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(54) **AN EXPANDABLE BRASSIERE**

DEHNBARER BÜSTENHALTER

SOUTIEN-GORGE EXTENSIBLE

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US-A- 4 390 024 US-A- 5 024 628

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Description

Field of Invention

[0001] This invention relates to brassieres, or bras, and more particularly to brassieres that expand to allow for fluctuations in breast size (mammary gland), for example during pregnancy and/or breast-feeding.

Background of the Invention

[0002] Adjustable bras, having adjustable back bands and shoulder straps are well known. One example is described in US Patent US 7 232 359 (Richardson). The bra has bra cups and first and second detachable shoulder straps connected to an adjustable back band or bands. Another example of an adjustable bra is known from US 5 024 628.

[0003] Maternity bras in which the cup part of the brassiere may be opened to allow the mother to feed the infant are also commonplace. Neither of these types of bras allows the user to adjust the effective cup size of the brassiere to allow for size fluctuations of the breast, for example during pregnancy and/or breast-feeding and as a consequence, on many occasions, for many breast feeding mothers breast feeding has been uncomfortable.

[0004] From the foregoing, it is appreciated that a need has arisen for a brassiere which, in addition to the usual features of having adjustable straps, allows the user to adjust the effective cup size of the brassiere to allow for size fluctuations during pregnancy and/or breast-feeding.

Summary of the Invention

[0005] According to another aspect of the invention there is provided an adjustable brassiere including: a first brassiere cup and a second brassiere cup connected together; a first back band having a first end connected to the first brassiere cup and having a second free end, and a second back band having a first end connected to the second brassiere cup and having a second free end, wherein the second free end of the first back band is detachably connected to the second free end of the second back band; and a first shoulder strap having a first end connected to the first brassiere cup and having a second end connected to the first back band, and a second shoulder strap having a first end connected to the second brassiere cup and having a second end connected to the second back band; having an adjustment means whereby, in use, the wearer is able to adjust the effective cup size of the brassiere to accommodate fluctuations in breast size.

[0006] Ideally the adjustment means includes one or more side fasteners connecting the first and second brassiere cups to the first and second back bands, the adjustable fasteners adapted to alter an angle between the first and second brassiere cups and the first and second

back bands; and two or more adjustable front fasteners incorporated along each of the first and second brassiere cups connecting the first and second brassiere cups and the first and second shoulder straps thereby achieving variation in effective cup size.

[0007] According to a first aspect of the invention there is provided an adjustable brassiere including: a first brassiere cup and a second brassiere cup connected together; a first back band having a first end connected to the first brassiere cup and having a second free end, and a second back band having a first end connected to the second brassiere cup and having a second free end, wherein the second free end of the first back band is detachably connected to the second free end of the second back band; and a first shoulder strap having a first end connected to the first brassiere cup and having a second end connected to the first back band, and a second shoulder strap having a first end connected to the second brassiere cup and having a second end connected to the second back band; characterised by adjustable side fasteners connecting the first and second brassiere cups to the first and second back bands, the adjustable fasteners adapted to alter an angle between the first and second brassiere cups and the first and second back bands; and two or more adjustable front fasteners incorporated along each of the first and second brassiere cups connecting the first and second brassiere cups and the first and second shoulder straps; whereby, in use, the wearer is able to adjust the effective cup size of the brassiere to accommodate fluctuations in breast size.

[0008] Ideally the second free end of the first back band can be detachably connected to the second free end of the second back band by means of an adjustable rear fastener.

[0009] The adjustable front fasteners, adjustable side fasteners and adjustable rear fasteners can include hook elements, hook and eye elements, clasp elements, and clamp elements.

[0010] Alternative connection means includes buttons and/or clips and/or hooks and/or magnetic fasteners or clasps that are dimensioned and arranged so that opposite poles of magnets are located in regions that are to be connected one to another. Ideally the magnetic fasteners or clasps are small, typically flat discs of less than 2 cm in diameter, ideally less than 1 cm in diameter and preferably thinner than 3mm. Optionally a single magnet may be used in combination with a stainless steel (or other ferromagnetic) material.

[0011] In an alternative embodiment the connection means may include a hook-and-eye connection fabric, which is often sold under the Registered Trade Mark Velcro. Optionally strips of hook-and-eye connection fabric, may be provided on replaceable supports so that these hook-and-eye material can be removed prior to laundering.

