

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TARGET CORPORATION
Petitioner

v.

DESTINATION MATERNITY CORPORATION
Patent Owner

Patent RE43,563

Case No. IPR 2013-00531

Date: May 5, 2014

**Declaration of David Brookstein, Sc.D. in Support of Patent Owner's Motion
in the Alternative to Amend Claim 1 of the '563 Patent**

I, David Brookstein, Sc.D., declare as follows:

1. I have been retained by counsel for the Patent Owner, Destination Maternity Corporation, to offer technical opinions with respect to U.S. Patent No. RE43,563 E (“the ‘563 patent”), proposed amendments to the ‘563 patent, and prior art references cited in the *Inter Partes Review* proceedings for the ‘531 patent and the ‘563 patent.
2. I was awarded a Bachelor of Textile Engineering from the Georgia Institute of Technology (“Georgia Tech”) in 1971, a Master of Science in Textile Technology from the Massachusetts Institute of Technology (“MIT”) in 1973, and a Doctor of Science in the field of mechanical engineering from MIT in 1976. My current *curriculum vita* is attached hereto as Exhibit 1.
3. I was a professor of Textile Engineering at Georgia Tech from 1975-1980. I was Associate Director of Albany International Research Co. (formerly Fabric Research Laboratories) from 1980-1994. I was Dean of the School of Engineering and Textiles and Executive Director of Research at Philadelphia University (formerly Philadelphia College of Textiles and Science) from 1994 to 2010. In 2010, I was appointed Executive Dean for University Research at Philadelphia University and served in that position through June 2012. In July 2012, I resigned from Philadelphia University to become Dean of the Science, Technology, Engineering, and Mathematics Division of Montgomery County Community College in

Pennsylvania. In May 2013, I retired from academia and I now serve as an independent consultant.

4. At Philadelphia University I was the Principal Investigator for a U.S. Army 8-year funded research and development program titled “Laboratory for Engineered Human Protection”. The Laboratory’s charter was to create garments that protect American servicemen and women against battlefield hazards, which were also sufficiently comfortable to wear for time periods required by the mission. One of the objectives of the research and development program was to design, develop and produce prototype chemically protective garments with the required comfort using the latest materials produced in collaboration with selected suppliers.
5. I was elected a Fellow of the American Society of Mechanical Engineers in 1995 and a Fellow of the Textile Institute in 1992.
6. I am a named inventor on 12 U.S. Patents dealing with textile materials and textile manufacturing.
7. I have reviewed the following documents for preparation of this declaration:
 - The ’531 patent
 - the ’563 patent
 - the proposed amendments to Claim 1 of the ’563 patent
 - PTAB Case No. IPR2013-00530 Patent RE43,563 - CORRECTED PETITION FOR *INTER PARTES* REVIEW UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 *ET SEQ.*

- PTAB Case No. IPR2013-00531 Patent RE43,563 - CORRECTED PETITION FOR *INTER PARTES* REVIEW UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 *ET SEQ.*
- PTAB Case No. IPR2013-00532 Patent RE43,563 - CORRECTED PETITION FOR *INTER PARTES* REVIEW UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 *ET SEQ.*
- PTAB Case No. IPR2013-00530 Patent RE43,563-PATENT OWNER’S PRELIMINARY RESPONSE TO CORRECTED PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. RE43,563
- PTAB Case No. IPR2013-00531 Patent RE43,563-PATENT OWNER’S PRELIMINARY RESPONSE TO CORRECTED PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. RE43,563
- PTAB Case No. IPR2013-00530 Patent RE43,563 – Decision Institution of *Inter Partes Review*
- PTAB Case No. IPR2013-00531 Patent RE43,563 – Decision Institution of *Inter Partes Review*
- PTAB Case No. IPR2013-00532 Patent RE43,531 – Decision Institution of *Inter Partes Review*
- PTAB Case No. IPR2013-00533 Patent RE43,531 – Decision Institution of *Inter Partes Review*
- U.S. Patent No. 4,506,390 (“Stern”)
- U.S. Patent No. 6,276, 175 (“Browder”)
- U.S. Patent No. 6,669,064 (“the ’064 patent”)
- U.S. Patent No. 5,034,999 (“the ’999 patent”)

- U.S. Patent No. 7,089,597 (“the ‘597 patent”)
 - U.S. Patent Appl. Pub. No. U.S. 2006/0010571 (“Oakley”)
 - U.S. Patent Appl. Pub. No. 2004/0049834 A1 (“Stangle”)
 - U.S. Patent Appl. Pub. No. 2004/0210987 (“Carney”)
 - Japanese Utility Model Patent No. 3,086,624 (“Asada”) – certified English translation
 - “*expecting style*,” an article by Lauren Sara, published by Bulfinch Press, 2003 (“Sara”)
 - Catalog excerpts from JC Penney *ontrend Maternity, Fall/Winter Catalog* (2005) (“JCP-A”)
 - Merriam-Webster’s Collegiate Dictionary, 11th Ed. , 2007
 - Clothing Technology, English Edition 1, Verlag Europe-Nourney, Vollmer GmbH & Co, 1996, p. 134.
 - Textiles, 5th Edition, Macmillan Publishing, Co., Inc., 1979, p. 188.
 - Handbook of Technical Textiles, Woodhead Publishing Ltd., 2000, p. 106
 - The Modern Textile Dictionary, Little Brown, 1954.
8. I am being compensated by counsel for the Patent Owner at the rate of \$400/hour and my compensation is not dependent on the outcome of either my opinions or the proceedings.
9. My declaration is organized in the following manner:
- I. Qualifications of Persons of Ordinary Skill In The Art (“POSA”)

- II. Overview of the '563 Patent Including Proposed Claim Construction
- III. Identification of the Most Relevant Prior Art
- IV. Overview of JCP-A
- V. Overview of Asada
- VI. Overview of Browder
- VII. Overview of Stangle and Carney
- VIII. Opinion on the Non-Anticipation of Proposed Amended Claim 1 of the '563 Patent Under 35 U.S.C. § 102 by JCP-A
- IX. Opinion on the Non-Anticipation of Proposed Amended Claim 1 of the '563 Patent Under 35 U.S.C. § 102 by Asada
- X. Opinion on the Non-Anticipation of Proposed Amended Claim 1 of the '563 Patent Under 35 U.S.C. § 102 by Browder
- XI. Opinion on the Lack of Anticipation and Lack of Obviousness of Proposed Amended Claim 1 of the '563 Patent Under 35 U.S.C. §§ 102 and 103.

I. Qualifications of Persons of Ordinary Skill In The Art (“POSA”)

- 10. Based on my experience as a dean and professor in the area of textile engineering and my experience as a research and development laboratory director, it is my opinion that persons of ordinary skill in the art (“POSA”) during the time frame of the priority dates of the Patents-in-Suit would possess any of the following: (a) a graduate of a two-year or four-year degree program with an associate’s or bachelor’s degree in fashion design and at least one to two years of full-time, technical design experience in the commercial garment industry; or (b) an individual with at least four years of full time, technical design experience in the commercial garment industry; or (c) a baccalaureate degree in textile engineering.

II. Overview of the ‘563 Patent Including Proposed Claim Construction

11. The ‘563 patent entitled “**BELLY COVERING GARMENT**” was filed in the U.S. Patent and Trademark Office (“USPTO”) on June 15, 2011 and issued on August 7, 2012. The ‘563 patent is a reissue of U.S. Patent No. 7,900,276 (“the ‘276 patent”), which was filed in the USPTO on May 8, 2007 and issued on March 8, 2011. The Patent Owner advertises that its Secret Fit Belly® line of maternity clothes is covered by the ‘563 patent.¹ The ‘563 patent discloses “*a garment upper portion has a belly panel that is expansible to cover and fit over a growing abdomen during different stages of pregnancy.*” (1:55-57) The invention covered in the ‘563 patent fulfills an unmet need for a garment that adapts to cover and fit a growing abdomen during pregnancy, wherein the garment stays up when worn. (1:51-53) As discussed in the ‘563 patent, this new garment is a comfortable garment that adapts to cover and fit over a wearer’s belly region during different stages of weight gains and/or losses, and stays up when worn. (1:55-58, 2:9-11, 3:27-31) The ‘563 patent discloses that prior to this invention “*women have complained that the maternity garments that existed prior to the claimed invention were difficult to keep in place, and gradually slipped down while being worn.*” (1:34-36) As such, the inventors of the ‘563 patent recognized a need for a garment that covers and fits a growing abdomen during different stages of pregnancy and would stay up and fit comfortably while being

¹ <http://www.motherhood.com/maternity/secret-fit-belly.asp>

worn. Further, it would stay up when worn over different body types (1:43-47).

12. Counsel for Patent Owner has informed me that in the event the Board does not accept the patentability of Claim 1 of the '563 patent in view of the prior art of record, Patent Owner will move to amend Claim 1 as follows. Counsel for Patent Owner has informed me that text enclosed in double brackets (“[[]]”) indicates language to be deleted from the claim, and text that is underlined (“_____”) indicates text to be added to the claim.

A garment portion having an attached belly panel portion comprising:

[a] an expansible belly panel adapted to [[substantially]] cover a wearer's entire belly region, said belly region comprising an area beginning just beneath the wearer's breast area and extending over the wearer's abdomen to a lower abdomen region beneath the wearer's belly, said belly panel comprising:

[b] an upper edge portion defining a first encircling circumference about [[a]] the wearer's torso that is at or above the wearer's upper abdomen region during all stages of pregnancy, and

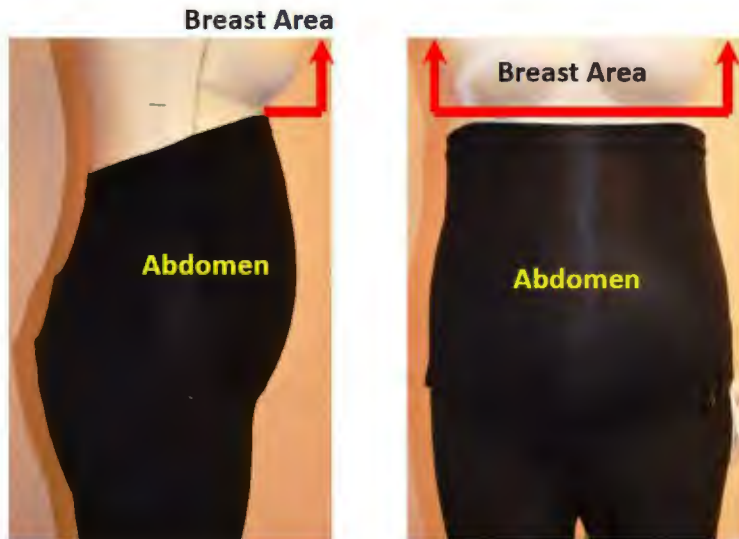
[c] and a lower edge portion spaced from the upper edge portion and defining a second encircling circumference about the wearer's lower abdomen region; and

[d] a garment lower portion, in communication with the lower edge portion, having a torso encircling circumference that recedes downward to make way for expansion of the belly panel.

13. On October 17, 2013, I examined four Secret Fit Belly® exemplar products (Style 93480-01, Style 96316-42, Style 91401-01 and Style 94278-10) and placed them on AlvaForm Pregnancy Fit Mannequins (3 month pregnancy

and 9 month pregnancy). In my opinion, the products met the limitations of Claim 1 (the only independent claim), and many of the dependent claims of the '563 patent. The product also met the need for a garment that adapts to cover and fit a growing abdomen during pregnancy, comes up to just beneath the location of the breasts of the wearer, and has a design and structure which enables it to stay up when worn. My examination of the fit of the Secret Fit Belly® products on the mannequins shows that the belly panel stays up due to the fact that it comes up to just beneath the breasts, and as such, has substantially more coverage over the narrowing part of the abdomen and thus creates more frictional force to hold the garment up while worn. Accordingly, if the garment tried to come down past the upper and relatively narrow portion of the abdomen it would need to circumferentially expand and the stretch nature of the belly panel fabric would prohibit it from passively expanding unless it were actively pulled down by the wearer. Attached as Exhibit 2 is a report that I prepared showing that Secret Fit Belly® products practice the claimed invention.

Below is a set of photographs of Secret Fit Belly® Style 91401-01 that I took on October 17, 2013 which clearly supports my opinion. I have identified the abdomen and breast area, the latter being supported by the above.



3 month



9 month

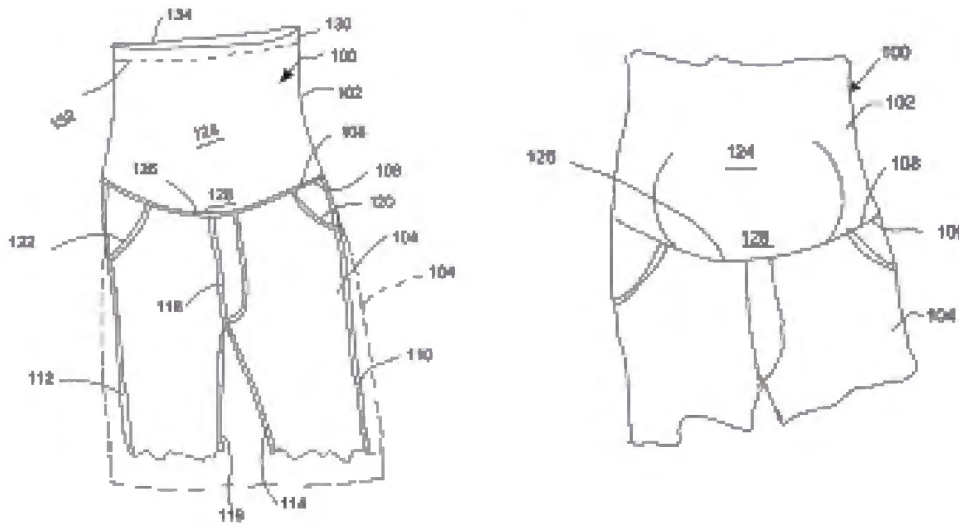
14. It is my understanding that in an *Inter Partes Review* of an unexpired patent the PTAB gives the claims the “*broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art*”. Further, in the USPTO Manual of Patent Examining Procedure (MPEP) it is stated at 2111.01 ¶1 that “*The ordinary and customary meaning*

of a term may be evidenced by a variety of sources, including the words of the claims themselves, the specification, drawings, and prior art.”

15. Counsel for the Patent Owner has asked me to propose a construction of some of the claim language in Claim 1 of the '563 patent that would be interpreted by a POSA. As such I am providing my expert opinion on the meaning and construction of the terms “*just beneath the wearer’s breast area*”. My opinion is based on 1) the specification of the '563 patent, 2) the language of the claims of the '563 patent, 3) examples of prior art identifying the “*breast area*”, 4) prior art patents which use the term “*breast area*” only in the claims, and 5) the dictionary definitions of “*just*” and “*substantially*.”

16. The '563 patent specification does not explicitly discuss the term “*breast area*.” However, it is my opinion that there are many instances of implicit discussion in the '563 patent, which supports a broadest reasonable construction by a POSA of “*just beneath the wearer’s breast area*” to mean “*beneath the location of the breasts by a very small margin*”.

17. Fig. 1 and Fig. 1A of the '563 patent are shown below:



In describing Fig. 1 and Fig. 1A, the specification of the '563 patent discloses that *“In FIG. 1, the garment upper portion 102 has a belly panel 124 to provide an abdomen covering area. The belly panel 124 is expansible, for example, when made of a stretchable fabric, to cover and fit over a growing abdomen during different stages of pregnancy, FIG. 1A.”*

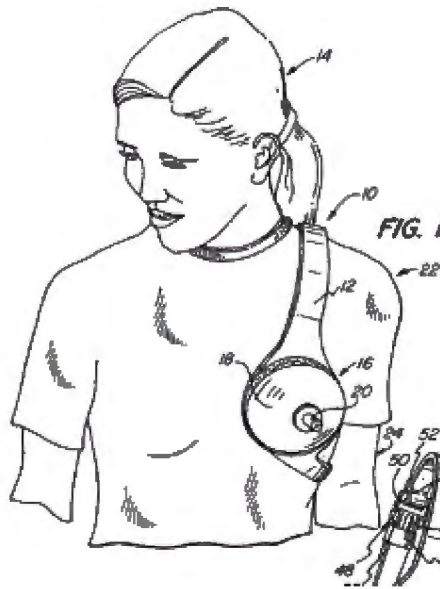
18. In my opinion the claim language in the '563 patent further supports a broadest reasonable construction by a POSA that *“just beneath the wearer’s breast area”* can be construed as *“beneath the location of the breasts by a very small margin.”* Before the proposed claim amendment, Claim 1 states that the belly panel *“substantially cover[s] a wearer’s entire belly region comprising an area beginning just beneath a wearer’s breast area and extending over the wearer’s abdomen to a lower abdomen region beneath the wearer’s belly”* and has an *“upper edge portion defining a first encircling circumference about the wearer’s torso that is at or above the*

wearer's upper abdomen." In my opinion, based on this claim language, that the wearer's breast area ends before the abdominal area begins. Further, it is my opinion that by using the terms "breast area" and "abdomen" to describe different locations on the wearer, the wording of Claim 1 supports a construction that "breast area" is only the location of the breasts and, as such, it excludes a construction of "breast area" that includes the abdomen because both terms are used separately to locate the top of the belly panel during all stages of pregnancy.

19. The '563 patent specification discusses the expansible and contractible nature of the stretchable belly panel, which allows the belly panel to reach just beneath the breast area during all stages of pregnancy on wearers with different body types. "*The belly panel 124 comprises a portion of the stretchable fabric. The tubular structure is adaptable to cover and fit different body types by being elastically expansible and contractible.*" (3:45-48) "*The tubular structure is elastically expansible to widen the tubular girth at selected locations and amounts where needed to fit a body type, and is elastically contractible to narrow the tubular girth at selected locations and amounts where needed to fit the body type.*" (3:53-57)
20. It is my opinion that even though the Specification and some of the dependent claims discuss different wearer body types, the language should not affect the construction of "*just beneath the wearer's breast area*". The Specification explains that the expansible and contractible nature of the panel allows the garment to cover and fit a growing abdomen even if the wearers have different body types. (3:47-57). As such, the discussion of different body types does not affect the term "*just beneath the wearer's*

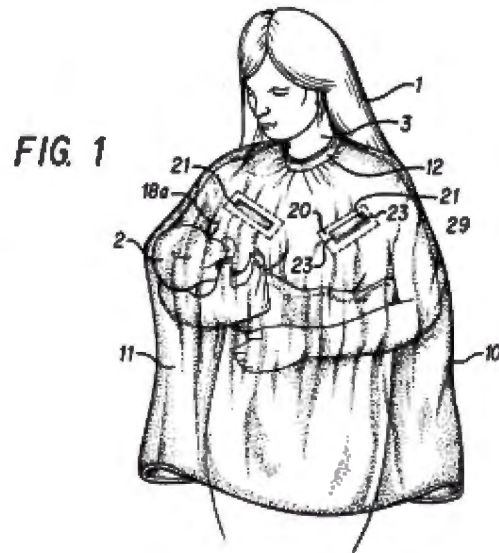
breast area". Rather, the Specification explains that the garment will still perform its function even when wearers of different body types don the patented garment because the garment expands and contracts to account for more or less girth.

21. The term "*breast area*" has been covered in earlier patents and clearly shows that "*breast area*" is the location of the breasts. For example, U.S. Patent No. 6,669,064 explains that "*Nurser 10 includes a flexible shoulder sling 12 to which is attached, positioned in the **breast area** of user's chest . . . the sling holds container 16 in the **breast area** of the user's.*" 4:36-46 (emphasis added). Figure 1 below read with this description shows that the described "*breast area*" is the location of the breasts.

