

AUSTRALIA

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667720

PATENT REQUEST: STANDARD PATENT

I, being the person identified below as the Applicant, request the grant of a patent to the person identified below as the Nominated Person, for an invention described in the accompanying standard complete specification

Full application details follow.

[71] Applicant: ANNE CATHERINE BATTLE

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[70] Nominated Person: ANNE CATHERINE BATTLE

Address: as above

[54] Invention Title: "CLOTHING INSERT"

[72] Name of actual inventor: ANNE CATHERINE BATTLE

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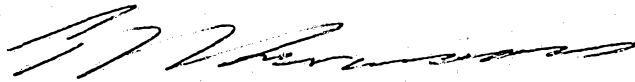
Attorney code: WR

ASSOCIATED PROVISIONAL APPLICATION(S) DETAILS

[60] Application Number and Date: PL3246 (29/06/92)

Drawing number recommended to accompany the abstract: 1

ANNE CATHERINE BATTLE
By his Patent Attorney,



29th June 1993

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NOTICE OF ENTITLEMENT

I, ANNE CATHERINE BATTLE of "Gelfro", R.M.B. 815, Williams, Western Australia, Australia being the applicant in respect of an application in respect of an invention entitled "CLOTHING INSERT", Application No. 41687/93 state the following:-

NOMINATED PERSON(S)

I am the Nominated Person to whom I request that the patent be granted.

ASSOCIATED APPLICATION

I am the applicant of the provisional application listed on the patent request form.

Anne C Battle
Signature

Date 19th December 1994



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CLOTHING INSERT
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- (30) Priority Data
- (31) Number (32) Date (33) Country
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- (56) Prior Art Documents
AU 56082/90 A61F 5/30, A41D 13/06,13/08
US 4472838
- (57) Claim

1. A protective clothing insert formed of fleeced sheep skin and configured to be located within a pair of pants to lie against the region of the crotch and/or buttocks of the wearer to be subjected to pressure, such that the fibres of the fleece of the sheep skin are adjacent the skin of wearer with the fibres engaging the skin of the wearer to provide air gaps around the wearer's skin and so that the material of the pants can shift relative to the wearer's skin through deflection of the fibres without chafing, in use the insert being worn between the skin of the wearer and the pants to lie in the region of the crotch and/or buttocks of the wearer which is to be subjected to pressure.

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COMPLETE SPECIFICATION

For a Standard Patent

ORIGINAL

TO BE COMPLETED BY APPLICANT

Name of Applicant: ANNE CATHERINE BATTLEY

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Invention Title: "CLOTHING INSERT"

Details of Associated Provisional Application: No: PL3246

The following statement is a full description of this
invention, including the best method of performing it known to
us:-

THIS INVENTION relates to an insert which is to be used in association with a pair of pants in order to protect regions of the crotch and buttocks of a wearer which may be subjected to pressure.

It has been found that in instances where a persons are involved in an activity which results in continuous pressure being applied to a portion of the body, that not only can the person experience some discomfort, but there can also be considerable physiological difficulty for the wearer such as the development of pressure sores or infection. Such activities include horse riding, bicycle riding, rowing, sedentary occupations or like activities where a portion of a persons body is subjected to pressure for extensive periods of time. Similar difficulties can also arise in the case of bed-ridden patients who develop pressure sores.

Previously persons involved in sports which involved pressure being applied to portions of the body for extensive periods of time (e.g. horse riding, cycling, rowing) have worn beneath their sporting attire, conventional underpants which may be formed of a simple woven material such as being a cotton or cotton synthetic mix. In some cases the clothing which is worn over the underpants has been very tight fitting and substantially non yielding. As a result of such is that there is little or no air circulation in the region of the skin which is being subjected to pressure, there is extremely limited heat transfer from that region. These two characteristics alone can result in significant physiological detriment to the wearer which can cause lasting damage to the tissue and can be detrimental to the persons continued sporting performance.

