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(54) WORKING GARMENTS, QUICKLY FASTENED AND DOUBLY PROTECTIVE

ARBEITSBEKLEIDUNG MIT SCHNELLVERSCHLUSS UND DOPPELTEM SCHUTZ

**VETEMENTS DE TRAVAIL A FERMETURES RAPIDES ET ASSURANT UNE DOUBLE
PROTECTION**

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Description

The invention concerns working garments especially overalls.

Workmen, mechanics, hospital staff and others, generally wear working clothes all in one piece consisting of a top and trousers joined together, usually of cotton material, to give freedom of movement and to protect the clothes they wear underneath.

In all such places of work protection is needed against aggressive environmental elements, pollution, soiling generally, infection, contagion, and also for cleanliness.

Such garments must be easy to put on and do up but there are also laundering problems when the work is very dirty and the garments are subjected to very hard wear. Garments at present used are done up with buttons, zip fasteners and the like which however leave gaps and may become damaged during laundering and so rendered inefficient for the purpose they should serve.

Subject of the invention are overalls, and similar that open in front with two flaps that lie one over the other.

Both flaps cover substantially the whole front of the garments so that when fastened they are superimposed all down the front and so give double protection.

Fastening is done by pairs of Velcro strips (trade mark) each one consisting of two pieces placed crosswise; this makes a quick fastening that is also widely adaptable.

Such adaption is made by moving the vertical strip horizontally along the horizontal strip, and vertically by moving the horizontal strip up and down the vertical one.

One flap, at one side of the garment, extends across to the other side and, downward, to a point some way below the crotch by means of a substantially V-shaped extension.

The inner side of said extension is fixed to the inner side of the trouser leg of the garment.

The second flap opening the garment lies over the first flap, extends horizontally to the opposite side and downward to a position at substantially the same level as the first flap, also by means of a V-shaped extension whose inner side is fixed to the inner side of the trouser leg of the garment.

This arrangement creates forces that tend to close the two overlying flaps by the cross pull of the trousers through the crotch and lower extensions of said flaps.

The prior art patent DE 86 29 47 76 discovers a working garment opening at the front with two flaps one overlaying the other.

This two flaps extend essentially the full front part of the garment and when said garment is closed the two flaps overlap one overlying the other providing a double protection.

It is also well known that to carry out particular

works it is essential to wear an overall, i.e. a one-piece garment formed by a work shirt and trousers joined together, generally made of fabric.

Wearing said garment the person can move freely and the clothes the person wear under the overalls are well protected whichever position the person assumes or whichever movement the person does.

Thus a working garment even if it is provided with overlaying closing flaps has strong limitations just because it cannot provide an absolute protection for the whole body and for every kind of work as overalls does.

The present invention provides an absolute protection for the whole body, in particular when it is needed to use overalls and stabilization of the closing at the front of said overalls must be provided by a new crosswise pull of the overalls legs through the crutch area as it is shown herebelow.

The lower sides of the two opening flaps are fixed to the trouser legs of the garment, their inner edges being held by the longitudinal seam, or weld, down the inner side of said trouser legs.

One side of the V-shaped lower extension of the opening flaps is substantially straight and coincides with the inner seam or weld of the trouser leg; the other side, from the apex of the V, joins at a curve with the edges, substantially parallel to the longitudinal axis of the garment, of the flaps.

The garments may be made of paper, fabric, non-woven synthetic fabric or sheets of cheap plastic to make them disposable and therefore suitable for use where cleaning is a problem in highly polluting, infectious and dirty surroundings.

The advantages of the invention are evident.

By superimposing the front opening flaps of the garment, a double layer of protection is assured for the wearer just at those points where it is most needed.

This protection is reinforced by the use of velcro strips for fastening, avoiding the gaps that occur when fastening is done by buttons, zips and similar sliding means.

The velcro strips provide not only a rapid means of fastening but also make it possible to adjust the flaps both vertically and horizontally.