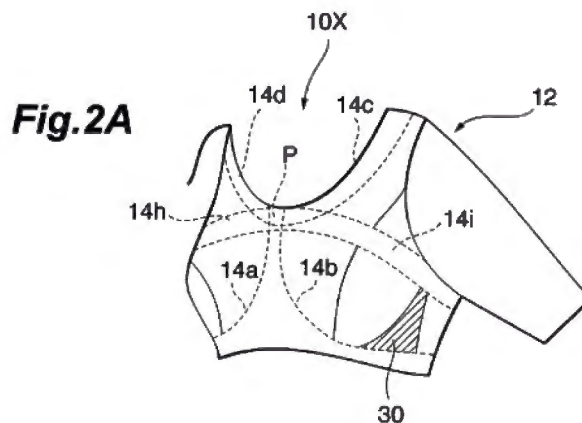


U.S. Patent No. 5,034,999 explains that, during nursing, "*the mother will want to check on his or her progress . . . by opening one of the portals 18 above each **breast area 18a** . . . where the child would be nursing,*

preferably near the infant's head while he is nursing." 2:60-67 (emphasis added). Again, Figure 1, shown below, read with this description shows that the described "*breast area*" is the location of the breasts.



Analogous art also shows that the bottom of the *breast area* does not include the abdomen. U.S. Pat. No. 7,089,597 shows that the *breast area* ends at the empire line or inframammary fold. In describing Fig. 2A (reproduced below), the '597 patent states: "*wide fabrics 14a and 14b are stitched along lines that extend from a supporting point P at the front center to the armpits, passing beneath the breast area.*" 9:34:38 (emphasis added). Coincidentally, the USPTO Primary Examiner for the '597 patent is the same Primary Examiner for the '531 patent.



22. I conducted a search on the USPTO “Patent Search” web site to see if there were analogous art where the term “*breast area*” is only found in the claims of patents. I found U.S. Patent No. 8,016,640 where in claim 3 it states “*said piece of stretchable material is formed as a sling and is shaped inwardly from a direction at a center of a breast area at its ends to allow the sling to sit neatly on the breast while holding the breast with the breast supported from said outside edge.*” (emphasis added) Further I found U.S. Patent No. 4,590,624 where in Claim 1 it states “*each of said left and right blouse panels configured when laid flat and without stitching to be larger than the breast area of the gown, thereby producing a billowing of the blouse panels for accommodating the patient's breasts with the edges of the blouse panels interconnected to the back panel and corresponding skirt panels,*” (emphasis added)
23. While the word “*just*” is not in the ’563 patent specification it does have a known definition that can be found in the Merriam-Webster’s Collegiate Dictionary, 11th Edition, 2007 at page 679. “*Just*” is defined, in the context of location, as “*by a very small margin.*” It is my opinion that based on 1)

the specification of the '563, patent; 2) the language of the claims of the '563 patent; 3) examples of prior art identifying the "breast area"; 4) the prior art patents which use the term "*breast area*" in the claims only; and 5) the dictionary definitions of "*just*," the claim term "*just beneath the wearer's breast area*" should have the broadest reasonable construction by a POSA of "*beneath the location of the breasts by a very small margin.*"

24. The definition of "*just*," above, corresponds to the pre-amendment language of Claim 1 regarding the garment upper portion (belly panel), which required that it "*substantially cover the wearer's entire belly region.*" The Merriam-Webster's Collegiate Dictionary, 11th Edition, 2007 at page 1245 defines "*substantially*" as "*being largely but not wholly that which is specified*". Accordingly, it is my opinion, if a wearer's entire abdomen, during pregnancy, is substantially covered ("*being largely but not wholly that which is specified*"), the top edge of the garment upper portion **must** be below the location of the breasts by a very small margin. Therefore, when the modifier "substantially" is removed from the claim as in the proposed amendment, the claim element is narrowed to more clearly mean "*an expansible belly panel that entirely covers a wearer's belly from beneath the location of the breasts by a very small margin to a lower abdomen region beneath the wearer's belly.*"
25. Counsel for the Patent Owner has asked me to propose a broadest reasonable construction of the term "*an expansible belly panel*" in proposed amended Claim 1 of the '563 patent that would be interpreted by a POSA. As such, I am providing a discussion that the claim term "*an expansible belly panel*"

can be construed as “*a belly panel that expands to a degree commensurate with covering a pregnant abdomen.*”

26. The '563 patent specification supports a construction of “*an expansible belly panel*” as “*a belly panel that expands to a degree commensurate with covering a pregnant abdomen.*”
27. When discussing “*expansible*” with regard to the belly panel, the '563 patent routinely discusses that the belly panel must cover and fit over a pregnant abdomen. For example, the Specification identifies a “*belly panel that is expansible to cover and fit over a growing abdomen during different stages of pregnancy.*” (1:55-57), and “*The belly panel 124 is expansible, for example, when made of a stretchable fabric, to cover and fit over a growing abdomen during different stages of pregnancy*” (3:2-5). In addition, that the belly panel expands to accommodate a pregnant abdomen is further clarified by the proposed amended Claim 1, which recites “*an upper edge portion defining a first encircling circumference about the wearer’s torso that is at or above the wearer’s upper abdomen region during all stages of pregnancy.*” A POSA would understand that the inserted language to mean “*throughout an entire pregnancy.*”
28. The '563 patent specification routinely discusses the need for comfort when wearing the garment covered by the '563 patent. For example “*Another embodiment of the invention provides a garment that fits comfortably while being worn*” (1:63-64), “*According to an embodiment of the invention, an expansible tubular upper portion of the garment is seamless to fit comfortably while being worn*” (2:9-12), and “*the stretchable fabric is*

woven or knitted to form a continuous, seamless tubular structure, such that the garment 100 is comfortable to wear due to the absence of seams that would tend to press against the torso.” (4:9-12)

29. It is my opinion that, for an expansible belly panel to be comfortable, it must be non-constricting and, as such, not constrict or control the expansion of the abdomen during pregnancy but adapt in a comfortable manner to a growing abdomen.
30. It is my opinion that, based on the specification of the ‘563 patent, the broadest reasonable construction by a POSA of the claim term “*an expansible belly panel*” should be construed as “*a belly panel that expands to a degree commensurate with covering a pregnant abdomen.*”

III. Identification of the Closest Prior Art to Proposed Amended Claim 1 of the ’563 Patent

31. I have been informed by counsel for the Patent Owner that to anticipate a claim under 35 U.S.C. § 102 “*a single prior art reference [must] not only disclose all of the elements of the claim within the four corners of the document, but ...also disclose those elements arranged as a claim*” Accordingly, it is my understanding that if even one claim element is missing in the alleged anticipated prior art, there is no anticipation.
32. Counsel for the Patent Owner has asked me to identify the closest prior art I am aware of, including the prior art cited in the ’563 patent, prior art from the presently instituted reexamination proceedings (PTAB Case Nos.

IPR2013-00530, IPR2013-00531, IPR2013-00532, IPR2013-00533) to Claim 1 of the '563 patent as amended. Counsel for the Patent Owner also asked me to consider references from PTAB Case Nos. IPR2014-00508 and IPR2014-00509.

33. As the '563 Patent specification explains, prior art maternity garments tended to fall within three general categories:
- (1) garments that covered a wearer's body "below the abdomen or belly during various stages of pregnancy," constructed as knits or woven fabrics ('563 Patent, 1:24-26);
 - (2) garments with elastic belts or waist bands that caused discomfort when tightened about the body (*id.*, 1:27-29); and
 - (3) garments with stretchable panels sewn into place with sewn seams (*id.*, 1:29-31), or jeans whose waistbands have been replaced by elastic bands (*id.*, 1:37-39).

The prior art references I reviewed fell into one or more of these three categories of maternity garments, as I explain in the following examples.

34. Category 1: Garments covering the body below the abdomen

An example of this category of prior art can be seen in U.S. Patent No. 4,506,390 to Stern ("Stern"). Stern, which was identified by Petitioner as prior art in the instituted IPR proceedings as Exhibit 1017, discloses a maternity garment with an expandable waistband portion of elastic material that accommodates the changing shape of a woman's abdomen during different stages of pregnancy. ABSTRACT; 2:34-37. The elastic band in Stern is designed to extend only over the lower portion of the growing belly,

which is a common characteristic of the garments in this category. This is illustrated in Figure 2:

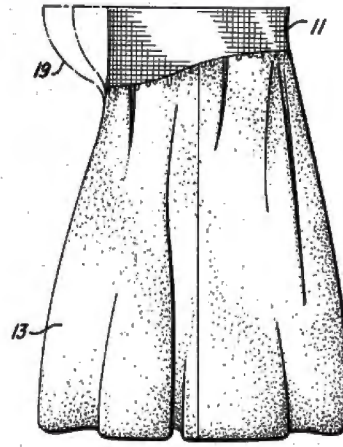
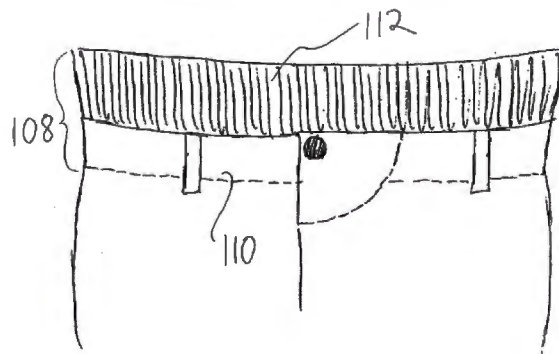


FIG. 2

35. Category II: Garments with uncomfortable belts or waist bands

An example of this category of prior art can be seen in U.S. Patent Application Publication No. U.S. 2006/0010571 A1 by Oakley (“Oakley”). Oakley, which was identified by Petitioner as prior art in the instituted IPR proceedings as Exhibit 1023, discloses a maternity garment with a double-waistband design, as depicted in Figure 1C:

FIG. 1C



The double waistband is “for use on a maternity garment that can be worn during all stages of pregnancy,” and is worn “around a woman’s waist at the

same location as would the waistband of a normal pair of pants,” which is characteristic of this category of prior art garment. ABSTRACT.

36. Category III: Garments with stretchable panels sewn into place

An example of this category of prior art can be seen in “*expecting style*,” an article by Lauren Sara, published by Bulfinch Press, 2003 (“Sara”). Sara, which was identified by Petitioner as prior art in the instituted IPR proceedings as Exhibit 1005, contains instructions to transform an ordinary pair of jeans into maternity jeans by sewing in an elastic waistband (similar to the waistband in Oakley). Because the elastic waistband of Sara’s modified jeans is constructed out of a single strip of 3” wide elastic fabric whose ends are sewn together, they will necessarily have a sewn seam, which would also put this reference into Category II. *See* Sara at p. 5:

6. Measure the cut edge. Cut a piece of 3” wide elastic, 2½” shorter than the measurement of the cut edge (third photo). (For example, if your new jeans measure 36”, cut the elastic to 33½”.)

7. Cut a piece of non-itchy Lycra knit fabric (choose any color you like) 7” wide and the same length as the elastic.

8. Sew the two 7” ends of the Lycra fabric together, creating a circle. Place the circle inside the jeans, lining up the edges as you sew the Lycra to the top inside edge of the jeans with a ½” seam allowance, stretching the fabric slightly to fit the circumference (fourth photo).

Also, as is characteristic of maternity garments in this category, the elastic panels do not rise above the waistline to any significant degree (Sara at 4):



37. Based on my review, the closest prior art I have seen with respect to proposed amended Claim 1 are:

- *JC Penney ontrend Maternity Fall/Winter Catalog (2005)* (“JCP-A”);
- Japanese Utility Model Patent No. 3,086,624 to Asada (“Asada”); and
- U.S. Patent No. 6,276,175 to Browder (“Browder”).

Although I consider these the closest with respect to amended claim 1, for the reasons I set forth below, I do not believe they anticipate proposed amended claim 1.

In addition, U.S. Patent Application Publication No. 2004/0049834 A1 to Stangle, et al., (“Stangle”) was also cited as an anticipatory reference to Claim 1 of the ’563 patent. Another reference, U.S. Patent Application Publication No. 2004/0210987 to Carney (“Carney”) was cited on the face of the ’563 patent, and subsequently identified in the IPR2014-00508 and -509 petitions. These references disclose elastic bands that are worn over conventional or maternity garments to help keep them up. Because this type of art was cited as anticipatory art, I discuss them separately below.

IV. Overview of JCP-A

38. I have reviewed a section (page 15) of the JC Penney *ontrend Maternity Fall/Winter Catalog* (2005) that the Petitioner has cited and asserts is prior art to the '563 patent. A product entitled "FOLD-OVER PANEL JEANS" is advertised. JC Penney touts that the jeans have "*a unique fold-over panel design that allows you to wear them before, during and after your pregnancy.*" Below is a pictorial excerpt from the advertisement.

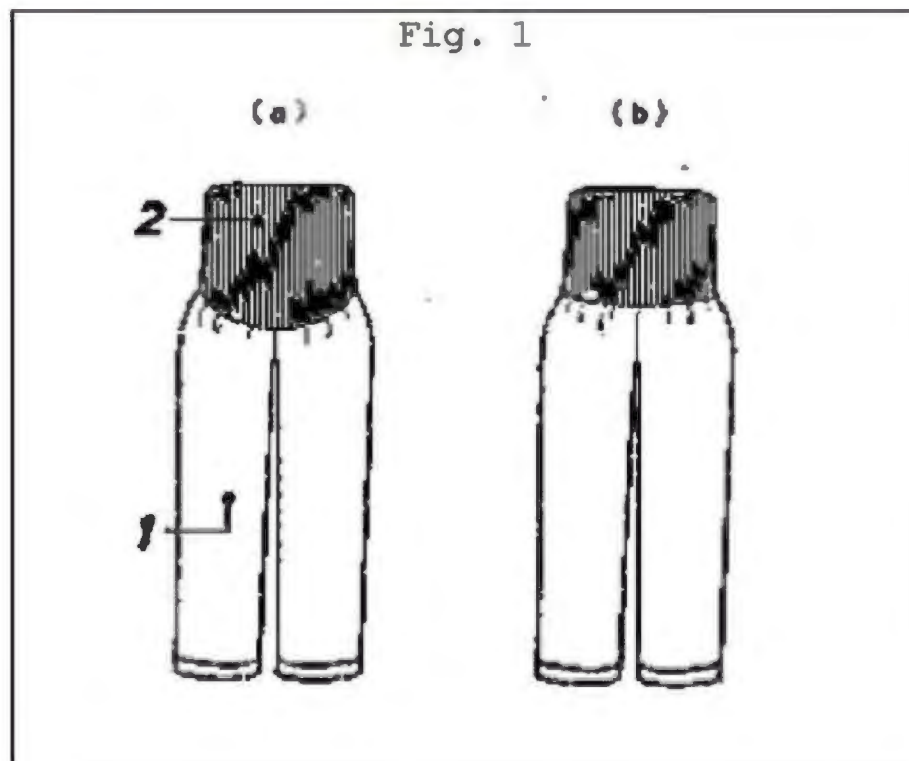


The above pictorial excerpt shows at the far left ("*1. over-the-belly coverage*"), a belly panel that, while covering a portion of the abdomen, does not come up to just beneath the wearer's breast area. In fact, none of the pictures show the lower part of the wearer's breasts at all. It is my opinion that a POSA would understand that this advertisement is focused on providing a product with its primary feature being a fold-over belly panel that provides comfort during all stages during and after pregnancy by folding and unfolding the panel depending on belly size. In fact, two of the inset picture descriptions are specifically directed to comfort (e.g. "*2. fold once*

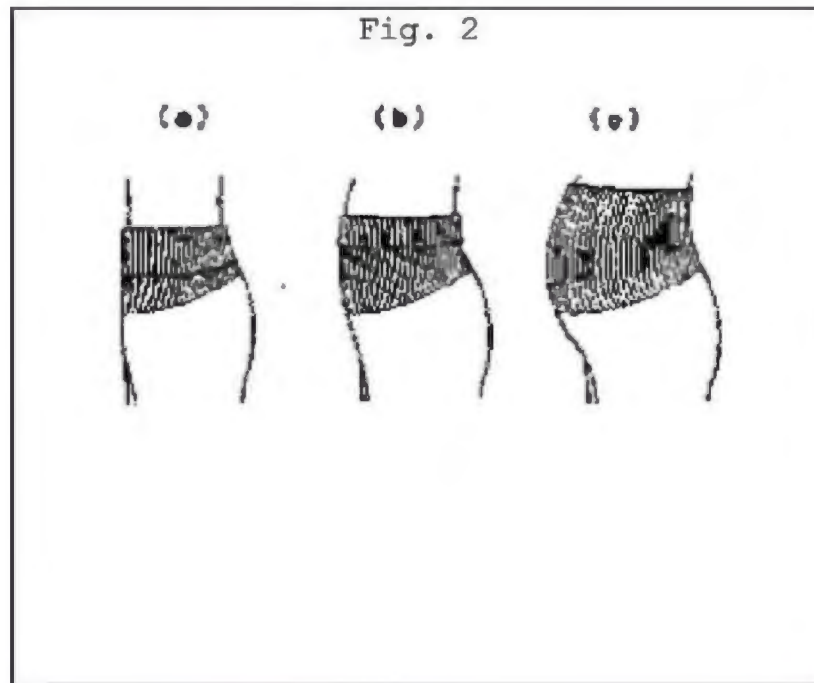
for mid-rise comfort” and “3. *fold twice for low rise comfort and support*”)”. A POSA would understand that the garment shown in the advertisement does not provide any feature that would enable it to stay up, without folding it over, during all stages of pregnancy. In fact, JC Penney does not tout this in this reference.

V. Overview of Asada (Japanese Utility Model Patent No. 3,086,624)

39. The Asada reference entitled “Maternity Wear” was filed in the Japan Patent and Office on December 11, 2001 and issued on June 28, 2002. Asada discloses maternity pants characterized by a “*pants portion*” and “*an expandable and contractible, and foldable abdomen-covering portion using a stretch knit*” attached to a pair of pants as shown in Figure 1, below. Asada at [0009], Fig. 1.



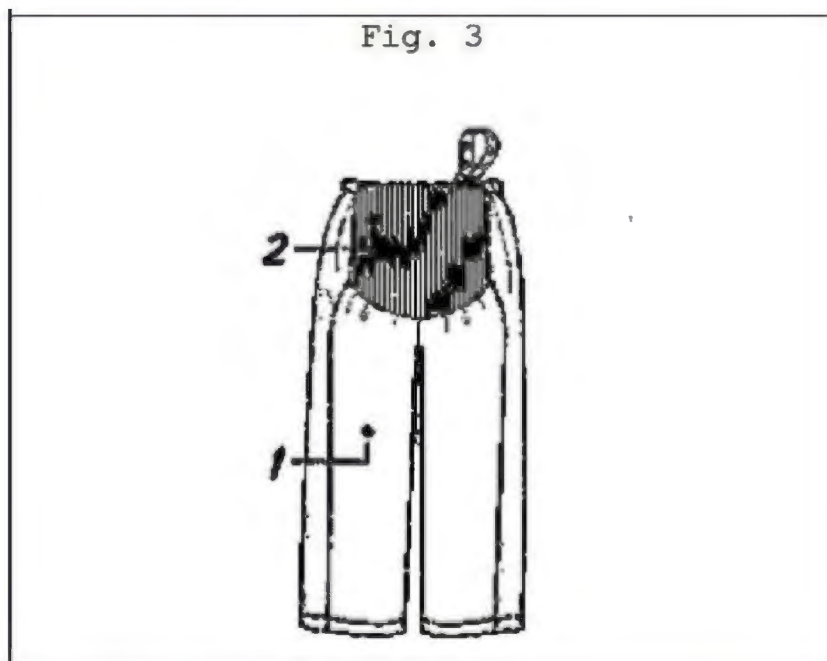
40. The abdomen-covering portion 2 “can be worn by freely folding, thereby making it possible to adjust them to an above-the-crotch portion.” *Id.* at ¶ [0012]. Asada elaborates that the garment may be worn by “shortening the above-the-crotch portion by folding the abdomen-covering portion 2 during the early stage of pregnancy or post-partum.” *Id.* During pregnancy, the belly panel “elongates pursuant to a gradual reduction in an amount that the abdomen-covering portion 2 is folded to fit the abdominal portion” as the abdomen expands. *Id.* at ¶ [0013]. Asada illustrates this in Figure 2, which depicts the belly panel (or as Asada calls it, the “abdomen-covering portion”) in two folded configurations 2(a) and 2(b), and a completely unfolded configuration 2(c). *See id.*



According to Asada, the belly panel of the maternity garment is folded over completely at the early stages of pregnancy, and gradually unfolded as the abdomen grows. “As shown in Fig. 2(b), during the pregnancy, the above-the-crotch portion elongates pursuant to a gradual reduction in an amount

that the abdomen-covering portion 2 is folded to fit the abdominal portion which gradually grows larger.” Asada at ¶ [0013]. Later, as the pregnancy approaches full term, the abdomen-covering portion is fully unfolded so that “it can be worn completely to envelop the abdomen with the entire” belly panel. *Id.* Thus, the manner and purpose of folding the belly panel—or abdomen-covering-portion— of Asada to accommodate changes in abdomen size during pregnancy is essentially identical to the fold-over belly panel of JCP-A, which I discuss in ¶38 above.

