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(54) **Cover for trenches.**

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Description

This invention relates to a cover for temporarily covering a trench in a thoroughfare such as a road or footpath, e.g. overnight until work restarts.

It is important that temporary trench covers can be laid and removed quickly and easily for re-use. Trench covers are already in use which consist in elongate plates, usually of steel, which are laid over the trench with the covers being supported by the ground on opposite sides of the trench. Normally a number of such plate covers are used, with the oppositely facing ends being in abutment. The problem with such plate covers is that, even though they are relatively heavy they can be moved transversely of the trench by vibration imparted by the movement of traffic (vehicles or people) over the plate covers. If the transverse movements are too great there is the risk that one or more plate covers will be tipped into the trench. In order to minimise these movements, the work persons can either inset the covers in the road or path surface or use rubble or asphalt to provide stops. Even when such precautions are taken, these plate covers can still be worked loose, e.g. by heavy vehicular traffic.

FR-A-865 707 discloses a method of constructing landing strips for aircraft in which plates are described each of which might be considered as being suitable as a cover for temporarily covering a trench. On that basis one might say that FR-A-865 707 discloses a cover for temporarily covering a trench of the type (hereinafter called the type referred to) comprising a generally planar cover member, said cover member having at each of two opposite sides a lateral edge extending along each said opposite side, said cover member having first and second opposite ends each extending across the cover member transversely to said lateral edges from one said lateral edge to the other, a hook-shaped first lug at said first end and a second lug at said second end, both said lugs extending in substantially the same direction out of the plane of the cover member and so arranged that when the plane of said cover member is disposed substantially horizontally with said first and second lugs below the cover member said first and second lugs depend from the cover member, said first lug providing a male latching member, said second lug having an aperture therethrough providing a female latching member on said cover, and said male latching member on said cover being removably fittable into the aperture of the female latching member of another adjacent cover to engage that female latching member when fitted into the aperture thereof such that in an assembly of engaged covers one said cover of the assembly can be disengaged from the adjacent cover only be moving a said cover out of the general plane of the assembly.

But landing strip plates, as disclosed with reference to Figs 1 to 3 in FR-A-865 707, if used as trench covers would suffer from the disadvantages that the second lugs which extend transversely across the whole width of the plates will hold the plates off the ground by a significant distance or step, and also traffic could cause the covers to move transversely off the trench to uncover the latter. Landing strip plates, as described with reference to Figs 4 and 5 of FR-A-865 707, have a wholly flat underface, and if used as trench covers would also suffer from the usual disadvantage that traffic could cause the covers to move transversely off the trench to uncover it.

An object of the invention is to provide a cover for temporarily covering a trench in which the aforesaid disadvantages are minimized or avoided.

According to the invention a cover of the type referred to is characterised in that said cover member has a central portion extending to each of said two opposite sides into a respective lateral edge portion extending along the length of the cover member and has a said lateral edge extending along a side of each lateral edge portion remote from an adjacent said side of the cover member, said first lug has a width dimension along the transverse direction of said cover at said first end whereby said first lug has two spaced opposite side edges each disposed nearer the middle of said first end than a said lateral edge proximate said side edge such that the side edge is spaced back from said proximate lateral edge and depends when said first lug is in a dependent attitude, said second lug has a width dimension along the transverse direction of said cover at said second end whereby said second lug has two spaced opposite side edges each disposed nearer the middle of said second end than a said lateral edge proximate said side edge such that the side edge is -spaced back from said proximate lateral edge and depends when said second lug is in dependent attitude, said spaced back side edges allow the cover to be placed over a trench having a width at least equal to the width dimension of the second lug but less than the transverse dimension of the cover from one of said lateral edges so that the first and second lugs both fit into said trench and allow said lateral edge portions to rest on the ground on opposite sides respectively of the trench over which said cover extends, the aperture in said second lug is disposed in a plane which is transverse to the plane of the cover member, and when the first lug on a first said cover is fitted into the aperture of the second lug on an adjacent second said cover and engages a surface of the said second lug which surface faces away from the general position of the cover member of the first cover and the aperture is dimensioned to allow said first lug to be moved by movement of the first said cover out of the general plane of the assembly of engaged covers to disengage from said surface to allow a withdrawal of the first lug from the aperture to effect a disengagement of the first said cover from the sec-

ond said cover.

To prevent a cover assembly from falling into a trench, by the movement of the traffic causing one side to tip into the trench each of the second lugs is of sufficient width that, no matter how far the cover assembly is pushed in any one lateral direction, a said side edge of each said second lug on one side of the trench will abut against the trench wall on that side before the lateral edges of the cover members at the opposite side of the cover assembly are pushed clear of the adjacent wall of the trench on the opposite side. As some trenches will be wider than others, the width of the cover and the second lug must be suitable for the particular width of the trench.

In other words, the distance between the lateral edge of the cover and the wall of the trench on one side should be chosen to be greater than the distance between the wall of the trench and the side edge of the second lug at the other side.

Whilst in the invention as defined above, any cover, i.e. an intermediate or end cover, can be picked up to release it from adjacent covers, preferably to improve security, for example, the releasable engagement between the said male latching member on one said cover and the female latching member of an adjacent cover holds said adjacent covers so close together that any gap between the adjacent ends of the engaged covers is smaller than the distance needed to allow the male latching member to be withdrawn from the aperture of the female latching member, such that one said cover can only be disengaged from the adjacent said cover by picking up the one said cover at a free end of the assembly of engaged covers, and whereby any said cover occupying an intermediate position in the assembly cannot be removed. The aperture may be a slot or a laterally opening recess.

When considering the first and second lugs in a dependent attitude, a hook portion of the male latching member on said first cover can lie adjacent to or touch the bottom of the aperture of the female latching member on an adjacent second said said cover engaged with the said first cover.

In order to release an end cover from an adjacent cover, i.e. unlatch the first lug from its enlatchment with a second lug of the adjacent cover, the member is provided with a key hole which can be engaged with a lifting hook to lift the end cover out of the general plane of the cover assembly so that the free end of the first lug can be pulled through the aperture in the second lug and the cover lifted away from the trench.

To enable a narrower width cover to be positioned over a slightly wider trench than usual, whilst still preventing a cover assembly from tipping into the trench, the second lug is preferably shaped laterally to receive spacer elements to laterally extend the width of the second lug. The lateral shaping may be recesses, e.g. in the form of grooves which receive tongues on the spacer elements.

