1 now contains the feature that the or each band portion of each side lasting assembly is "flexible but substantially not stretchable". This feature is based on the paragraph starting on the penultimate line on page 13 of the original description which corresponds to column 9, lines 24 to 34, of the patent as granted. Although there is stated that the material of the bands should not be significantly stretchy for this function, a person skilled in the art, however, immediately understands from the detailed description that the intended function can only be fulfilled when the respective band portion, seen as a construction element, is flexible but substantially not stretchable.

Claim 1 now contains the feature that "the or each band portion is yieldingly secured". The Board sees the source of disclosure for this feature in the paragraph which

starts in line 28 on page 11 of the original description which corresponds to column 7, line 61, to column 8, line 12, of the granted patent. There it is stated for the preferred embodiment that "lower end of each band is connected by springs to a bracket". The sentence following this statement explains, however, that this particular connection serves "to control the lower end of the bands but does not affect the function of the bands" to be described in the following paragraphs. The skilled person derives from this description that the intended function of this particular connection is that the bands should be bodily movable relative to the clamp members and heightwise of the last. Consequently, it is clearly and unambiguously derivable that the spring is merely a typical example for a yielding connection.

The last feature of the present Claim 1 which starts with the word "whereby" is a purely redactional reformulation of its predecessors which started with "thus being effective to ..." and does not change the substantial technical content of the claim.

Claims 2 and 3 are identical to the original Claims 2 and 3.

Claims 4 to 7 correspond to the original Claims 5 to 8, and Claim 8 corresponds to the original Claim 10.

There is, therefore, no objection to the current claims under Article 123(2) and (3) EPC.

3. Clarity

Although the expression "substantially non-stretchable", when read out of context, is a relative feature and, therefore, would have to be objected to as being an

unclear feature, it has, in the present Claim 1 to be read together with the features that the band portions at one of their respective ends are connected to the lasting elements and at their respective opposite ends are yieldingly secured, whereby a particularly described displacement of the band portions is intended to be effected. Thus, it is clearly derivable from the context of the claim that the band portion has to be non-stretchable in comparison to the yieldable fixation of the end of the same band portion.

Consequently, there is no objection with respect to Article 84 EPC either.

4. **Closest prior art**

The Board is in agreement with all the parties that (D4), which has most of the features in common with the current Claim 1 and in particular discloses all the features in its preamble, constitutes the closest state of the art. Specifically, (D4), see in particular Figures 2, 5 and 7 to 10, discloses a machine for lasting side portions of shoe uppers (166) comprising a support (26) for a shoe last (162) on which an upper, the side portions of which are to be lasted, and an insole (164) are positioned, and two side lasting assemblies (124) are arranged on opposite side portions of an upper (166) positioned on a last (162) supported by said support (26), wherein each side lasting assembly (124) comprises clamping means (130), comprising at least one clamping member (130), movable towards the support (26) to clamp a side portion of the upper against its last at a locality spaced from the feather line (222) thereof, lasting element means (154, 156) comprising a plurality of lasting elements (154, 156) arranged side-by-side and movable inwardly (by 150) towards the support (26) so as to cause lasting marginal

portions (194) of the side portion of the upper (166) to be wiped over corresponding marginal portions of the insole (164) and to be pressed thereagainst, and lasting band means (134) comprising at least one band portion (134) of flexible sheet material arranged to be interposed between the shoe upper (166) on the one hand and the lasting elements (154, 156) and the clamp member(s) (130) on the other, whereby the side portions of the upper (166) are clamped as aforesaid by the clamp members (130) acting through the band portions (134). The band portions (134) of each lasting assembly (124) are connected at one end (134b) to the lasting elements (154, 156) of the lasting assembly (124).

5. Novelty

The lasting machine according to Claim 1 is distinguished from the closest state of the art according to document (D4) on which the preamble of the claim is based in that the or each band portion of each side lasting assembly is flexible but substantially non-stretchable and is yieldingly secured at its end opposite to the lasting elements, whereby the movement of the band portions, which is functionally described at the end of the characterising part of Claim 1, is achieved. These functional features are indispensable to further define the scope of the foregoing constructional features and cannot be separated from them. Consequently, the combination of characterising features constitute the difference with respect to the closest state of the art. None of the other documents discloses such a combination either.

Since the novelty of the subject-matter of the current Claim 1 is not in dispute, further explanation in this respect can be dispensed with.

6. Problem

- 6.1 The patent in suit, see in particular column 3, lines 2 to 38, is intended to solve the problem of providing a machine for lasting side portions of shoes, wherein the upper is properly conformed to the last, regardless of the shape of the latter in the waist region, by the application of a controlled drafting force, and also in the operation of which lasting marginal portions of the upper are wiped over corresponding marginal portions of the insole and pressed thereagainst using conventional lasting elements. For this purpose it is very important that the material of the upper, which is relatively bulky, is properly bedded down to the last before the lasting marginal portions of the upper are secured to corresponding marginal portions of the insole.