41. The maternity garment of Asada extends no higher than the conventional maternity patents of the time, which fastened around the waist rather than just beneath the breast area. *See Asada at 2 (“Fig. 3 is a view [of] the maternity pants shown in Fig. 1 overlapping conventional maternity pants.”)*. Figure 3 is reproduced below.

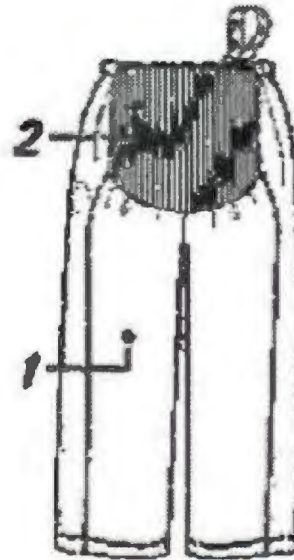


As Asada describes, conventional maternity pants at the time adjusted around the abdomen with a drawstring around the waist area. Asada at

¶¶[0003], [0011] (“Unlike conventional maternity pants that are tightened only at a waist rubber c portion, these fulfill a role of fastening at the waist with the entire abdomen-covering portion 2, so they can be worn comfortably without being tight.”) This is made more apparent after comparing Figure 2(c), which depicts the entire (*i.e.*, fully unfolded) abdomen-covering portion of the garment, with Figure 3:

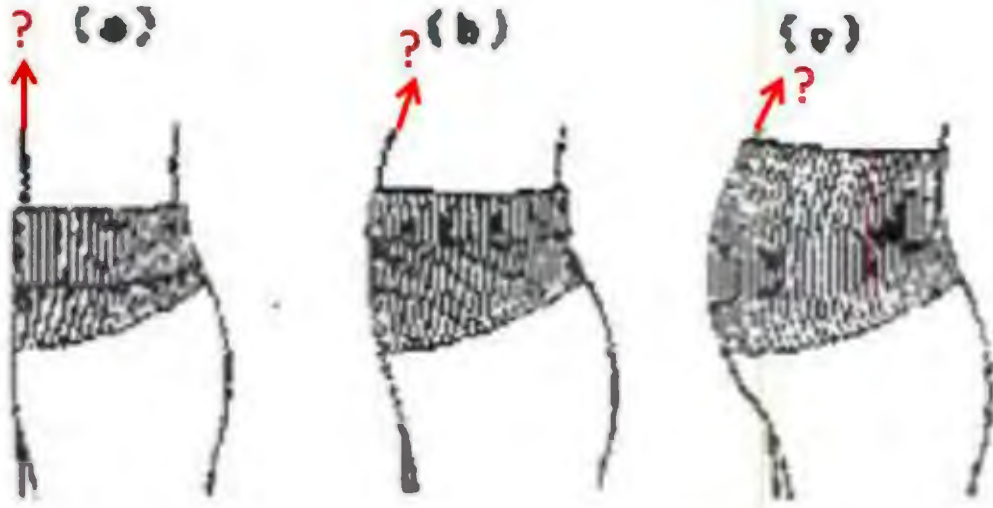


Asada Fig. 2(c)



Asada Fig. 3

42. Because the maternity pants of Asada do not rise above the waist, a POSA would not consider Asada to disclose a maternity whose belly panel that begins just beneath the wearer’s breast area. None of the figures in Asada show the breast area, or even the top of the belly. In Figure 2, the pregnant belly continues upward beyond the image frame to an unknown point.



Asada's incomplete coverage is even clearer when compared to Patent Owner's Secret Fit Belly® line of maternity bottoms:



Asada Fig. 2 (Portion)

Destination Maternity Style 91401-01

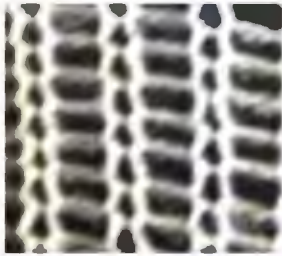
VI. Overview of U.S. Patent No. 6,276,175 (“Browder”)

- 43. The Browder patent entitled “SEAMLESS TORSO CONTROLLING GARMENT AND METHOD OF MAKING” was filed in the U.S. Patent

and Trademark Office (“USPTO”) on April 29, 1999 and issued on August 21, 2001. The Browder patent discloses a control garment and a method for providing additional control to selected portions of a garment. Further, it discloses garments provided with additional control through the use of elastomeric yarn and purpose-specific knitting techniques, and methods for providing such control. (1:6-13) The control area fabric is formed by an alternating tuck stitch knit pattern. The disclosed tuck stitch pattern is a 1 by 1 (1x1) alternating tuck stitch. (2:12-14) The Browder patent specification discloses that the 1x1 alternating tuck stitch pattern **tightens the fabric and increases the modulus of the elastomeric yarn.** Thus, the tuck stitch decreases the amount of stretch in the fabric. (2:29-34) This would be understood by a POSA.

44. A POSA would understand that knit fabrics made with tuck stitches are less extensible, and thus less expandible, than jersey knit fabrics such as those I have observed in the knitted expandible belly panel of the Secret Fit Belly® products.² Photographs of the stretched jersey knitted expandible belly panels that I examined are shown below in an enlarged view.

² Textiles, 5th Edition, Macmillan Publishing, Co., Inc. , 1979, p. 188.



Secret Fit Belly®

94278-10



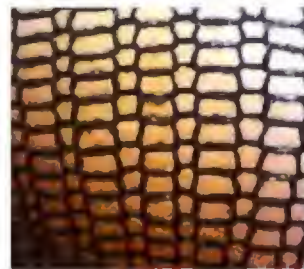
Secret Fit Belly®

96316-42



Secret Fit Belly®

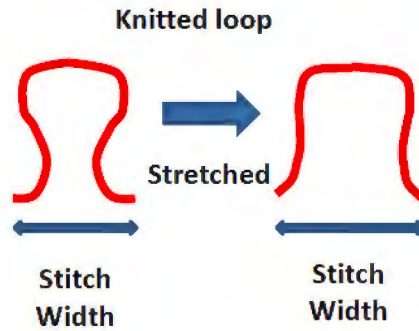
93480-01



Secret Fit Belly®

91401-01

A POSA would understand that, for a jersey knit fabric, the primary mechanism of extension or expansion is a result of the knitted loop reconfiguring to unbend when a tensile load is applied to the fabric. This is shown in the stretched Secret Fit Belly® belly panel photographs that I provided above. To further illustrate, I have drawn the following schematic:

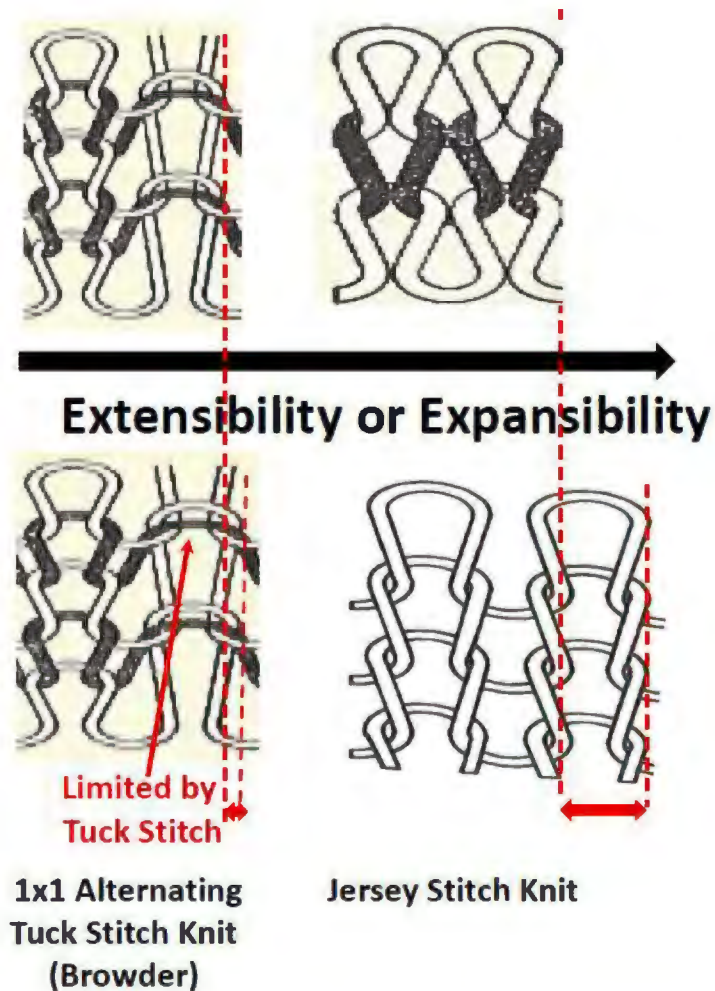


Below is a drawing of a 1x1 alternating tuck stitch pattern such as that disclosed in Browder. The shaded column of stitches (wales) are the tuck stitches. The red circled knit stitch leg of the tuck is already bent or straightened in the knit fabric's relaxed or off-the-machine configuration.



A POSA would understand that the knitted loop configuration found in a 1x1 tuck stitch would have very limited extensibility or expansibility due to the “as knitted” loop’s straight or unbent configuration along with the straight portion of yarn at the top of the knitted loop. A diagram showing

relative extensibility or expansibility for jersey knit fabrics and tuck stitch fabrics is shown below^{3,4}:



For a tuck stitch fabric, such as that disclosed in Browder, the elasticity or expansibility is substantially limited by the relatively straight tuck stitch and the straightened knit loop leg as shown above. As such, the elasticity or expansibility is substantially less than that found in a jersey stitch fabric. A POSA would not consider a tuck stitch fabric to be extensible or expansible in well-understood textile terms. As such, a POSA would not specify using a

³ Handbook of Technical Textiles, Woodhead Publishing Limited, 2000, p. 106.

⁴ The Modern Textile Dictionary, Little Brown, 1954.

tuck stitch knit fabric for any garment design that required a relatively highly expansible fabric, such as the garments disclosed in the Patents-in-Suit.

45. Browder provides drawings of various torso controlling garments. For example, Fig. 1 and Fig. 2 show a “brief”, Fig. 3 and Fig. 4 show a “high waist brief”, Fig. 5 and Fig. 6 show a “half slip”, Fig. 7 and Fig. 8 show a “thigh slimmer”, Fig. 10 shows a “body slip”, and Fig. 11 shows a “maternity brief”. In Fig.1, there is a control area **25** of the undergarment where increased control is desired and is accomplished by using a 1x1 alternating tuck stitch pattern. (3:34-38) The Browder specification discloses that the alternating tuck stitch pattern increases the modulus of the fabric and thus the fabric **stretches less and controls more.** (3:38-42) Browder, in fact, recognizes the balance between comfort and control by disclosing that an 8% increase in fabric modulus is a desirable **compromise** between control and comfort (3:43-45). This disclosed **compromise** reinforces the fact that increased control can lead to decreases in wearer’s comfort. The control area for the other garments that are disclosed in Browder are shown in the high waist brief (**35**), the half-slip (**65**), the thigh slimmer (**85**), the body slip (**105**), and the maternity brief (**125**).

46. There is one instance where Browder does disclose fabric covering the stomach portion which is specifically knitted without any control area. This is for the “*maternity brief*” shown in Fig. 11 and shown below.

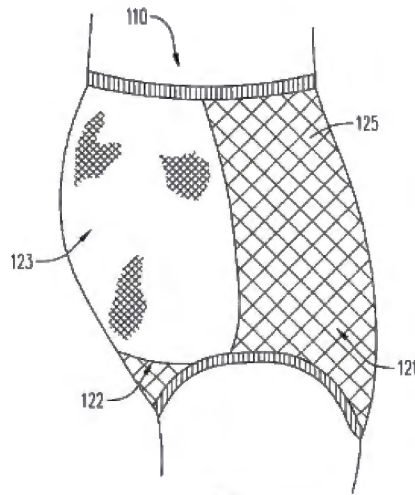


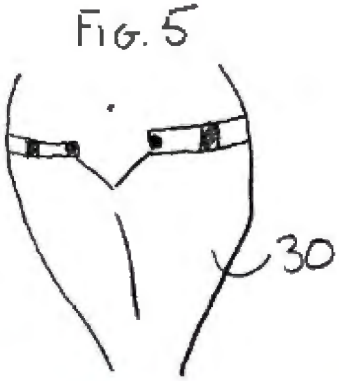
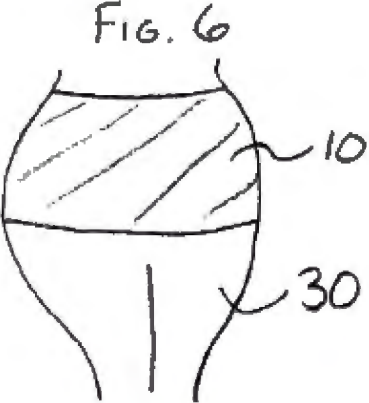
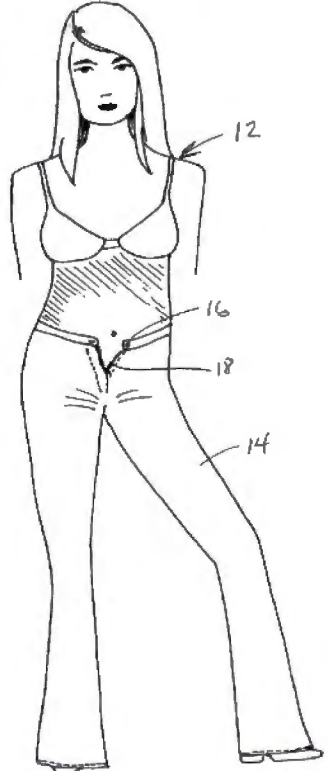
FIG. 11

In Fig. 11, a portion covering the stomach area (**123**) is shown, and does not extend just beneath the breasts and is specifically knitted without any control area to allow the stomach to expand as needed. (4:55-57) Thus, it is my opinion that the comparison of the control portions that are disclosed (**35, 65, 85, 105** and **125**) are not expansible when compared with a portion that is expansible (**123**). It is also my opinion that the Browder control areas are not expansible within the meaning of the '563 patent. In other words, the Browder control areas are not expansible to a degree commensurate with covering a pregnant abdomen.

VII. Overview of Stangle and Carney

47. Stangle and Carney are both directed to an elastic band that overlaps unfastened conventional pants or loose-fitting maternity garments to keep them up during pregnancy. *See Stangle, ABSTRACT*(directed to “a wearable device about an individual’s waistline and over unfastened clothing, so that the device offers coverage over unfastened clothing.”);

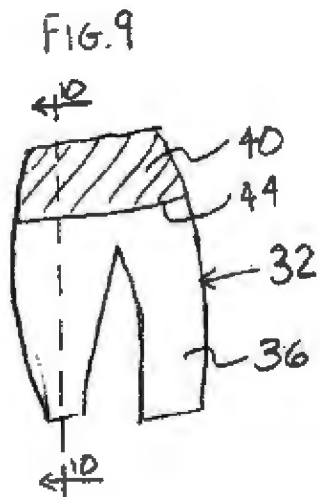
Carney, ABSTRACT (directed to an elastic band or tube that is worn around the waist “to overlap the tops of unfastened pants or skirts to retain them on the body.”). As the table below shows, Stangle and Carney are very similar in their disclosures. Given this substantial similarity, I will describe them together in a later section.

Stangle	Carney
Filing and Publication dates	
Filed: Sept. 18, 2002 Published: Mar. 18, 2004	Filed: Apr. 25, 2003 Published: Oct. 28, 2004
Key Figures:	
<div style="text-align: center;">  <p>FIG. 5</p> </div> <p>“[0022] FIG. 5 illustrates unfastened clothing 30.”</p> <div style="text-align: center;">  <p>FIG. 6</p> </div> <p>“[0023] FIG. 6 illustrates how the sleeve 10 of the invention can be worn over such unfastened clothing 30, thus</p>	<div style="text-align: center;">  <p>Fig. 3</p> </div> <p>3:39-42: “FIG. 3 is a frontal view of what is shown in FIG. 2.” Figure 2 depicts “a pregnant woman wearing pre-pregnancy pants, unfastened so as to accommodate the enlarged shape of the belly.”</p>

Stangle

keeping such unfastened clothing 30 on the body of the wearer and hiding both the unfastened clothing 30 and the wearer's exposed body."

Another embodiment, in the form of a movable sleeve 40 attached to a piece of clothing 32, is depicted in FIGS. 7-10. See ¶ [0037].



"[0026] FIG. 9 illustrates the outside surface of clothing 32, where the movable sleeve 40 is folded over and around the clothing 32 to provide extra covering of the clothing 32 or support of the person's body."

Carney

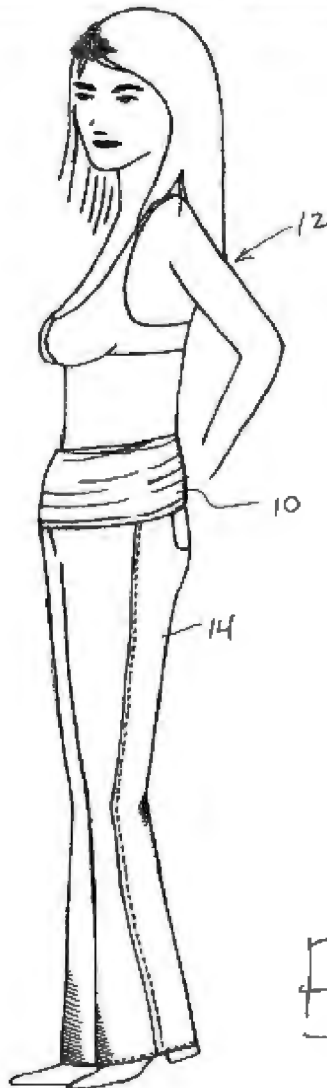
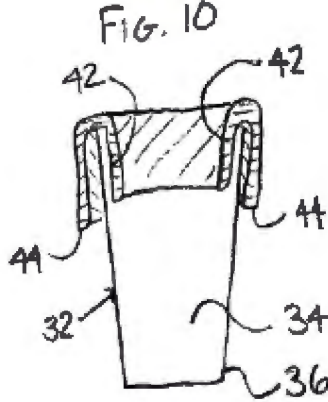


Fig. 4

3: 47-50: "FIG. 4 is a view showing the pregnant woman wearing the band garment approximately at the waist, overlapping the unfastened pants so as to cover the open pants top and to retain the pants on the body."