The covers which are conveniently of rectangular shape may be made in a number of widths, e.g. 160mm, 190 mm and 220 mm to cater for different widths of trench. Ideally the width of the cover should be no more than 40 mm greater than the width of the trench. Whilst the length of the covers can be as desired, a suitable length is 500 mm.

The cover may be made of any suitable material, such as steel, consistent with providing the requisite strength to support heavy vehicles passing over it: but preferably in order to reduce weight and protect any metal from corrosion, e.g. steel from rusting, the whole cover including the cover member and the releasable engagement is made of metal reinforced plastics.

Thus, in a preferred embodiment the cover has a pressed-steel core or base around which the plastics material is moulded, with the cover member being preferably of corrugated shape to increase strength.

To facilitate the passage of traffic over the cover assembly, the cover advantageously has tapering lateral edges to form ramps, and optionally to increase grip, the cover is provided with a tread pattern on its top surface.

The tread pattern may have variations in depth.

The invention will now be further described, by way of example, with reference to the accompanying drawings, in which:-

Fig. 1 is a plan view of an embodiment of a cover for temporarily covering a trench, formed in accordance with the invention;

Fig. 2 is a left-hand end view, as illustrated, of the cover of Fig 1, and positioned in a trench in a road;

Fig. 3 is a longitudinal section taken along the line III - III of Fig. 1;

Figs. 4 and 5 are detail plan and end views to an enlarged scale showing the surface tread pattern of the cover of Fig. 1, and

Fig. 6 is another detail view illustrating variations in the depth of tread.

Referring to the drawings, there is shown a cover which is generally indicated at 1 for temporarily covering a trench 2 having opposite walls 2' e.g. in a road 3, by a cover member 4 thereof extending over, and resting on the ground on opposite sides respectively of the trench. The cover 1 is releasably engageable with other adjacent covers 1a and 1b, partly shown in chain lines in Fig. 3, by means of male and female latching members in the form of hook-shaped and apertured lugs 5 and 6 respectively to form an assembly of covers 7 of which one cover of the assembly can be disengaged from an adjacent cover only by moving a cover out of the general plan of the assembly. The lugs 5 and 6 (Fig. 3) depend from opposite end regions 8 and 9 respectively of the cover member 4, and the lug 5 has two opposite side edges 5' which de-

pend therewith. The cover member 4 has at two opposite sides tapering lateral edge portions extending from said sides and forming ramps 10 to facilitate the passage of traffic over the cover when in position covering a trench. A lateral edge 10' extends along a side of each lateral edge portion 10 remote from the adjacent side of the cover member 4. To facilitate grip, the top surface of the cover member 4 including the ramps 10 and the area 11 lying between the ramps is provided with a tread pattern 12 which is at a minimum as indicated by the reference 13 and at a maximum, as indicated by the reference 14.

Referring more particularly to Fig. 3, the cover has a pressed steel base or core 15 extending throughout the cover member 4 and the lugs 5 and 6, with the base 15 in the region of the cover member 4 being corrugated to increase strength. Around the entire base 15 a plastics material 16 is moulded with the plastics material providing the ramps 10 and the tread pattern 12.

The hook-shaped lug 5 has a straight portion 20 depending perpendicularly from the end region 8 and a hook portion 21 projecting outwardly beyond the end region 8. Depending perpendicularly from the other end region 9 of the cover member 4 is the apertured lug 6 whose aperture is in the form of an elongate slot 22 extending transversely of the cover 1, as will be apparent from Fig. 2. The aperture 22 is in a plane transverse to the plane of the cover member 4, and the aperture has a height such as to allow the cover 1 to be engaged with another such cover in a manner to be described. Moreover, on opposite sides respectively of the slot 22 the lug 6 has lateral recesses in the form of grooves 23 for receiving tongues (not shown) of at least one spacer element (not shown). The or each spacer element laterally extends the width of the lug 6 to enable a narrower width cover to be positioned over a slightly wider trench than usual, as indicated by the chain lines 26 to avoid the cover from being tipped into the wider trench.

To facilitate lifting of the cover 1, a key hole 27 is provided in the cover member 4 adjacent the end region 8 with the hook-shaped lug 5, for use with a lifting hook (not shown).

As indicated in Fig. 1, the side edges 5' of the lug 5 are each spaced back from the adjacent lateral edge 10'. Also, as indicated in Fig. 2, the lug 6 has opposite side edges 28 each spaced back from the adjacent lateral edge 10'. This means that a cover can be placed over a trench 2 with the lugs 5, 6 depending into the trench and the lateral edge portions 10 resting on the ground or road 3 alongside the trench. In order temporarily to cover the trench 2 shown in the road 3 (see Fig. 2) the width of the covers 1, 1a and 1b is chosen such that the distances (y) between the wall 2' of the trench and the edge 10' of the cover on one side is greater than the distance (z), between the side edge 28 of the lug 6 and the wall of the trench on the other side. If these distances are not right then one or two said spacer elements can be used. Then the cover 1 is brought to the trench and the end region 8 titled downwards so that the hook portion 21 of the hook-shaped lug 5 can be passed through the aperture 22a in the lug 6a. The end region 9 of the cover 1 is lowered so that the horizontal part 29 of the hook portion touches, or lies close the bottom of the aperture 22a and the vertical part 30 of the hook portion 21 abuts against the lug 6a beneath the aperture 22a to latch the two covers 1a and 1 together.

It will be appreciated from Fig. 3 that any attempt to remove the cover 1 from its engagement with the cover 1a, in a longitudinal direction, will be impossible. It is only by inserting the lifting hook in the keyhole 27 and lifting the vertical part 30 of the hook portion 21 of the lug 5 clear of the bottom of the aperture 22a that the hook portion can be released to permit the cover 1 to be unlatched and pulled clear of the cover 1a. This release or unlatching action as well as the latching action is permitted by the aperture 22a being of sufficient height.

The last cover 1b having a hook-shaped lug 5b which mates with the aperture 22 of the cover 1 is then latched to the cover 1 in a similar manner to that described for covers 1 and 1a, to complete the cover assembly 7 for covering the trench 2. The nature of the interengaging lugs is such that only small non-dangerous gaps 31 are left between the adjacent ends of the covers. It will be apparent from Fig. 3 that the intermediate cover cannot be moved in view of the enlatchment of the lugs 5, 6a and 5b, 6 and the smallness of the gaps 31. It is only possible to remove the covers from one end of the assembly, that being the end in which an apertured lug is at the end of the cover assembly, in this case the apertured lug (not shown) of the cover 1b. Thus the cover 1b is unlatched from the cover 1 in the same manner as the cover 1 was unlatched from the cover 1a. Although a particular embodiment has been described it should be appreciated that modifications and variations may be made which do not depart from the scope of the invention. For example, instead of the cover being of oblong shape. it could be square.

