



US00PP23194P3

(12) **United States Plant Patent**
Maillard et al.

(10) **Patent No.:** **US PP23,194 P3**

(45) **Date of Patent:** **Nov. 20, 2012**

(54) **PEACH TREE NAMED 'FLATBELLA'**

(50) Latin Name: *Prunus persica* L. Batsch
Varietal Denomination: **FLATBELLA**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **13/064,020**

(22) Filed: **Mar. 2, 2011**

(65) **Prior Publication Data**

US 2011/0219491 P1 Sep. 8, 2011

(30) **Foreign Application Priority Data**

Mar. 2, 2010 (QZ) PBR 20100507

(51) **Int. Cl.**

A01H 5/00 (2006.01)

(52) **U.S. Cl.** **Plt./195**

(58) **Field of Classification Search** Plt./195
See application file for complete search history.

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(57) **ABSTRACT**

A new and distinct variety of flat white peach tree, denominated 'FLATBELLA', has a large flat fruit of very long shelf life without alteration after harvesting, a semi-sweet white flesh of high eating quality and an attractive bright red skin color on an orange red ground. The tree is of large size and is vigorous. Fruit can be consumed crunchy or at maturity.

4 Drawing Sheets

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Latin name of the genus and species of the plant claimed: *Prunus persica* L. Batsch.

Variety denomination: 'FLATBELLA'.

This application claims priority of Community plant variety right No. 2010/0507 filed on Mar. 2, 2010 which is hereby incorporated by reference in its entirety.

BACKGROUND OF THE NEW VARIETY

The present invention relates to a new and distinct variety of flat white peach tree, *Prunus persica* L. Batsch, which has been given the variety denomination 'FLATBELLA'. This new tree produces fruit with a long shelf life without alteration both on the tree after growth completion and after harvesting, large fruit with very good eating quality, fresh fruit for fresh market in early July in the Pyrénées-Orientales department, France. Contrast is made to 'FLATPRETTY' (U.S. Plant Pat. No. 21,389) flat white peach tree, standard variety, for reliable description. 'FLATBELLA' is a promising candidate for commercial success in that it has a semi-late period flowering, flat fruit with very long shelf life without alteration after harvesting, and so a very durable fruit.

ORIGIN OF THE VARIETY

'FLATBELLA' flat peach tree originated in a cultivated area of the south of France, in the Pyrénées-Orientales department, where it was tested. The male parent is 'FLATPRETTY' (U.S. Plant Pat. No. 21,389) flat white peach tree, very productive, with a very attractive fruit of pink red blush color on a pink cream ground color. The female parent 'NECTARMAGIE' (U.S. Plant Pat. No. 17,579) is a white nectarine tree, very productive, with very attractive and very large fruit. 'FLATPRETTY' (U.S. Plant Pat. No. 21,389) variety was obtained by open-pollination of 'MAIL-LARFLAT' peach tree (sold under the trademark SWEET-CAP®, non-patented). It blooms in March in the South of

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France. More particularly, it blooms 2 days before 'MAIL-LARFLAT' (sold under the trademark SWEETCAP®, non-patented), between the 9th and the 15th of March, and 3 days time long more. The first fruit of 'FLATPRETTY' ripens at the end of June and beginning of July, 30 days before 'MAIL-LARFLAT' (sold under the trademark SWEETCAP®, non-patented). More particularly, it approximately ripens between June 28th and July 9th. 'NECTARMAGIE' (U.S. Plant Pat. No. 17,579) results from an open pollinated cross of 'MAIL-LARMAGIE' white nectarine tree (sold under the trademark MAGIQUE®) that was used as the seed parent. As 'MAIL-LARMAGIE' (MAGIQUE®) nectarine tree has non-showy (campanulate) flowers, flowers blooming occur before pollen maturity. Cross-pollination with varieties in the vicinity of the mother-tree should have occurred. Pollen parent is unknown. 'NECTARMAGIE' blooms in early March in South of France, more particularly one day after 'MAIL-LARMAGIE' (MAGIQUE®) variety, between March 3rd and Mar. 15th. The first fruit of 'NECTARMAGIE' (U.S. Plant Pat. No. 17,579) nectarine tree ripens in July, more particularly about 3 to 4 days before the first fruit of 'MAIL-LARMAGIE' (MAGIQUE®) variety, between July 3rd and July 13th. 'FLATBELLA' variety was obtained by hybridizing and propagated by grafting in Elne, Pyrénées-Orientales department, France. 'FLATBELLA' variety has been determined to have unique tree and fruit characteristics making it worthy for commercial fresh fruit production. There are no known effects of this standard rootstock on this scion cultivar. Asexually propagated plants remained true to the original tree and all characteristics of the tree and the fruit were transmitted. The plant of the 'FLATBELLA' variety was reproduced asexually in Elne, Pyrénées-Orientales department, France. More particularly, the plant of the 'FLATBELLA' variety was reproduced by grafting.