[0012] Magnetic fasteners may be permanently attached to bras, eg sewn into pockets or flaps within the bra, or they can be removable - for example prior to laun-

dering.

[0013] Two or more shoulder strap fastener receiving elements may be incorporated along a length of each of the first and second back bands to receive and attach the first and second shoulder straps at different locations on the first and second back bands.

[0014] The first and second brassiere cups can include a strap part fitting around the wearer's breast and a front part fitting over the wearer's breast. The front part can be detached from the shoulder strap to allow the wearer to give access to the breast by a feeding infant.

[0015] For a more complete explanation of the present invention and the technical advantages thereof, reference is now made to the following description and the accompanying drawing in which:

Brief Description of Drawings

[0016]

Figures 1 and 2 show an overview of the adjustable brassiere of the present invention;

Figures 3a and 3b show two lines of hooks and eye side fasteners for adjusting the volume of the brassiere cup; and

Figure 4 shows a strap part of the brassiere cup fitting around the wearer's breast and a front part fitting over the wearer's breast.

Detailed Description of a Preferred Embodiment of the Invention

[0017] Referring to the Figures, an embodiment of the present invention and its technical advantages are understood by referring to Figure 1, which shows an adjustable brassiere (100) having two cups (102, 104) joined to one another, a back band (106, 108) and shoulder straps (110, 112).

[0018] The back band has two parts: a first back band (108) having a first end connected to the first brassiere cup and having a second free end, and a second back band (106) having a first end connected to the second brassiere cup and having a second free end. The second free end of the first back band is detachably connected to the second free end of the second back band.

[0019] The first shoulder strap (110) has a first end connected to the first brassiere cup) and has a second end connected to the first back band, and the second shoulder strap (112) has a first end connected to the second brassiere cup and has a second end connected to the second back band. Adjustable side fasteners (114) connect the first and second brassiere cups to the first and second back bands, and these are able to alter an angle between the first and second brassiere cups and the first and second back bands. Two or more adjustable front fasteners (116) are incorporated along each of the

first and second brassiere cups and these connect the first and second brassiere cups and the first and second shoulder straps.

[0020] The adjustable side fasteners allow the size of the brassieres cups to be increased in volume by one size and the adjustable front fasteners allow the cups to rotate to increase in capacity once side fasteners have been adjusted. The wearer can thus adjust the effective cup size of the brassiere to allow for size fluctuations during pregnancy and/or breast-feeding.

[0021] Referring now to Figures 3a and 3b, two lines of hooks and eye side fasteners (114) allow the second brassiere cup (104) to connect to the second back band (108); in Figure 3a the side fastener is positioned so that the brassiere cup volume is less than it is in Figure 3b.

[0022] The second free end of the first back band can be detachably connected to the second free end of the second back band by means of an adjustable rear fastener (120) which allows the effective length of the back band to be adjusted.

[0023] The adjustable front fasteners, adjustable side fasteners and adjustable rear fasteners can be hook elements, hook and eye elements, clasp elements, or clamp elements.

[0024] Two or more shoulder strap fastener receiving elements (118) can be incorporated along a length of each of the first and second back bands, and these are adapted to receive and attach the first and second shoulder straps at different locations on the first and second back bands. This allows adjustment to accommodate an increase or decrease in the back size during feeding

[0025] Referring now to Figure 4, the first and second brassiere cups can include a strap part (122) fitting around the wearer's breast and a front part (124) fitting over the wearer's breast. The front part may be detached from the shoulder strap by disengaging fastener (126) to allow the wearer to give access to the breast by a feeding infant.

[0026] It is to be appreciated that these Figures are for illustration purposes only and other configurations are possible.

[0027] The invention has been described by way of a preferred embodiment, with modifications and alternatives, but having read and understood this description, further embodiments and modifications will be apparent to those skilled in the art. All such embodiments and modifications are intended to fall within the scope of the present invention as defined in the accompanying claims.

[0028] Ideally the bra is dimensioned and arranged so that it can be packed away into a relatively small package and so can be readily delivered to end users and by post.