Claims

1. A cover (1) for temporarily covering a trench (2) consisting a generally planar cover member (4), said cover member (4) having at each of two opposite sides a lateral edge (10') extending along each said opposite side, said cover member (4) having first and second opposite ends (8,9) each extending across the cover member transversely to said lateral edges (10') from one said lateral edge to the other, a hook-shaped first lug (5) at said first end (8) and a second lug (6) at said sec-

ond end (9), both said lugs (5, 6) extending in substantially the same direction out of the plane of the cover member (4) and so arranged that when the plane of said cover member (4) is disposed substantially horizontally with said first and second lugs (5, 6) below the cover member said first and second lugs depend from the cover member, said first lug (5) providing a male latching member, said second lug (6) having an aperture (22) therethrough providing a female latching member, and said male latching member (5) on said cover (1) being removably fittable into the aperture (22) of the female latching member (6) of another adjacent cover (1a) to engage that female latching member (6) when fitted into the aperture (22) thereof such that in an assembly (1b, 1, 1a,) of engaged covers one said cover of the assembly (1a, 1, 1b) can be disengaged from the adjacent cover only by moving a said cover out of the general plane of the assembly, characterised in that said cover member (4) has a central portion (11) extending at each of said two opposite sides into a respective lateral edge portion (10) extending along the length of the cover member (4) and has a said lateral edge (10') extending along a side of each lateral edge portion (10) remote from an adjacent said side of the cover member (4), said first lug (5) has a width dimension along the transverse direction of said cover (10) at said first end (8) whereby said first lug (5) has two spaced opposite side edges (5') each disposed nearer the middle of said first end (8) than a said lateral side (10') proximate said side edge (5') such that the side edge (5') is spaced back from said proximate lateral edge (10') and depends when said first lug (5) is in a dependent attitude, said second lug (6) has a width dimension along the transverse direction of said cover (1) at said second end (9) whereby said second lug (6) has two spaced opposite side edges (28) each disposed nearer the middle of said second end (9) than a said lateral edge (10') proximate said side edge (28) such that the side edge (28) is spaced back from said proximate lateral edge (10') and depends when said second lug (6) is in a dependent attitude, said spaced back side edges (5',28) allow the cover (1) to be placed over a trench (2) having a width at least equal to the width dimension of the second lug (6) but less than the transverse dimension of the cover (1) from one said lateral edge (10') so that the first and second lugs (5,6) both fit into said trench (2) and allow said lateral edge portions (10') to rest on the ground (3) on opposite sides respectively of the trench (2) over which said cover (1) extends, the aperture (22) in said second lug (6) is disposed in a plane which is transverse to the plane of the cover member (4), and when the first lug (5b) on a first said cover (1b) is fitted into the aperture (22) of the second lug (6) on an adjacent second said cover (1) and engages that second lug (6) the said first lug (5b) engages a surface of the said second lug (6) which surface faces away from the general position of the cover member (4) of the first cover (1b) and the aperture (22) is dimensioned to allow said first lug (5b) to be moved by movement of the first said cover (1b) out of the general plane of the assembly (1b, 1) of engaged covers to disengage from said surface to allow a withdrawl of the first lug (5b) from the aperture (22) to effect a disengagement of the first said cover (1b) from the second said cover (1).

2. A cover as claimed in Claim 1, characterised in that the releasable engagement between the said male latching member (5b) of one said cover (1b) and the said female latching member (6) of an adjacent cover (1) holds said adjacent covers so close together that any gap (31) between the adjacent ends (8, 9) of the engaged covers is smaller than the distance needed to allow the male latching member (5b) to be withdrawn from the aperture (22) of the female latching member (6), such that one said cover (1b) can only be disengaged from the adjacent said cover (1) by picking up the one said cover (1b) at a free end of the assembly (1b, 1, 1a) of engaged covers, and whereby any said cover occupying an intermediate position in the assembly (1b, 1, 1a) cannot be removed.

3. A cover as claimed in Claim 1 or in Claim 2, characterised in that, when considering the first and second lugs (5, 6) in a dependent attitude, a hook portion (21) of the male latching member (5) on a said first cover (1) lies adjacent to or touches the bottom of the aperture (22a) of the female latching member (6a) on an adjacent said cover (1a) engaged with the said first cover (1).

4. A cover as claimed in any one of Claims 1 to 3, characterised in that the width dimension of the female latching member (6) can be laterally extended.

5. A cover as claimed in Claim 4, characterised in that the female latching member (6) is shaped to receive spacer elements to laterally extend said width of the female latching member (6).

6. A cover as claimed in Claim 5, characterised in that the female latching member (6) is shaped with lateral recesses (23) to receive tongues of the spacer elements.

7. A cover as claimed in any one of Claims 1 to 6, characterised in that it is provided with a key hole (27) which can be engaged with a lifting hook to disengage a first said cover (1) from an adjacent second said cover (1a).

8. A cover as claimed any one of Claims 1 to 7, characterised in that it is made of metal (15) reinforced plastics (16).

9. A cover as claimed in Claim 8, characterised in that the metal reinforcement is a pressed-steel base (15) around which the plastics material (16) is moulded.

10. A cover as claimed in any one of Claims 1 to 9, characterised in that the lateral edge portions are tapered to form ramps (10).

11. A cover as claimed in any one of Claims 1 to 10, characterised in that it has a top surface provided with a tread pattern (12).

12. A cover as claimed in Claim 11, characterised in that the tread pattern (12) has variations in depth.

13. A cover as claimed in any one of Claims 1 to 12, characterised in that the cover (1) is mounted over a trench (2), and a distance (y) between a said lateral edge (10^1) of the cover (1) and an adjacent wall (2^1) of the trench (2) is greater than a distance (z) between the opposite wall (2^1) of the trench (2) and an adjacent said side edge (28) of the female latching member (6).

14. A plurality of covers (1) each as claimed in any one of Claims 1 to 13 all mounted over a trench (2) and at least one said cover (1) having its male latching member (5) interengaged with the female latching member (6a) of an adjacent other of said covers (1a).