SUMMARY OF THE VARIETY

The new and distinct variety of flat white peach tree 'FLATBELLA' blooms in late February near Elne in the Pyrénées-

Orientales department, France. The flowering period is considered as semi-late in the South of France. More particularly it blooms between the 24th of February and the 3rd of March. The first fruit of 'FLATBELLA' ripens in early July, 7 days earlier than 'FLATPRETTY' (U.S. Plant Pat. No. 21,389) variety. More particularly it ripens between the 8th of July and the 17th of July.

DESCRIPTION OF THE DRAWINGS

In the accompanying pictures, which are as nearly true as it is reasonably possible to make in a color illustration of this type:

FIG. 1 is a color photograph which depicts the flower buds at different development stages, and the reverse and side view of the flower and the reproductive organs with petals removed, of the new variety.

FIG. 2 is a color photograph which shows three typical specimens of the fruit, one having been cut in half with the pit being left in one of the halves for depicting fruit flesh, pit cavity and stone of the new variety. The leaves of the new variety are also present.

FIG. 3 is a color photograph that depicts a close view of typical fruits, on tree at ripening time, of the 'FLATBELLA' variety.

FIG. 4 is a color photograph that depicts a typical tree of the 'FLATBELLA' variety.

Due to chemical development, processing and printing, the leaves and fruit depicted in these photographs may or may not be accurate when compared to the actual botanical specimen.

DETAILED BOTANICAL DESCRIPTION

The tree, flowers, and fruit may vary in slight detail due to variations in soil type, cultural practices, and climatic condition. The potential for commercial production of fresh fruit by 'FLATBELLA' is high, due to fruit very long shelf life without alteration after harvesting.

Trees are vigorous and large stature half-standing in a semi-spread to semi-upright aspect. The flowering shoot is present excluding brushwood side away from sun. Flowering begins semi-early in springtime. The type of flower is showy, with medium petal size. Petals are medium pink. Leaf glands are present and reniform. Time of maturity for consumption is considered semi-early. The fruit flesh is white with a red pigmentation under the skin and in the stone cavity. Fruit skin is very thick, of bright red color on an orange red ground. The stone is clingstone, of small to medium size and the flesh is semi-adherent to adherent. Fruit taste is semi-sweet.

Compared to 'FLATPRETTY' (U.S. Plant Pat. No. 21,389) the maturity period is earlier of 7 days. The blooming time is considered semi-late and occurs 2 to 3 days earlier. The fruit is of a superior quality as far as presentation is concerned. The fruit is of a homogenous bright red blush color. The pistil end is well closed.

DETAILED DESCRIPTION

Referring more specifically to the pomological details of this new and distinct variety of white flat peach tree, the following has been observed during the third fruiting season under the ecological conditions prevailing at the orchards located near the town of Elne, in the Pyrénées-Orientales department, France. All observations have been made on rootstock cultivar. The rootstock was a rootstock tree of the trademark 'FRANC INRA MONTCLAR®'. All major color

code designations are by reference to The R.H.S. Colour Chart (Fourth Edition) provided by The Royal Horticultural Society of Great Britain.

Tree:

Size.—Medium to high as compared to other common commercial peach cultivars. The tree size the first year was approximately 2.50 meters. The tree was pruned during each following dormant season to a height of approximately 2.50 meters. Current seasons shoots growth could reach 0.80 meters. So the tree size from the second year (second and next years) reached a final height of 3.30 meters including current seasons shoots length.