Claims

1. An adjustable brassiere (100) including: a first brassiere cup (102) and a second brassiere cup (104) connected together; a first back band (108) having

a first end connected to the first brassiere cup and having a second free end, and a second back band (106) having a first end connected to the second brassiere cup and having a second free end, wherein the second free end of the first back band is detachably connected to the second free end of the second back band; and a first shoulder strap (110) having a first end connected to the first brassiere cup and having a second end connected to the first back band, and a second shoulder strap (112) having a first end connected to the second brassiere cup and having a second end connected to the second back band; an adjustment means whereby, in use, the wearer is able to adjust the effective cup size of the brassiere to accommodate fluctuations in breast size, **characterised in that** the adjustment means includes adjustable side fasteners (114) connecting the first and second brassiere cups to the first and second back bands, the adjustable fasteners being adapted to alter an angle between the first and second brassiere cups (102, 104) and the first and second back bands (106, 108); and two or more adjustable front fasteners (116) incorporated along each of the first and second brassiere cups (102, 104) connecting the first and second brassiere cups (102, 104); and the first and second shoulder straps (110, 112).

2. An adjustable brassiere according to claim 1 in which the second free end of the first back band is detachably connected to the second free end of the second back band by means of an adjustable rear fastener (120).
3. An adjustable brassiere according to either claims 1 or 2 wherein the adjustable front fasteners, adjustable side fasteners and adjustable rear fasteners comprise any one of the group consisting of: hook elements, hook and eye elements, clasp elements, and clamp elements.
4. An adjustable brassiere according to any preceding claim including two or more shoulder strap fastener receiving elements (118) incorporated along a length of each of the first and second back bands, the shoulder strap fastener receiving elements adapted to receive and attach the first and second shoulder straps at different locations on the first and second back bands.
5. An adjustable brassiere according to any preceding claim in which the first and second brassiere cups include a strap part (122) fitting around the wearer's breast and a front part (124) fitting over the wearer's breast.
6. An adjustable brassiere according to claim 6 in which the front part is adapted to be detached from the shoulder strap to allow the wearer to give access to

the breast by a feeding infant.

7. An adjustable brassiere according to any preceding claim wherein a magnetic attachment is provided.
8. An adjustable brassiere according to claim 7 wherein the magnetic attachment is/are removable prior to laundering.

Patentansprüche

1. Verstellbarer Büstenhalter (100), der Folgendes umfasst: ein erstes Büstenhalterkörbchen (102) und ein zweites Büstenhalterkörbchen (104), die miteinander verbunden sind; ein erstes Rückenband (108) mit einem ersten Ende, das mit dem ersten Büstenhalterkörbchen verbunden ist, und mit einem zweiten freien Ende, und ein zweites Rückenband (106) mit einem ersten Ende, das mit dem zweiten Büstenhalterkörbchen verbunden ist, und mit einem zweiten freien Ende, wobei das zweite freie Ende des ersten Rückenbands lösbar mit dem zweiten freien Ende des zweiten Rückenbands verbunden ist; und einen ersten Schulterträger (110) mit einem ersten Ende, das mit dem ersten Büstenhalterkörbchen verbunden ist, und mit einem zweiten Ende, das mit dem ersten Rückenband verbunden ist, und einen zweiten Schulterträger (112) mit einem ersten Ende, das mit dem zweiten Büstenhalterkörbchen verbunden ist, und mit einem zweiten Ende, das mit dem zweiten Rückenband verbunden ist; ein Verstellmittel, so dass die Trägerin bei der Benutzung die effektive Körbchengröße des Büstenhalters verstellen kann, um Schwankungen der Brustgröße zu berücksichtigen, **dadurch gekennzeichnet, dass** das Verstellmittel Folgendes beinhaltet: verstellbare seitliche Befestigungsmittel (114), die das erste und das zweite Büstenhalterkörbchen mit dem ersten und dem zweiten Rückenband verbinden, wobei die verstellbaren Befestigungsmittel so gestaltet sind, dass sie einen Winkel zwischen dem ersten und dem zweiten Büstenhalterkörbchen (102, 104) und dem ersten und dem zweiten Rückenband (106, 108) verändern; und zwei oder mehr verstellbare vordere Befestigungsmittel (116), die jeweils entlang dem ersten und dem zweiten Büstenhalterkörbchen (102, 104) vorgesehen sind und das erste und das zweite Büstenhalterkörbchen (102, 104) verbinden; und den ersten und den zweiten Schulterträger (110, 112).
2. Verstellbarer Büstenhalter nach Anspruch 1, wobei das zweite freie Ende des ersten Rückenbands mit dem zweiten freien Ende des zweiten Rückenbands über ein verstellbares hinteres Befestigungsmittel (120) lösbar verbunden ist.