Patentansprüche

1. Deckel (1) zum vorübergehenden Abdecken eines Grabens (2), bestehend aus einem allgemein ebenen Abdeckbauteil (4), wobei der Abdeckbauteil (4) auf jeder von zwei sich gegenüberliegenden Seiten einen seitlichen Rand (10') aufweist, der sich entlang jeder der sich gegenüberliegenden Seiten erstreckt, wobei der Abdeckbauteil (4) erste und zweite sich gegenüberliegende Enden (8, 9) aufweist, von denen sich jedes über den Abdeckbauteil quer zu den seitlichen Rändern (10') vom einen seitlichen Rand zum anderen erstreckt, mit einem hakenförmigen ersten Ansatz (5) am ersten Ende (8) und einem zweiten Ansatz (6) am zweiten Ende (9), wobei sich beide Ansätze (5, 6) im wesentlichen in der gleichen Richtung aus der Ebene des Abdeckbauteils (4) heraus erstrecken und so angeordnet sind, daß, wenn die Ebene des Abdeckbauteils (4) bei unter dem Abdeckbauteil befindlichen ersten und zweiten Ansätzen (5, 6) im wesentlichen horizontal angeordnet ist, die ersten und zweiten Ansätze vom Abdeckbauteil nach unten hängen, wobei der erste Ansatz (5) einen einsteckbaren Riegelbauteil bildet, der zweite Ansatz (6) eine Aussparung (22) zur Bildung eines aufnehmenden Riegelbauteils aufweist und der einsteckbare Riegelbauteil (5) am Deckel (1) herausnehmbar in die Aussparung (22) des aufnehmenden Riegelbauteils (6) eines anderen, benachbarten Deckels (1a) einsetzbar ist, um mit diesem aufnehmenden Riegelbauteil (6), wenn in die Ausnehmung (22) desselben eingesetzt, eine solche Wirkverbindung einzugehen, daß in einer Baugruppe (1b, 1, 1a) von zusammengesetzten Deckeln ein Deckel der Baugruppe (1a, 1, 1b) vom benachbarten Deckel nur durch Bewegung eines solchen Deckels aus der allgemeinen Ebene der Baugruppe heraus entkuppelt werden kann, dadurch gekennzeichnet, daß der Abdeckbauteil (4) ein Mittelteilstück (11) aufweist, das sich auf jeder der beiden sich gegenüberliegenden Seiten in ein jeweiliges seitliches Randteilstück (10) erstreckt, welches sich über die Länge des Abdeckbauteils (4) erstreckt und einen genannten seitlichen Rand (10') aufweist, der sich entlang einer Seite jedes seitlichen Randteilstücks (10) entfernt von einer benachbarten genannten Seite des Abdeckbauteils (4) erstreckt, daß der erste Ansatz (5) eine Breitenabmessung entlang der Querrichtung des Deckels (1) an dem genannten ersten Ende (8) aufweist, wodurch der erste Ansatz (5) zwei beabstandete, sich gegenüberliegende Seitenkanten (5') aufweist, von denen jede näher zur Mitte des ersten Endes (8) angeordnet ist als ein genannter seitlicher Rand (10') nächst dieser Seitenkante (5'), derart, daß die Seitenkante (5') von dem nächstgelegenen seitlichen Rand (10') zurückversetzt ist und herabhängt, wenn sich der erste Ansatz (5) in einer hängenden Lage befindet, daß der zweite Ansatz (6) eine Breitenabmessung entlang der Querrichtung des Deckels (1) an dem genannten zweiten Ende (9) aufweist, wodurch der zweite ansatz (6) zwei beabstandete, sich gegenüberliegende Seitenkanten (28) aufweist, von denen jede näher zur Mitte des zweiten Endes (9) angeordnet ist als ein genannter seitlicher Rand (10') nächst dieser Seitenkante (28), derart, daß die Seitenkante (28) von dem nächstgelegenen seitlichen Rand (10') zurückversetzt ist und herabhängt, wenn sich der

zweite Ansatz (6) in einer hängenden Lage befindet, wobei diese zurückversetzten Seitenkanten (5', 28) es ermöglichen, daß der Deckel (1) über einen Graben (2) gesetzt werden kann, der eine Breite hat, die zumindest gleich ist der Breitenabmessung des zweiten Ansatzes (6), aber geringer als die Querabmessung des Deckels (1) von dem einen seitlichen Rand (10'), so daß die ersten und zweiten Ansätze (5, 6) beide in diesen Graben (2) passen und es den seitlichen Randteilstücken (10') gestatten, auf dem Boden (3) jeweils auf entgegengesetzten Seiten des Grabens (2) zu ruhen, über den sich der Deckel (1) erstreckt, wobei die Aussparung (22) im zweiten Ansatz (6) in einer Ebene angeordnet ist, die quer zur Ebene des Abdeckbauteils (4) verläuft, und wenn der erste Ansatz (5b) an einem ersten Deckel (1b) in der Aussparung (22) des zweiten Ansatzes (6) an einem benachbarten zweiten Deckel (1) sitzt und mit diesem zweiten Ansatz (6) in Wirkverbindung steht, dann steht der erste Ansatz (5b) mit einer Oberfläche des zweiten Ansatzes (6) in Wirkverbindung, wobei diese Oberfläche von der allgemeinen Stellung des Abdeckbauteils (4) des ersten Deckels (1b) wegzeigt, und die Aussparung (22) ist so dimensioniert, daß der erste Ansatz (5b) durch Bewegung des ersten Deckels (1b) aus der allgemeinen Ebene der Baugruppe (1b, 1) von miteinander in Eingriff stehenden Deckeln bewegt werden kann, um sich aus dieser Oberfläche zu lösen und ein Herausziehen des ersten Ansatzes (5b) aus der Aussparung (22) zu ermöglichen, um den ersten Deckel (1b) vom zweiten Deckel (1) zu entkuppeln.