Stangle	Carney
 <p data-bbox="186 735 779 850">“[0027] FIG. 10 illustrates the movable sleeve 40, folded around the clothing 32.”</p>	
Dimensions of the Claimed Bands	
<p data-bbox="186 919 787 1207">“[T]he preferred embodiment [of sleeve 10] has, in an unstretched condition and laying flat, a length of nine inches (9”) to fifteen inches (15”), and in an unstretched condition and laying flat, a width of four inches (4”) to ten inches (10”)” ¶ [0032]</p>	<p data-bbox="824 919 1421 1249">“The band garment 10 is preferably about six to twelve inches in height, more preferably about ten to twelve inches, and of a circumference which will accommodate a pregnant woman of a designated size range, the circumference preferably being between 20 and 30 inches.” 4:8-14.</p> <p data-bbox="824 1302 1421 1459">(Note that the dimensions for the circumference of the band translates to a length, in an unstretched condition and laying flat, of 10” to 15.”)</p>

VIII. Opinion on the Non-Anticipation of Proposed Amended Claim 1 of the '563 patent Under 35 U.S.C. § 102 by JCP-A

48. I have been informed by counsel for the Patent Owner that to anticipate a claim under 35 U.S.C. § 102 “a single prior art reference [must] not only

disclose all of the elements of the claim within the four corners of the document, but ...also disclose those elements arranged as a claim” Accordingly, it is my understanding that if even one claim element is missing in the alleged anticipated prior art, there is no anticipation.

49. The proposed amended Claim 1 of the '563 patent recites:

A garment portion having an attached belly panel portion comprising:

[a]an expansible belly panel adapted to [[substantially]] cover a wearer's entire belly region, said belly region comprising an area beginning just beneath the wearer's breast area and extending over the wearer's abdomen to a lower abdomen region beneath the wearer's belly, said belly panel comprising:

[b]an upper edge portion defining a first encircling circumference about [[a]] the wearer's torso that is at or above the wearer's upper abdomen region during all stages of pregnancy, and

[c]and a lower edge portion spaced from the upper edge portion and defining a second encircling circumference about the wearer's lower abdomen region; and

[d]a garment lower portion, in communication with the lower edge portion, having a torso encircling circumference that recedes downward to make way for expansion of the belly panel.

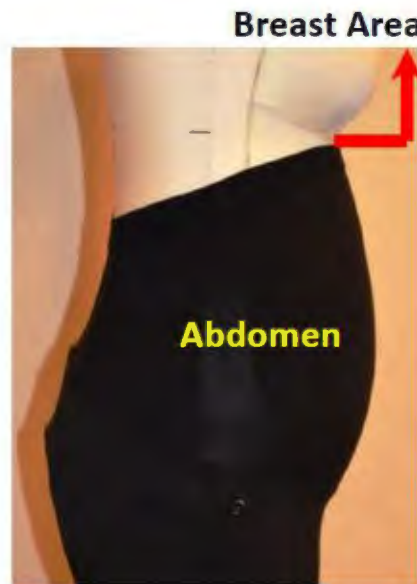
50. It is my opinion that JCP-A does not disclose “*an expansible belly panel adapted to substantially cover a wearer's entire belly region, said belly region comprising an area beginning just beneath the wearer's breast area*”. Further, since it is my opinion that JCP-A does not anticipate the

Claim 1 of the '563 and claims 2-21 are dependent on claim 1, JCP-A does not anticipate those dependent claims either.

51. In ¶¶16-24 above, I provided a broadest reasonable claim construction by a POSA for “*just beneath the wearer’s breast area*” as “*beneath the location of the breasts by a very small margin*”.
52. It is my opinion that the catalog excerpts from *JC Penney ontrend Maternity, Fall/Winter Catalog (2005)* p. 15 (“JCP-A”) do not disclose “*an upper edge of the belly panel that encircles a wearer’s torso just beneath the wearer’s breast area*” or “*beneath the location of the breasts by a very small margin.*” My examination of the catalog reference shown on page 15 **does not show either the model’s breast area or even the top of her belly.** The Patent Owner’s Secret Fit Belly® product (covered by the '563 patent) clearly has an upper edge belly panel that encircles a wearer’s torso just beneath the wearer’s breast.



JCP-A



Secret Fit Belly®

It is my opinion that a POSA would understand that the JCP-A disclosure does not meet the proposed amended Claim 1 limitation that there is “*an upper edge of the belly panel adapted to cover a wearer’s e bely region, said belly region comprising an area beginning just beneath the wearer’s breast area.*” JCP-A cannot anticipate proposed amended Claim 1 of the ’563 patent without explicitly showing either the breast area of even the top of the belly. Furthermore, a POSA would understand that the JCP-A and the Secret Fit Belly® are different products and would not confuse them with each other.

53. It is my opinion that the proposed broadest reasonable claim construction by a POSA of “*just beneath the wearer’s breast area*” is unaffected by wearers with different body types. In ¶19 of my declaration, I showed where the Specification discusses the expansible and contractible nature of the stretchable belly panel which allows the belly panel to reach just beneath the breast area during all stages of pregnancy on wearer’s with different body types. During my October 17, 2013 examination of exemplars of the Secret Fit Belly® product, I took the following photographs of Secret Fit Belly® Style 91401-01. They show 1) different stages of pregnancy and 2) different body types. The body types are represented by the AlvaForm Motherhood Fit Mannequin and the AlvaForm Mimi Fit Mannequin.



3 month Mimi



9 month Mimi

"just beneath
the wearer's
breast area"

"beneath
the location
of the
breasts by a
very small
margin"



3 month Motherhood



9 month Motherhood

"just beneath
the wearer's
breast area"

"beneath
the location
of the
breasts by a
very small
margin"

These fit mannequin measurements, which I made, are shown in the table below and clearly show the dimensions of different body types.

FIT MANNEQUIN	Measured Just Beneath the Breast	Measured at Maximum Girth
MOTHERHOOD 3 Month - Size 8	31 ¾”	40 3/8”
MOTHERHOOD 9 Month - Size 8	32 ¾”	46 1/8”
MIMI 3 Month - Size 8	30 1/8”	37 7/8”
MIMI 9 Month - Size 8	31 1/8”	44 ½”

54. It is my opinion that it is implicit that the correct size of a garment is worn by the wearer. In fact, in the garment and apparel design industry, a designer designs a particular product for a given “master” size. Once a design is approved, a well-known system of “pattern grading” is used to produce patterns for a wide range of product sizes. Pattern grading is the stepwise increase or decrease of a master pattern piece to create larger or smaller sizes. Pattern grading alters the overall size of the design but not its general shape and appearance.⁵ Accordingly, even if the PTAB determines that if a larger size of the JCP-A garment were worn by a smaller model so that it could reach just beneath the breast area, it does not convert the JCP-A into a 35 U.S.C. §102 reference. Further, in the JCP catalog (p.15) the alleged prior

⁵ Clothing Technology, English Edition, Verlag Europa-Lehrmettel, 1996, p. 134

art shows that the JCP-A maternity pants are available in a range of sizes Misses S-XL and Wmn's 1X-4X. *See excerpt below:*



55. It is my opinion that the catalog excerpt from JC Penney *ontrend Maternity, Fall/Winter Catalog* (2005) p. 15 (“JCP-A”) does not disclose a belly panel with “*an upper edge portion defining a first encircling circumference about the wearer’s torso . . . during all stages of pregnancy.*” Petitioner contends that JCP-A reads on a similar claim element from Claim 1 of the ’531 patent: “*substantially covering the wearer’s entire pregnant abdomen during all stages of pregnancy,*” because “The upper edge of the belly panel in JCP-A is above the belly, i.e. at the wearer’s upper torso, because the belly panel provides ‘over-the-belly coverage’ and holds the garment in place ‘before, during and after your pregnancy.’” *See, e.g., CORRECTED PETITION FOR INTER PARTES REVIEW - Inter Partes Review No. 2013-00532* (page 32). Below are excerpts from the JCP catalog that Petitioner is referring to:



E. FOLD-OVER PANEL JEANS

Great-fitting jeans are a must – especially when you’re expecting! These have a unique fold-over panel design that allows you to wear them before, during and after your pregnancy (see inset photos). Stylish bootcut leg with low-rise waist. Back patch pockets. Cotton/polyester/spandex. Washable. Imported. Inseams: Misses 31½”, Wmn’s 31”.

Stone bleach.

Misses S-XL DS 285-9094

Orig. \$36 now 29.99

Wmn’s 1X-4X DS 285-9993

Orig. \$40 now 34.99

fold-over panel jeans – you decide the fit you want

- can be worn 3 ways depending on your stage of pregnancy
- clean, flattering front
- stretch for comfort

It is my opinion that the Petitioner has significantly misinterpreted what JC Penney is touting in this reference. The Petitioner has omitted that JCP-A states that the “*fold-over panel design that allows you to wear them before, during and after your pregnancy (see inset photos)*” and that JCP-A “*can be*

worn 3 ways depending on your stage of pregnancy.” While the Petitioner claims that the JCP-A advertisement touts that the belly panel holds the garment in place “before, during and after your pregnancy,” there is no mention of this in the advertisement. It is my opinion that it is the JCP-A belly panel “fold-over” feature that holds the garment up and in place during certain stages of pregnancy. This, in fact, is vastly different from what is claimed in the ’563 patent Claim 1: “an expansible belly panel adapted to cover a wearer’s entire belly region, said belly region comprising an area beginning just beneath the wearer’s breast area and extending over the wearer’s abdomen region beneath the wearer’s belly. . . . during all stages of pregnancy.”

56. As illustrated above, during certain stages of pregnancy the JCP-A “fold-over” feature is required to hold the pants up. Clearly images 2 and 3 do not even come close to a belly panel with “an upper edge portion defining a first encircling circumference about the wearer’s torso . . . during all stages of pregnancy,” and image 1 does not cover the wearer’s entire pregnant abdomen. Further, image 3 does not even show coverage to the navel, which additionally illustrates that there is no substantial abdominal coverage. Significantly, JCP-A touts that the panel must be folded during certain stages of pregnancy by stating the panel “can be worn 3 ways **depending on your stage of pregnancy**” (emphasis added). As such, JCP-A touts that the configuration of the JCP-A panel is dependent on stage of pregnancy (or belly size). If JCP-A could operate in the image 1 configuration during all stages of pregnancy, it is my opinion that JCP-A would either (a) tout the garment’s ability to function in the image 1 configuration throughout

pregnancy, or (b) refrain from explicitly directing that the garment's configuration is "*worn 3 ways depending on your stage of pregnancy*". Finally, JCP-A fails to disclose an "*upper edge portion defining a first encircling circumference about the wearer's torso that is at or above the wearer's upper abdomen region during all stages of pregnancy.*" (emphasis added).

57. It is my opinion that using the broadest reasonable claim construction by a POSA "*for just beneath the breast area*" as "*beneath the location of the breasts by a very small margin*" and/or the limitation "*covering a wearer's entire belly region . . . during all stages of pregnancy,*" JCP-A does not anticipate proposed amended Claim 1 of the '563 patent under 35 U.S.C §102.

IX. Opinion on the Non-Anticipation of Proposed Amended Claim 1 of the '563 Patent Under 35 U.S.C. § 102 by Asada

58. I have been informed by counsel for the Patent Owner that to anticipate a claim under 35 U.S.C. § 102 " a single prior art reference [must] not only disclose all of the elements of the claim within the four corners of the document, but ...also disclose those elements arranged as a claim". Accordingly, it is my understanding that if even one claim element is missing in the alleged anticipated prior art, there is no anticipation.

59. The proposed amended Claim 1 of the '563 patent recites:

A garment portion having an attached belly panel portion comprising:

[a]an expansible belly panel adapted to [[substantially]] cover a wearer's entire belly region, said belly region comprising an area beginning just beneath the wearer's breast area and extending over the wearer's abdomen to a lower abdomen region beneath the wearer's belly, said belly panel comprising:

[b]an upper edge portion defining a first encircling circumference about [[a]] the wearer's torso that is at or above the wearer's upper abdomen region during all stages of pregnancy, and

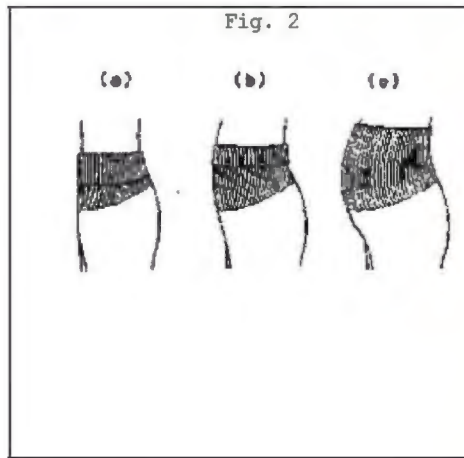
[c]and a lower edge portion spaced from the upper edge portion and defining a second encircling circumference about the wearer's lower abdomen region; and

[d]a garment lower portion, in communication with the lower edge portion, having a torso encircling circumference that recedes downward to make way for expansion of the belly panel.

60. It is my opinion that Asada does not disclose “*an expansible belly panel adapted to substantially cover a wearer's entire belly region, said belly region comprising an area beginning just beneath the wearer's breast area.*” Further, since it is my opinion that Asada does not anticipate proposed amended Claim 1 of the '563 patent, and claims 2-21 are dependent on claim 1, Asada does not anticipate those dependent claims either.

61. In ¶¶16-24 above, I provided a broadest reasonable claim construction by a POSA for “*just beneath the wearer's breast area*” as “*beneath the location of the breasts by a very small margin*”.

62. It is my opinion that Asada does not disclose “an upper edge of the belly panel that encircles a wearer’s torso just beneath the wearer’s breast area” or “beneath the location of the breasts by a very small margin.” Asada’s disclosure **does not show either a wearer’s breast area or even the top of her belly. The Patent Owner’s Secret Fit Belly® product (covered by the ’563 patent) clearly has an upper edge belly panel that encircles a wearer’s torso just beneath the wearer’s breast.**



Asada



Secret Fit Belly®

It is my opinion that a POSA would understand that Asada’s disclosure does not meet the ’563 patent Claim 1 limitation that there is “an expansible belly panel [covering] a wearer’s entire belly region . . . beginning just beneath the wearer’s breast area...” and thus Asada does not anticipate proposed amended Claim 1 of the ’563 patent without explicitly showing either the breast area of even the top of the belly. Furthermore, a POSA would understand that the Asada and the Secret Fit Belly® are different products and would not confuse them with each other.

63. It is my opinion that the proposed broadest reasonable claim construction by a POSA of “*just beneath the wearer’s breast area*” is unaffected by wearers with different body types. In ¶19 of my declaration, I showed where the Specification discusses the expansible and contractible nature of the stretchable belly panel which allows the belly panel to reach just beneath the breast area during all stages of pregnancy on wearer’s with different body types. During my October 17, 2013 examination of exemplars of the Secret Fit Belly® product, I took the following photographs of Secret Fit Belly® Style 91401-01. They show 1) different stages of pregnancy and 2) different body types. The body types are represented by the AlvaForm Motherhood Fit Mannequin and the AlvaForm Mimi Fit Mannequin.





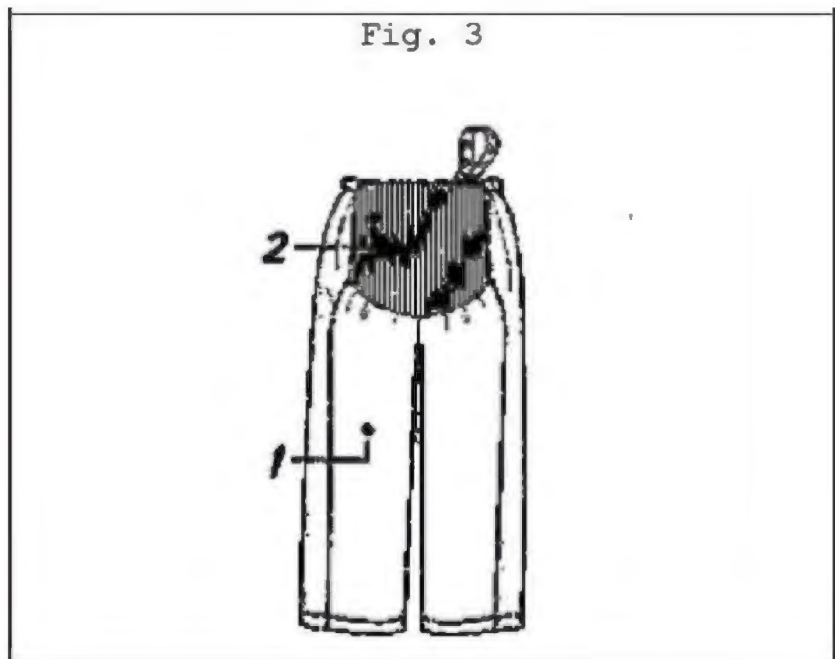
These fit mannequin measurements, which I made, are shown in the table below and clearly show the dimensions of different body types.

FIT MANNEQUIN	Measured Just Beneath the Breast	Measured at Maximum Girth
MOTHERHOOD 3 Month - Size 8	31 ¾”	40 3/8”
MOTHERHOOD 9 Month - Size 8	32 ¾”	46 1/8”
MIMI 3 Month - Size 8	30 1/8”	37 7/8”
MIMI 9 Month - Size 8	31 1/8”	44 ½”

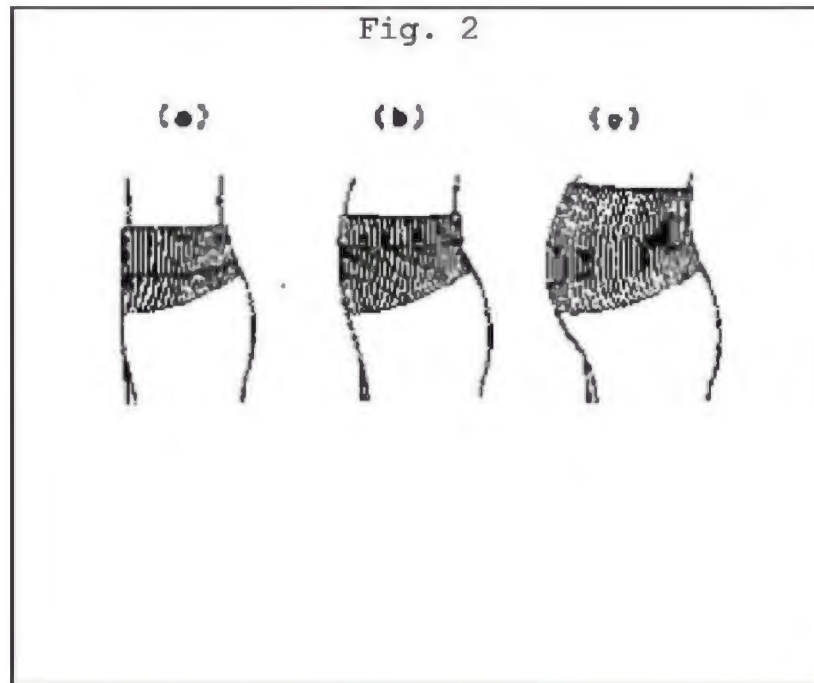
64. It is my opinion that it is implicit that the correct size of a garment is worn by the wearer. In fact, in the garment and apparel design industry, a designer designs a particular product for a given “master” size. Once a design is approved, a well-known system of “pattern grading” is used to produce patterns for a wide range of product sizes. Pattern grading is the stepwise increase or decrease of a master pattern piece to create larger or smaller sizes. Pattern grading alters the overall size of the design but not its general shape and appearance.⁶ Accordingly, even if the PTAB determines that if a larger size of the Asada garment were worn by a smaller model so that it could reach just beneath the breast area, it does not convert Asada into a 35 U.S.C. §102 reference.