In the case of horse riding, the appropriate body movements for horse riding, particularly in the pelvic region, can



result in considerable discomfort for the rider. This often results in chafing of various degrees of seriousness which can include breaking of skin tissue and bleeding and bruising. In addition, due to imbalance some inexperienced riders can suffer from unequal pressure in the region of the seat bones and/or pubic bones. Furthermore during long training periods in the saddle and in particular during the hot summer months the perspiration which results in those areas can result in scolding and infection of the skin tissue. It is also a characteristic of horse riding, and in particular with those riders who lack experience, that the body of the rider is regularly thrown from the saddle which results in the rider impacting onto the saddle and in particular the pommel of the saddle (i.e. the raised front portion of the saddle) or the seat of the saddle which results in repetitive and often unusually heavy contact. This can create bruising, abrasion, skin damage and like injury.

In the case of cycling similar problems are experienced as those experienced by horse riders. One particular difference between the two activities however, is the pressure exerted on the seat bones and the pubic bones of the wearer, which can be greater. The seat saddle on the bicycle is considerably narrower and shorter and has less surface area to support the rider. Although there is little of the backward and forward motion on the part of the cyclist in comparison with a horse rider, very considerable pressure is applied to the crotch and buttock area of the rider at different times resulting in different effects. Research has shown that many male cyclists experience problems as a result of pressure being applied in the region of the base of the penis which can result in prostatitis (inflammation of the prostate gland). Furthermore, because of the nature of the activity involved in cycling, considerable perspiration can be produced in

the region of the groin and buttocks which can exacerbate the chafing and the likelihood of infection.

In the past materials such as synthetic chamois or genuine chamois and other alternative forms of padding have been utilised as inserts in clothing, however they all have the disadvantage that they do not facilitate the diffusion of heat to or from the crotch or buttock area and they provide an ideal environment which together with the moisture and warmth being created in the area is conducive to bacterial and fungal infection. In addition, the nature of the materials is such that the skin of the wearer in the region of the groin or buttock tends to slide over the surface or alternatively become stuck to the surface which can result in considerable discomfort, scalding and an increased opportunity for infection.

It is an object of this invention to provide a clothing insert which can serve to alleviate some of the difficulties which have been found to occur in circumstances where the portion of the body of a person is subjected to pressure conditions.

Accordingly the invention resides in a protective clothing insert formed of a fleeced sheep skin which is intended to be located within a pair of pants and which is configured to be able to lie against the region of the crotch and buttocks of the wearer to be subjected to pressure, such that the fibres of the fleece of the sheep skin are adjacent the skin of the wearer with the fibres engaging the skin of the wearer to provide air gaps between the wearers' skin and the material of the pants and so that the material of the pants can shift relative to the wearer's skin through deflection of the fibres without chafing, in use the insert being worn between the skin of the wearer and the pants to lie in the region of the crotch and buttocks of the wearer which is to be subjected to



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pressure. If desired the insert can be removably received within the item of clothing or alternatively the insert can be fixed

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by any suitable means to the interior of the item of clothing.

According to a preferred feature of the invention the fleece has a fibre length of approximately 2cm or more and is of medium to heavy density.

The invention will be more fully understood in the light of the following description of one specific embodiment. The description is made with reference to the accompanying drawings of which:-

Figure 1 is an isometric view of the clothing insert according to the embodiment;

Figure 2 is a schematic isometric view of a pair of underpants having a clothing insert according to the embodiment located therein.

The embodiment relates to a clothing insert 11 which is to be used in association with a pair of pants which are to be worn by persons who may be involved in an activity requiring them to be seated for an extensive period of time. In particular the embodiment has application for use by persons involved in horse riding, bicycle riding and rowing but it can also be used by persons who are involved in a sedentary occupation where they are required to sit for extensive periods of time.