3. Verstellbarer Büstenhalter nach Anspruch 1 oder 2, wobei die verstellbaren vorderen Befestigungsmittel, verstellbaren seitlichen Befestigungsmittel und verstellbaren hinteren Befestigungsmittel beliebige aus der Gruppe bestehend aus Haken- und Ösenelementen, Spangenelementen und Klammerelementen beinhalten. 5
4. Verstellbarer Büstenhalter nach einem vorherigen Anspruch, der zwei oder mehr Aufnahmeelemente (118) für das Schulterträgerbefestigungsmittel umfasst, die entlang einem Stück von jeweils dem ersten und dem zweiten Rückenband vorgesehen sind, wobei die Aufnahmeelemente für das Schulterträgerbefestigungsmittel so gestaltet sind, dass sie den ersten und den zweiten Schulterträger an verschiedenen Stellen des ersten und zweiten Rückenbands aufnehmen und befestigen. 10
5. Verstellbarer Büstenhalter nach einem vorherigen Anspruch, wobei das erste und das zweite Büstenhalterkörbchen ein Trägerteil (122), das um die Brust der Trägerin liegt, und ein vorderes Teil (124) beinhalten, das über der Brust der Trägerin liegt. 15
6. Verstellbarer Büstenhalter nach Anspruch 6, bei dem das vordere Teil so gestaltet ist, dass es vom Schulterträger gelöst werden kann, damit die Trägerin einem Säugling Zugang zur Brust geben kann. 20
7. Verstellbarer Büstenhalter nach einem der vorherigen Ansprüche, wobei eine magnetische Halterung vorgesehen ist. 25
8. Verstellbarer Büstenhalter nach Anspruch 7, wobei die magnetische Halterung vor der Wäsche entfernt werden kann. 30

Revendications

1. Soutien-gorge ajustable (100) comprenant : un premier bonnet de soutien-gorge (102) et un deuxième bonnet de soutien-gorge (104) reliés ensemble; une première bande arrière (108) ayant une première extrémité reliée au premier bonnet de soutien-gorge et ayant une deuxième extrémité libre et une deuxième bande arrière (106) ayant une première extrémité reliée au deuxième bonnet de soutien-gorge et ayant une deuxième extrémité libre, dans lequel la deuxième extrémité libre de la première bande arrière est reliée de manière détachable à la deuxième extrémité libre de la deuxième bande arrière ; et une première bretelle (110) ayant une première extrémité reliée au premier bonnet de soutien-gorge et ayant une deuxième extrémité reliée à la première bande arrière, et une deuxième bretelle (112) ayant une première extrémité reliée au deuxième bonnet de 40

soutien-gorge et ayant une deuxième extrémité reliée à la deuxième bande arrière ; un moyen de réglage si bien qu'en cours d'utilisation, l'utilisatrice puisse ajuster la taille de bonnet utile du soutien-gorge afin de prendre en compte les fluctuations de la taille des seins, **caractérisé en ce que** le moyen de réglage comprend des fermetures latérales ajustables (114) reliant les premier et deuxième bonnets de soutien-gorge aux première et deuxième bandes arrières, les fermetures ajustables étant adaptées pour changer un angle entre les premier et deuxième bonnets de soutien-gorge (102, 104) et les première et deuxième bandes (106, 108) ; et deux ou plusieurs fermetures avant ajustables (116) incorporées le long de chacun des premier et deuxième bonnets de soutien-gorge (102, 104) reliant les premier et deuxième bonnets de soutien-gorge (102, 104) ; et les première et deuxième bretelles (110, 112).