Particularly in the case of overalls, the crosswise pull by the trouser legs over the crotch helps to keep the fastening in place without discomfort to the wearer.

The possibility of using a disposable type eliminates laundering problems especially for overalls used in very dirty, polluting and infectious environments and facilitates final elimination as they have no buttons, buckles metal fastenings or zips.

The advantages may be summed up as follows: the garments subject of the invention are quick and easy to put on, offer maximum defence against the various risks associated with their use, are inexpensive and light in weight while their double front layer gives added protection compared with presently known garments, or in cases where equivalent protection is provided, reduce

the thickness of the layers of material.

Characteristics and purposes of the invention will be made still clearer by the following examples of its execution illustrated by diagrammatically drawn figures.

Fig. 1 Overalls subject of the invention on the wearer, closed, seen from the front.

Fig. 2 The same as Fig. 1, seen from the back,

Fig. 3 The overalls on the wearer, open, front view.

Fig. 4 The overalls on the wearer, closed, front view.

The overalls 10 in which one front vertically-opening flap 12 extends from the right hand side (D) of the garment across to the left hand side (S).

Said flap extends downward ending in a tip 13 some way beyond the crotch 14, there becoming a tongue-shaped extension 15 whose curved outer 16 and inner 17 edge is included within the inner seam 18 of the left trouser leg 19.

The second opening flap 22 extends horizontally from the left hand side (S) to the right hand side (D) becoming superimposed over the flap 12.

Said flap 22 extends downward to form a tip 23 beyond the crotch 14 substantially at the same level as the tip 13 of flap 12, there becoming a tongue-shaped extension 25 whose curved outer 26 and inner 27 edge is included within the inner seam 28 of the left hand trouser leg 29.

So structured, the overalls 10 are closed with a double chest protection formed by the two overlying flaps 12,22.

Said closure is held firm by pairs of velcro strips, an upper pair 30,31 and a lower pair 32,33. The upper pair has a horizontal strip 30 on the flap 12 and a vertical strip 31 on the flap 22.

The lower pair has a horizontal strip 32 on the flap 12 and a vertical strip 33 on the flap 22.

This crosswise fastening allows plenty of horizontal adaption by the vertical strips 31 and 33 along the horizontal strips 30 and 32, and the same adaption vertically by the horizontal strips 30 and 32 in relation to the vertical strips 31 and 33.

Fastening of the flaps 12,22 on the chest is made even more stable by the pull which the tongue-shaped extensions, respectively 15 and 25 to flaps 12 and 22, exert from the seams 18 and 28 in the trouser legs below the crotch.

Another pair of velcro strips 34,35 are placed at the upper end of the underlying flap 12 and in the corresponding position inside the overlying flap 22.

Said pair of velcro strips strengthen adherence of said flap 12 to the wearer's body and improve the fastening arrangement as clearly appears from the figures.

The overalls 10 consist of pieces 40 and 41 respectively corresponding to the two longitudinal halves of the human body, each comprising half of the trunk and one trouser leg and also of the sleeves 42,43 and of the col-

lar 44.

The two halves are joined down the back by the seam 45 and, inside the trouser legs, by seams 18 and 28.