In each of these occupations the region comprising crotch and buttocks of the person are subjected to consistent pressure over a considerable length of time which can vary in intensity throughout that period. As a result of such pressure the person can suffer from considerable discomfort and in many cases such pressure can result in damage to the skin in the region of that pressure and as a result of chafing, scolding or purely sustained pressure. This can



result in the development of pressure sores or skin disorders and physiological problems. Furthermore, due to the confinement in the region of the crotch and upper thighs of the wearer, and since such activities involve considerable physical exertion which generates heat and perspiration conditions are established which can result in the development of bacterial and/or fungal infections and this feature together with the high likelihood of damage to the skin can lead to significant problems.

The embodiment comprises an insert 11 formed from fleeced sheepskin where the fleeced portion of the sheepskin is to be located to be against the skin of the wearer. The insert in use, is to be inserted into a pair of pants 12 or alternatively may be fixed into a pair of pants 12 by any suitable fixing means (e.g. the insert may be sewn into the pants or held in a loop hook attachment means such as VELCRO). The configuration of the insert is such that when worn within a pair of pants it will lie against the region of the crotch and buttocks of the wearer which is subjected to pressure when seated. As a result the insert has a general T-shape configuration where the two arms 13 and 14 are intended to underlie the portion of the buttocks of the wearer which will be subjected to pressure in use and where the central stem 15 of the insert is to be received in the crotch of the wearer.

As a result of testing it has been found that the insert improves the comfort of the wearer when engaged in activities such as horse riding, cycling and rowing. The insert not only serves to reduce the sensation of pressure experienced by the wearer in use but also serves in preventing damage to the skin or tissue which would otherwise be experienced under normal conditions. This is partly because the skin does not "stick" to the fleece and also does not slide over the fleece. Rather the fleece of the insert moves with the skin and accommodates for



relative movement between the skin and the pants in the region of pressure. In addition, the insert allows some air to the region, allows moisture to escape and allows some dissipation of body heat. Furthermore the insert serves to provide an environment which is less favourable for the development of infections when the wearer is undergoing activities which involve physical exertion which activities will result in a warm moist environment in the region of the crotch and/or buttocks as a result of perspiration of the wearer.

In addition when the insert is soiled it can be readily washed.

Variations of the embodiment may be used in association with persons who are involved in circumstances which may involve the establishment of pressure on the body such as may be the case with bed-ridden patients, the occupants of wheelchairs and the like. The scope of the insert can be varied to accommodate for different activities which may create different pressure zones.

It should be appreciated that the scope of the present invention need not be limited to the particular scope of the embodiment described above.

THE CLAIMS defining the invention are as follows:-

1. A protective clothing insert formed of fleeced sheep skin and configured to be located within a pair of pants to lie against the region of the crotch and/or buttocks of the wearer to be subjected to pressure, such that the fibres of the fleece of the sheep skin are adjacent the skin of wearer with the fibres engaging the skin of the wearer to provide air gaps around the wearer's skin and so that the material of the pants can shift relative to the wearer's skin through deflection of the fibres without chafing, in use the insert being worn between the skin of the wearer and the pants to lie in the region of the crotch and/or buttocks of the wearer which is to be subjected to pressure.
2. A protective clothing insert as claimed at claim 1 wherein the insert is adapted to be removably received within the pants.
3. A protective clothing insert as claimed at claim 1 wherein the insert is sewn into the pants.
4. A protective clothing insert as claimed at claim 2 wherein the insert is provided with hook and loop attachment means.
5. A protective clothing insert as claimed at anyone of the claims 1 to 4 wherein the fleece has a fibre length of approximately 2cm or more and is of medium to heavy density.
6. A protective clothing insert as claimed at anyone of the preceding claims wherein the insert has a generally T-shaped configuration.



7. A protective clothing insert substantially as herein described with reference to the accompanying drawings.

8. A pair of pants having a protective clothin insert of the form as claimed at any one of claims 1 to 7.

9. A pair of pants as claimed at claim 8 wherein the insert is fixed into the pants.

10. A pair of pants as claimed at claim 8 wherein the pants insert is removably supported in the pants.

DATED this TWENTY NINTH day of JUNE 1993

ANNE CATHERINE BATTLE
Applicant.