Spread.—Approximately 1.0 meter. The whole orchard was oriented to a central leader organization, with tree lines spaced of 4.0 meters and trees spaced of 1.0 meter in a same tree line.

Vigor.—Very vigorous. The present variety grew from about 60.0 centimeters to 80.0 centimeters in height during the first and following growing seasons. For second and following seasons, the variety was pruned to an approximate height of 2.50 meters.

Productivity.—Very productive. Fruit set is spaced by thinning to develop the remaining fruit into the desired market sized fruit. The number of the fruit set varies with the prevailing climatic conditions and cultivar practices employed during the bloom period, and is therefore not distinctive of the present variety.

Bearer.—Considered regular. A thinning of 1 fruit out of 2 was necessary for the tree valorization. Thinning may not be too important because of the high magnifying potential of the fruit.

Form.—Semi-spread to semi-upright naturally.

Density.—Considered medium dense to dense.

Hardiness.—The present tree was grown and evaluated in France. The variety appears to be hardy under typical central Pyrénées-Orientales department climatic conditions. Fruits remain very attractive because they are well colored with an excellent semi-sweet flavor. Experimentations on different sites with winter chilling requirement comprised between 350 hours and 1200 hours showed a good behavior of the tree in all cases. No damages were caused by ascertained temperatures as low as -12° degrees Celsius. The tree was also resistant to frosty springtime weather. In a general manner, the flat fruit varieties are more sensitive to critical low temperatures and to climatic variations. This is due to the ovule that is less protected than in the classical round fruits. The implantation is recommended where the peach tree is able to grow and more particularly in the ones that have the less frosts.

Trunk:

Diameter.—Approximately between 5.5 centimeters and 7.0 centimeters when measured at a distance of approximately 30.0 centimeters above the soil, on trees from the third growing season.

Bark texture.—Rough, with lenticels.

Lenticels.—Numerous lenticels are present on trees from the third growing season. The number of lenticels reaches 3 to 5 lenticels per cm². The lenticels range in size from approximately 0.2 centimeters in height and about 0.3 to 0.5 centimeters in width.

Lenticels color.—The outside surface of lenticels has a silver-grey color (RHS GREY 201 C to D), whereas the inside surface is brown (RHS GREYED ORANGE 166 B).

Bark coloration.—The bark has a silver-grey color a little more pronounced than lenticels outside color (RHS GREY 201 A or RHS BLACK N 200 B to C).

Branches:

Size.—Mature branches and current season shoots are considered medium to thick for the variety. Mature branches show a length between 70.0 and 90.0 centimeters.

Diameter.—Average as compared to other peach varieties. The current season shoots have a diameter from 4.0 to 8.0 millimeters, and branches of trees from the third growing season have a diameter comprised between 13.0 and 19.0 millimeters.

Current season shoots surface texture.—Average, wood that is several years old has no furrowed appearance.

Crotch angles.—Primary branches are considered variable, but the crotch angles are generally between 60 degrees and 80 degrees from the horizontal axis. This particular characteristic is not considered distinctive of the variety, however.

Internode length.—Generally 20.0 millimeters to 35.0 millimeters.

Color of mature branches.—Brown (RHS GREY BROWN 199 A to B).

Color of current season shoots.—The color of new shoot tips is considered a pale yellow green (RHS YELLOW GREEN 144 A to C) on lower part of new shoot tips, whereas the upper part is colored brown-purple to brown-red (RHS GREYED PURPLE GROUP 187 A to B or GREYED RED 182 A) following the position on the shoot.

Leaves:

Size.—Considered medium to large for the species. Leaf measurements have been taken from vigorous, upright, current-season growth at approximately mid-shoot. The ratio leaf length/leaf width is above 3.38.

Leaf length.—From 158.0 to 187.0 millimeters with leaf petiole. Average length of 177.0 millimeters.

Leaf width.—From 46.0 to 72.0 millimeters. Average width of 52.0 millimeters.

Leaf base shape.—Concave relative to the leaf longitudinal axis.

Leaf form.—Lanceolate.

Tip form.—Acuminate.

Leaf color.—Upper leaf surface. Dark green (RHS GREEN 139 A). Lower surface. A lighter green (RHS GREEN 137 B) than the upper leaf surface color. Leaf texture. Smooth. Leaf venation. Pinnately veined.

