Title: COLLAPSIBLE FENCING SYSTEM

Abstract: The invention of the present specification is directed to a collapsible fencing system that is collapsible by activation of a releasing pin (20) causing the posts (82) to pivot and the fence to lie on the ground. The collapsible fencing system has a collapsing means, a plurality of collapsible posts (82) and linked by strands of wire (80). The collapsible fencing system has two fixed posts (13, 14) arranged so that the fence forces can dissipate through both posts. With the two posts, the load from the fence forces are shared thereby reducing the amount of stress on any one post and enabling the fencing system to withstand greater forces.
COLLAPSIBLE FENCING SYSTEM

FIELD OF INVENTION

The present invention relates to fences and fencing. The present invention has particular but not exclusive application for use as fences in flood-prone areas; security fencing around fields, airports and other important areas; fencing where convenient, quick or emergency access may be required such as for stock fencing where there is the possibility or need for emergency or convenient removal of stock from an enclosed area or drive-over-fencing for fighting bushfires and in snowfields where there are one or more ski run.

BACKGROUND OF THE INVENTION

Collapsible fencing systems have been developed for use in a number of situations including stock fencing, drive-over fencing and fencing subject to extreme weather conditions such as floods and high winds.

Australian patent AU729941 describes a collapsible fence that consists of a series of posts that have a spring biased pivot near their base with several strands of wire stretching between each of the posts and connected to a triangular collapsing frame that is releaseably connected to a permanently fixed upright post. The collapsing frame is pivotally mounted to the permanently fixed upright post and to a stake adjacent their bases. The collapsing frame has a spring biased pin which engages the permanently fixed upright post. The fence collapses when the pin is withdrawn from engagement with the permanently fixed upright post and the collapsing frame pivots about its mounting with the permanently fixed upright post and the stake so that the collapsing frame falls to the ground. As the collapsing
frame pivots about its mounting and falls to the ground, the fencing wire and pivotal posts are consequently forced towards the ground.

A disadvantage with the described collapsible fence is that the collapsing frame is retained in position by a tubular sleeve that surrounds a rod pivotally mounted on a stake and a similar type of pivotal mounting attached to a fixed post. However, the pivotal mountings restrict the dissipation of the generated fence forces, thereby limiting the amount of force that a fence can withstand before it yields or fails. Furthermore, the fence cannot withstand relatively high fence forces thereby limiting the amount of tension that can be applied to the fence spans.

OBJECT OF THE INVENTION

It is an object of the present invention to provide an alternative collapsible fencing system that overcomes at least in part one or more of the abovementioned problems.

SUMMARY OF THE INVENTION

In one aspect the present invention broadly resides in a collapsible fencing system including

- a plurality of collapsible posts movable between a substantially upright position and a substantially horizontal position;
- fence members extendable between the posts; and
- a collapsing means including a spring biased release pin mounted to a frame and engageable with a first post, said frame is pivotally mounted to the first and a second post, said pivotal mountings of the frame to both the first and second posts
provides for dissipation of the fence force generated when the fence is in an erected position.

The frame preferably includes an upright member pivotally mounted to the first post and a fixed lateral member pivotally mounted to the second post. The pivotal mounting of the upright member to the first post preferably includes a threaded rod attached to the first post with a nut on either side of the first post and a tube attached to the base of the upright member with the tube and upright member held in position relative to the first post by another nut on the threaded rod. The pivotal mounting of the lateral member to the second post preferably includes an end cap associated with the free end of the lateral member and with a protruding rod fixed within the second post. Preferably the end cap has a first portion fixed to the free end of the lateral member and an abutting second portion fixed to the rod so that fence forces can dissipate from the lateral member to the first portion, abutting second portion, protruding rod and to the second post. The fence forces are preferably dissipated through both posts thereby reducing the strain and possible fatigue caused when the fence forces pass through a single post. One or more washers are preferably used to space the end cap from the second post.

