Title: FASTENING SYSTEM FOR SHOES

Abstract: A footwear fastening system (10) for fastening an item of footwear, the footwear system comprising a belt (11) having first and second ends, locatable around an upper portion (25) of the footwear, anchoring means (20, 24) for anchoring the first and second ends to opposite sides of the sole (28), and clasp means (19) for releasably fastening the belt (11). Also disclosed is an adjustable clasp means (19) for footwear comprising at least one clip formed of two inter-engageable components (hook 19, slots 21), wherein one of the components (21) is duplicated and spaced from the other component (19) to provide alternate fastening positions.
For two-letter codes and other abbreviations, refer to the “Guidance Notes on Codes and Abbreviations” appearing at the beginning of each regular issue of the PCT Gazette.
TITLE

"FASTENING SYSTEM FOR SHOES"

FIELD OF THE INVENTION

THIS INVENTION relates to fastening systems for footwear and, in particular, adjustable fastening systems for shoes.

BACKGROUND ART

Footwear and, in particular, boots and shoes are traditionally fastened by tightening and tying laces. A more recent variation on footwear fastening systems involves the use of clips which are releasably engageable so as to fasten a shoe and provide a quick release mechanism.

These types of connection mechanisms have undergone some development. Australian Patent No 677925 disclosed a fastener comprising a two-part clip with a first part and a second part for fastening a shoe by inter-engagement of the parts. The clip was connected to the shoe by elongate connecting strips passed through opposed eyelets in the shoe. The connecting strip was preferably elastic so that a consistent tension was kept across the opening of a shoe during use. This device, however, relied on application to pre-existing eyelets as support structures in the shoe. In addition, any adjustment of the tension required the relatively time consuming task of adjusting the connection between the elastic strip and a second part of the connection clip to shorten the operative elastic length.

It would be advantageous to provide a fastening system
which provided support more extensively around the foot of a wearer. In
addition, it would be of advantage to provide a clip fastening system which
was easily adjustable.

OBJECT OF THE INVENTION

It is an object of the present invention to overcome or
ameliorate some of the above identified problems or to provide a useful
alternative to a user.

SUMMARY OF THE INVENTION

In one form, although it need not be the only or indeed the
broadest form, the invention resides in a footwear fastening system for
fastening an item of footwear, said footwear fastening system comprising:

a belt having a first end and a second end, said belt
locateable around at least a part of an upper portion of the item of
footwear;

anchoring means for anchoring the first end and the second
end to opposite sides of a sole of the item of footwear; and

clasping means for releasably fastening the belt.

The belt is preferably resiliently deformable. The belt may
be elastomeric. The belt may comprise a single strap. Alternatively, the
belt may comprise a plurality of straps. The straps may be substantially
parallel to each other. Alternatively, at least one of the straps may be
inclined in relation to at least one other of the straps.

The anchoring means may be at least one plate locateable
in contact with one of the opposite sides. The anchoring means may
include at least one tongue insertable between the sole and a foot
supporting surface of the item of footwear. The anchoring means may
comprise two plates, each locateable in operative engagement with
respective opposite sides of the item of footwear. The two plates may be
connected by an intermediate flap. Alternatively, each plate may be
continuous with at least one flap locateable in connection with the sole.
Preferably, the anchoring means anchors the first and second ends to
opposite sides of a sole of the item of footwear. The at least one plate is
preferably formed of a firm material such as TPU or nylon or other
suitable material.

Alternatively, the anchoring means may include a portion of
the side of a conventional item of footwear.

The claspings means is preferably a clip. The clip may
suitably comprise two inter-engageable components. Preferably, the clip
is formed of rigid material. The rigid material may be nylon.

The inter-engageable portions may be at least one hook and
at least one slot.

The at least one hook or, alternatively, the at least one slot
is preferably located on the at least one plate.

The claspings means may further comprise a plurality of
hooks.

Most preferably, the claspings means includes adjustment
means for adjusting the tension of the belt. The adjustment means may
be at least two spaced alternative slots for receiving the hook.
Alternatively, the adjustment means may be at least two spaced hooks for engaging the slot.

In a further aspect, the invention resides in an adjustable clasp means for fastening footwear, said adjustable clasp means comprising at least one clip formed by at least two inter-engageable components, wherein one of the inter-engageable parts is duplicated and spaced from a first one of those components, thereby providing an alternative fastening position. The adjustable clasp means may comprise a plurality of such duplicated components.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a shoe with a first embodiment of a fastening system of the invention.

FIG. 2 is a reverse perspective view of the shoe of FIG. 1.

FIG. 3 is a perspective view of the shoe of FIG. 1 with the fastening system in operation.

FIG. 4 is a transverse sectional view of the shoe of FIG. 3.

FIG. 5 is a perspective view of a shoe with a second embodiment of a fastening system.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring to FIG. 1, there is shown a shoe 10 featuring a fastening system of the present invention. The fastening system comprises a belt 11 which, in this case, consists of a plurality of straps 13, 14 and 15 connected to a common end 16 which supports a hook 17. The hook 17 comprises a base plate 18 and projecting L section 19. The
straps 13, 14 and 15 are preferably made of a resiliently deformable material such as TPU, nylon, rubber or any suitable material which provides a tensioned elasticity when the belt is in securing operation.