2. Deckel nach Anspruch 1, dadurch gekennzeichnet, daß die lösbare Wirkverbindung zwischen dem einsteckbaren Riegelbauteil (5b) des einen Deckels (1b) und dem aufnehmenden Riegelbauteil (6) eines benachbarten Deckels (1) die benachbarten Deckel so fest zusammenhält, daß jeder Spalt (31) zwischen den benachbarten Enden (8, 9) der zusammengesetzten Deckel kleiner ist als der bestand, der benötigt wird, damit der einsteckbare Riegelbauteil (5b) aus der Aussparung (22) des aufnehmenden Riegelbauteils (6) herausgezogen werden kann, derart, daß der eine Deckel (1b) vom benachbarten Deckel (1) nur durch Anheben des einen Deckels (1b) am freien Ende der Baugruppe (1b, 1, 1a) der miteinander in Eingriff stehenden Deckel entkuppelt werden kann, und wobei irgendein Deckel, der eine Zwischenstellung in der Baugruppe (1b, 1, 1a) einnimmt, nicht weggenommen werden kann.

3. Deckel nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß bei Betrachtung der ersten und zweiten Ansätze (5, 6) in hängender Lage ein Hakenteilstück (21) des einsteckbaren Riegelbauteils (5) am ersten Deckel (1) in der Nähe des Grundes der Aussparung (22a) des aufnehmenden Riegelbauteils (6a) am benachbarten Deckel (1a), der mit dem ersten Deckel (1) in Eingriff steht, liegt oder diesen Grund berührt.

4. Deckel nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß die Breitenabmessung des aufnehmenden Riegelbauteils (6) seitlich erweitert werden kann.

5. Deckel nach Anspruch 4, dadurch gekennzeichnet, daß der aufnehmende Riegelbauteil (6) so gestaltet ist, daß er Abstandselemente aufnimmt, um die Breite des aufnehmenden Riegelbauteils (6) seitlich auszudehnen.

6. Deckel nach Anspruch 5, dadurch gekennzeichnet, daß der aufnehmende Riegelbauteil (6) mit seitlichen Ausnehmungen (23) ausgebildet ist, um Zungen der Abstandselemente aufzunehmen.

7. Deckel nach einem der Ansprüche 1 bis 6, dadurch gekennzeichnet, daß er mit einem Schlüsselloch (27) versehen ist, mit dem ein Hubhaken in Wirkverbindung gebracht werden kann, um den ersten Deckel (1) vom benachbarten zweiten Deckel (1a) zu entkuppeln.

8. Deckel nach einem der Ansprüche 1 bis 7, dadurch gekennzeichnet, daß er aus metallarmiertem Kunststoff hergestellt ist.

9. Deckel nach Anspruch 8, dadurch gekennzeichnet, daß die Metallarmierung eine Preßstahlbasis (15) ist, um die das Kunststoff-Material (16) gegossen ist.

10. Deckel nach einem der Ansprüche 1 bis 9, dadurch gekennzeichnet, daß die seitlichen Randteilstücke abgeschrägt sind, um Rampen (10) zu bilden.

11. Deckel nach einem der Ansprüche 1 bis 10, dadurch gekennzeichnet, daß er eine obere Oberfläche aufweist, die mit einem Laufprofilmuster (12) versehen ist.

12. Deckel nach Anspruch 11, dadurch gekennzeichnet, daß das Laufprofilmuster (12) Variationen in der Tiefe aufweist.

13. Deckel nach einem der Ansprüche 1 bis 12, dadurch gekennzeichnet, daß der Deckel (1) über einem Graben (2) sitzt und daß ein Abstand (y)

zwischen einem seitlichen Rand (10') des Deckels (1) und einer benachbarten Wand (2') des Grabens (2) größer ist als ein Abstand (z) zwischen der gegenüberliegenden Wand (2') des Grabens (2) und einer benachbarten Seitenkante (28) des aufnehmenden Riegelbauteils (6).

14. Eine Vielzahl von Deckeln (1) jeweils nach einem der Ansprüche 1 bis 13, die über einen Graben (2) gelegt sind, wobei bei mindestens einem der Deckel (1) dessen einsteckbarer Riegelbauteil (5) mit dem aufnehmenden Riegelbauteil (6a) eines benachbarten anderen Deckels (1a) in Eingriff steht.

Revendications

1. Couverture (1) destinée à recouvrir temporairement une tranchée (2) et consistant en un élément de couverture sensiblement plan (4), ledit élément de couverture (4) ayant sur chacun de deux côtés opposés un bord latéral (10') disposé le long de chacun desdits côtés opposés, ledit élément de couverture (4) comprenant des première et seconde extrémités opposées (8, 9) dont chacune est disposée en travers de l'élément de couverture perpendiculairement auxdits bords latéraux (10') de l'un desdits bords latéraux à l'autre, une première patte (5) en forme de crochet située à ladite première extrémité (8) et une seconde patte (6) disposée à ladite seconde extrémité (9), lesdites deux pattes (5, 6) étant orientées sensiblement dans la même direction vers l'extérieur du plan de l'élément de couverture (4) et étant disposées de façon que, lorsque le plan dudit élément de couverture (4) est placé sensiblement horizontalement de manière que lesdites première et seconde pattes (5, 6) soient sous ledit élément de couverture, lesdites première et seconde pattes s'étendant vers le bas depuis l'élément de couverture, ladite première patte (5) constituant un élément mâle de verrouillage, ladite seconde patte (6) comportant un trou (22) qui la traverse et qui constitue un élément femelle de verrouillage, et ledit élément mâle de verrouillage (5) placé sur ladite couverture (1) pouvant s'ajuster de manière amovible dans le trou (22) de l'élément femelle de verrouillage (6) d'une autre couverture voisine (1a) de manière à engager ledit élément femelle de verrouillage (6) lorsqu'il est placé dans le trou (22) de ce dernier, de façon que, dans un assemblage (1b, 1, 1a) de couvertures engagées entre elles, l'une desdites couvertures de l'assemblage (1a, 1, 1b) puisse être dégagée de la couverture voisine uniquement par déplacement de l'une desdites couvertures de façon qu'elle ressorte du plan général de l'assemblage, caractérisée en ce que ledit élément de couverture (4) comprend une partie centrale (11) se prolongeant sur chacun desdits deux côtés opposés en une partie respective de bord latéral (10) située sur la longueur de l'élément de couverture (4), celui-ci ayant l'un desdits bords latéraux (10') disposé le long d'un côté de chaque partie de bord latéral (10) distante de l'un, voisin, desdits côtés de l'élément de couverture (4), ladite première patte (5) ayant le long de la direction transversale de ladite couverture (10), à ladite première extrémité (8), une dimension en largeur telle que ladite première patte (5) comporte deux bords latéraux opposés (5') distants l'un de l'autre et dont chacun est disposé plus près du milieu de ladite première extrémité (8) que l'un desdits bords latéraux (10') qui est proche dudit bord latéral (5') de façon que le bord latéral (5') soit en retrait par rapport audit bord latéral proche (10') et soit orienté vers le bas lorsque ladite première patte (5) est tournée vers le bas, ladite seconde patte (6) ayant le long de la direction transversale de ladite couverture (1), à ladite seconde extrémité (9), une dimension en largeur qui est telle que ladite seconde patte (6) comporte deux bords latéraux opposés (28) placés à distance l'un de l'autre et dont chacun est plus proche du milieu de ladite seconde extrémité (9) que l'un desdits bords latéraux (10') qui est proche dudit bord latéral (28) de façon que le bord latéral (28) soit en retrait par rapport audit bord latéral proche (10') et soit orienté vers le bas lorsque ladite seconde patte (6) est tournée vers le bas, lesdits bords latéraux en retrait (5', 28) permettant à la couverture (1) d'être placée sur une tranchée (2) ayant une largeur au moins égale à la dimension de la largeur de la seconde patte (6), mais inférieure à la dimension transversale de ladite couverture (1) à partir de l'un desdits bords latéraux (10'), de façon que les deux première et seconde pattes (5, 6) se logent toutes deux dans ladite tranchée (2) et permettent auxdites parties latérales de bord (10') de reposer sur le sol (3), sur les côtés opposés respectifs de la tranchée (2) sur laquelle ladite couverture (1) est placée, le trou (22) de ladite seconde patte (6) étant disposé dans un plan qui est transversal au plan de l'élément de couverture (4) et, lorsque la première patte (5b) d'une première couverture (1b) est ajustée dans le trou (22) de la seconde patte (6) d'une seconde couverture voisine (1) et engage cette seconde patte (6), ladite première patte (5b) s'applique contre une surface de ladite seconde patte (6), ladite surface étant tournée à l'écart de l'emplacement général de l'élément de couverture (4) de la première couverture (1b) et le trou (22) étant dimensionné de manière à permettre à ladite première patte (5b) d'être enlevée par un