Mid-vein.—Color. Light green with a yellow touch (RHS YELLOW GREEN 145 C to D) and evolves with maturity. Leaf margins. Slightly undulating. Form. Considered slightly dentate. Uniformity. Leaves are isolated or grouped by 2 or 3. In this last case, it is found one leaf of normal size with one or two smaller leaves (size-reduction of 50% and more).

Leaf petioles.—Size. Considered medium. Length. About 8.0 to 12.0 millimeters. Diameter. About 2.0 millimeters. Color. Light green to yellow on the upper surface (RHS GREEN 137 C to D) and yellow green (RHS YELLOW GREEN 145 B to C) on the lower surface.

Leaf glands.—Size. Considered medium. Their length is about 1.0 millimeter. Their width is about 1.0 millimeter. Number. Generally 2 to 4. Type. Reniform. Color. On young leaves, leaf gland color is considered pale yellow green (RHS YELLOW GREEN 145 B). On older leaves, leaf gland color turns to a dark brown (RHS GREY BROWN 199 A to B). Margins. Smooth and regular.

Leaf stipules.—Generally. No leaf stipules were observed. But as seen in the characteristic relative to the leaves uniformity, it is possible to find leaves by groups of 2 or 3, with a normal-size leaf and smaller ones.

Flowers:

Flower buds.—Generally. At pre-floral stage of development, the floral buds are conic in form with a round tip. Their form is evolving until blooming, with variable dimensions. Just before blooming, floral buds are approximately 14.0 millimeters wide and approximately 22.0 millimeters long. Color. This characteristic is dependent upon the proximity to bloom. At pre-floral stage of development, the bottom of the flowers buds, or calyx formed by sepals, is of purple-brown color (RHS GREYED PURPLE 183 A to B or GREY BROWN GROUP 199 A); the corolla formed by petals, is generally of medium pink color (RHS RED PURPLE 65 B or 69 C). Petals color shows an evolution until the end of blooming. Hardiness. The buds are considered hardy under typical central Pyrénées-Orientales department climatic conditions. No winter injury was noted during the last several years of evaluation in the central Pyrénées-Orientales department, with winter temperatures as low as -10° C. in January. The current variety has not been intentionally subjected to drought or heat stress, but the variety showed a very good resistance in orchard to temperatures up to 42° C. with an average temperature between 28° C. and 30° C. during 3 weeks in summer. Date of bloom. Generally late February. The first bloom was observed on Feb. 26, 2005. Second to fifth blooms took place respectively on Feb. 25, 2006, Feb. 24, 2008, Mar. 3, 2009 and Mar. 16, 2010. Blooming time. Considered semi-late in relative comparison to other commercial peach cultivars grown in the Pyrénées-Orientales department, France. The date of full bloom is observed at the middle of the blooming period. The date of bloom varies slightly with climatic conditions and cultural practices. Duration of bloom. Approximately 8 to 10 days. This characteristic varies slightly with the prevailing climatic conditions. Flower type. The variety is considered to have a showy type flower. Flower size. Considered medium. Flower diameter at full bloom is approximately 35.0 to 44.0 millimeters. Bloom quantity. Considered abundant, approximately 45 flowers per meter. Flower bud frequency. Generally 2 flower buds appear per node, occasionally 1.

Petal.—Size. Considered medium for the species. Length. Generally about 22.0 millimeters. Width. Generally about 22.0 millimeters. Petal form. Round. Petal count. Nearly always 5. Petal texture. Smooth and soft. Petal color. Both surfaces of the petal are colored with a medium pink (RHS RED PURPLE 65 B to D) when young, slightly darkening with advancing senescence. Fragrance. Soft.

Petal claw.—Form. The claw is considered to have a conic form with a slightly rounded tip. Length. Approximately 5.0 millimeters. Width. Approximately 4.0 millimeters. Petal margins. Slightly wavy, sinuate. 5

Petal apex.—Generally. The petal apices are generally complete at the tip and round.

Flower pedicel.—Length. Considered medium to long and having an average length of approximately 4.0 millimeters. Diameter. Average 2.0 millimeters. 10 Color. Brown to light brown (RHS GREY BROWN N199 C to D).