A portion of the anchoring means of the invention is visible in the form of a latch plate 20 preferably formed of rigid material. The latch plate 20 has a series of slots 21 in tongue 22. The slots 21 are dimensioned to receive the L section 19 of the hook 17 and together form inter-engageable parts of a clip and therefore clasping means. In this view, the clasping means is adjustable as the L section 19 may be located alternatively in any one of the slots 21 as appropriate to a user. The slots 21 form spaced alternate receptacles for the hook 17. It is clear that, as an additional or alternative structure, a series of hooks may be located on tongue 22 with a single or multiple recesses on the belt 11 so that adjustment may be made via the choice of alternate hooks.

FIG. 2 shows the opposite perspective of the shoe 10 of FIG. 1. Belt 11 is formed in part by straps 13, 14 and 15 which join in a common second end 23 which, in turn, is attached to lace plate 24. Lace plate 24 is preferably made of a rigid material and forms part of the anchoring means for attaching the belt 11 to the shoe 10.

FIG. 3 shows the shoe of FIG. 1 when the belt 11 is locked into operating position. The hook 17 (which is not visible in this view) is inserted into one of the slots 21 and the straps 13, 14 and 15 locate around the upper portion 25 of the shoe 10, thereby fastening the shoe to the foot of a user. It is clear that the user may select one of the slots that
is most appropriate to his or her foot. The user can also vary the tension in the straps 13, 14 and 15 by selecting alternate slots. The invention shows a fast and efficient way of fastening a shoe to a user's foot as well as providing a variable range of tensions in the act of fastening. The tension will be maintained relatively statically throughout use, thereby providing an advantage over lace systems, in particular, which may loosen or stretch during use or redistribute the tension along an eyelet line.

In FIG. 4, the belt 11 is clearly shown as substantially encompassing the upper portion 25 of the shoe 10. This provides great support to the foot of a user unlike conventional lacing or clip systems which are restricted in operation to an area around the upper central lace opening of a shoe. In this view, it is clear that the anchor means comprises latch plate 20 and lace plate 24. Both the latch plate 20 and lace plate 24 have respective flaps 26 and 27 which are located between the sole 28 and a foot supporting surface 29 of the shoe 10 and may be a continuation of the upper portion 25. The effect of these flaps 26 and 27 is to bind the anchoring system into close engagement with the sole 28 and thereby provide a virtually continuous support mechanism around the whole of the foot when the clasp means is locked as shown. It is clear to a skilled addressee that the anchoring means may comprise a continuous piece of material or flap between the lace plate 24 and the latch plate 20, thereby providing even more circumferential support. In this view, the L section 19 of the hook 17 is shown inserted into one of the slots 21. First common end 16 may include a grasping flap 30 to facilitate
use. Second common end 23 is shown locked to a post 31 on the lace plate 24.

The adjustable clasping means may be used with a conventional pair of shoes and attached to the webbing of those shoes. In such a case, tongue 22 may be stitched or glued to the side of a shoe upper while a shortened belt section may be stitched or glued to the opposite side of the shoe upper, thereby providing a fastening system with an anchoring means formed by attachment to the sides of a shoe.

The inter-engageable portion of the location means may be dispersed to engage in or near the mid line of the shoe.

FIG. 5 shows a further embodiment of a fastening system for footwear. Like numerals have been used to describe like components. In this embodiment of the invention, a series of hooks 17 are located on tongue 22 with multiple slots 21 on the belt 11. Adjustment may be made by choosing alternate slots 21 for placement of hooks 17.

Distinct advantages are provided by the above invention in that a circumferential support and tensioning effect is provided around the whole of the upper foot and, in the preferred embodiment, around the lower foot as well. The tensioning is even throughout and is easily adjustable. Further, the clip engagement is positive and is highly unlikely to release or loosen during operation. The system also allows differential adjustment between opposite feet.

Throughout the specification, the aim has been to describe the preferred embodiments of the invention without limiting the invention
to any one embodiment or specific collection of features. Various changes and modifications may be made to the embodiments described and illustrated without departing from the present invention.
CLAIMS:

1. A footwear fastening system for fastening an item of footwear, said footwear fastening system comprising:
   a belt having a first end and second end, said belt locateable around at least a part of an upper portion of the item of footwear;
   anchoring means for anchoring the first end and the second end to opposite sides of a sole of the item of footwear; and
   clasping means for releasably fastening the belt.

2. The footwear fastening system of claim 1, wherein the belt is resiliently deformable.

3. The footwear fastening system of claim 1, wherein the belt is elastomeric.

4. The footwear fastening system of claim 1, wherein the belt comprises at least a single strap.

5. The footwear fastening system of claim 1, wherein the anchoring means is at least one plate locateable in contact with one of the sides of the sole.