mouvement de ladite première couverture (1b) qui l'écarte du plan général de l'assemblage (1b, 1) de couvertures engagées entre elles pour la dégager de ladite surface afin de permettre de retirer la première patte (5b) du trou (22) pour provoquer un dégagement de ladite première couverture (1b) de la seconde desdites couvertures (1).

2. Couverture selon la revendication 1, caractérisée en ce que l'enclenchement amovible entre ledit élément mâle de verrouillage (5b) de l'une desdites couvertures (1b) et ledit élément femelle de verrouillage (6) d'une couverture voisine (1) retient ladite couverture voisine suffisamment près pour que tout intervalle (31) entre les extrémités voisines (8, 9) des couvertures enclenchées soit plus petit que la distance nécessaire à permettre à l'élément mâle de verrouillage (5b) d'être retiré du trou (22) de l'élément femelle de verrouillage (6), de façon que l'une desdites couvertures (1b) ne puisse être dégagée dudit élément de couverture voisin (1) qu'en saisissant ladite couverture (1b) à une extrémité libre de l'assemblage (1b, 1, 1a) de couvertures engagées et qu'ainsi l'une desdites couvertures occupant une position intermédiaire dans l'assemblage (1b, 1, 1a) ne puisse pas être enlevée.

3. Couverture selon la revendication 1 ou la revendication 2, caractérisée en ce que, en observant les première et seconde pattes (5, 6) occupant une position dans laquelle elles sont tournées vers le bas, une partie en crochet (21) de l'élément mâle de verrouillage (5) de ladite première couverture (1) est placée au voisinage ou touche le fond du trou (22a) de l'élément femelle de verrouillage (6a) situé sur une couverture voisine (1a) engagée avec ladite première couverture (1).

4. Couverture selon l'une quelconque des revendication 1 à 3, caractérisée en ce que la dimension en largeur de l'élément femelle de verrouillage (6) peut être prolongée latéralement.

5. Couverture selon la revendication 4, caractérisée en ce que l'élément femelle de verrouillage (6) est conformé de manière à loger des éléments d'entretoisement de façon à prolonger latéralement ladite largeur de l'élément femelle de verrouillage (6).

6. Couverture selon la revendication 5, caractérisée en ce que l'élément femelle de verrouillage (6) comporte des évidements latéraux (23) pour loger des languettes des éléments d'entretoisement.

7. Couverture selon l'une quelconque des revendications 1 à 6, caractérisée en ce qu'elle comporte un trou de clé (27) dans lequel peut s'engager un crochet de levage pour dégager une première desdites couvertures (1) d'une seconde, voisine, desdites couvertures (1a).

8. Couverture selon l'une quelconque des revendications 1 à 7, caractérisée en ce qu'elle est réalisée en matière plastique (16) armée de métal (15).

9. Couverture selon la revendication 8, caractérisée en ce que l'armature de métal consiste en une base d'acier emboutie (15) autour de laquelle la matière plastique (16) est moulée.

10. Couverture selon l'une quelconque des revendications 1 à 9, caractérisée en ce que les parties latérales de bord sont inclinées de manière à former des rampes (10).

11. Couverture selon l'une quelconque des revendications 1 à 10, caractérisée en ce qu'elle comporte une surface supérieure comportant une structure (12) de marche et de roulement.

12. Couverture selon la revendication 11, caractérisée en ce que la structure (12) de marche et de roulement comporte des différences de profondeur.

13. Couverture selon l'une quelconque des revendications 1 à 12, caractérisée en ce que la couverture (1) est montée sur une tranchée (2), et une distance (y) entre ledit bord latéral (10^1) de la couverture (1) et une paroi voisine (2^1) de la tranchée (2) est supérieure à une distance (z) comprise entre la paroi opposée (2^1) de la tranchée (2) et l'un voisin desdits bords latéraux (28) de l'élément femelle de verrouillage (6).

14. Ensemble de couvertures (1) dont chacune est conforme à l'une quelconque des revendications 1 à 13 et qui sont toutes montées sur une tranchée (2), au moins l'une desdites couvertures (1) ayant son élément mâle de verrouillage (5) enclenché dans l'élément femelle de verrouillage (6a) d'une autre, voisine, desdites couvertures (1a).