Claims

1. Working garments, overalls (10) and the like opening at the front with two flaps (12, 22) one overlaying the other, said flaps (12, 22) both extend over practically all the front area of the garments (10) so that when the garments (10) are closed, the flaps (12, 22) are superimposed one over the other for substantially covering the whole front of the wearer thereby assuring a double protection characterized in that one flap (12) of the overalls (10) opening on one side of the garment (10) extends horizontally as far as the opposite side and downward as far as a point (13) some way below the crotch (14) there forming a substantially V-shaped lower tongue (15) whose inner side (17) is fixed to the inner side of the trouser leg (19) of the garment, and in that the second flap (22) of the opening extends horizontally overlaying the first flap (12) and downward as far as a point (23) substantially at the same level as that of the first flap (12) there forming a substantially V-shaped tongue (25) whose inner side (27) is fixed to the inner side of the trouser leg (29) of the garment (10) in such a way that forces are created tending to close the two overlaid flaps (12, 22) due to the crosswise pull of said trouser legs (19, 29).
2. Garments as in claim 1, characterized in that the substantially V-shaped tongue (15,25) forming the lower end of the opening flap (12,22), has one substantially straight side (17,27) coinciding with the inner seam (18,28) of the trouser legs (19,29) of the garment (10), and another side (16,26) which, from the vertex of the V, is joined in a curve to the edges, substantially parallel to the longitudinal axis of the overall (10), of said flaps (12, 22).
3. Garments as in claim 1, characterized in that the overalls (10) consist of two pieces (40,41) respectively corresponding to the two longitudinal halves of the human body, comprising half of the trunk and one trouser leg (19,29), of the sleeves (42,43) and of the collar (44).
4. Garments as in claim 1, characterized in that closure is rendered stable by pairs (30,31 32,33) of strips of Velcro reciprocally laid crosswise making possible quick and easy fastening and, at the same time, ample possibilities of adaption of positions for fastening the flaps (12,22).

5. Garments as in claim 1,
characterized in that fastening is rendered stable by
pairs of Velcro strips (30,31 32,33) reciprocally laid
in the form of a cross, one strip (31,61) of the pair
being vertical and the other (30,60) horizontal so as
to allow ample adjustment of the reciprocal posi-
tions of the flaps (12,22) both horizontally by hori-
zontal translation of the vertical strip (31), in relation
to the opposing horizontal strip (30,60), and verti-
cally by vertical translation of the vertical strip (31)
in relation to the horizontal strip (30). 5 10
6. Garments as in claim 1,
characterized in that on the upper end of the under-
lying flap (12) and in the corresponding internal
area on the overlying flap (22), the two strips
(34,35) of another pair of velcro strips are laid,
these latter reinforcing the adherence of the internal
flap (12) to the wearer's body. 15 20
7. Garments as in claim 1,
characterized in that the garments (10) are made of
paper, fabric, non-woven synthetic fabric, sheets of
inexpensive plastic materials so that they may be
'disposable' and their use facilitated in working envi-
ronments avoiding problems of cleaning especially
when used for work in polluting or infectious places
and for particularly rough working conditions. 25 30
8. Garments as in claim 1,
characterized in that the various pieces (40-44) of
which they are composed are put together, as the
case requires, by stitching, welding or by other sys-
tems. 35

Patentansprüche

1. Arbeitsanzug (10) und ähnliche Arbeitskleidung mit
vorderseitiger Öffnung auf zwei übereinander lie-
genden Patten (12, 22), welche sich beide über die
gesamte vordere Fläche des Arbeitsanzugs (10)
ausdehnen, so daß bei Anziehen des Arbeitsanz-
zugs (10) die beiden Patten (12, 22) auf beinahe
der gesamten vorderen Fläche des Arbeitsanzugs
übereinander liegen und einen zweifachen Schutz
des Trägers darstellen;
dadurch gekennzeichnet, daß sich eine Patte (12)
der Öffnung des Arbeitsanzugs (10) horizontal bis
zur gegenüberliegenden Seite und nach unten bis
zu einem Punkt (13) ausdehnt, welcher sich in
einem deutlichen Abstand unter dem Schritt (14)
befindet, dies mittels einem nahezu V-förmigen
unteren Latz (15), dessen Innenseite (17) fest mit
der Innenseite des Hosenbeins (19) des Anzuges
verbunden ist, und weiterhin dadurch gekenn-
zeichnet, daß sich die zweite Patte (22) der Öffnung
horizontal ausdehnt und über die erste Patte (12)
zu liegen kommt, wobei sie sich nach unten bis zu 40 45 50 55