In another aspect the present invention broadly resides in a collapsible fencing system including

a plurality of collapsible posts movable between a substantially upright position and a substantially horizontal position;

fence members extendable between the posts; and

a collapsing means including a spring biased release pin mounted to a frame and engageable with a first post, said frame is pivotally mounted to the first and a second post, said pivotal mountings of the frame to both the first and second posts
provides for dissipation of the fence force generated when the fence is in an erected position, wherein the mounting to the second post includes an end cap having a first portion fixed to the frame and an abutting second portion fixed to the second post so that fence forces can dissipate from the frame to the second post.

The spring biased release pin is preferably mounted to the frame by means of a sleeve through which the pin is retained. In the engaged position the pin is preferably located within a recess in the first post. Preferably the pin can be locked in the engaged position by using a padlock or the like to lock together a ring member mounted on the pin and an adjacent ring member mounted on the sleeve so that the pin can not move relative to the sleeve. In an alternative embodiment the pin is preferably connected to a trigger wire which actuates release of the pin under certain conditions. In the embodiment where the pin is connected to a trigger wire, the pin when in the engaged position is preferably not lockable.

The fence members are preferably lengths of fencing wire.

The collapsible posts may collapse by any suitable means. Preferably the collapsible posts have a spring biased pivot pin near the base of the post. Where there are a plurality of spans of fencing, a positioning post may be used instead of a frame. There may be a positioning post at the end of the first span and optionally at the beginning and end of additional spans except the end of the last span which is preferably a frame. Preferably each positioning post includes an anchor portion and a collapsible portion. Said collapsible portion is preferably pivotally mounted to the anchor portion. Preferably the collapsible portion has a lever latch for releaseably engaging a catch member fixed to the anchor portion. Preferably the lever latch includes a lever which when rotated approximately 90 degrees releases an associated latch member from the catch member.
In one embodiment the levers are not connected and each requires manual release.

The lever of each positioning post is preferably connected to the release pin via a trigger wire either directly or indirectly via other levers. The lever of each positioning post is preferably connected so that when the release pin is engaged with the first post, the lever latch engages the respective catch member. When the trigger wire, drogue or pipe attached to the wire is pulled or dragged such as with flooding, the release pin disengages and the lever latch is released from the catch member and the collapsible portion collapses. Said trigger wire is preferably attached to a ring member on the pin.

In one embodiment the lever latch may be spring biased to the upright position.

In another embodiment the lever latch may be protected from accidental release with a guard covering the lever.

In another aspect the present invention broadly resides in a collapsible fencing system including

a plurality of collapsible posts movable between a substantially upright position and a substantially horizontal position;

fence members extendable between the posts; and

a collapsing means including a spring biased release pin mounted to a frame and engageable with a first post, said frame is pivotally mounted to the first and a second post, said pivotal mountings of the frame to both the first and second posts provides for dissipation of the fence force generated when the fence is in an erected position; wherein there is a positioning post at the end of the first span and optionally at the beginning and end of additional spans, said positioning post has an anchor.
portion and a collapsible portion, said collapsible portion has a lever latch for releaseably engaging a catch member fixed to the anchor portion; said spring biased release pin is operatively associated with the lever latch so that when the trigger wire is pulled the release pin is disengaged and the lever latch is released.

In a further aspect the present invention broadly resides in a collapsible fencing system including a plurality of collapsible posts movable between a substantially upright position and a substantially horizontal position; fence members extendable between the posts; and a collapsing means including a spring biased release pin mounted to a frame and engageable with a first post, said frame is pivotally mounted to the first and a second post, said pivotal mountings of the frame to both the first and second posts provides for dissipation of the fence force generated when the fence is in an erected position; wherein there is a positioning post at the end of the first span and optionally at the beginning and end of additional spans, said positioning post has an anchor portion and a collapsible portion, said collapsible portion has a lever latch for releaseably engaging a catch member fixed to the anchor portion; said spring biased release pin is operatively associated with the lever latch so that when the release pin is disengaged the lever latch is released; wherein the mounting to the second post includes an end cap having a first portion fixed to the frame and an abutting second portion fixed to the second post so that fence forces can dissipate from the frame to the second post.

The collapsible fence system may be part of a larger fence system or be the entire fence system or enclosure. The collapsible fence system may also act as a gate.
The release of the release pin causing the collapse of the fence may be manually carried out, actuated by the trigger wire or automated such as with an operatively associated electric motor. The initiation of automated release may be in response to achieving preprogrammed set conditions, an operator initiated activation or a remotely controlled activation.