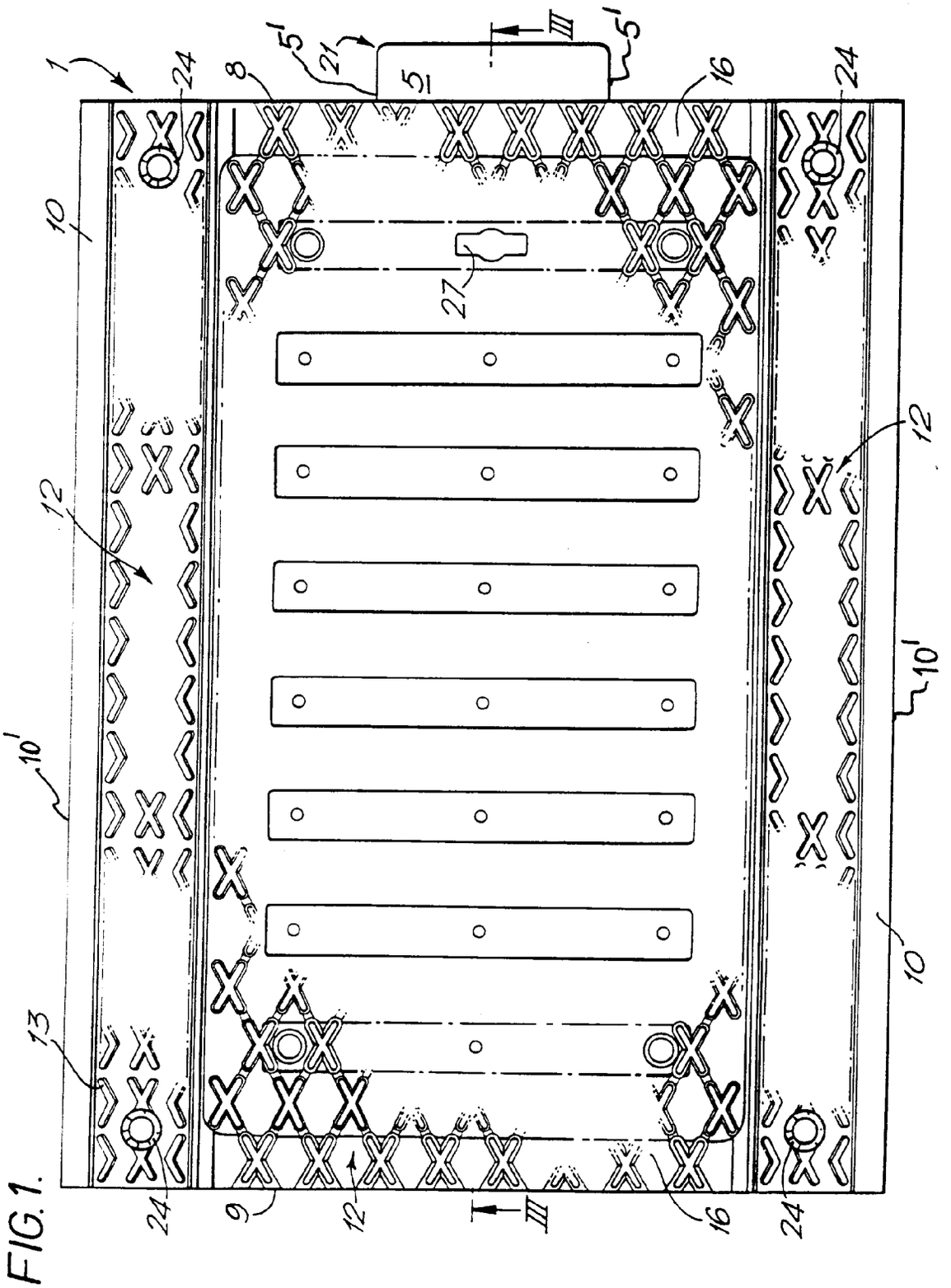
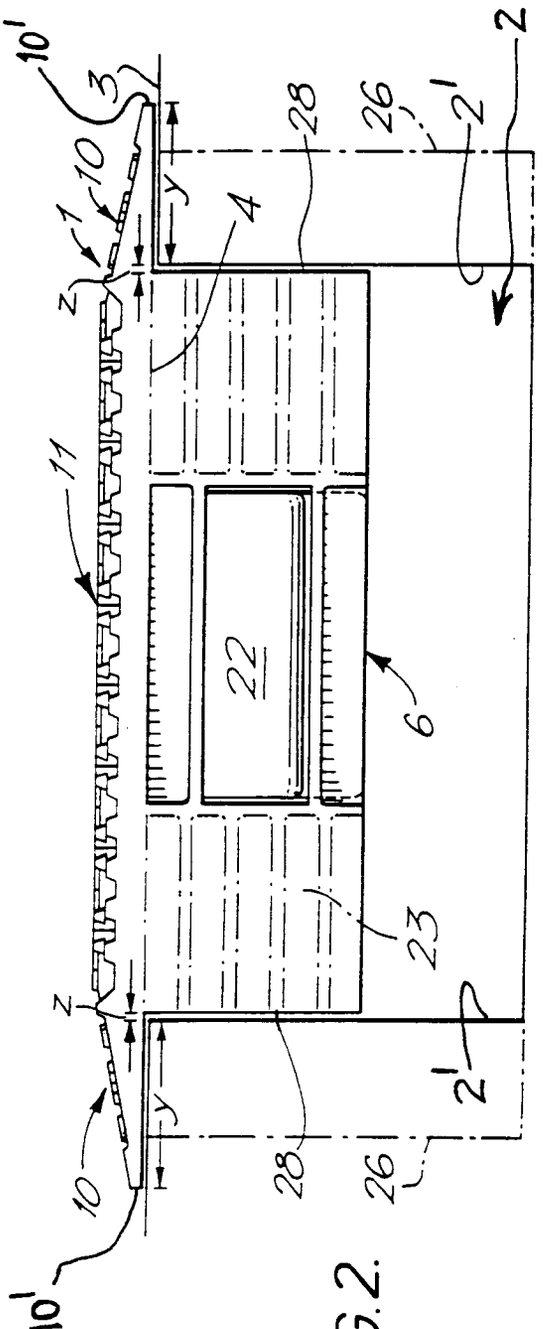