WRAY & ASSOCIATES,
Perth, Western Australia,
Patent Attorneys for the Applicant.



ABSTRACT

A protective clothing insert formed of fleeced sheep skin and configured to be located within a pair of pants to lie against the region of the crotch and/or buttocks of the wearer to be subjected to pressure, such that the fibres of the fleece of the sheep skin are adjacent the skin of wearer with the fibres engaging the skin of the wearer to provide air gaps around the wearer's skin and so that the material of the pants can shift relative to the wearer's skin through deflection of the fibres without chafing, in use the insert being worn between the skin of the wearer and the pants to lie in the region of the crotch and/or buttocks of the wearer which is to be subjected to pressure.

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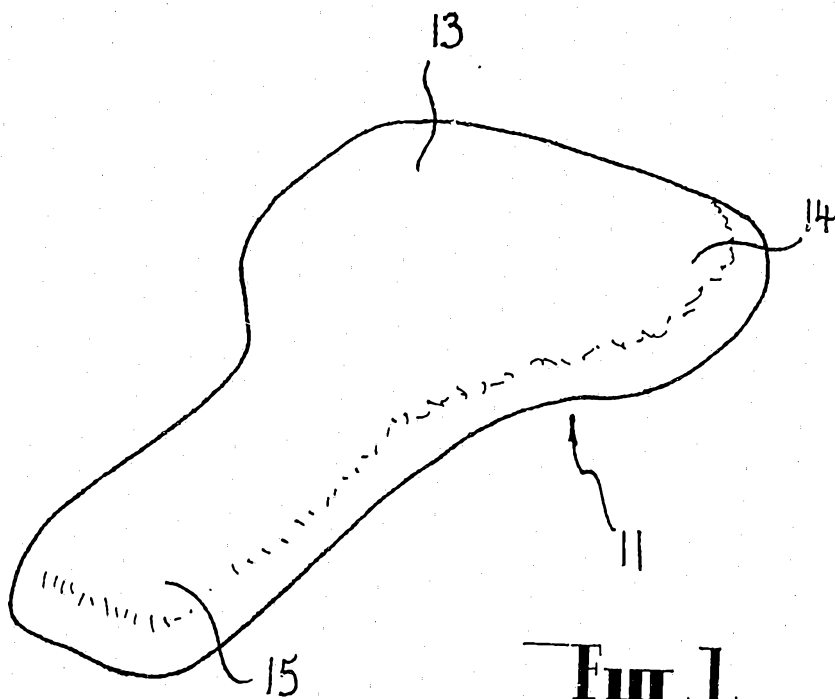


Fig. 1

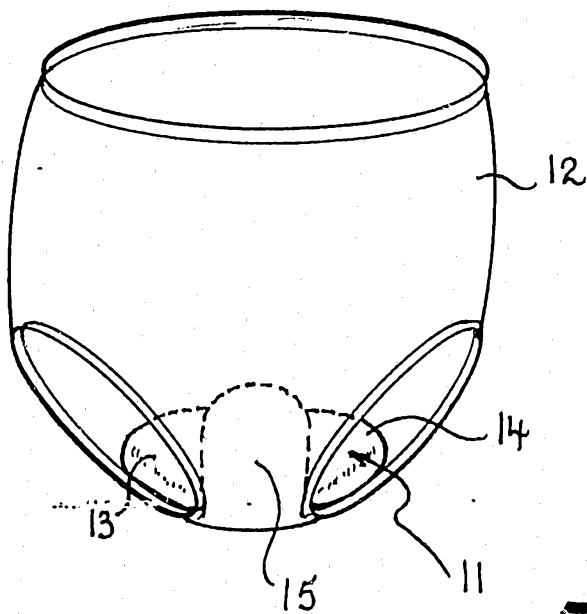


Fig. 2