According to document (D4), the middle segments (134c) of the lasting straps (134), due to the elasticity of their material, see page 3, lines 30 to 40, are stretched by the action of the air operated motor (150, 158) which, via the lasting elements (154, 156) acts on the top segment (134b) of the lasting strap (134), see Figure 5. It is obvious to the skilled man that the length of movement of a point on the lasting strap effected in this way is proportional to its distance from the fixed end (134a) of the lasting strap. Moreover, inhomogeneities in the material of the pressure strap may even add fluctuations to this cumulative elongation of the lasting strap. Consequently, the longitudinal component of the lasting force frictionally applied to the upper by the lasting strap is not at all controlled in this known machine but may vary considerably over the extension of the strap. This inhomogeneity and lack of control of the lasting force is inherent in the function principle independent of the answer to the question, whether, according to (D4),

the top line of the upper is firmly clamped (see page 5, lines 55 to 63) to the last during the whole lasting procedure, following the interpretation of the Appellant, or during the main phase of the lasting process is movable like the rest of the upper (see (D4), page 5, lines 67 to 70) according to the interpretation of the Respondents, who assert that there the top line is firmly clamped only during the first phase of the known lasting procedure during which wrinkles and air bubbles are removed from the upper.

Therefore, the problem formulated in column 3, lines 2 to 38, of the patent in suit is a valid one arising from an obvious drawback of the closest prior art document (D4).

- 6.2 During the oral proceedings, one of the Respondents drew attention to another obvious drawback of the lasting device disclosed in (D4), the call for a solution of which constitutes a further problem independent of the problem stated in the patent in suit.

During its operation, the lasting straps of the device disclosed in (D4) are subjected to a permanent alternating stress which will indispensably result in fatigue of their material necessitating frequent replacement of the straps and shortening the intervals between stops for maintenance of the machine. The Board agrees that also this obvious drawback of the known lasting device constitutes a problem which calls for its solution.

7. Solution

The principle of the solution to the problem of a better control of the lasting operation consists in that the lasting band portion itself is substantially not

stretchable but yieldably secured at its end opposite to the lasting element. This constructional arrangement results in the effect that the band portion is bodily moved heightwise of the last when the lasting elements, due to their inward motion, draw at the other end of the band portion. The length of the band portion itself is substantially not changed during this operation. This measure results in the effect that all the parts of the upper which are contacted by the band portion under the pressure of the clamp members are subjected to substantially the same lasting force.

8. **Inventive step**

None of the documents cited by the Respondents expressly teaches the measure to achieve a better control over the lasting process by displacing under pressure a substantially not stretchable lasting band portion heightwise of a last. Therefore, it has to be examined whether the desire to solve the second problem stated under paragraph 6.2. above would lead a person skilled in the art in an obvious way to a device comprising all the features of the current Claim 1. Such an obvious solution to the problem under 6.2. would imply the solution of the problem stated under 6.1., and maintained by the Appellant, as a bonus effect.

In the course of this search for a solution the person skilled in the art would find for instance the documents (D3), (D6) or (D8) on which the Respondents concentrated their arguments during the oral proceedings.

Document (D3) (see in particular Figure 2 together with the relevant parts of the description), discloses a lasting machine the function of which concentrates on the problem of folding the marginal portions of an upper over

the margin of an insole and securing them thereto. This operation is effected by a lasting element (32) made of elastic spring steel. This lasting element is kept under tension by a band (35), one end of which is connected to the lasting element. At its end opposite to the lasting element, the band (35) is resiliently secured by a spring (38). Since in this way the band is resiliently secured at its both ends, no controlled displacement of the band heightwise of the last is effected in a fictive device in which the lasting element/lasting strap (134, 154, 156) of document (D4) was exchanged against lasting element/lasting band (32, 35, 38) of document (D3). This apparatus which, starting from the problem stated under paragraph 6.2. above, would originate from an obvious combination of the documents (D4) and (D3), would not, as a bonus effect, solve the basic problem of the patent in suit stated under paragraph 6.1. above.

The same considerations apply to document (D6) (and its patent family member (D12)), see in particular Figures 2 to 4 together with the relevant parts of the description, because the resilient pads (62) and (64) there provide for resiliently securing the resilient band (56) at both of its ends. Also document (D8) (see in particular page 1, line 35, page 2, line 102, page 3, lines 42 to 44), discloses a resilient lasting band. Therefore, the lasting device disclosed therein suffers from the same drawback as the closest state of the art (D4).

The rest of the documents lie even further from the subject-matter of Claim 1, and have, therefore, no longer been relied upon by the Respondents during the oral proceedings. (D2) discloses a resiliently secured elastic band without clamping pads. (D5) discloses an elastic lasting band one end of which is resiliently secured, the other end of which is, however, not connected to the

lasting element. According to (D7) the lasting band is resiliently secured by springs on both ends. (D9), (D10) and (D11) disclose a lasting band which is elastic in itself.

Document (D1) is published after the first of the two priorities (16 October 1980) claimed by the patent in suit. Since, however, this French priority application discloses the subject-matter of the current Claim 1, (D1) is published after the effective priority date of the present patent and is not a prior art in the sense of Article 54 EPC.

The Board, therefore, comes to the conclusion that the subject-matter of current Claim 1 cannot be derived in an obvious manner from the state of the art and must accordingly be seen as involving an inventive step in the meaning of Articles 52(1) in combination with Article 56 EPC.

8. This claim, together with its dependent Claims 2 to 8 and the revised description adapted thereto, can, therefore, form the basis for maintaining the patent in amended form.

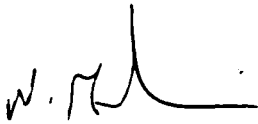
Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent on the basis of the claims and amended description as submitted at the oral proceedings together with the Figures as granted.

The Registrar



N. Maslin

The Chairman:



C.T. Wilson

W.D. 27.4.91/20.5.91

14.5.91

01675