einem Punkt (23) erstreckt, welcher sich so gut wie
auf der gleichen Höhe des Punktes der ersten Patte
(12) befindet, dies mittels einem nahezu V-förmigen
Latz (25), dessen Innenseite (27) fest mit der
Innenseite des Hosenbeins (29) des Anzuges (10)
verbunden ist, so daß beim Schließen der beiden
übereinander liegenden Patten (12, 22) aufgrund
des über Kreuz wirkenden Zuges der Hosenbeine
(19, 29) eine spannende Kraft entsteht.

2. Arbeitsanzug, wie unter Inanspruchnahme 1)
beschrieben,
dadurch gekennzeichnet, daß der nahezu V-för-
mige Latz (15, 25) des unteren Abschnittes der Pat-
ten (12, 22) zur Öffnung eine Seite (17, 27) hat,
welche im wesentlichen geradlinig verläuft und auf
die Naht (18, 28) zu liegen kommt, welche sich auf
der Innenseite der Hosenbein (19, 29) des Anzugs
(10) befindet, sowie eine zweite Seite (16, 26) hat,
welche vom Scheitelpunkt des Vs ausgehend
bogenförmig mit den Außenkanten verbunden wird,
welche im wesentlichen parallel zur Längsachse
des Anzugs (10) verlaufen, um dessen Patten (12,
22) es sich handelt.
3. Arbeitsanzug, wie unter Inanspruchnahme 1)
beschrieben,
dadurch gekennzeichnet, daß der Arbeitsanzug
(10) aus zwei Teilen (40, 41) gefertigt ist, welche
jeweils an den beiden Längshälften des menschi-
chen Körpers zusammentreffen und die aus der
Hälfte des Unterteils, aus einem Hosenbein (19,
29), den Ärmeln (42, 43) und dem Kragen (44)
bestehen;
4. Arbeitsanzug, wie unter Inanspruchnahme 1)
beschrieben,
dadurch gekennzeichnet, daß der Verschluß durch
Paare (30, 31), (32, 33) von Klettverschlußab-
schnitten bewirkt wird, welche kreuzförmig derart
angeordnet sind, daß ein einfaches und schnelles
Schließen sowie im Augenblick des Verschlusses
ein großer Regulierungsbereich hinsichtlich der
Position der Patten (12, 22) gewährleistet wird.
5. Arbeitsanzug, wie unter Inanspruchnahme 1)
beschrieben,
dadurch gekennzeichnet, daß der Verschluß durch
Paare von Klettverschlußabschnitten (30, 31), (32,
33) bewirkt wird, welche kreuzförmig derart ange-
ordnet sind, wobei ein Abschnitt (31, 36) des Klett-
verschlußpaars vertikal und ein zweiter Abschnitt
(30, 60) horizontal angeordnet ist, so daß ein gro-
ßer Regulierungsbereich hinsichtlich der Position
der Patten (12, 22) gewährleistet wird, dies sowohl
im horizontalen Sinn aufgrund der horizontalen Ver-
setzung des vertikalen Klettverschlußabschnittes
(31) zum gegenüberliegenden horizontalen Klett-

verschlußabschnitt (30, 60) als auch im vertikalen Sinn aufgrund der vertikalen Versetzung des vertikalen Klettverschlußabschnittes (31) zum horizontalen Klettverschlußabschnitt (30).

6. Arbeitsanzug, wie unter Inanspruchnahme 1) beschrieben, dadurch gekennzeichnet, daß auf dem oberen Abschnitt der Innenpatte (12) sowie im entsprechenden Innenbereich der oberen Patte (22) zwei Abschnitte (34, 35) eines weiteren Klettverschlußpaares angebracht sind, welche das Anliegen der Innenpatte (12) an den menschlichen Körper unterstützen.