65. It is my opinion that Asada does not disclose a belly panel with “*adapted to cover a wearer’s entire belly region . . . beginning just beneath the wearer’s breast area and extending over a wearer’s abdomen*” because the maternity garments disclosed in Asada are fastened about the waist, as in conventional maternity garments. See Asada at 2 (“*Fig. 3 is a view the maternity pants shown in Fig. 1 overlapping conventional maternity pants shown in Fig. 4*”); id. at [00011] (“*Unlike conventional maternity pants that are tightened only at a waist rubber c portion, these fulfill a role of fastening at the waist with the entire abdomen-covering portion 2, so they can be worn comfortably without being tight. Also, they have a protective effect because they cover the entire waist portion.*”)

⁶ Clothing Technology, English Edition, Verlag Europa-Lehrmittel, 1996, p. 134



66. As illustrated below, Asada discloses that the belly panel of Asada's maternity garment must be folded during certain stages of pregnancy. *“As shown in Fig. 2(b), during the pregnancy, the above-the-crotch portion elongates pursuant to a gradual reduction in an amount that the abdomen-covering portion 2 is folded to fit the abdominal portion which gradually grows larger.”* Asada at [0013]. Later, when the pregnancy nears full term, the abdomen-covering portion is fully unfolded so that *“it can be worn completely to envelop the abdomen with the entire”* belly panel. *Id.*



Asada also does not disclose a belly panel with “*an upper edge portion defining a first encircling circumference about the wearer’s torso that is at or above the wearer’s upper abdomen region during all stages of pregnancy.*” The belly panels of Figure 2 lack any disclosure of a breast area, which further illustrates that Asada’s belly panel does not extend to cover the abdomen, let alone approach the breast area.

67. It is my opinion that using the broadest reasonable claim construction by a POSA “*for just beneath the breast area*” as “*beneath the location of the breasts by a very small margin*” and/or the limitation “*covering a wearer’s entire belly region during all stages of pregnancy,*” Asada does not anticipate proposed amended Claim 1 of the ’563 patent under 35 U.S.C §102.

X. Opinion on the Non-Anticipation of Proposed Amended Claim 1 of the '563 Patent Under 35 U.S.C. § 102 by Browder

68. I have been informed by counsel for the Patent Owner that to anticipate a claim under 35 U.S.C. § 102 “ a single prior art reference [must] not only disclose all of the elements of the claim within the four corners of the document, but ...also disclose those elements arranged as a claim”. Accordingly, it is my understanding that if even one claim element is missing in the alleged anticipated prior art, there is no anticipation.

69. The proposed amended Claim 1 of the '563 patent recites:

A garment portion having an attached belly panel portion comprising:

[a]an expansible belly panel adapted to [[substantially]] cover a wearer's entire belly region, said belly region comprising an area beginning just beneath the wearer's breast area and extending over the wearer's abdomen to a lower abdomen region beneath the wearer's belly, said belly panel comprising:

[b]an upper edge portion defining a first encircling circumference about [[a]] the wearer's torso that is at or above the wearer's upper abdomen region during all stages of pregnancy, and

[c]and a lower edge portion spaced from the upper edge portion and defining a second encircling circumference about the wearer's lower abdomen region; and

[d]a garment lower portion, in communication with the lower edge portion, having a torso encircling circumference that recedes downward to make way for expansion of the belly panel.

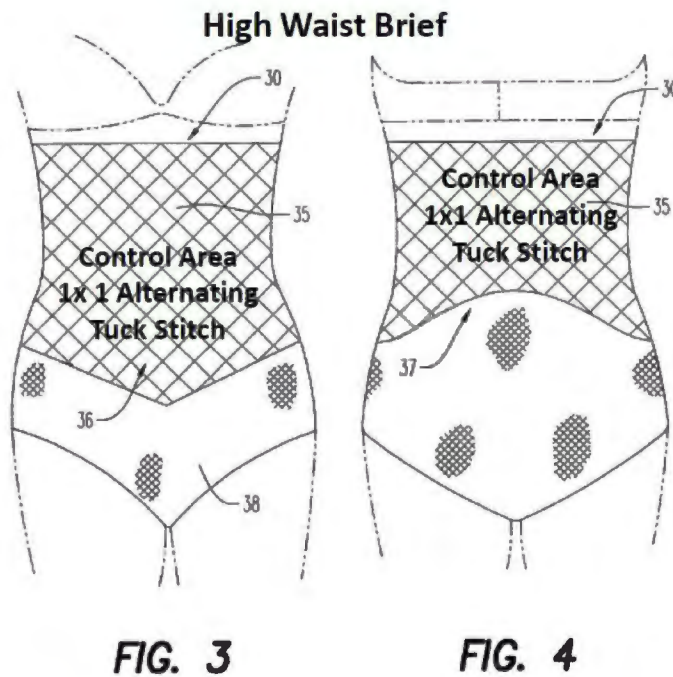
70. It is my opinion that Browder does not disclose either (1) “*an expansible belly panel*” or (2) “*a garment lower portion, in communication with the lower edge portion, having a torso encircling circumference that recedes downward to make way for expansion of the belly panel.*” Further, since it is my opinion that Browder does not anticipate the Claim 1 of the ’563 and claims 2-21 are dependent on Claim 1 Browder does not anticipate those dependent claims either.
71. In ¶¶25-30 above, I provided a broadest reasonable construction by a POSA of the ’563 patent that “*an expansible belly panel*” can be construed as “*a belly panel that expands to a degree commensurate with covering a pregnant abdomen.*” It is my opinion that Browder fails to disclose an expansible belly panel that expands to a degree commensurate with covering a pregnant abdomen. For example, in ¶¶43-46 of my declaration, I provided an opinion that the control portion that Browder discloses would not be considered by a POSA to be expansible. It is my opinion that the control area shown in Fig. 10 is specifically designed to tighten, rather than expand, unlike the garment portion of the Secret Fit Belly® products claimed in the ’563 patent. In fact, the only knit fabric, disclosed in Browder, that would be considered by a POSA to be expansible, is the stomach covering portion (123) of Fig. 11 of Browder. And while indeed that fabric covering portion is expansible, it does not come up to just beneath the breasts since it does not cover the abdomen as discussed in ¶46 of my declaration.

72. I respectfully disagree with the PTAB argument that since the Browder fabric stretches some amount a POSA would consider it as expandable.

Browder states that the control area has a tightened fabric pattern such that it —stretches less and controls more (than it would if not tightened during manufacture). Ex. 1004, col. 3, ll. 39–41. Thus, it —stretches some amount, and, therefore, is expandable. See PTAB Feb 14, 2014 Dec. Paper 13 at 21-22.

A POSA would understand that all fabrics do stretch to some degree. But in the case at hand **Browder clearly teaches a POSA away from expansibility** since the disclosed fabric (a 1x1 alternating tuck stitch fabric) is designed to constrict and not expand to a degree commensurate with a covering a pregnant abdomen. See ¶ 44.

73. It is my opinion that the nature of the fabric that Browder discloses does not permit “*a garment lower portion ...that recedes downward to make way for expansion of the belly panel*”. A POSA would understand that the Browder invention is essentially a “girdle” or “shape wear” garment. Like all girdles and shape wear garments, the “control area” (35) of Browder tightens, rather than expands to a degree commensurate with covering a pregnant abdomen. (3:53:57)



As shown above, a POSA would understand that Browder’s control area **35** prevents expansion in the waist due to the use of a 1x1 alternating tuck stitch, rather than promotes it. Because the Browder girdle or shape wear garment fails to allow expansion to a degree commensurate with covering a pregnant abdomen, Browder fails to disclose either “an expansible belly panel” or “a garment lower portion . . . that recedes downward to make way for expansion of the belly panel.” As such, it is my opinion Browder does not anticipate proposed amended Claim 1 of the ’563 patent.

XI. Opinion on the Lack of Anticipation and Lack of Obviousness of Proposed Amended Claim 1 of the ’563 Patent Under 35 U.S.C. §§ 102 and 103.

74. I have been informed by counsel for the Patent Owner that to anticipate a claim under 35 U.S.C. § 102 “a single prior art reference [must] not only

disclose all of the elements of the claim within the four corners of the document, but ...also disclose those elements arranged as a claim” Accordingly, it is my understanding that if even one claim element is missing in the alleged anticipated prior art, there is no anticipation.

75. I have further been informed by counsel for the Patent Owner that to render a claim obvious under 35 U.S.C. §103, “the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious . . . to a person having ordinary skill in the art.” I understand that in an inter partes review proceeding, the only allowable grounds for obviousness that may be presented are those based on patents or printed publications. I understand that one or more prior art references may be considered if the reference(s) disclose solving a problem or directed to a need addressed by the patent, or if the reference(s) disclose information having obvious uses beyond their primary purpose that a POSA would reasonably examine to solve a problem addressed by the patent. I also understand that a claimed combination of familiar elements according to known methods may be obvious if it yields no more than predictable results.
76. I have also been cautioned by counsel for Patent Owner that I should take care to avoid the risk of hindsight bias when considering whether a particular invention or feature would be obvious to one of ordinary skill at the time of the invention in view of a particular prior art reference or combination of references. To avoid such risk, I am informed that I may consider such factors as long-felt but unsolved needs, failures of others, commercial success, and copying by competitors.

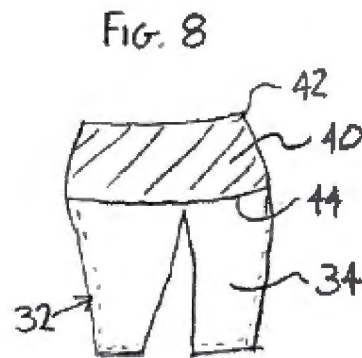
77. Counsel for Patent Owner also asked me to opine on whether a POSA would consider the invention of proposed amended Claim 1 is anticipated by or obvious in view of the band garments described by Stangle and Carney. For the reasons set forth below, and because I do not believe these references are as relevant to the proposed amended Claim 1 as JCP-A, Asada, and Browder, **I do not believe a POSA would conclude that the invention of proposed amended Claim 1 is anticipated by Stangle and Carney, nor is it obvious under any combination of Stangle and Carney with the other prior art, including JCP-A and Asada.**
78. Just like JCP-A and Asada, neither Stangle nor Carney disclose a maternity garment having an attached expansible belly panel that reaches to the breast area. Instead, they merely teach maternity garments whose attached belly panels only reach to the abdomen as was conventional before Patent Owner's patents. *See* ¶¶ 34-37, ¶¶ 38 (JCP-A), ¶¶ 39-42 (Asada), ¶¶ 43-46 (Browder), and ¶ 47 (Stangle and Carney). Accordingly, the references cannot independently meet, nor can they be combined in any way to meet, the limitations of the '563 patent claims.
79. Stangle does not disclose or describe a maternity garment reaching to the breast area. The band of the first embodiment is 4" – 10" wide. Notwithstanding Petitioner's expert's statement that a "*ten inch band . . . is more than sufficient to cover the wearer's torso from just below the belly to*

*just below the breast area,”*⁷ Stangle’s must begin from well below the waist of the underlying pants or skirts so that the unfastened portion may remain covered. *See, e.g.,* Stangle at FIG. 6. A POSA would not consider it obvious to modify Stangle’s maternity bands to begin *at* the waist, extending up the torso 10”, because it would mean exposing the unfastened waistband of the underlying garment. *See id.*, FIG. 5. , the disclosed embodiments can rise at most to the middle of the belly region. *See, e.g., id.; see also* Carney, FIGS. 4 and 7.

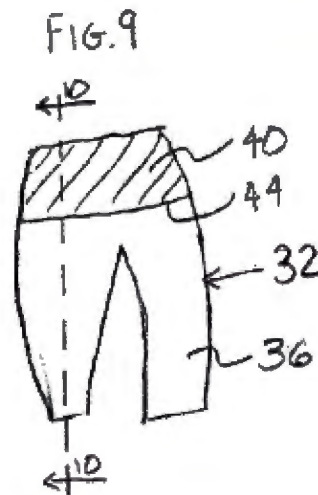
The second Stangle embodiment (depicted in FIGS. 7-10), which is described as attached to clothing, folds downward from the waist region to serve as a covering for unfastened conventional pants and prevent the pants from falling down.

*“FIG. 8 shows how, initially, the sleeve 40 could be built into clothing 32 without impacting normal use. The sleeve 40 would be folded over inside the clothing 32 when not deployed by the wearer. . . . Later, as the wearer finds necessary for fastening undersize clothing or providing additional coverage or support, the wearer would instantly deploy the movable sleeve 40 by simply **folding it out and over the outside surface 36 of the clothing 32 to achieve its function**, as shown in FIG. 9.”* Stangle at ¶ [0040] (emphasis added).

⁷ Declaration of Frances Harder, Ex. 1011, ¶ 31.



“The movable sleeve 40 . . . has an affixed end 42 and a movable end 44. The affixed end 42 of the sleeve can be attached to the inside surface 34 of the clothing 32 by stitching, hook and loop fasteners, or by being woven integrally with the article of clothing itself.” Stangle at ¶ [0041].

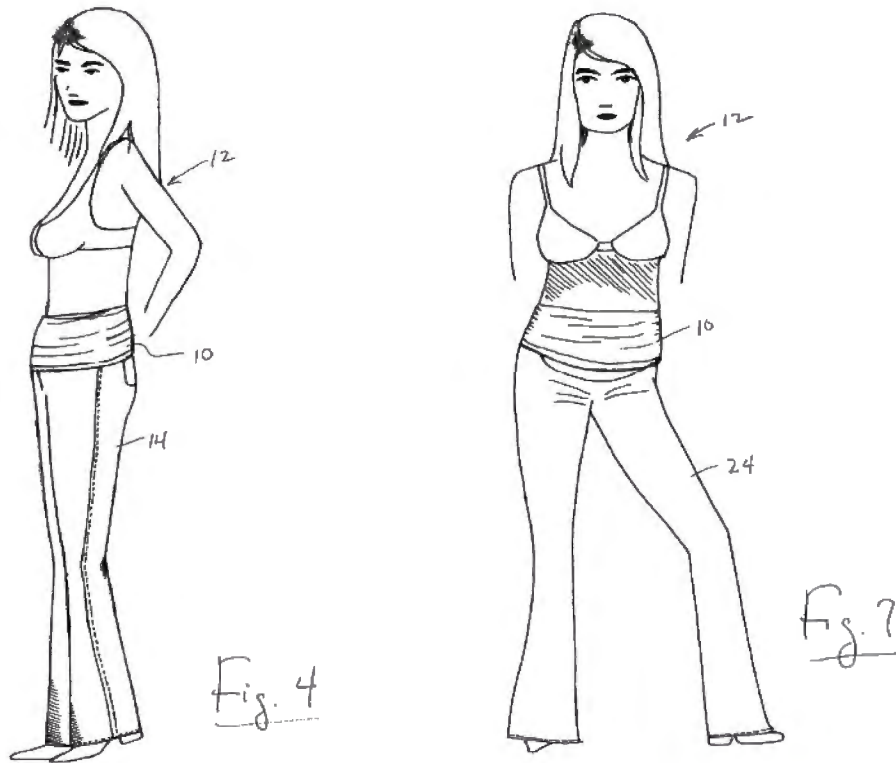


“FIG. 9 illustrates the outside surface 36 of the clothing 32, where the movable sleeve 40 is **folded over and around the clothing 32 to provide extra covering on the clothing 32 or support of the person’s body.** FIG. 10, a cut-away along line 10-10 in FIG. 9, illustrates the movable sleeve 40, **folded around the clothing 32.**” Stangle at ¶ [0042] (emphasis added).

Although Stangle does not provide any dimensions for movable sleeve 40, elsewhere in his disclosure he describes another embodiment, sleeve 10, as

being 4-10” wide. Stangle at ¶ [0032]. Even if a POSA were to modify the movable sleeve 40 of Stangle to these dimensions, it would still reach no higher than the waist—the movable sleeve cannot be folded upwards over the belly region, because doing so would expose an unfastened crotch area as shown in FIG. 5 above. *See id.* ¶¶ [0037] – [0042]. Accordingly, Stangle does not teach “*an expansible belly panel adapted to cover a wearer’s entire belly region . . . beginning just beneath the wearer’s breast area.*”

80. Similarly, the disclosed embodiments in Carney rise to the mid-belly at the highest. They do not reach just beneath the breast area. *E.g.*, FIGS. 4 and 7. 3: 47-50. Just like Stangle, Carney’s maternity band is intended to allow pregnant women to wear their pants unfastened without worrying about the pants falling down. “*FIG. 4 is a view showing the pregnant woman wearing the band garment approximately at the waist, overlapping the unfastened pants so as to cover the open pants top and to retain the pants on the body.*” (emphasis added). Also like Stangle, Carney’s maternity band is described as being between 6-12” in height, and preferably between 10-12.” Carney at 4:8-14. Figures 4 and 7 from Carney illustrate both the breast area and the elastic band 10. I note that the Carney’s band, like all other elastic belly panels in the prior art I have seen, only rises to the middle of the belly region, *not* to the breast area, and cannot be further extended up the belly without exposing the unfastened crotch area.



“FIG. 7 is a view similar to FIG. 4, but showing a pregnant woman wearing oversized maternity clothing . . . retained in position by the band garment of the invention.” Carney at 3:58-61. Carney’s maternity band garment is “worn over an upper portion and upper edge of the pants or skirt.” *See id.* 2:53-62. “The method preferably may include wearing the band such that a portion of the height of the band resides over the pants or skirt, while an upper portion of the band’s height extends above the upper edge of the pants or skirt and engages against the torso.” *Id.* 2:63-67. When Carney’s band is worn around the waist, it must extend both below and above the waistline, which means it will not be able to reach the breast area. Accordingly, Carney does not teach “an expansible belly panel adapted to cover a wearer’s entire belly region . . . beginning just beneath the wearer’s breast area.”

81. Counsel for Patent Owner also asked me to opine on whether a POSA would consider the invention of proposed amended Claim 1 is obvious over JCP-A and/or Asada in view of Browder. **For the reasons set forth below, I do not believe a POSA would conclude that the invention of proposed amended Claim 1 is obvious under any combination of these references.**
82. As I discuss above in ¶¶ 72-73, Browder discloses a “*high-waist brief*” with a control area made of a 1x1 alternating tuck stitch fabric—a girdle—that tightens, rather than expands to a degree commensurate with covering a pregnant abdomen. In short, Browder teaches away from expansibility, so a POSA would not combine it with the belly panel disclosures of JCP-A, Asada, or even Stangle and Carney to create a maternity garment as claimed by Patent Owner.
83. As I discuss above in ¶ 46, Browder does disclose a “*maternity brief*” with an expansible fabric covering the stomach portion, without any control area. However, Browder’s maternity brief does not extend above the abdomen:

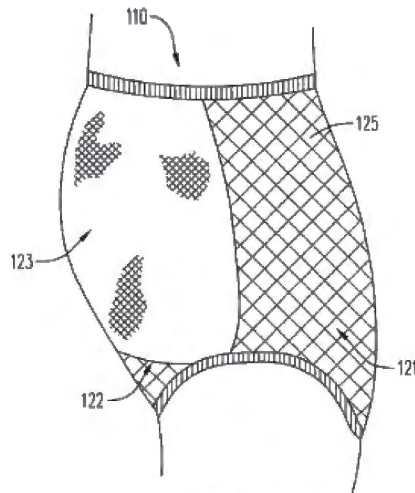


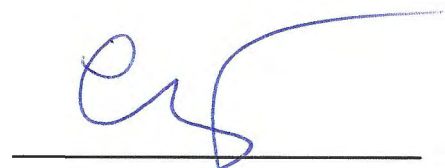
FIG. 11

Even though Browder teaches a constrictive girdle or shape wear that extends to just below the breast area, Browder's maternity garment rises no higher than the conventional maternity garments with expansible belly panels I discuss above. This further suggests that the belly panels of Patent Owner's patents were not at all obvious to those of ordinary skill in the art of the relevant time.