2. Soutien-gorge ajustable selon la revendication 1 dans lequel la deuxième extrémité libre de la première bande arrière est reliée de manière détachable à la deuxième extrémité libre de la deuxième bande arrière au moyen d'une fermeture arrière ajustable (120). 25
3. Soutien-gorge ajustable selon l'une quelconque des revendications 1 ou 2 dans lequel les fermetures avant ajustables, les fermetures latérales ajustables et les fermetures arrières ajustables consistent en l'une quelconque des fermetures du groupe constitué : d'éléments d'agrafes, d'éléments d'agrafes et d'oeillets, d'éléments d'attache et d'éléments de serrage. 30
4. Soutien-gorge ajustable selon l'une quelconque des revendications précédentes comprenant deux ou plusieurs éléments de réception d'attaches de bretelles (118) incorporés le long de chacune des première et deuxième bandes arrière, les éléments de réception d'attaches de bretelles étant adaptés pour recevoir et attacher les première et deuxième bretelles à différents emplacements sur les première et deuxième bandes arrières. 35
5. Soutien-gorge ajustable selon l'une quelconque des revendications précédentes dans lequel les premier et deuxième bonnets de soutien-gorge comprennent une partie de bride (122) ajustée autour du sein de l'utilisatrice et une partie avant (124) ajustée par-dessus le sein de l'utilisatrice. 40
6. Soutien-gorge ajustable selon la revendication 6 dans lequel la partie avant est adaptée pour être détachée de la bretelle afin de permettre à l'utilisatrice de donner accès au sein à un nourrisson qui allaite. 45

7. Soutien-gorge ajustable selon l'une quelconque des revendications précédentes dans lequel il est fourni une attache magnétique.
8. Soutien-gorge ajustable selon la revendication 7, dans lequel l'attache/les attaches magnétique(s) est/sont amovibles avant le lavage.

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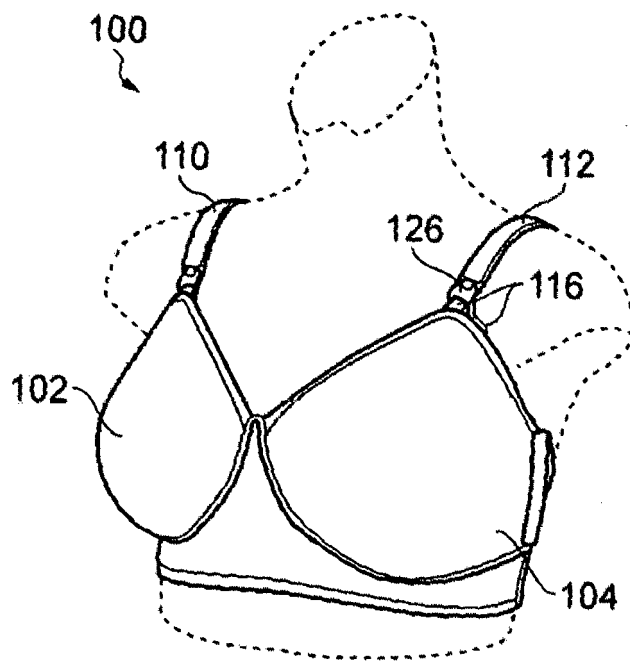