Calyx.—Internal surface texture. Smooth and glabrous. Color. The inner surface of the calyx is considered washed-green yellow (RHS YELLOW 13 A to B or 15 YELLOW GREEN 150 A to B) color. The outer surface is purple brown (RHS GREYED PURPLE 183 A to D).

Sepals.—Number. Generally 5. Surface texture. The outer surface has a smooth texture. Size. Medium. Ovoid shape. Length. Approximately between 5.0 and 6.0 millimeters. Width. Approximately between 4.0 and 5.0 millimeters. Color. Flat red (RHS 20 GREYED PURPLE 183 A to B). Stamens per flower. Average 43 stamens per flower. 25

Anthers.—Length. Medium. Color. Yellow orange red color (RHS YELLOW ORANGE 16 A to B). Anthers are becoming brown (RHS GREYED RED 178 A) at maturity. The color evolves with flowering. Pollen production. Pollen is abundant, and has a yellow color (RHS YELLOW ORANGE 17 B to C). The present variety is auto-fertile (self-pollinating). 30

Filaments.—Size. Variable in length, approximately 11.0 to 18.0 millimeters in length. Color. Considered pale pink (RHS RED PURPLE 62 C to D or RED 35 PURPLE 73 A to B). The color is evolving with flowering.

Pistil.—Number. Usually 1. Length. Approximately 40 from 15.0 to 17.0 millimeters including the ovary. Color. Considered very pale green (RHS YELLOW GREEN 150 D or RHS YELLOW GREEN 151 D). The color is evolving with flowering. Surface texture. 45 Glabrous.

Fruits:

Maturity.—Very firm at maturity (shipping ripe).

Date of first picking.—Jul. 7, 2010, exceptionally late due to climatic conditions in winter 2010.

Date of last picking.—Jul. 16, 2010, exceptionally late 50 due to climatic conditions in winter 2010. The date of harvest varies slightly with the prevailing climatic conditions.

Ripening period.—Approximately 8 to 10 days. 55

Size.—Generally. Considered large, with a homogeneous size between them. Average cheek diameter. From 66.0 to 74.0 millimeters. Average axial diameter. From 35.0 millimeters 42.0 millimeters. Typical weight. Approximately 120.0 to 150.0 grams. This characteristic is highly dependent upon the prevailing cultural practices, and therefore is not particularly distinctive of the variety. 60

Fruit form.—Generally. Round and oblate to slightly cordiform. The fruit is generally uniform in symmetry, viewed from pistil end. Low dented. Fruit suture. 65

Very shallow, extending from the base to the apex. No apparent callousing or stitching exists along the suture line.

Suture.—Color. This has generally a color similar to the blush fruit color, a bright red (RHS RED 46 A to B or RHS RED 39 A to B) on an orange red ground (RHS YELLOW GROUP 11 B to C).

Ventral surface.—Form. Smooth. Apex. In slight dip. Base. Semi-flared. Shallow. Stem cavity. Average depth of the stem cavity is about 5.0 to 6.0 millimeters. Average width is about 12.0 to 15.0 millimeters.

Fruit skin.—Thickness. Considered very thick and strong, and tenacious to the flesh depending on stage of maturity. Texture. Smooth. Taste. Semi-sweet, sugared, aromatic. Tendency to crack. None.

Color.—Blush color. This blush color is a homogenous bright red (RHS RED 46 A to B or RHS RED 39 A to B). The red blush covers 80% to 100% of the fruit skin surface. The percentage of the blush on the fruit skin surface can vary, and is generally dependant upon the prevailing conditions under which the fruit was grown. Ground color. The ground color is orange red (RHS YELLOW GROUP 11 B to C) on 10% to 20% of the fruit. Appearance is slightly marbled on the clearest part of the fruit. The percentage of the ground color of the fruit skin surface can vary, and is generally dependant upon the prevailing conditions under which the fruit was grown. Fruit stem. Medium in length, approximately 4.0 to 5.0 millimeters. Diameter. Approximately 3.0 to 4.0 millimeters. Color. Pale green (RHS GREEN 145 A to B).