84. As I discussed above in ¶ 13, it is my opinion that both the '563 patent (and for that matter, the '531 patent) solved a long-felt need that prior art maternity garments did not sufficiently address: *the need for a maternity garment that adapts to cover and fit a growing abdomen during pregnancy and has a design and structure that enables it to stay up when worn, during all stages of a pregnancy*. As I observed in the preceding discussion and above in ¶ 33, the patents' specification taught that prior art maternity garments tended to fall within at least three general categories: (1) garments with belly panels that covered only part of the belly, typically below the

abdomen; (2) garments with elastic belts or waist bands that caused discomfort when tightened about the body; and (3) garments with stretchable panels sewn into place with sewn seams or jeans whose waistbands have been replaced by elastic bands. The prior art references I reviewed fell into one or more of these categories, as I discuss in ¶¶ 34-37, and in more detail in ¶¶ 38 (JCP-A), ¶¶ 39-42 (Asada), ¶¶ 43-46 (Browder), and ¶ 47 (Stangle and Carney). None of these garments had attached belly panels that covered the entire belly region, extending from the breast area down to below the abdomen. Accordingly, as I explain in ¶ 13, they lacked the ability of the garments of the '531 and '563 patents to stay up when worn, due to the frictional force created from their expansible belly panels that reached up to just beneath the breast area. This suggests to me that the '531 and '563 patents met a long-felt but unresolved need, as indicated by the many examples of prior art maternity garments disclosed in the references I discuss above. I am further informed that there is additional evidence of both the commercial success of Patent Owner's patented garments and copying by competitors. Although such inquiries are outside the scope of my expertise, to the extent such evidence exists it would support my opinion that the claimed maternity garments of the '531 and '563 patents are not obvious.

I declare that the foregoing is true and correct to the best of my knowledge.
Executed on May 5, 2014, at Fort Washington, Pennsylvania.



David Brookstein, Sc.D.

EXHIBIT 1

David Brookstein, Sc.D.

Curriculum Vitae

Professional Experience:

Brookstein Consulting LLC.

Engineering and Litigation Consultant in Fields of Textiles, Garment Systems, Fibers, Fabrics and Composites

2000-present

IFC Mercantile

2013-present Director of Market Development
Responsible for Technical and Market Development of antimicrobial, antifungal and flame resistant textile fabrics. Development of new fabric systems for flame-resistant garments.

Montgomery County Community College (PA)

2012-2013 Dean for Science, Technology, Engineering and Mathematics (STEM)

Philadelphia University

2010 – 2012 Executive Dean for University Research
Professor of Mechanical Engineering

1994 – 2010 Dean and Professor of Mechanical Engineering
School of Engineering & Textiles

2007 – Executive Director of Institute for Textile and Apparel Product Safety

2008 – Executive Director of Pennsylvania Advanced Textile Research and Innovation Center including Biomedical Textile Structures Laboratory

2005- Executive Director of Research for Philadelphia University

2004-2012 – Principal Investigator – DoD Funded program – Laboratory for Engineered Human Protection (LEHP) –program focused on working with US Army to develop new garment-based soldier protection systems. The research and development program was to design, develop and produce prototype chemically protective garments with the required comfort using the latest materials produced in collaboration with selected suppliers.

Chief academic, administrative and fiscal officer for a school with undergraduate and graduate majors in industrial and systems engineering, architectural engineering, mechanical engineering, composites engineering, textile engineering technology, textile design (knitted, woven, and printed) fashion design and fashion industry management.

MAG Industrial Automation Systems

2009-2012 – Engineering consultant to worldwide manufacturer of engineering automation systems for the aerospace industry

Harvard University

2002 – 2003 Visiting Scholar (sabbatical)

Harvard University Center for Textile and Apparel Research (Division of Engineering and Applied Sciences and Harvard Business School) – Studied trends in patent applications involving textile structures

Albany International Research Co. - Mansfield, MA

1992 - 1994	Associate Director
1983 - 1992	Assistant Director
1980 - 1982	Senior Research Associate

Directed all activities of the professional engineering group responsible for contract research, development, and manufacture of advanced composite materials and technical polymeric materials and fabrics. Accomplishments include the working with NASA to develop new garment systems for astronauts, invention and development of the multilayer interlock braiding system for producing three-dimensionally reinforced fibrous preforms for aerospace structures, the development

of implantable biomedical devices such as sutures, vascular prostheses, orthopedic implants (knitted and woven) and the development of unique textile-based civil engineering structures. Engineering innovations led to 12 US patents and many other inventions protected by trade secret. Member of the senior management staff of the organization.

Northeastern University - Boston, MA

1981-1983 Adjunct Professor in Mechanical Engineering

Taught undergraduate courses in statics, dynamics, and mechanics of deformable bodies and material science.

Georgia Institute of Technology, College of Engineering

1975 - 1980 Assistant Professor of Textile Engineering

Taught and conducted research in the fields of textile and composites engineering with special emphasis on improving the energy efficiency of manufacturing systems. Obtained substantial funding from US DOE and US DOD. Active participant in College of Engineering co-op undergraduate programs.

Education:

- Doctor of Science in the field of Mechanical Engineering, Minor Studies in Management from Sloan School of Management, Massachusetts Institute of Technology, 1976.
- Master of Science in Textile Technology, Massachusetts Institute of Technology, 1973.
- Bachelor of Textile Engineering, Georgia Tech, 1971.
- Harvard Business School Summer Program on Research Management, 1990.
- Harvard University Graduate School of Education MLE Program, 1998.
- Massachusetts Institute of Technology Professional Institute - Data and Models in Engineering, Science and Business, 2006
- Harvard University Graduate School of Education Institute for Education Management, 2007.
- Massachusetts Institute of Technology Professional Institute - Nanomaterials for Biological and Pharmaceutical Technologies – 2008
- MIT Sloan School Executive Education Program “Product Design, Development, and Management” – 2009

- MIT Professional Institute, “From Technology to Innovation: Putting Ideas to Work” - 2010

Outside Professional Activities:

- Founding Member of the Greater Philadelphia University Council of Engineering Deans
- Chairman of the National Textile Center (NTC) Operating Board (2006-2007). NTC is a federally funded research consortium consisting of Georgia Tech, North Carolina State, Auburn, Clemson, Cornell, UMASS-Dartmouth, UC Davis and Philadelphia University.
- Advisory Board of the College of Engineering, Georgia Tech (1990-1995).
- President, The Fiber Society (1996)
- Chairman, Textile Engineering Division-American Society of Mechanical Engineers (1994-1996)

Memberships:

- American Society for Engineering Education (member of Engineering Deans Council)
- Institute of Industrial Engineers
- ASME - Textile Engineering Division, Chairman, 1980, 1994
- American Conference of Academic Deans
- The Fiber Society - Fiber Society Lecturer, 1986-1987, 1993-1994, President 1996
- SAMPE - Society for Advanced Materials and Process Engineering
- The Textile Institute (United Kingdom)

Awards and Honors:

- American Society of Mechanical Engineers (ASME) – Fellow, 1995
- ASME - Textile Engineering Division, Chairman, 1980, 1994
- The Fiber Society - Fiber Society Lecturer, 1986-1987, 1993-1994, President, 1996
- The Textile Institute (United Kingdom) – Fellow, 1992
- Georgia Tech Academy of Distinguished Engineering Alumni, 1999
- Techtexil Innovation Prize, 1993 (Germany)
- ASTM Harold Dewitt Smith Award, 1998

Publications:

"Deductions about the False-Twist Process from Observations of the Variation of Torque on Detwisting at Heat Set Yarn," with Backer, S., and Thwaites, J.J., Journal of the Textile Institute, 67, p. 183-186, 1976.

"Transient Threadline Behavior in False-Twist Texturing," with Thwaites, J.J., and Backer, S., Journal of the Textile Institute, 67, 1976.

"Mechanics of Texturing Thermoplastic Yarns: Part III. Experimental Observations of Torsional Behavior of the Texturing Threadline for Pre-Drawn PET Yarns," with Backer, S., Textile Research Journal, 46, pp. 802-908, 1976.

"Mechanics of Texturing Thermoplastic Yarns: Part V. Steady State Mechanics of Drawing Texturing," Textile Research Journal, 47, p. 256-266, 1977

"Material-Process Interactions During False-Twist Texturing," with Backer, S., Journal of Applied Polymer Science: Applied Polymer Symposium, 31, p. 63-82, 1977.

"Mechanics of Texturing Thermoplastic Yarns: Part VI. Transient Mechanics of Draw Texturing," with Backer, S., Textile Research Journal, 48, p. 198-218, 1978.

"On the Mechanics of Draw Texturing," Journal of Applied Polymer Science: Applied Polymer Symposium, 33, p. 197-202, 1978

"Energy Consumption and Conservation: Textile Drying," ACS Symposium Series, 107/17, 1979

"All That Glitters is Not Gold," Textile World, October 1979

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"Processing of Pitch-Based Staple Carbon Fiber," Union Carbide Corporation, November 1977, Final Report.

"Low Thermal Conductivity of PAN-Based Carbon Fiber, Hercules, Inc., Monthly Reports and Final Report

"Development and Demonstration of Energy-Conserving Drying Modifications to Textile Processes," U.S. DOE Monthly Reports.

"Optimization of Sucker Rod Pumping Using Novel Material-Systems Concepts," with Skelton, J. and Dent, R., Proceedings of the Sixth Symposium of Engineering Applications of Mechanics, Petroleum Society of CIM, 1982

"Mechanical Characterization of Braided Cylinder," with Tsiang, T.H., and Dent, J., Proceedings of the 29th SAMPE Meeting, 1984.

"Design and Development of a High Stability Truss Chord," with Helmke, R., and Kominos, C., Proceedings of the 30th SAMPE Meeting, 1985.

"Load-Deformation Behavior of Composite Cylinders with Integrally-Formed Braided and Machined Circular Holes," with Tsiang, T.H., Journal of Composite Materials, 19, September 1985.

"Braided Composites: Attachment Considerations," Proceedings of the Composites in Manufacturing, Los Angeles, CA, January 1986.

"Foam Assisted Drying,": with Skelton, J., Petterson, D.R., and Lauchenauer, F., Proceedings of the International Drying Symposium, Cambridge, MA, August 1986

"Joining Methods of Advanced Braided Composites," Composite Structures, 6, p. 87-95, 1986

"Structural Applications of Advanced Braided Composites," Proceedings of the SPE Advanced Polymers Composites Division, November 1988.

"Processing Advanced Braided Composite Structures," Proceedings of the WAM of ASME, Materials Division, November 1988.

"Interlocked Fiber Architecture: Braided and Woven," Proceedings of the 35th SAMPE Meeting, April, 1990.

"Evolution of Fabric Preforms for Composites," Journal of Applied Polymer Science: Applied Polymer Symposium, 47, p. 487-500, 1991.

"A Comparison of Multilayer Interlocked Braided Composites with Other 3-D Braided Composites," 3rd International Techtexil Symposium, 14-16, May 1991, Frankfurt.

"On the Mechanical Behavior of 3-D Multilayer Interlock Braided Composites," with Preller, T., and Brandt, J., DASA-Deutsche Aerospace, Proceedings of NASA Fiber-Tex '92.

"The Evolution of 3-D Composites," Fifth European Conference on Composite Materials, 7-10 April 1992, Bordeaux.

"The Solid Section Multilayer Interlock Braiding System," 4th International Techtexil Symposium, 4 June 1992, Frankfurt.

"On the Mechanical Properties of Three-Dimensional Multilayer Interlock Braided Composites, TECHTEXTIL Symposium, 1993, Frankfurt.

"3-D Braided Composites-Design and Applications," Sixth European Conference on Composite Materials," 20-24 September 1993, Bordeaux

"Concurrent Engineering of 3-D Textile Preforms for Composites," International Journal of Materials and Product Technology, Vol. 9, Nos 1/2/3, 1994.

"Advanced Textile Airbeams for Temporary Shelters, 6th TECHTEXTIL Symposium, 1994, Frankfurt.

"Physical Properties of Twisted Structures" with Ning Pan, Physical Properties of Twisted Structures II Industrial yarns, cords and ropes, Journal of Applied Polymer Science, V 83, 610-630.

"A New Multidisciplinary Engineering Education Initiative", with Govindaraj, M and Tovia, F, American Society of Engineering Education, AC 2007-1064, 2007.

"Multi-component Multiple-layer Woven Textiles for Electronic Applications." Govindaraj, Muthu, and Brookstein, David. Ambience 08 Smart Textiles-Technology and Design. Proc. of Ambience 08 International Scientific Conference. Boras, Sweden: The Swedish School of Textiles, University College of Boras, 2008. 72-78.

"On Current Research Associated with Textile and Apparel Product Safety", with Govindaraj, M and Pierantozzi, J , Proceedings of the 86th Textile Institute World Conference, Hong Kong 2008.

Written testimony to the US Senate Subcommittee of Consumer Protection, Product Safety and Insurance – "Formaldehyde in Textiles and Consumer Products", April 28, 2009

"Factors Associated with Textile Pattern Dermatitis Due to Contact Allergy to Dyes, Finishes, Foams and Preservatives" , Dermatologic Clinics, July 2009.

"Textile-Templated Electrospun Anisotropic Scaffolds for Tissue Engineering and Regenerative Medicine", Institute of Electrical and Electronic Engineers, Engineering in Medicine and Biology Society Annual Conference, Buenos Aires, September 2010.

"Creating an Infrastructure for Compressed Natural Gas Delivery for Automotive Transportation" - Industry Studies Association of the Alfred P. Sloan Foundation, Pittsburgh, May 2012

"Textile-Templated Electrospun Anisotropic Scaffolds for Regenerative Cardiac Tissue Engineering, Tissue Engineering Journal (submitted for publication-2014) H. Gözde Şenel Ayaz*, Anat Perets, Hasan Ayaz, Kyle D. Gilroy, Muthu Govindaraj, David Brookstein and Peter I. Lelkes

PATENTS Consisting of Original Contributions to field of engineering:

1. U.S. Patent 4,290,170 "Device for Aligning and Attenuating Fiber Mats," A device for producing aligned carbon fiber webs for use in composites.
 2. U.S. Patent 4,497,866 "Sucker Rod," An elliptical cross-section braided composite rod for pumping oil.
 3. U.S. Patent 4,602,892 "Sucker Rod," A braided composite rod and coupling for pumping oil.
 4. U.S. Patent 4,841,613 "Pressure Developer or Press Roll Containing Composite Material," A composite press roll with variation of radial stiffness.
 5. U.S. Patent 4,909,127 "Braiders," A braider with non-circular braider tracks and a unique package carrier for use with braider.
 6. U.S. Patent 5,004,474 "Prosthetic Anterior Cruciate Ligament Design," An artificial ligament device having a tubular woven ligament and being adapted for joining the ends of two bones.
 7. U.S. Patent 5,357,839 "Solid Braid Structure" A 3-D system for producing braids.
 8. U.S. Patent 5,358,758 "Structural Member" A fiber reinforced structural member produced from a complex woven fabric.
 9. U.S. Patent 5,411,463 "Composite Roll and Method of Making" A fiber reinforced roll for papermaking.
 10. U.S. Patent 5,501,133 "Apparatus for Making a Braid Structure" A novel manufacturing system for producing 3-D multilayer interlock braided textile and fiber reinforced composite structures.
 11. U.S. Patent 5,697,969 "Vascular Prosthesis and Method for Implanting" A fibrous synthetic vascular graft with a combination of resorbable and non-resorbable layers.
-

12. U.S. Patent 7,144,830 B2 “Plural Layer Woven Electronic Textile, Article and Method”

13. U.S. Patent Application 2013/0131830 “Textile-Templated Electrospun Anisotropic Scaffolds for Tissue Engineering and Regenerative Medicine”

Non-patentable trade secret inventions developed at Albany International Research Co.

1. Fiber-reinforced composite rocket igniter for Small ICBM and Pegasus Air-Launched Vehicle
2. Specialty vascular grafts and bio-absorbable orthopedic implants
3. Flexible air-beam for military structures
4. New method for drying paper during the papermaking process
5. Complex, reduced delamination rocket motor exit cones

EXHIBIT 2

On October 16, 2013 and October 17, 2013, I examined the Destination Maternity Corporation (“DMC”) Secret Fit Belly® Products listed below, provided to me by counsel for DMC, and took the photographs that are in this report.

DMC Secret Fit Belly® Product	Garment Type
Style 93480-01	Trouser
Style 96316-42	Denim Jeans
Style 91401-01	Trouser
Style 94278-10	Skirt

I placed each of the Secret Fit Belly® products on AlvaForm maternity fit mannequins with detachable bellies that are shown in the AlvaForm web site¹ I used the 3 month (Size 8) pregnancy and 9 month (Size 8) pregnancy detachable bellies for two different body types associated with DMC’s product lines: MOTHERHOOD and MIMI. I measured the circumference of each fit mannequin at the maximum girth and just below the breast.



1

[http://www.alvanon.com/assets/files/AlvaForm_Catalog_\(v3.0\)_12X27_\[SOFT\]_24APR2013.pdf](http://www.alvanon.com/assets/files/AlvaForm_Catalog_(v3.0)_12X27_[SOFT]_24APR2013.pdf)

FIT MANNEQUIN	Measured Just Beneath the Breast	Measured at Maximum Girth
MOTHERHOOD 3 Month- Size 8	31 5/8"	40 3/8"
MOTHERHOOD 9 Month- Size 8	32 1/4"	46 1/8"
MIMI 3 Month- Size 8	30 1/8"	38 3/8"
MIMI 9 Month- Size 8	31 1/8"	44 1/2"

It is my opinion that the above listed DMC Secret Fit Belly® Products meet the independent claim limitations of U.S. Patent No. RE43,531 E titled “Belly Covering Garment,” (hereinafter referred to as the “’531 Patent”), and U.S. Patent No. RE43,563 E titled “Belly Covering Garment” (hereinafter referred to as the “’563 Patent”). The DMC Secret Fit Belly® Products also meet the limitations of certain dependent claims of the ‘531 Patent and the ‘563 Patent that are at issue before the Patent Trial and Appeal Board (“PTAB”). The below charts identify the claims-at-issue that each product embodies. For both the’531 Patent and the ‘563 Patent, the only independent claim is Claim 1.