FIG.1.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3
10
1
z
y
4
28
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22
6
23
z
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26
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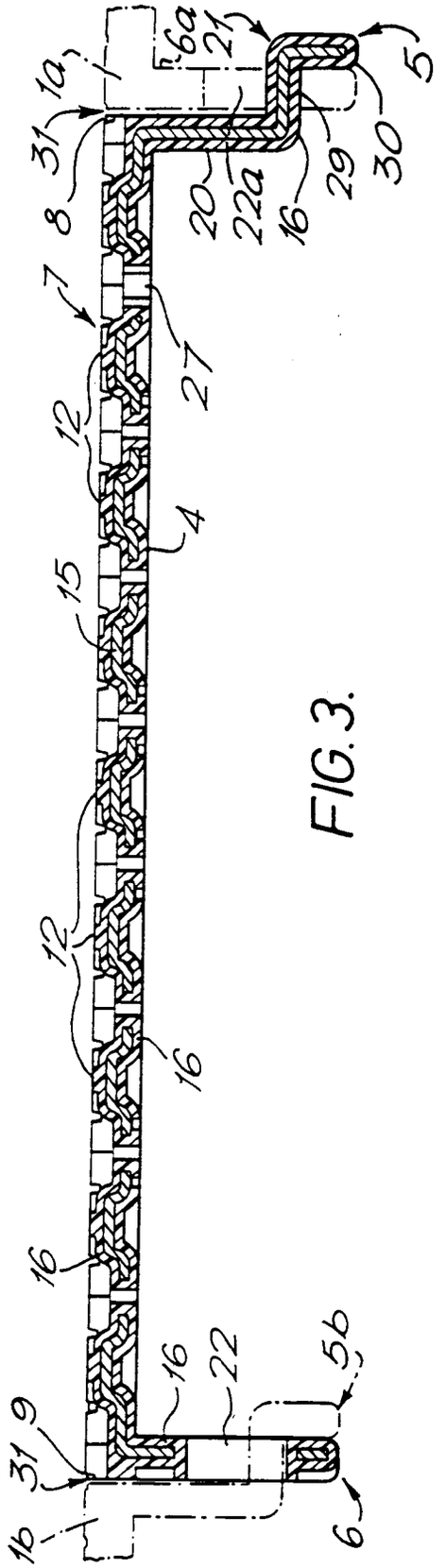
FIG.2.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21
1a
5
31
8
20
22a
16
29
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7
27
12
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15
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16
16
16
22
56
31
9
16
6

FIG.3.

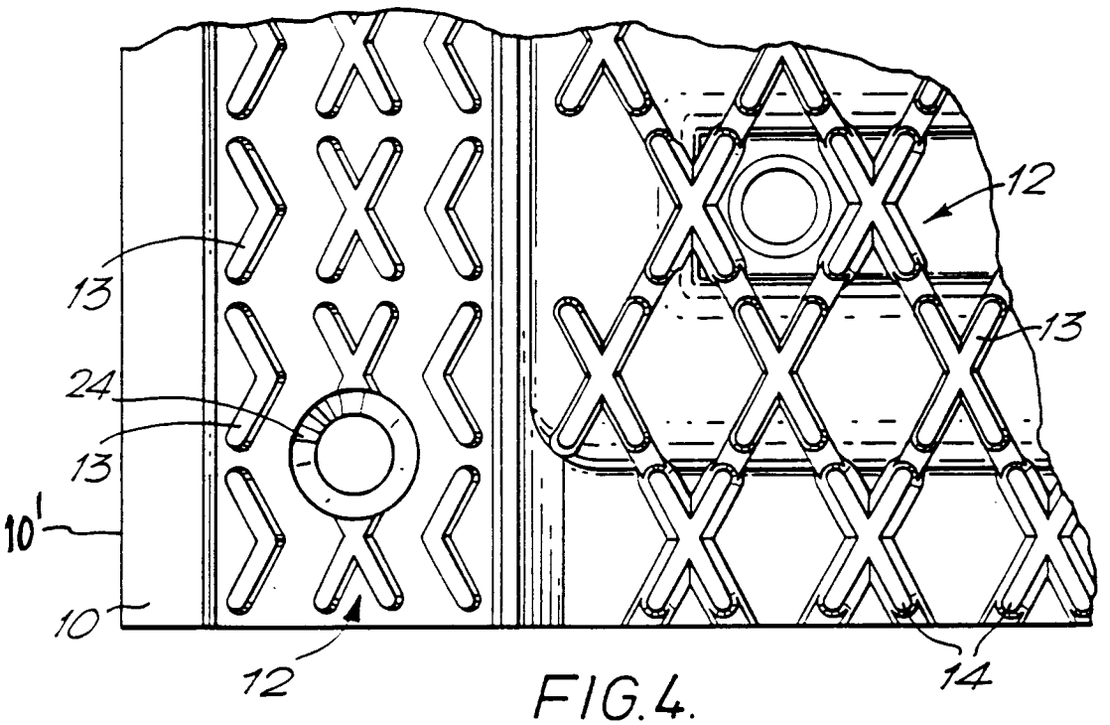

FIG.4.

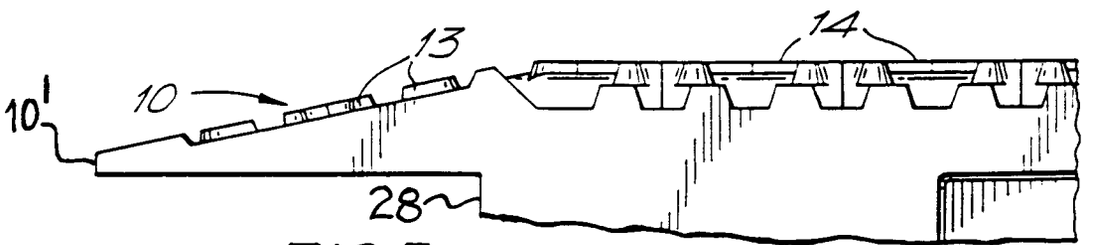

FIG.5.

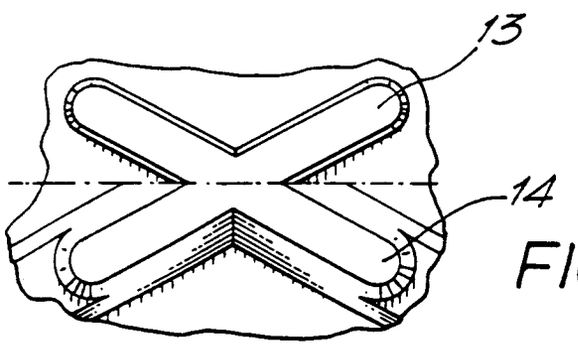

FIG.6.