When repairs or maintenance are required to the fencing system or when the fencing system is installed on site, the releasing pin can be released subsequently collapsing the fence to allow easy access to the fence members and posts. This is particularly relevant in situations where there are relatively high fences.

The collapsible fencing system may also include one or more warning markers alerting persons to the presence of a collapsible fence. In a preferred embodiment, the warning markers may include one or more signs attached to the fence members and/or warning signs or markers positioned before the fence.

The collapsible fencing system may also include a pulley system with a pulley attached to each of the first posts and one or more collapsible posts with a cable threading through the pulleys to raise and lower the fence. The cable may be wound with a winch and an electric motor. The electric motor may be solar powered and mounted on the first post. The electric motor may be operatively associated with a flood or wind sensor so that a fence section can be automatically lowered when a sensor signal is received. The collapsible fencing system with the abovementioned pulley system may be used in any suitable situation such as where the fencing system is high and or the fence is long. The collapsible fencing system with the pulley system may be used to provide a winch operated gate.

In another aspect, the invention broadly resides in a method of collapsing the abovementioned collapsible fence system including releasing the release pin from
the first post enabling the frame and each collapsible post to pivot about their respective mountings and lie substantially horizontal.

**BRIEF DESCRIPTION OF THE DRAWINGS**

In order that the present invention can be more readily understood and put into practical effect, reference will now be made to the accompanying drawings wherein:

- Figure 1 is a diagrammatic view of the frame of the collapsible fencing system;
- Figure 2 is a diagrammatic view of the mounting of the frame to the second post;
- Figure 3 is a diagrammatic view of (a) the release pin with one or more ring members and (b) a ring member;
- Figure 4 is a diagrammatic view of the positioning post;
- Figure 5 is an alternate diagrammatic view of the positioning post;
- Figure 6 is a diagrammatic view of the latch pin - catch mechanism of the positioning post;
- Figure 7 is a diagrammatic view of the catch member;
- Figure 8 is a diagrammatic view of a pulley system for raising the fence;
- Figure 9 is a diagrammatic view of a pulley fixed to the first post;
- Figure 10 is a diagrammatic view of a pulley fixed to the frame;
- Figure 11 is a diagrammatic view of an embodiment using the pulley system showing and end assembly in (a) a substantially upright position, (b) a substantially lowered position and (c) a substantially lowered position with a motor mounted on the first post;
Figure 12 is a diagrammatic view of a fence using the trigger wire mechanism to collapse one or more fence spans where there is a span shown in (a) a substantially upright position and (b) in a substantially lowered position; and

Figure 13 is a diagrammatic view of the peg striking tool used in installing the collapsible post.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to Figures 1, 2 and 3, there is shown a frame 10 including an upright member 11 and a lateral member 12. The lateral member 12 is fixed to the upright member 11 by a suitable fastener. The upright member 11 is a suitable angle iron fencing post while the lateral member 12 is a tubular pipe. There is also shown in Figure 1, a first post 13 and a second post 14. The posts 13, 14 are fixed in the ground. The upright member 11 is pivotaly mounted to the first post 13 by means of a threaded rod 15 which is fixed to the first post 13 and attached to the upright member 11 by a welded tubular pipe section 16 which forms an outer sleeve about the threaded rod 15. The position of the upright member 11 relative to the first post 13 is maintained by positioning nuts 17.

There is a spring biased release pin 20 mounted to the lateral member 12. The mounting is formed with a welded tubular pipe 21 which serves as an outer sleeve and through which the release pin 20 moves forwards and backwards. A spring 22 is located between an end of the tubular pipe 21 and approximately midway on the pin 20. The spring 22 in a compressed state disengages the pin 20 from a recess (not shown) in the first post 13. In the non-compressed position, the pin 20 engages and passes into the recess of the first post 13. The spring 22 has a bias towards engagement of the pin 20 with the first post 13.
The tubular pipe 21 has a fixed ring 25. The pin 20 also has a protruding ring 26. When the pin 20 engages the first post 13, the ring 25 is adjacent ring 26 enabling a padlock to lock the two rings 25, 26 and prevent movement of the pin 20 relative to the pipe 21.