Flesh.—Ripens. Very homogenous, slow, very evenly. Texture. Very firm, very dense, crunchy, luscious, and juicy at harvesting maturity stage. Fibers. Not fibrous. Aroma. Pronounced. Eating quality. Considered very good, sweet and aromatic. Flavor. Considered semi-sweet. The Brix is generally superior to 13 degrees and acidity is comprised between 6 and 9 meq/100 ml. The flavor is considered juicy and aromatic. Juice. Very juicy at complete maturity. Brix. Superior to 13.0 degrees. This characteristic varies slightly with the number of fruit per tree; prevailing cultural practices; and the surrounding climatic conditions. Flesh color. White flesh (RHS WHITE 155 D) usually with a slight red pigmentation (RHS RED 53 B to C) under the skin on the apex side and in the stone cavity.

Stone.—Type. Clingstone. More or less adherent according to the fruit maturity. Stone cavity. Medium, with an ovoid form and dimensions corresponding to the stone's dimensions. Size. Considered small to medium for the variety. The stone size varies significantly depending upon the tree vigor, crop load and prevailing growing conditions. Length. From 19.0 to 20.0 millimeters. Width. From 20.0 to 22.0 millimeters. Diameter. From 12.0 to 13.0 millimeters. Form. Oblate, semi-round. Base. Flat to round.

Apex.—Shape. Oblate with a slight ridge.

Stone surface.—Surface texture. The stone is very furrowed on its entire surface. Furrows are shallow with a dorsal groove and a triple ventral groove. The shape of the stone can be compared to a vertebra. Ridges. The surface texture is generally characterized by more prominent ridges along the ventral edges and non prominent at the apical tip.

Ventral edge.—Width. Considered small to medium, and having a dimension of approximately 2.0 millimeters at mid-suture.

Dorsal edge.—Shape. Grooved. Stone color. The color of the dry stone is orange brown (RHS GREYED ORANGE 173 C to D) with some zones of light brown (RHS GREYED ORANGE 176 B to C). Tendency to split. Splitting is absent or very low, depending on climatic conditions between blooming period and stone hardening.

Kernel.—Size. Small, round and oblate. Length. About 8.0 millimeters. Width. About 8.0 millimeters. Thickness. About 7.0 millimeters. Form. Considered oblate, round and slightly grooved. Pellicle. Slightly pubescent. Color. The kernel skin is orange brown (RHS GREYED ORANGE N164 A to B or 165 B). The almond, which is the seed of the kernel, is cream-white (RHS WHITE 155 B). The kernel and its embryo are mature at the time of fruit maturity.

Use.—The subject variety 'FLATBELLA' is considered to be a flat white peach tree of the semi-early season of maturity, and which produces fruits that are considered large, firm, and attractively colored. Fruits are excellent for uncooked consumption, crunchy or at full maturity. Due to their flesh quality, firmness and density, they can also be commercialized as 4th range product (packed fruit or fruit in bags for example). And they are also useful for both local and very long distance shipping.

Keeping quality.—Excellent. Fruit stayed a little more than one week on tree before harvest and then, has

stored well more than 4 weeks after harvest at 2.0 degree Celsius. They have a slow maturation and a long shelf life both on the tree after growth completion and after harvesting without alteration.

Shipping quality.—Considered very good. The fruit of the new flat peach variety showed minimal bruising of the flesh or skin damage after being subjected to normal harvesting and packing procedures. Its resistance to handling during harvest and packing and its long shelf life without alteration after harvest easily permit 3 weeks-shipping at 2° degree Celsius.

Resistance to insects and disease.—No particular susceptibilities were noted. The present variety is low sensitive to powdery mildew, and low sensitive to conservation diseases and decay due to its thick and strong skin.

Although the new variety of flat peach tree possesses the described characteristics when grown under the ecological conditions prevailing near Elne, Pyrénées-Orientales department, France, it should be understood that variations of the usual magnitude and characteristics incident to changes in growing conditions, fertilization, pruning, pest control and horticultural management are to be expected.

We claim:

1. A new and distinct variety of flat white peach tree as illustrated and described, characterized by a large flat fruit of very long shelf life without alteration after harvesting, and with a semi-sweet white flesh of high eating quality and an attractive bright red skin color on an orange red ground.