7. Arbeitsanzug, wie unter Inanspruchnahme 1) beschrieben, dadurch gekennzeichnet, daß der Arbeitsanzug (10) aus Papier, Stoff oder Vliesstoff oder aus Bahnen aus preiswertem Kunststoff gefertigt ist und somit als Artikel zum einmaligen Gebrauch benutzt werden kann und daher den Einsatz in Arbeitsumgebungen begünstigt, da Probleme der Reinigung ausgeschlossen werden, die vor allem in umweltbelastenden, infektionsgefährdeten oder aggressiven Umgebungen anfallen würden.

8. Arbeitsanzug, wie unter Inanspruchnahme 1) beschrieben, dadurch gekennzeichnet, daß die verschiedenen Teile (40, 41) des Anzuges je nach Gegebenheit über Nähte, Schweißung oder andere Mittel miteinander verbunden werden.

Revendications

1. Vêtements de travail, combinaisons (10) et similaires avec ouverture sur le devant à deux pièces (12, 22) l'une en face de l'autre, lesquelles pièces (12, 22) s'étendent toutes deux sur la partie avant des vêtements (10) de telle façon que lorsque lesdits vêtements (10) une fois endossés sont fermés, les pièces (12, 22) se superposent sur presque toute la partie avant de la personne, assurant ainsi une double protection, Caractérisés par le fait qu'une pièce (12) de l'ouverture de la combinaison (10) s'étend horizontalement d'un côté de la combinaison (10) au côté opposé et inférieurement jusqu'à un point (13) à grande distance sous l'entrejambe (14) au moyen d'une languette (15) inférieure à peu près en forme de V dont la face interne (17) est rendue solidaire de la partie interne de la jambe (19) de la combinaison et par le fait que la deuxième pièce (22) de l'ouverture s'étend horizontalement en se superposant à la première pièce (12) et s'étend inférieurement jusqu'à un point (23) approximativement à la même hauteur que le premier (12) au moyen d'une

languette (25) à peu près en forme de V dont la face interne (27) est rendue solidaire de la partie interne de la jambe (29) de la combinaison (10) de telle façon que se déterminent des forces tendant à fermer les deux pièces (12, 22) superposées par effet du mouvement croisé des jambes (19, 29).

2. Vêtements conformes à la revendication 1) caractérisés par le fait que la languette (15, 25) à peu près en forme de V de la partie inférieure des pièces (12, 22) de l'ouverture, présente un côté (17, 27) essentiellement rectiligne qui coïncide avec la couture (18, 28) interne des jambes (19, 29) de la combinaison (10) et un côté (16, 26) qui, de la pointe du V se raccorde en arc avec les bords, essentiellement parallèles à l'axe longitudinal de la combinaison (10), des pièces (12, 22) en question.

3. Vêtements conformes à la revendication 1), caractérisés par le fait que la combinaison (10) se compose de deux parties (40, 41) correspondant respectivement aux deux moitiés longitudinales du corps humain comprenant moitié du tronc et une jambe (19, 29), de deux manches (42, 43) et du col (44).

4. Vêtements conformes à la revendication 1) caractérisés par le fait que la fermeture est assurée par des paires (30-31, 32-33) d'éléments Velcro réciproquement disposés en croix de façon à permettre à la fois une fermeture rapide et simple et un ample réglage de la position réciproque des pièces (12, 22) au moment de la fermeture.

5. Vêtements conformes à la revendication 1), caractérisés par le fait que la fermeture est assurée par deux paires d'éléments Velcro (30-31, 32-33), réciproquement disposés en croix, un (31, 61) élément de la paire étant vertical et l'autre (30, 60) horizontal, de façon à permettre un ample réglage de la position réciproque des pièces (12, 22) aussi bien dans le sens horizontal pour la translation à l'horizontale de l'élément (31), vertical par rapport à la pièce opposée horizontale (30, 60) que dans le sens vertical pour la translation à la verticale de l'élément vertical (31) par rapport à l'élément horizontal (30).