Summary Claim Chart for the '531 Patent

Independent Claim

Claims

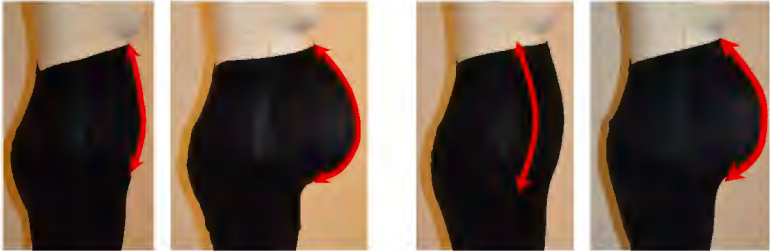

	↓													
DMC Secret Fit Belly® Product	1	2	5	6	10	11	15	17	24	25	26	27	28	29
Style 93480-01														
Style 96316-42														
Style 91401-01														
Style 94278-10														



Summary Claim Chart for the '563 Patent

Independent Claim

Claims

	↓												
DMC Secret Fit Belly® Product	1	2	3	4	6	7	8	10	12	14	16	21	
Style 93480-01													
Style 96316-42													
Style 91401-01													
Style 94278-10													

Claim 1	DMC Secret Fit Belly® meets the limitations of the '531 Patent				
1. A garment comprising:					
[a] a garment upper portion having a belly panel that is expansible to cover and fit over a growing abdomen during different stages of pregnancy;	These DMC Secret Fit Belly® garments comprise a garment upper portion having a belly panel that is expansible to cover and fit over a growing abdomen during different stages of pregnancy. For example:				
	Style 93480-01				
		3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
	Style 96316-42				
		3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi

	<p>Style 91401-01</p>	 <table border="1" data-bbox="665 619 1437 703"> <tr> <td>3 month Motherhood</td> <td>9 month Motherhood</td> <td>3 month Mimi</td> <td>9 month Mimi</td> </tr> </table>	3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi			
	<p>Style 94278-10</p>	 <table border="1" data-bbox="641 1129 1421 1218"> <tr> <td>3 month Motherhood</td> <td>9 month Motherhood</td> <td>3 month Mimi</td> <td>9 month Mimi</td> </tr> </table>	3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi			
<p>Claim 1</p>	<p>DMC Secret Fit Belly® meets the limitations of the ‘531 Patent</p>					
<p>[b] a garment lower portion having a first torso encircling circumference that recedes downward to make way for expansion of the belly panel; and</p>	<p>These DMC Secret Fit Belly® garments comprise a garment lower portion having a first torso encircling circumference that recedes downward to make way for expansion of the belly panel. For example:</p>					




	<p>Style 93480-01</p>	 <table border="1" data-bbox="646 604 1432 688"> <tr> <td>3 month Motherhood</td> <td>9 month Motherhood</td> <td>3 month Mimi</td> <td>9 month Mimi</td> </tr> </table>	3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi			
	<p>Style 96316-42</p>	 <table border="1" data-bbox="646 1119 1432 1203"> <tr> <td>3 month Motherhood</td> <td>9 month Motherhood</td> <td>3 month Mimi</td> <td>9 month Mimi</td> </tr> </table>	3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi			
	<p>Style 91401-01</p>	 <table border="1" data-bbox="646 1661 1432 1745"> <tr> <td>3 month Motherhood</td> <td>9 month Motherhood</td> <td>3 month Mimi</td> <td>9 month Mimi</td> </tr> </table>	3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi			

	<p style="text-align: center;">Style 94278-10</p>				
		<p style="text-align: center;">3 month Motherhood</p>	<p style="text-align: center;">9 month Motherhood</p>	<p style="text-align: center;">3 month Mimi</p>	<p style="text-align: center;">9 month Mimi</p>

Claim 1	DMC Secret Fit Belly® meets the limitations of the '531 Patent
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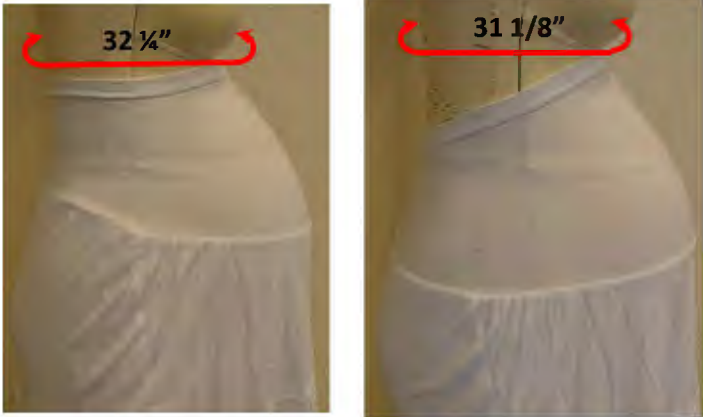
[c] and the garment upper portion having a second torso encircling circumference defining an upper edge of the belly panel that encircles a wearer's torso just beneath the wearer's breast area configured to hold the garment up and in place about the torso in a position of a location of maximum girth of the abdomen thereby substantially covering the

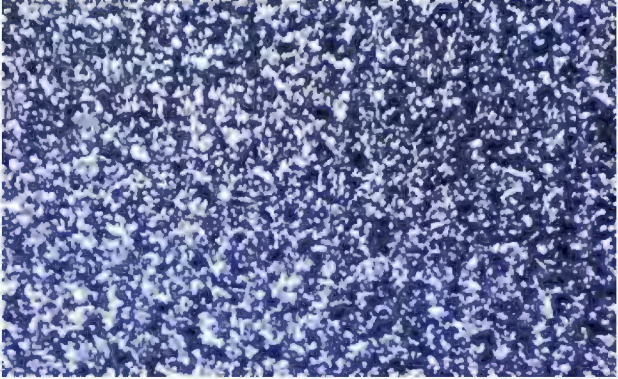
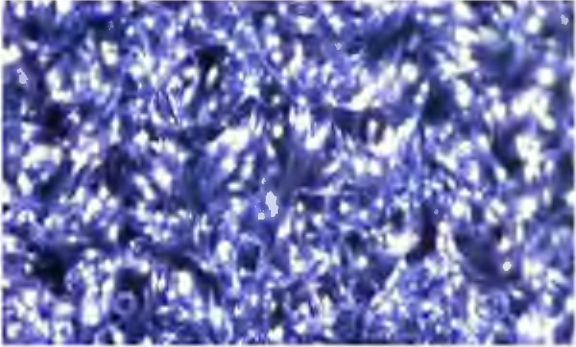
These DMC Secret Fit Belly® garments comprise a garment upper portion having a second torso encircling circumference defining an upper edge of the belly panel that encircles a wearer's torso just beneath the wearer's breast area configured to hold the garment up and in place about the torso in a position of a location of maximum girth of the abdomen thereby substantially covering the wearer's entire pregnant abdomen during all stages of pregnancy. For example:

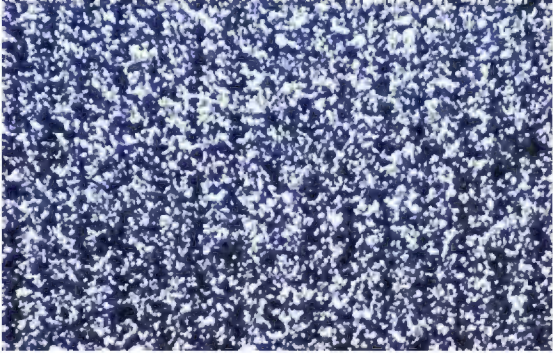
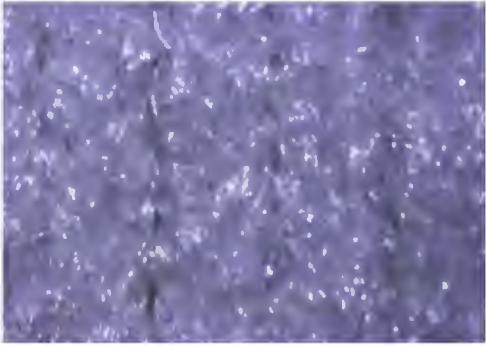
wearer's entire pregnant abdomen during all stages of pregnancy					
	Style 93480-01				
		3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
	Style 96316-42				
		3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
	Style 91401-01				


		3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
	Style 94278-10				
		3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
Claim 2	DMC Secret Fit Belly® meets the limitations of the '531 Patent				
2. The garment of claim 1,	<i>See claim 1 above.</i>				
[a] wherein the second torso encircling circumference is adjustable in girth in conformance with different body types.	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and have a second torso encircling circumference which is adjustable in girth in conformance with different body types. For example:</p>				
	Style 93480-01				
		9 month Motherhood		9 month Mimi	





	<p>Style 96316-42</p>		
		<p>9 month Motherhood</p>	<p>9 month Mimi</p>
	<p>Style 91401-01</p>		
		<p>9 month Motherhood</p>	<p>9 month Mimi</p>


	<p style="text-align: center;">Style 94278-10</p>		
		9 month Motherhood	9 month Mimi
Claim 5	DMC Secret Fit Belly® meets the limitations of the ‘531 Patent		
5. The garment of claim 1,	<i>See claim 1 above.</i>		
[a] wherein the garment upper portion comprises an elastic fabric that is contractible elastically to cover an abdomen during different stages of postpartum body changes.	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and comprise a garment upper portion which comprises an elastic fabric that is contractible elastically to cover an abdomen during different stages of postpartum body changes. For example:</p>		

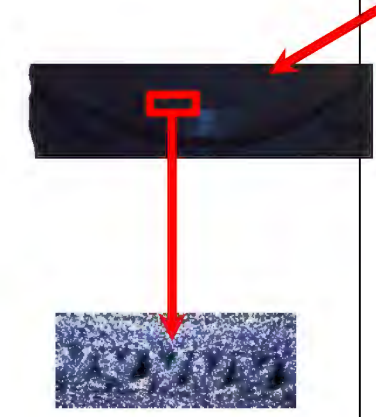
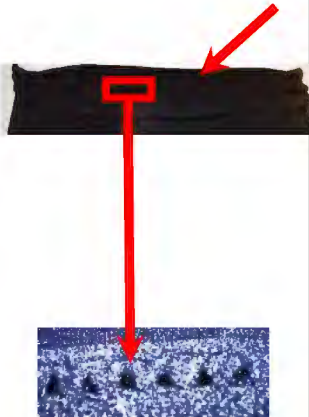
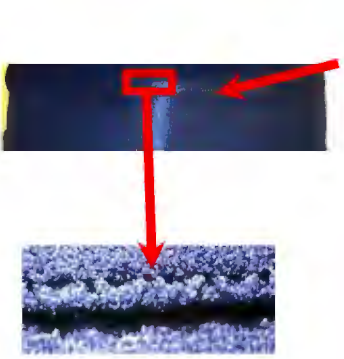
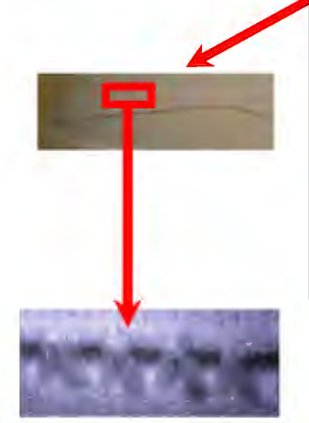
	<p>Style 93480-01</p>	 <p>Knitted elastic fabric which is contractible elastically</p>
	<p>Style 96316-42</p>	 <p>Knitted elastic fabric which is contractible elastically</p>

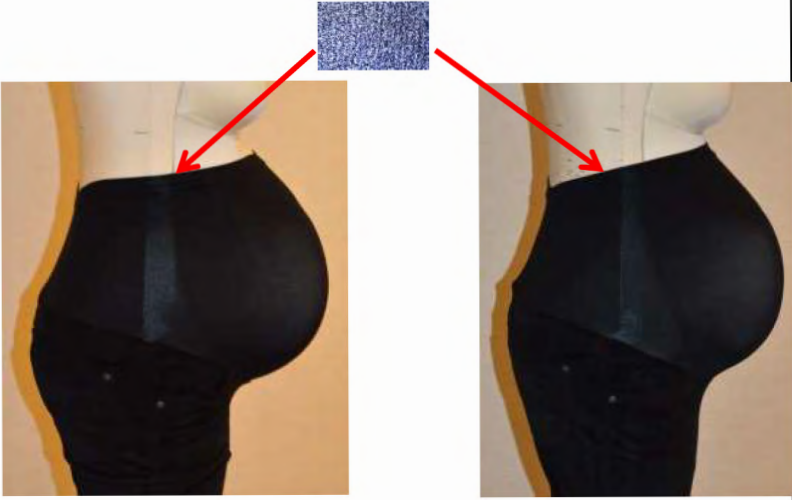
	<p>Style 91401-01</p>	 <p>Knitted elastic fabric which is contractible elastically</p>
	<p>Style 94278-10</p>	 <p>Knitted elastic fabric which is contractible elastically</p>
<p>Claim 6</p>	<p>DMC Secret Fit Belly® meets the limitations of the '531 Patent</p>	
<p>6. The garment of claim 1,</p>	<p><i>See claim 1 above.</i></p>	
<p>[a] wherein the garment lower portion has a partial waistband</p>	<p>This DMC Secret Fit Belly® garment includes all of the elements of Claim 1 and a garment lower portion which has a partial waistband extending from side seams of the garment lower portion and extending across a back side of the garment lower portion where the partial waistband widens above a wearer's</p>	


<p>extending from side seams of the garment lower portion and extending across a back side of the garment lower portion where the partial waistband widens above a wearer's pelvis.</p>	<p>pelvis. For example:</p>	
	<p>Style 96316-42</p>	
<p>Claim 10</p>	<p>DMC Secret Fit Belly® meets the limitations of the '531 Patent</p>	
<p>10. The garment of claim 1,</p>	<p>See claim 1 above.</p>	


<p>[a] wherein the garment upper portion is foldable toward the garment lower portion to comprise a folded band on the garment lower portion.</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and comprise a garment upper portion which is foldable toward the garment lower portion to comprise a folded band on the garment lower portion. For example:</p>			
	<p>Style 93480- 01</p>		<p>Style 91401- 01</p>	
	<p>Style 96316- 42</p>		<p>Style 94278- 10</p>	
<p>Claim 11</p>	<p>DMC Secret Fit Belly® meets the limitations of the '531 Patent</p>			
<p>11. The garment of claim 1,</p>	<p><i>See claim 1 above.</i></p>			
<p>[a] wherein the garment lower portion has a partial waistband extending from side</p>	<p>This DMC Secret Fit Belly® garment includes all of the elements of Claim 1 and comprise a garment lower portion which has a partial waistband extending from side seams of the garment lower portion wherein the partial waistband tapers toward the side seams and widens above a wearer's pelvis across a back side of the garment lower portion. For example:</p>			


<p>seams of the garment lower portion wherein the partial waistband tapers toward the side seams and widens above a wearer's pelvis across a back side of the garment lower portion.</p>		
	<p>Style 96316-42</p>	
<p>Claim 15</p>	<p>DMC Secret Fit Belly® meets the limitations of the '531 Patent</p>	
<p>15. The garment of claim 1,</p>	<p><i>See claim 1 above.</i></p>	
<p>[a] wherein an edge margin of the garment upper portion is folded over and knitted to</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and comprise an edge margin of the garment upper portion is folded over and knitted to an inside of the fabric to provide a perimeter hem stitch. For example:</p>	



<p>an inside of the fabric to provide a perimeter hem stitch.</p>				
	<p>Style 93480-01</p>		<p>Style 91401-01</p>	
	<p>Style 96316-42</p>		<p>Style 94278-10</p>	
<p>Claim 17</p>	<p>DMC Secret Fit Belly® meets the limitations of the '531 Patent</p>			
<p>17. The garment of claim 1,</p>	<p><i>See claim 1 above.</i></p>			
<p>[a] wherein the second torso encircling circumference comprises</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and comprise a second torso encircling circumference which comprises stretchable fabric to adjust the girth in conformance with different body types. For example:</p>			



<p>stretchable fabric to adjust the girth in conformance with different body types.</p>		
	<p>Style 93480-01</p>	<p>knit stretchable fabric</p> 
<p>9 month Motherhood</p>		<p>9 month Mimi</p>

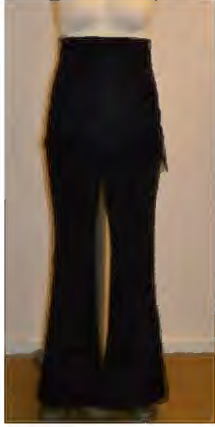



	<p>Style 96316-42</p>	<p>knit stretchable fabric</p> 	
		<p>9 month Motherhood</p>	<p>9 month Mimi</p>



	<p>Style 91401-01</p>	<p>knit stretchable fabric</p> 	
		<p>9 month Motherhood</p>	<p>9 month Mimi</p>



	<p>Style 94278-10</p>	<p style="text-align: center;">knit stretchable fabric</p> 	
<p>Claim 24</p>	<p>DMC Secret Fit Belly® meets the limitations of the '531 Patent</p>		
<p>24. The garment of claim 1,</p>	<p><i>See claim 1 above.</i></p>		
<p>[a] wherein the garment upper portion is foldable toward the garment lower portion to provide a folded band on the garment lower portion to be worn as a garment bottom having</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and comprise a garment upper portion which is foldable toward the garment lower portion to provide a folded band on the garment lower portion to be worn as a garment bottom having no top. For example:</p>		



no top.	
	<p data-bbox="472 701 618 779">Style 93480-01</p> 
	<p data-bbox="472 1266 618 1344">Style 91401-01</p> 

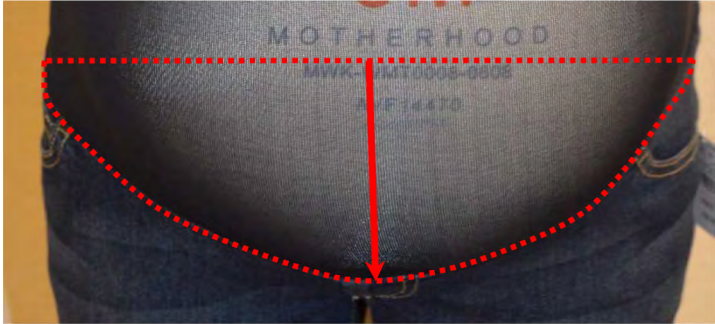
	<p>Style 96316-42</p>			
	<p>Style 94278-10</p>			
<p>Claim 25</p>		<p>DMC Secret Fit Belly® meets the limitations of the '531 Patent</p>		
<p>25. The garment of claim 1,</p>	<p><i>See claim 1 above.</i></p>			
<p>[a] wherein the garment lower portion comprises one of a pair of trousers and a skirt.</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and comprise a garment lower portion which comprises one of a pair of trousers and a skirt. For example:</p>			



	Style 93480-01		Style 91401-01	
	Style 96316-42		Style 94278-10	
Claim 26	DMC Secret Fit Belly® meets the limitations of the '531 Patent			
26. The garment of claim 1,	<i>See claim 1 above.</i>			
[a] wherein the garment lower portion comprises denim jeans.	This DMC Secret Fit Belly® garment includes all of the elements of Claim 1 and comprise a garment lower portion which comprises denim jeans. For example:			

	<p>Style 96316-42</p>	
<p>Claim 27</p>	<p>DMC Secret Fit Belly® meets the limitations of the '531 Patent</p>	
<p>27. The garment of claim 1,</p>	<p>See claim 1 above.</p>	
<p>[a] wherein the garment lower portion comprises a zipperless fly.</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and comprise a garment lower portion which comprises a zipperless fly. For example:</p>	
	<p>Style 93480-01</p>	

	<p>Style 91401-01</p>	
	<p>Style 96316-42</p>	
<p>Claim 28</p>	<p>DMC Secret Fit Belly® meets the limitations of the ‘531 Patent</p>	
<p>28. The garment of claim 1,</p>	<p><i>See claim 1 above.</i></p>	
<p>[a] wherein the first torso-encircling circumference recedes downward with a parabolic shape, said shape including a</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 wherein the first torso-encircling circumference recedes downward with a parabolic shape, said shape including a shallow curvature. For example:</p>	

shallow curvature.	
	<p data-bbox="440 632 586 709">Style 93480-01</p> 
	<p data-bbox="440 1167 586 1245">Style 91401-01</p> 

	<p>Style 96316-42</p>	
<p>Claim 29</p>	<p>DMC Secret Fit Belly® meets the limitations of the '531 Patent</p>	
<p>29. The garment of claim 28,</p>	<p><i>See claim 28 above.</i></p>	
<p>[a] wherein a belly panel that extends at least partially under the abdomen of the wearer to meet the parabolic receding circumference of the garment lower portion.</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 28 and comprise a belly panel that extends at least partially under the abdomen of the wearer to meet the parabolic receding circumference of the garment lower portion. For example:</p>	