FIG. 1

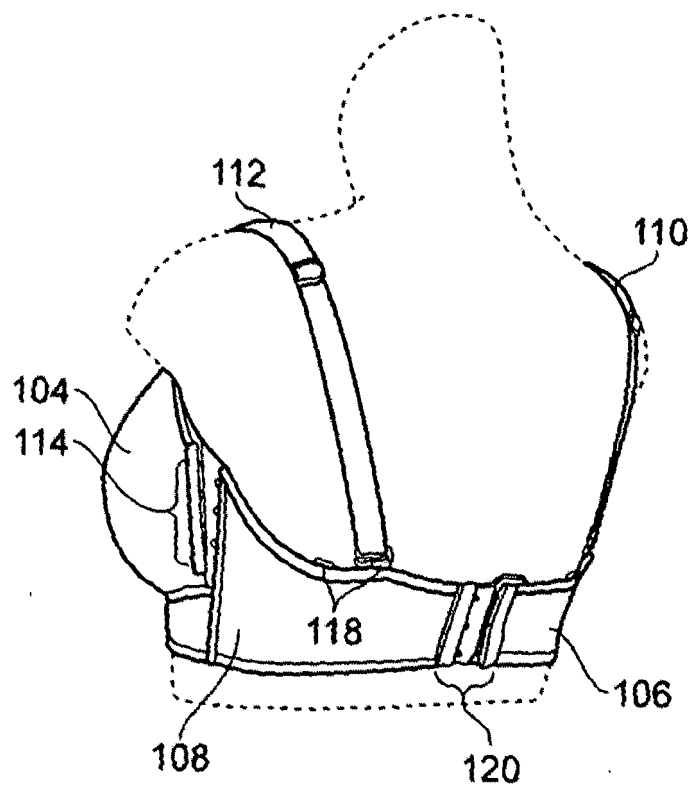


FIG. 2

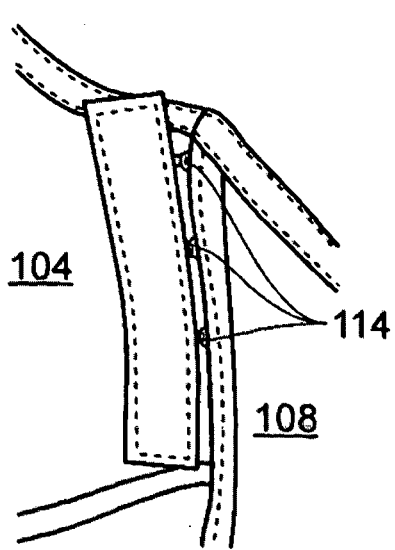


FIG. 3a

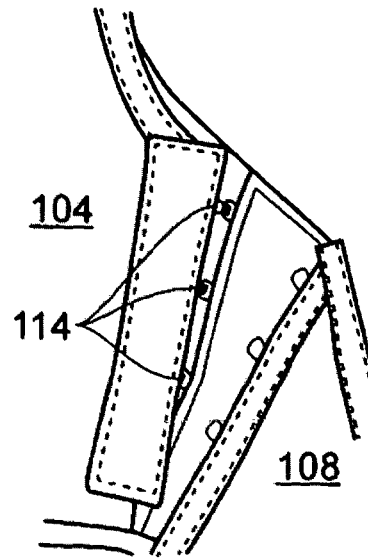


FIG. 3b

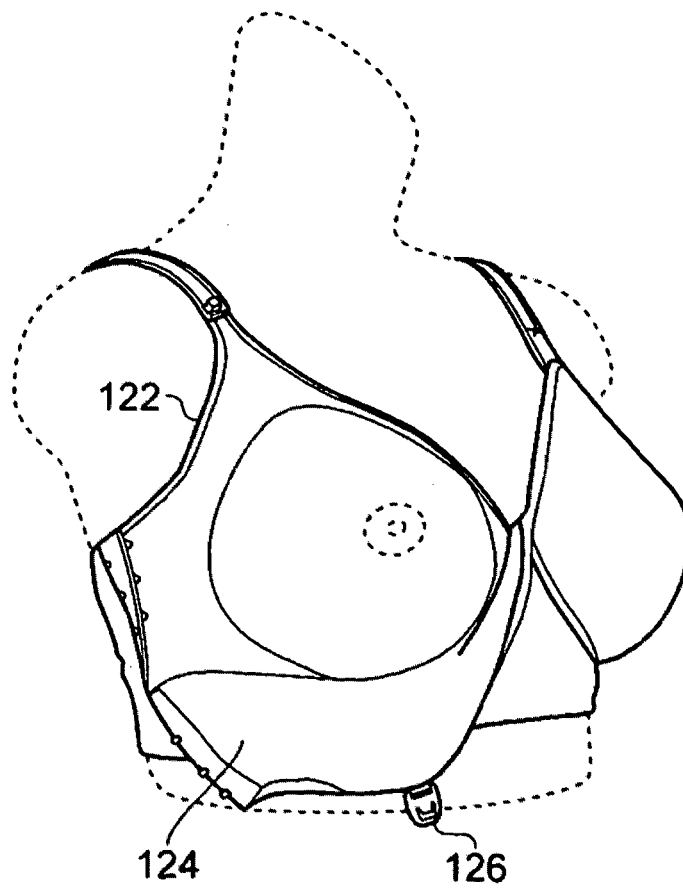


FIG. 4

REFERENCES CITED IN THE DESCRIPTION

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