6. Vêtements conformes à la revendication 1), caractérisés par le fait que sur l'extrémité supérieure de la pièce (12) interne et dans la zone interne correspondante de la pièce supérieure (22) sont disposés les deux (34, 35) éléments d'une autre paire de Velcro qui renforcent l'adhérence de la pièce (12) interne, au corps humain.

7. Vêtements conformes à la revendication 1), caractérisés par le fait que les combinaisons (10)

sont fabriquées en papier, en tissu, en tissu non tissé, en pellicules de matières plastiques à bas prix pour qu'on puisse les jeter après usage et, de ce fait, en favoriser l'utilisation dans les lieux de travail, ce qui évite de les faire nettoyer, surtout pour les travaux dans les milieux polluants, infectés, agressifs. 5

8. Vêtements conformes à la revendication 1) caractérisés par le fait que leurs différentes parties (40-44) sont assemblées, suivant les cas, par des coutures, des soudures ou autres moyens. 10

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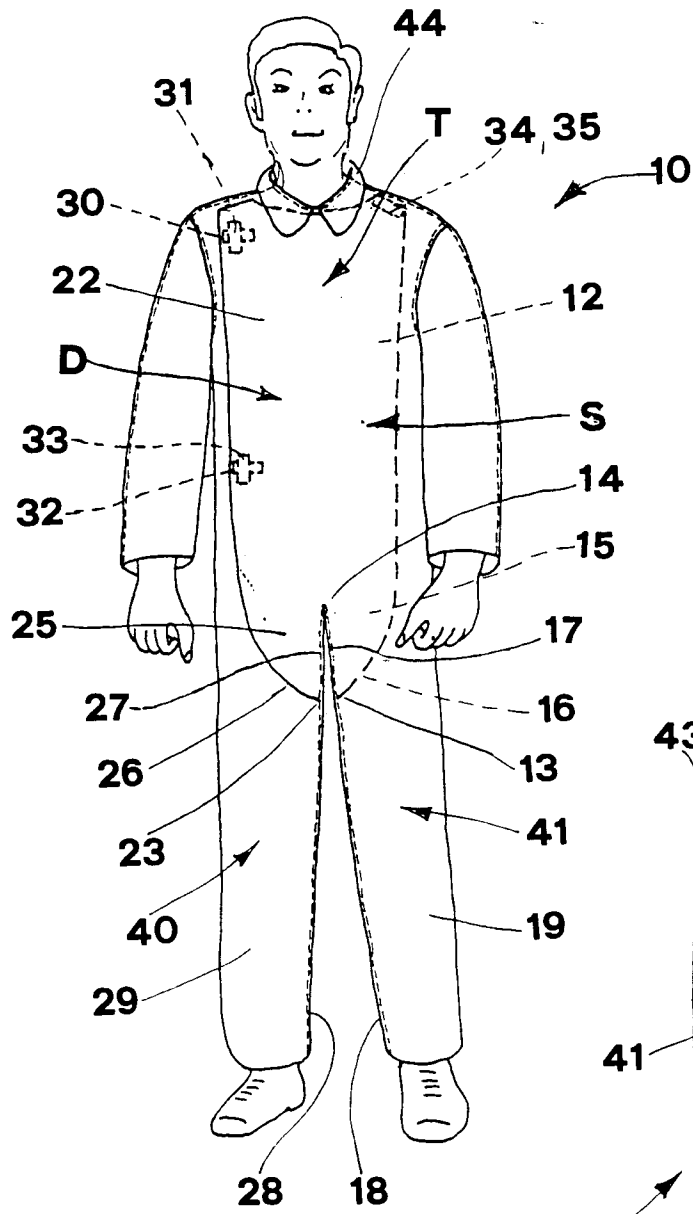