	<p>Style 93480-01</p>	
	<p>Style 96316-42</p>	

	<p style="text-align: center;">Style 91401-01</p>	
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Claim 1	DMC Secret Fit Belly® meets the limitations of the '563 Patent
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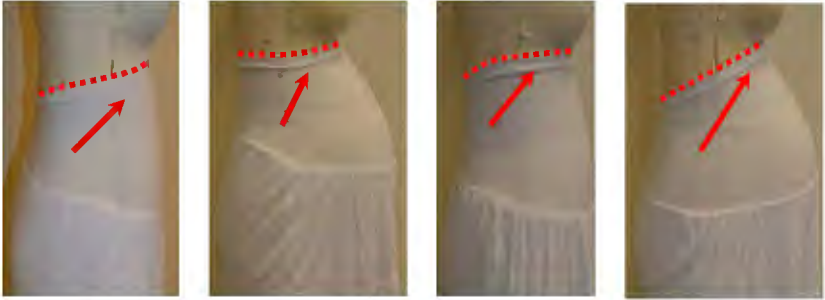
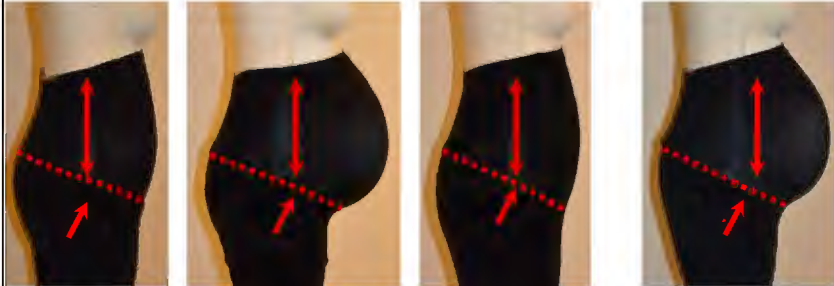
<p>1. A garment portion having an attached belly panel portion comprising:</p>	
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<p>[a] an expansible belly panel adapted to substantially cover a wearer's entire belly region, said belly region comprising an area beginning just beneath the wearer's breast area</p>	<p>These DMC Secret Fit Belly® garments include an expansible belly panel adapted to substantially cover the wearer's entire belly region comprising an area beginning just beneath the wearer's breast area and extending over the wearer's abdomen to a lower abdomen region beneath the wearer's belly. For example:</p>
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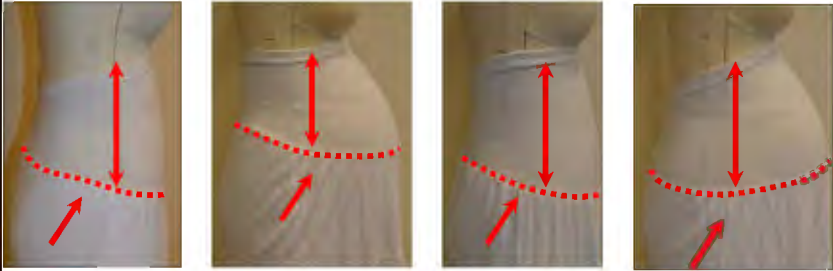
and extending over the wearer's abdomen to a lower abdomen region beneath the wearer's belly, said belly panel comprising;

	<p>Style 93480-01</p>				
	<p>Style 96316-42</p>				
		<p>3 month Motherhood</p>	<p>9 month Motherhood</p>	<p>3 month Mimi</p>	<p>9 month Mimi</p>
		<p>3 month Motherhood</p>	<p>9 month Motherhood</p>	<p>3 month Mimi</p>	<p>9 month Mimi</p>

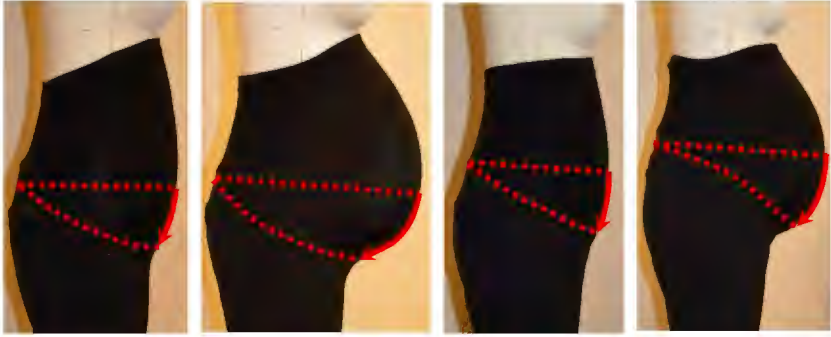

	<p style="text-align: center;">Style 91401-01</p>				
		<p style="text-align: center;">3 month Motherhood</p>	<p style="text-align: center;">9 month Motherhood</p>	<p style="text-align: center;">3 month Mimi</p>	<p style="text-align: center;">9 month Mimi</p>
	<p style="text-align: center;">Style 94278-10</p>				
		<p style="text-align: center;">3 month Motherhood</p>	<p style="text-align: center;">9 month Motherhood</p>	<p style="text-align: center;">3 month Mimi</p>	<p style="text-align: center;">9 month Mimi</p>
<p style="text-align: center;">Claim 1</p>	<p style="text-align: center;">DMC Secret Fit Belly® meets the limitations of the '563 Patent</p>				
<p>[b] said belly panel comprising an upper edge portion defining a first encircling circumference about a wearer's torso that is at or above the wearer's upper abdomen</p>	<p>These DMC Secret Fit Belly® garments include a belly panel comprising an upper edge portion defining a first encircling circumference about a wearer's torso that is at or above the wearer's upper abdomen region For example:</p>				




	<p>Style 94278-10</p>				
		<p>3 month Motherhood</p>	<p>9 month Motherhood</p>	<p>3 month Mimi</p>	<p>9 month Mimi</p>
<p>Claim 1</p>		<p>DMC Secret Fit Belly® meets the limitations of the '563 Patent</p>			
<p>[c] a lower edge portion spaced from the upper edge portion and defining a second encircling circumference about the wearer's lower abdomen region; and</p>	<p>These DMC Secret Fit Belly® garments include a lower edge portion spaced from the upper edge portion and defining a second encircling circumference about the wearer's lower abdomen region. For example:</p>				
	<p>Style 93480-01</p>				
		<p>3 month Motherhood</p>	<p>9 month Motherhood</p>	<p>3 month Mimi</p>	<p>9 month Mimi</p>


	Style 96316-42	 <table border="1" data-bbox="618 1087 1453 1178"> <tr> <td>3 month Motherhood</td> <td>9 month Motherhood</td> <td>3 month Mimi</td> <td>9 month Mimi</td> </tr> </table>	3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi			
	Style 91401-01	 <table border="1" data-bbox="618 1669 1453 1766"> <tr> <td>3 month Motherhood</td> <td>9 month Motherhood</td> <td>3 month Mimi</td> <td>9 month Mimi</td> </tr> </table>	3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi			


	<p style="text-align: center;">Style 94278-10</p>				
		<p style="text-align: center;">3 month Motherhood</p>	<p style="text-align: center;">9 month Motherhood</p>	<p style="text-align: center;">3 month Mimi</p>	<p style="text-align: center;">9 month Mimi</p>
<p style="text-align: center;">Claim 1</p>	<p style="text-align: center;">DMC Secret Fit Belly® meets the limitations of the '563 Patent</p>				
<p>[d] a garment lower portion, in communication with the lower edge portion, having a torso encircling circumference that recedes downward to make way for expansion of the belly panel.</p>	<p>These DMC Secret Fit Belly® garments include a garment lower portion, in communication with the lower edge portion, having a torso encircling circumference that recedes downward to make way for expansion of the belly panel. For example:</p>				


	<p>Style 93480-01</p>				
		<p>3 month Motherhood</p>	<p>9 month Motherhood</p>	<p>3 month Mimi</p>	<p>9 month Mimi</p>
	<p>Style 96316-42</p>				
		<p>3 month Motherhood</p>	<p>9 month Motherhood</p>	<p>3 month Mimi</p>	<p>9 month Mimi</p>


	<p style="text-align: center;">Style 91401-01</p>				
		<p style="text-align: center;">3 month Motherhood</p>	<p style="text-align: center;">9 month Motherhood</p>	<p style="text-align: center;">3 month Mimi</p>	<p style="text-align: center;">9 month Mimi</p>
	<p style="text-align: center;">Style 94278-10</p>				
		<p style="text-align: center;">3 month Motherhood</p>	<p style="text-align: center;">9 month Motherhood</p>	<p style="text-align: center;">3 month Mimi</p>	<p style="text-align: center;">9 month Mimi</p>
<p style="text-align: center;">Claim 2</p>	<p style="text-align: center;">DMC Secret Fit Belly® meets the limitations of the '563 Patent</p>				
<p>2. The garment portion of claim 1, further comprising</p>	<p><i>See claim 1 above.</i></p>				
<p>[a] a pair of trousers attached to said lower edge portion.</p>	<p>These DMC Secret Fit Belly® garments comprise all of the claim elements of Claim 1 and a pair of trousers attached to said lower edge portion. For example;</p>				





	Style 93480-01		Style 96316-42	
	Style 91401-01			
Claim 3	DMC Secret Fit Belly® meets the limitations of the '563 Patent			
3. The garment portion of claim 2,	<i>See claim 2 above.</i>			
[a] wherein said trousers comprise denim jeans.	This DMC Secret Fit Belly® garment includes all of the Claim elements of claim 2 and have trousers comprising denim jeans attached to said lower edge portion. For example:			

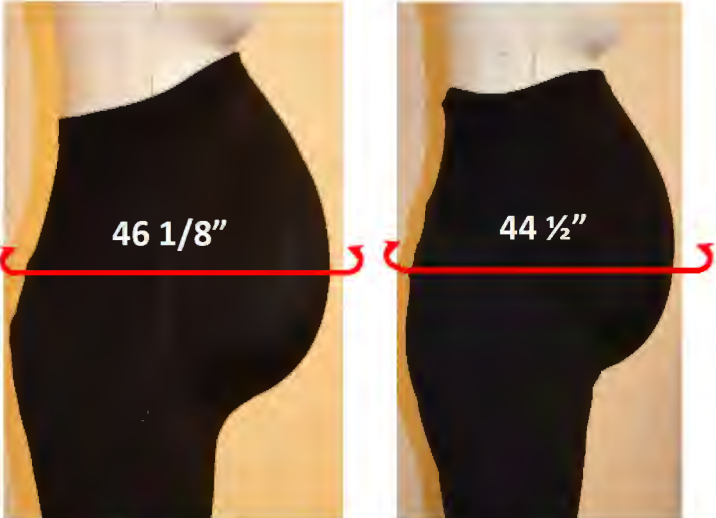
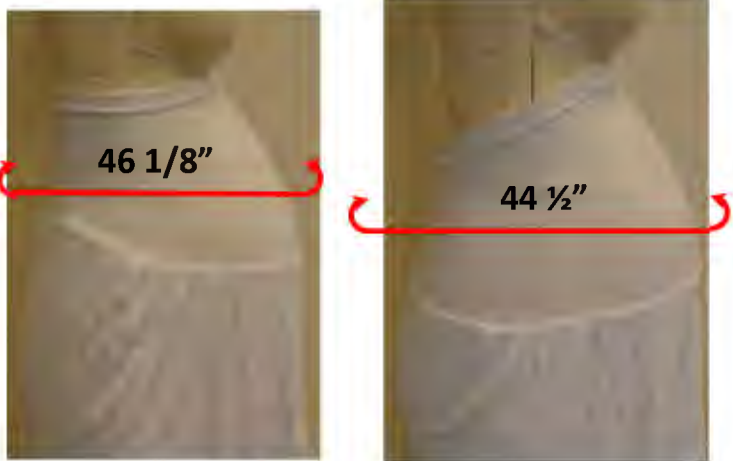
	<p style="text-align: center;">Style 96316-42</p>			
<p style="text-align: center;">Claim 4</p>	<p style="text-align: center;">DMC Secret Fit Belly® meets the limitations of the '563 Patent</p>			
<p>4. The garment portion of claim 3,</p>	<p><i>See claim 3 above.</i></p>			
<p>[a] wherein said denim jeans comprise one or more pockets and a sewn zipperless fly front.</p>	<p>This DMC Secret Fit Belly® garment includes all of the elements of Claim 3 and comprise a belly panel which is adapted to cover the wearer's belly region during different stages of weight gains and losses. For example:</p>			

	<p>Style 96316-42</p>	
<p>Claim 6</p>	<p>DMC Secret Fit Belly® meets the limitations of the '563 Patent</p>	
<p>6. The garment portion of claim 1,</p>	<p><i>See claim 1 above.</i></p>	
<p>[a] wherein said belly panel is adapted to cover the wearer's belly region during different stages of weight gains and losses.</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and comprise a belly panel which is adapted to cover the wearer's belly region during different stages of weight gains and losses. For example:</p>	

	<p>Style 93480-01</p>				
		<p>3 month Motherhood</p>	<p>9 month Motherhood</p>	<p>3 month Mimi</p>	<p>9 month Mimi</p>
	<p>Style 96316-42</p>				
		<p>3 month Motherhood</p>	<p>9 month Motherhood</p>	<p>3 month Mimi</p>	<p>9 month Mimi</p>
	<p>Style 91401-01</p>				
		<p>3 month Motherhood</p>	<p>9 month Motherhood</p>	<p>3 month Mimi</p>	<p>9 month Mimi</p>

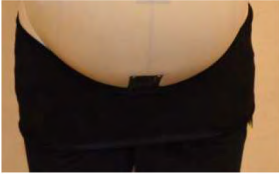
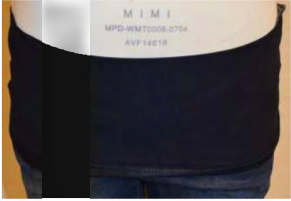


	Style 94278-10					
		<table border="1"> <tr> <td>3 month Motherhood</td> <td>9 month Motherhood</td> <td>3 month Mimi</td> <td>9 month Mimi</td> </tr> </table>	3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi			
Claim 7	DMC Secret Fit Belly® meets the limitations of the '563 Patent					
7. The garment portion of claim 1,	See claim 1 above.					
[a] wherein said belly panel is adapted to substantially cover and fit over different body types.	These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and comprise a belly panel which is adapted to substantially cover and fit over different body types. For example:					



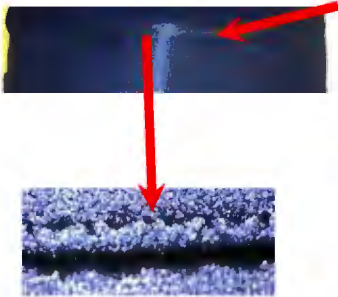

	<p>Style 93480-01</p>		
		<p>9 month Motherhood</p>	<p>9 month Mimi</p>
	<p>Style 96316-42</p>		
		<p>9 month Motherhood</p>	<p>9 month Mimi</p>


	<p>Style 91401-01</p>	 <table border="1" data-bbox="678 800 1442 848"> <tr> <td data-bbox="678 800 1073 848">9 month Motherhood</td> <td data-bbox="1073 800 1442 848">9 month Mimi</td> </tr> </table>	9 month Motherhood	9 month Mimi
9 month Motherhood	9 month Mimi			
	<p>Style 94278-10</p>	 <table border="1" data-bbox="667 1520 1442 1568"> <tr> <td data-bbox="667 1520 1062 1568">9 month Motherhood</td> <td data-bbox="1062 1520 1442 1568">9 month Mimi</td> </tr> </table>	9 month Motherhood	9 month Mimi
9 month Motherhood	9 month Mimi			
<p>Claim 8</p>	<p>DMC Secret Fit Belly® meets the limitations of the '563 Patent</p>			
<p>8. The garment portion of claim 1,</p>	<p>See claim 1 above.</p>			

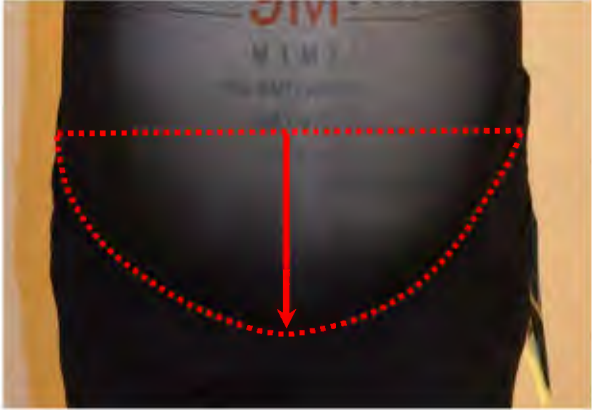

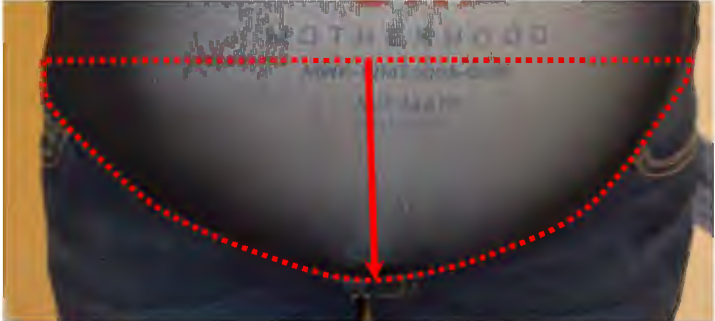
<p>[a] wherein the belly panel is elastically expandible and contractible.</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and comprise a belly panel which is elastically expandible and contractible. For example:</p>				
	<p>Style 93480-01</p>				
<p>3 month Motherhood</p>		<p>9 month Motherhood</p>	<p>3 month Mimi</p>	<p>9 month Mimi</p>	
	<p>Style 96316-42</p>				
<p>3 month Motherhood</p>		<p>9 month Motherhood</p>	<p>3 month Mimi</p>	<p>9 month Mimi</p>	

	Style 91401-01				
		3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
	Style 94278-10				
		3 month Motherhood	9 month Motherhood	3 month Mimi	9 month Mimi
Claim 10	DMC Secret Fit Belly® meets the limitations of the '563 Patent				
10. The garment portion of claim 1,	<i>See claim 1 above.</i>				
[a] wherein the belly panel is foldable to comprise a folded band.	These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and comprise a belly panel which is foldable to comprise a folded band. For example:				

	Style 93480 -01		Style 96316- 42	
	Style 91401 -01		Style 94278- 10	
Claim 12	DMC Secret Fit Belly® meets the limitations of the '563 Patent			
12. The garment portion of claim 1,	<i>See claim 1 above.</i>			
[a] wherein a top edge margin of the belly panel is folded over and sewn or knitted to an inside of the belly panel fabric.	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and include a top edge margin of the belly panel which is folded over and sewn or knitted to an inside of the belly panel fabric.</p> <p>For example:</p>			

	Style 93480 -01		Style 91401 -01	
	Style 96316 -42		Style 94278 -10	
Claim 14	DMC Secret Fit Belly® meets the limitations of the '563 Patent			
14. The garment portion of claim 1,	See claim 1 above.			
[a] wherein the belly panel further comprises a partial waistband extending across a back side of the lower edge portion and extending down into side seams of	This DMC Secret Fit Belly® garment includes all of the elements of Claim 1 wherein the belly panel further comprises a partial waistband extending across a back side of the lower edge portion and extending down into side seams of an article of clothing connected thereto. For example:			

<p>an article of clothing connected thereto.</p>		
	<p>Style 96316-42</p>	
<p>Claim 16</p>	<p>DMC Secret Fit Belly® meets the limitations of the '563 Patent</p>	
<p>16. The garment portion of claim 1,</p>	<p><i>See claim 1 above.</i></p>	
<p>[a] wherein the lower edge portion is configured to extend downward with a parabolic shape to accommodate the wearer's expanding belly region.</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and include a lower edge portion which is configured to extend downward with a parabolic shape to accommodate the wearer's expanding belly region. For example:</p>	

	<p>Style 93480-01</p>	
	<p>Style 91401-01</p>	
	<p>Style 96316-42</p>	
<p>Claim 21</p>		<p>DMC Secret Fit Belly® meets the limitations of the '563 Patent</p>
<p>21. The garment portion of claim 1,</p>	<p>See claim 1 above.</p>	
<p>[a] wherein the belly panel defines a tubular structure that</p>	<p>These DMC Secret Fit Belly® garments include all of the elements of Claim 1 and include a belly panel defined by a tubular structure that is shaped and formed as straight-sided cylinder to fit a body type having a correspondingly shaped torso. For example:</p>	

is shaped and formed as straight-sided cylinder to fit a body type having a correspondingly shaped torso.

Style
93480-01



Style
96316-42



	<p>Style 91401-01</p>	 A black, long-sleeved garment, possibly a top or dress, laid flat on a textured, brownish surface. The garment has a simple, straight design with a visible seam at the waistline.
	<p>Style 94278-10</p>	 A white, long-sleeved garment, possibly a top or dress, laid flat on a textured, brownish surface. The garment features a ruffled or gathered waistline and a simple, straight design.