The lateral member 12 is mounted to the second post 14 by an end cap 28. The end cap 28 includes a first plate 29 welded to the outside surface of the lateral member 12. The first plate 29 has an aperture 32 with a diameter greater than the diameter of the mounting rod 30 which is fixed to the second post 14. The end cap 28 also has a second plate 31 which is welded to the mounting rod 30. In use, the mounting rod 30 passes through the aperture 32 in the first plate 29 and abuts the second plate 31. One or more packing washers 34 are positioned between the second plate 31 and the second post 14 to provide sufficient space to clear the welding and to provide adjustment. In use, fence forces generated by the erected fence can dissipate through the lateral member 12, first plate 29, abutting second plate 31, mounting rod 30, second post 14 and to the ground. With the arrangement of the mounting of the frame 10, fence forces can be dissipated through the first post 13 and second post 14 to the ground thereby reducing the degree of stress to any one post and enabling the fencing system to withstand stress from comparatively higher fence forces.

Instead of using a frame 10, the end of the fence span and the beginning and end of additional fence spans, except the end of the last span which is a frame, may use positioning posts. With reference to Figures 4, 5, 6 and 7, there is shown a positioning post 40 having an anchoring portion 41 and a collapsible portion 42. The collapsible portion 42 is pivotally mounted at pivot mounting 43 by a threaded fastener and nut arrangement to the anchored portion 41. A threaded catch pin 44 is
fixed to the anchor portion 41. The catch pin 44 has a threaded section 45, a spacer section 46 and a head section 47. The collapsible portion 42 has a lever latch arrangement 48 which in a preferred embodiment has a longer arm on one side to serve as a weight and a spring to provide resistance to rotation. The level latch arrangement 48 includes a lever 49, shaft-sleeve arrangement 50 and latch 51. There is also a guard 52 protecting the lever 49 from accidental release. In one orientation, the latch 51 engages the catch pin 44 on the spacer section 46 and between the head section 47 and the anchor portion 41. When the lever 49 is rotated approximately 90 degrees, the latch 51 disengages the catch pin 44 and the collapsible portion 42 pivots about the pivot mounting 43. The lever 49 is connected by a trigger wire 53 to other levers 49 and the ring 26 on the release pin 20. When the trigger wire 53 is pulled or dragged such as during a flood, the release pin 20 disengages from the first post 13, the lever 49 rotates approximately 90 degrees and the latch 51 is released from the catch pin 44 and the collapsible portion 42 pivots and collapses lying substantially flat on the ground.

Disengagement of the release pin 20 from the first post 13 may occur manually with an operator physically withdrawing the release pin 20 from engagement. Alternatively, disengagement of the release pin 20 may occur automatically via means of an electric motor operating within pre-programmed settings, operator initiated release or remotely activated.

With reference to Figure 12 there is shown a collapsible fence with a first post 13, a second post 14 and collapsible post 82 connected by strands of fence wire 80. Between the collapsible posts 82 there is a positioning post 40. The position post 40 is as described above and there may be one or more positioning posts 40 located along any suitable span bordered by end frames 10. The trigger wire 53 is
connected to the levers 49 and the release pin 20. When the trigger wire 53 is
dragged or pulled as a consequence of wind, floods or human intervention the lever
49 is actuated and the release pin 20 is withdrawn changing the span from an
upright position shown in Figure 12a to a lowered position shown in Figure 12b.

With reference to Figures 8, 9, 10 and 11 there is shown a means of raising a
fence with a system of pulleys 59. Suitable pulleys 60 on each first post 13 (shown
in Figure 9) and suitable pulleys 61 on each frame 62 (shown in Figure 10). A motor
-winch system 63 is preferably used to raise the fence via cabling 64 to a desired
position. The pulley system 59 is suitable where the fences are high or relatively
long. In a preferred form, adjoining spans of fencing especially at bends and corners
may collapse on opposite sides of the first post to avoid problems with entanglement.