* * * * *

FIG. 1



FIG. 2

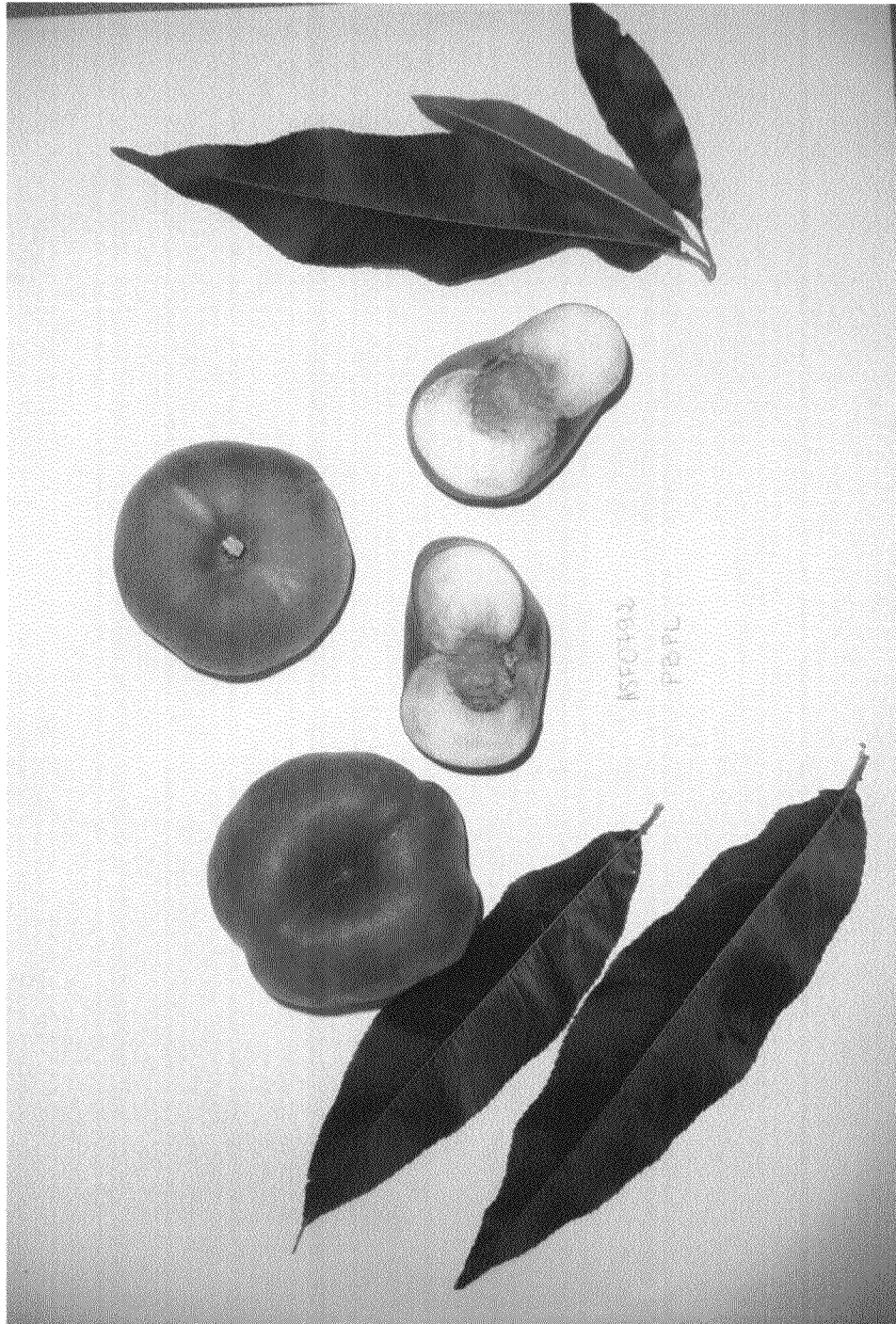


FIG. 3



FIG. 4



UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : PP23,194 P3
APPLICATION NO. : 13/064020
DATED : November 20, 2012
INVENTOR(S) : Arsene Maillard et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Specification

Column 3, line 44

Change “reniform” to -- circular --

Column 6, line 3

Change “Reniform” to -- Circular --

Signed and Sealed this
Eighteenth Day of February, 2014



Michelle K. Lee
Deputy Director of the United States Patent and Trademark Office