fig. 1

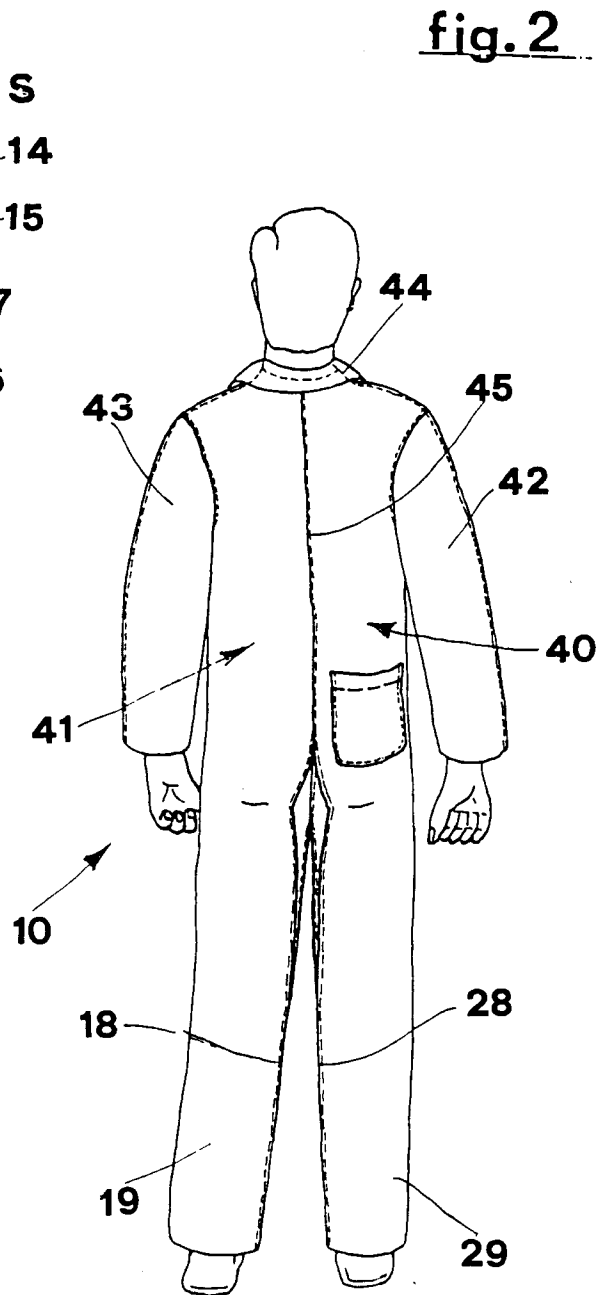


fig. 2

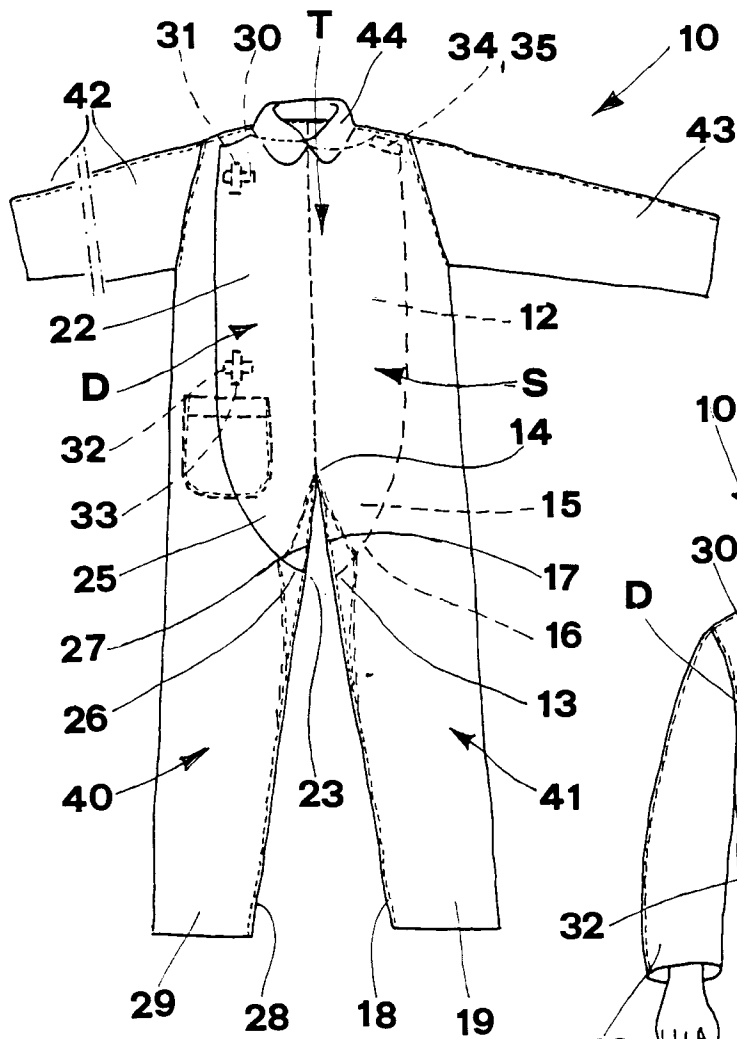