With further reference to Figures 8 and 11 there is shown another
embodiment of the collapsible fencing system where the two support posts 13 and
14 are preferably at an angle from the vertical so that when the cable 64 is released,
the weight of the frame 62 causes the frame 62 to rotate to a desired position from
an upright to substantially horizontal position. In this preferred embodiment the
collapsible fencing system does not require a release pin as the frame is held in
position by the cable 64 which is threaded through a pulleys 60,61 on the frame and
first post respectively. The collapsible frame 62 may be pivotally mounted through
the use of a pivot pin such as a nut and bolt arrangement. The frame 62 does not
require to be pivotally mounted with a spring biased fastener.

The cable 64 may be manually operated with for example a manually
operated winch. Alternately there is a motorized winch 63 to assist in raising the
fence. The motorized winch 63 may include a braking system to prevent inadvertent
or accidental release of the cable 64. If a worm gear drive on the motorized winch
63 is used, a braking system may not be necessary. The motorized winch 63 may be positioned near or at the ground level as shown in Figure 8 or mounted on post 13 as shown in Figure 11c. Where the motorized winch 63 is mounted on a post such as the first post 13, the post may be suitably braced 68 to provide suitable support. Post 13 may also have a brace 67. The motorized winch 63 may be electrically operated using batteries, mains power or a solar power system. A cable sensing device may be employed to control the motor and winding of the cable.

In a preferred form, there may be two frames 62 that form end assemblies which can be lowered to provide a gate. A switch may be provided along the roadway so that the gate may be lowered without requiring a person to leave the vehicle. The switch may operate in such a manner that the fence is raised in response to the activation of a second switch. Alternately, the gate may be opened and closed remotely using a suitable RF device.

The fencing system may also have one or more warning markers alerting persons to the presence of the collapsible fence. The warning markers may either be placed on stakes in front of the fence or attached by tie-wires to one or more fence wire strands.

The collapsible posts are preferably angle iron stakes. These stakes can be driven into the ground by the use of any suitable tool. In Figure 13, there is shown a peg striking tool 70 having a back plate 71 fixed within a cap portion 72. The tool 70 can be attached to the stake 69 during driving by bolting the tool and the stake together.

**VARIATIONS**

It will of course be realised that while the foregoing has been given by way of illustrative example of this invention, all such and other modifications and variations
thereto as would be apparent to persons skilled in the art are deemed to fall within
the broad scope and ambit of this invention as is herein set forth.

Throughout the description and claims this specification the word "comprise"
and variations of that word such as "comprises" and "comprising", are not intended to
exclude other additives, components, integers or steps.
1. A collapsible fencing system including
a plurality of collapsible posts movable between a substantially upright
position and a substantially horizontal position;
fence members extendable between the posts; and
a collapsing means including a spring biased release pin mounted to a frame
and engageable with a first post, said frame is pivotally mounted to the first and a
second post, said pivotal mountings of the frame to both the first and second posts
provides for dissipation of the fence force generated when the fence is in an erected
position.

2. A collapsible fencing system including
a plurality of collapsible posts movable between a substantially upright
position and a substantially horizontal position;
fence members extendable between the posts; and
a collapsing means including a spring biased release pin mounted to a frame
and engageable with a first post, said frame is pivotally mounted to the first and a
second post, said pivotal mountings of the frame to both the first and second posts
provides for dissipation of the fence force generated when the fence is in an erected
position, wherein the mounting to the second post includes an end cap having a first
portion fixed to the frame and an abutting second portion fixed to the second post so
that fence forces can dissipate from the frame to the second post.
3. A collapsible fencing system as claimed in claim 1 or 2 wherein the spring biased release pin is mounted to the frame by means of a sleeve through which the pin is retained, said pin has a ring member lockable together with an adjacent ring member mounted on the sleeve by a padlock so that the pin can not move relative to the sleeve.

4. A collapsible fencing system as claimed in any one of the abovementioned claims wherein the fence members are lengths of fencing wire.

5. A collapsible fencing system as claimed in any one of the abovementioned claims wherein the collapsible posts have a spring biased pivot pins at or near the base of the post.