6. The footwear fastening system of claim 5, wherein the anchoring means may include at least one tongue insertable between the sole and a foot supporting surface of the item of footwear.

7. The footwear fastening system of claim 5, wherein the anchoring means comprises two plates, each locateable in operative engagement with respective opposite sides of the item of footwear.
8. The footwear fastening system of claim 7, wherein the two plates are connected by an intermediate flap.

9. The footwear fastening system of claim 7, wherein each plate is continuous with at least one flap locateable in connection with the sole.

10. The footwear fastening system of claim 1, wherein the anchoring means anchors the first and second ends to opposite sides of a sole of the item of footwear.

11. The footwear fastening system of claim 1, wherein the anchoring means includes a portion of the side of a conventional item of footwear.

12. The footwear fastening system of claim 1, wherein the clasping means is a clip.

13. The footwear fastening system of claim 12, wherein the clip comprises two inter-engageable components.

14. The footwear fastening system of claim 13, wherein the inter-engageable portions are at least one hook and at least one slot.

15. The footwear fastening system of claim 14, wherein at least one hook is attached to a latch plate.

16. The footwear fastening system of claim 14, wherein at least one slot is located on a lace plate.

17. The footwear fastening system of claim 1, wherein the clasping means includes adjustment means for adjusting the tension of the belt.
18. The footwear fastening system of claim 17, wherein the adjustment means is at least two spaced alternative slots for receiving at least one hook.

19. The footwear fastening system of claim 17, wherein the adjustment means may be at least two spaced hooks for engaging at least one slot.

20. The footwear fastening system of claim 1, wherein the footwear fastening system is incorporated into a shoe.

21. An adjustable clasping means for fastening footwear, said adjustable clasping means comprising at least one clip formed by at least two inter-engageable components, wherein one of the inter-engageable parts is duplicated and spaced from a first one of those components, thereby providing an alternative fastening position.

22. The adjustable clasping means of claim 21, wherein the adjustable clasping means comprises a plurality of such duplicated components.
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

Int.Cl.: A43C 11/00, 11/14

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

REFER ELECTRONIC DATABASE DETAILED BELOW

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database consulted during the international search (name of data base and, where practicable, search terms used):

DWPI IPC A43C and keywords: footwear, shoe, boot, sandal, jogger, sandal, shoe, sneaker, fasten, secur, hold, retain, anchor, belt, strap, band, tape, clasp, clamp, clip, snap, latch

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tr>
<td>X</td>
<td>WO 00/33691 A1 (THE BURTON CORPORATION) 15 June 2000 Figures 3 and 6</td>
<td>1, 4, 5, 12, 13, 17, 20</td>
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<td>X</td>
<td>WO 97/03581 A1 (JAMES) 6 February 1997 Figures 4 to 6</td>
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<td>Derwent Abstract Accession No. 96-022762/03, Class P22 JP 07-265104 A (ASICS Corp) 17 October 1995</td>
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* Further documents are listed in the continuation of Box C See patent family annex

- Special categories of cited documents:
  - "A" * document defining the general state of the art which is not considered to be of particular relevance
  - "E" * earlier application or patent but published on or after the international filing date
  - "L" * document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
  - "O" * document referring to an oral disclosure, use, exhibition or other means
  - "P" * document published prior to the international filing date but later than the priority date claimed
  - "T" later document published after the international filing date but not in conflict with the application but cited to understand the principle or theory underlying the invention
  - "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
  - "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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**Name and mailing address of the ISA/AU**

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Form PCT/ISA/216 (second sheet) (July 1998)
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<td>X</td>
<td>EP 1044620 A1 (BENETTON GROUP S.p.A) 18 October 2000 Figure 2</td>
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<td>EP 0645102 B1 (BENETTON SPORTSYSTEM S.p.A) 13 January 1999 Figure 4</td>
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<td>EP 0484846 B1 (NORDICA S.p.A) 13 May 1992 Figure 2</td>
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<td>X</td>
<td>EP 0220784 B1 (TECNOSKI S.r.l.) 6 May 1987 Figures</td>
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<td>X</td>
<td>DE 3248770 A (FILDAN) 12 July 1984 Figure 1</td>
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU01/01586

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<td>☐ Claim Nos: because they relate to subject matter not required to be searched by this Authority, namely:</td>
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<tr>
<td>2.</td>
<td>☐ Claim Nos: because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:</td>
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<td>3.</td>
<td>☐ Claim Nos: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(e)</td>
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<td>1.</td>
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<td>2.</td>
<td>X As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.</td>
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<td>3.</td>
<td>☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:</td>
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<td>4.</td>
<td>☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:</td>
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Remark on Protest
☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet(1)) (July 1998)
2. Claims 21 and 22 are directed to an adjustable clasping means for footwear comprising at least one clip formed of two inter-engageable components, wherein one of the components is duplicated and spaced from the other component to provide alternate fastening positions. It is considered that the duplication of one of the components spaced from the other component to provide alternate fastening positions comprises a second "special technical feature".

Since the abovementioned groups of claims do not share any of the technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept, a priori.
This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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END OF ANNEX