fig. 4

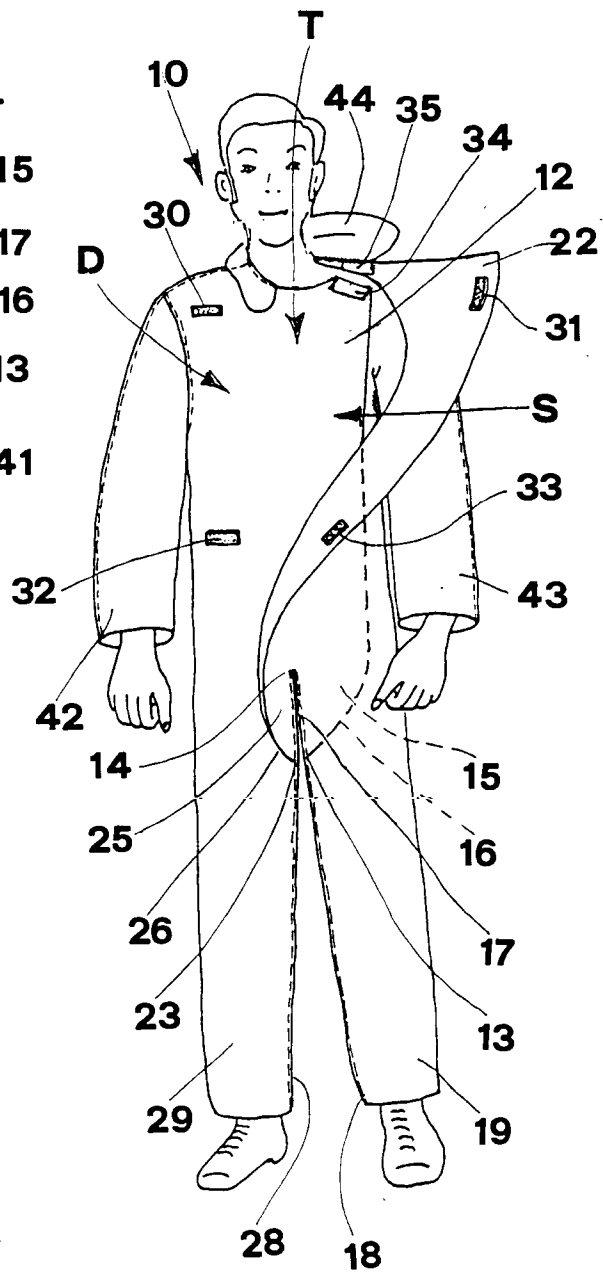


fig. 3