6. A collapsible fencing system including

a plurality of collapsible posts movable between a substantially upright position and a substantially horizontal position;

fence members extendable between the posts; and

a collapsing means including a spring biased release pin mounted to a frame and engageable with a first post, said frame is pivotally mounted to the first and a second post, said pivotal mountings of the frame to both the first and second posts provides for dissipation of the fence force generated when the fence is in an erected position; wherein there is a positioning post at the end of the first span and optionally at the beginning and end of additional spans, said positioning post has an anchor portion and a collapsible portion, said collapsible portion has a lever latch for releaseably engaging a catch member fixed to the anchor portion; said spring biased
release pin is operatively associated with the lever latch so that when the trigger wire is pulled the release pin is disengaged and the lever latch is released.

7. A collapsible fencing system including

- a plurality of collapsible posts movable between a substantially upright position and a substantially horizontal position;
- fence members extendable between the posts; and
- a collapsing means including a spring biased release pin mounted to a frame and engageable with a first post, said frame is pivotally mounted to the first and a second post, said pivotal mountings of the frame to both the first and second posts provides for dissipation of the fence force generated when the fence is in an erected position; wherein there is a positioning post at the end of the first span and optionally at the beginning and end of additional spans, said positioning post has an anchor portion and a collapsible portion, said collapsible portion has a lever latch for releaseably engaging a catch member fixed to the anchor portion; said spring biased release pin is operatively associated with the lever latch so that when the trigger wire is pulled the release pin is disengaged and the lever latch is released; wherein the mounting to the second post includes an end cap having a first portion fixed to the frame and an abutting second portion fixed to the second post so that fence forces can dissipate from the frame to the second post.

8. A collapsible fencing system as claimed in claims 6 or 7 wherein the lever of each positioning post is connected to the release pin via a trigger wire so that when the release pin is engaged with the first post, the lever latch engages the catch member; wherein when the trigger wire is pulled or dragged the release pin
disengages and the lever latch is released from the catch member and the collapsible portion collapses.

9. A collapsible fencing system as claimed in claims 6 or 7 wherein there is a guard covering the lever and substantially preventing the lever from accidental release.

10. A collapsible fencing system as claimed in any one of the abovementioned claims wherein the collapsible fence system is part of a larger fence system or the entire fence system or enclosure.

11. A collapsible fencing system as claimed in any one of the abovementioned claims wherein the disengagement of the release pin causing the collapse of the fence is manually performed or automated with an operatively associated electric motor.

12. A collapsible fencing system as claimed in any one of the abovementioned claims wherein the disengagement of the release pin causing the collapse of the fence is automated in response to achieving preprogrammed set conditions, an operator initiated activation or a remotely controlled activation.

13. A collapsible fencing system as claimed in claims 11 or 12 wherein the release pin is operated by a solar powered electric motor.
14. A collapsible fencing system as claimed in any one of the abovementioned claims wherein there are one or more warning signs or markers alerting persons to the presence of a collapsible fence, said warning signs or markers include one or more signs attached to the fence members and or warning signs or markers fixed on stakes.

15. A collapsible fencing system as claimed in any one of the abovementioned claims wherein there is a pulley system with a pulley attached to each of the first posts and frames and a cable threading through the pulleys to raise the fence to the desired position; said fence is raised with a winch actuated manually or with an electric motor.

16. A method of collapsing the collapsible fence system as claimed in any one of claims 6 to 15, including releasing the release pin from the first post enabling the frame and each collapsible post to pivot about their respective mountings and lie substantially horizontal.
Figure 13
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

Int. Cl.: E04H 17/06, 17/08, 17/18, AOIK 3/00, 1/08, 15/04

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 CONSULTED BELOW**

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

AU: IPC E04H 17/06, 17/08, 17/18, AOIK 3/00, 1/08, 15/04

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

DWPI: keywords: E04H 17/-, AOIK M-, AOIK 3/00, fenc, barrier, enclos, corral, barricad, guard, fram, temp, rotat, removable, retractor, fold, demount, post, pole, support, mount, hing, pivot, turn, swivel, swing and similar terms.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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<td>AU 198436265 A1 (ELLIOT) 12 June 1986 See figures</td>
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<td>DE 29602952 U1 (SENDLER) 8 August 1996 See figures</td>
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[X] Further documents are listed in the continuation of Box C [X] See patent family annex

**Date of the actual completion of the international search**

12 September 2005

**Date of mailing of the international search report**

19 SEP 2005

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

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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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Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX