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(12) **United States Plant Patent**
Gerdts et al.(10) **Patent No.:** **US PP17,141 P3**(45) **Date of Patent:** **Oct. 10, 2006**(54) **NECTARINE TREE, 'BURNECTEIGHTEEN'**(50) Latin Name: *Prunus persica*Varietal Denomination: **Burnecteighteen**(75) Inventors: **Timothy J. Gerdts**, Kingsburg, CA
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(US)(73) Assignee: **The Burchell Nursery, Inc.**, Oakdale,
CA (US)(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 143 days.(21) Appl. No.: **11/013,949**(22) Filed: **Dec. 16, 2004**(65) **Prior Publication Data**

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A01H 5/00 (2006.01)(52) **U.S. Cl.** **Plt./192**(58) **Field of Classification Search** Plt./192
See application file for complete search history.(56) **References Cited**

U.S. PATENT DOCUMENTS

PP3,165 P * 5/1972 Anderson Plt./192
PP5,211 P * 3/1984 Jost Plt./190
PP7,049 P * 10/1989 Bradford et al. Plt./190

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Primary Examiner—Kent Bell*Assistant Examiner*—W. C. Haas(74) *Attorney, Agent, or Firm*—Wells St. John P.S.(57) **ABSTRACT**A new and distinct variety of nectarine tree, *Prunus persica*,
and which is denominated varietally as 'Burnecteighteen',
and which produces an attractively colored yellow-fleshed,
clingstone, sub-acid nectarine which is mature for harvest-
ing approximately July 10 to July 22 under ecological
conditions prevailing in the San Joaquin Valley of central
California.**1 Drawing Sheet****1****BACKGROUND OF THE NEW VARIETY**

The present invention relates to a new, novel and distinct variety of nectarine tree, *Prunus persica*, which has been denominated varietally as 'Burnecteighteen' hereinafter.

The present variety of nectarine tree resulted from an on-going program of fruit and nut tree breeding. The purpose of this program is to improve the commercial quality of deciduous fruit and nut varieties, and rootstocks, by creating and releasing promising selections of *prunus*, *malus* and *regia* species. To this end we make both controlled and hybrid cross pollinations each year in order to produce seedling populations from which improved progenies are evaluated and selected.

The seedling 'Burnecteighteen' was originated by us from a population of seedlings grown in our experimental orchards located near Fowler, Calif. The seedlings, grown on their own roots, were the result of a controlled cross, which we conducted. The seed parent was an unnamed yellow-fleshed clingstone nectarine tree (unpatented), which was originally derived by us from a cross of the 'Red Diamond' nectarine (U.S. Plant Pat. No. 3,165) with the 'Summer Red' nectarine tree (U.S. Plant Pat. No. 5,211). An un-named, white-fleshed nectarine seedling was used as the pollen parent. This cross was made in March 1998. Thereafter seeds from this cross were collected and planted in the autumn of 1998. One seedling, denoted as E49.005, which is the present variety, exhibited especially desirable characteristics and was marked for subsequent observation. After the 2000 fruiting season, the new variety of nectarine tree was selected for advanced evaluation and repropagation.

ASEXUAL REPRODUCTION

Asexual reproduction of this new and distinct variety of nectarine tree was accomplished by budding the new nec-

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tarine tree to 'Nemaguard' Rootstock (un-patented). This was performed by us in our experimental orchard located near Fowler, Calif. Subsequent evaluations have shown those asexual reproductions run true to the original tree. All characteristics of the original tree, and its fruit, were established and appear to be transmitted through succeeding asexual propagations.

SUMMARY OF THE VARIETY

'Burnecteighteen' is a new and distinct variety of nectarine tree, which is considered of large size, and which has vigorous growth. This new nectarine tree is also a regular and productive bearer of relatively large, firm, yellow fleshed, sub-acidic clingstone fruit which have good flavor and eating qualities. This new tree has a medium/low chilling requirement of approximately 700 hours, and further produces relatively uniformly sized fruit throughout the tree. In addition, the fruit also appears to have good handling and shipping qualities. Still further, the 'Burnecteighteen' nectarine tree bears fruit which are ripe for commercial harvesting and shipment on approximately July 10 to July 22 under the ecological conditions prevailing in the San Joaquin Valley of central California. In relative comparison to the seed parent, the present nectarine tree bears fruit about 15 or more days earlier at the same geographical location. Further, the present new variety of nectarine tree exhibits a more brilliant skin finish than that of the seed parent. In comparison to the pollen parent, the flesh color of the new variety is a pale-yellow orange, as compared with the white flesh of the pollen parent. In relative comparison to other known varieties, the present variety of nectarine tree is most closely similar to the 'Summer Bright' Nectarine (U.S. Plant Pat. No. 7,049), which, when grown in its natural state,

produces fruit with relatively high flesh acid levels, whereas the present new variety produces fruit which have significantly lower flesh acid levels, and is otherwise considered to be sub-acidic.

BRIEF DESCRIPTION OF THE DRAWING

The accompanying drawing, is a color photograph of the new present variety. The photograph depicts two whole mature fruit, and one slice of fruit dissected substantially in the sagittal plane, and which reveals the flesh sufficiently matured for harvest. The external coloration of the fruit, as shown, is sufficiently matured for harvesting and shipment. Additionally, the photograph displays a sample vegetative shoot bearing typical leaves, and a typical stone, with the flesh removed. The colors in this photograph are as nearly true as is reasonably possible in a color representation of this type. 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 specimen. For this reason, future color references should be made to the color plates (Royal Horticultural Society) and other more general color descriptions provided hereinafter.

DETAILED DESCRIPTION

Referring more specifically to the pomological details of this new and distinct variety of nectarine tree, the following has been observed during the fourth fruiting season under the ecological conditions prevailing at orchards which are located near the town of Fowler, county of Fresno, state of California. All major color code designations are by reference to The R.H.S. Colour Chart (Fourth Edition) and which is provided by The Royal Horticultural Society of Great Britain. Common color names are also occasionally used.

Tree:

Size.—Generally — Considered medium-large as compared to other common commercial nectarine cultivars ripening in the early season of maturity. The tree of the present variety was pruned to a height of approximately 305.0 cm to about 320.0 cm at maturity.

Vigor.—Considered moderately vigorous. The present nectarine tree variety grew from about 135.0 cm to about 140.0 cm in height during the first growing season. The new variety was pruned to a height of approximately 125.0 cm during the first dormant season, and primary scaffolds were then selected for the desired tree structure.

Productivity.—Productive. Fruit set varies from about 1.5 to several times more than the desired crop load. 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 cultural practices employed and is therefore not distinctive of the present variety.

Bearer.—Regular. Fruit set has been heavy during the years of observation and thinning was necessary during the past 5 years.

Form.—Upright, and pruned to a vase shape.

Density.—Considered medium dense. It has been discovered that pruning the branches from the center of the tree to obtain a resulting vase shape allows for air movement and appropriate amounts of sunlight to enhance fruit color and renewal of fruiting wood throughout the tree.

Hardiness.—The present tree was grown and evaluated in USDA Hardiness Zone 9. Winter chilling requirements of the new tree are approximately 700 hours below 7.0 degrees C. The variety appears to be hardy under typical central San Joaquin Valley climatic conditions.

Trunk:

Diameter.—Approximately 13.1 cm in diameter when measured at a distance of approximately 15.24 cm above the soil level. This measurement was taken at the end of the fifth growing season.

Bark texture.—Considered moderately rough, with numerous folds of papery scarfskin being present.

Lenticels.—Numerous flat, oval lenticels are present. The lenticels are considered relatively large, and range in size from approximately 5.0 to about 9.0 millimeters in width, and from 1.0 to about 2.0 millimeters in height.

Lenticel color.—Orange brown, (RHS Greyed-Orange Group N170 A).

Bark coloration.—Variable, but it is generally medium grey-brown, (RHS Greyed-Red Group 178 B).

Branches:

Size.—Considered medium for the variety.

Diameter.—Average as compared to other nectarine varieties. The branches have a diameter of about 6.5 centimeters when measured during the third year after grafting.

Surface texture.—Average, and appearing furrowed on wood which is several years old.

Crotch angles.—Primary branches are considered variable, and are between about 47 to 53 degrees when measured from the horizontal axis. This particular characteristic is not considered distinctive of the variety, however.

Current season shoots.—Surface texture — Substantially glabrous.

Internode length.—Approximately 2.2 to about 2.3 cm.

Color of mature branches.—Medium brown, (RHS Greyed-Orange 177 C).

Current seasons shoots.—Color — Light green (RHS Green Group 137 C). The color of new shoot tips is considered a bright and shiny green (RHS Green Group 143 D).

Leaves:

Size.—Considered medium for the species. Leaf measurements have been taken from vigorous, upright, current-season growth at approximately mid-shoot.

Leaf length.—Approximately 141.0 to about 155.0 millimeters.

Leaf width.—Approximately 34.0 to about 39.0 millimeters.

Leaf base shape.—Slightly oblique relative to the leaf longitudinal axis.

Leaf form.—Lancelolate.

Leaf tip form.—Acuminate.

Leaf color.—Upper Leaf Surface — Dark green, (approximately RHS Yellow-Green Group 147 A).

Leaf texture.—Glabrous.

Leaf color.—Lower Surface — Medium green, (RHS Yellow-Green Group 147 B).

Leaf venation.—Pinnately veined.

Mid-vein.—Color — Light yellow green, (RHS Yellow-Green Group N144 D).

Leaf margins.—Slightly undulating.

Form.—Considered crenate. Occasionally doubly so.

Uniformity.—Considered generally uniform.
Leaf petioles.—Size — Considered medium.
Length.—About 6.0 to about 10.0 mm.
Diameter.—About 1.5 to about 2.0 mm.
Color.—Pale green, (RHS Yellow-Green Group 144 A).
Leaf glands.—Size — Considered medium small.
 Approximately 1.5 mm in length, and about 1.0 mm in height.
Number.—Generally one gland per margin side. Occasionally two glands per margin side.
Type.—Globose.
Color.—Considered a pale orange (RHS Orange Group 26 A).
Leaf stipules.—Size — Medium for the variety.
Number.—Typically 2 per leaf bud and up to 6 per shoot tip.
Form.—Lanceolate in form and having a serrated margin.
Color.—Green, (RHS Green Group 143 B) when young, but graduating to a brown color, (RHS Greyed-Orange group 166 C) with advancing senescence. The stipules are considered to be early deciduous.

Flowers:

Flower buds.—Generally — The floral buds, depending upon the stage of development, are approximately 7.0 millimeters wide; about 11.0 millimeters long; conic in form; and slightly appressed relative to the bearing shoot. Floral bud dimensions are highly dependant upon the timing of the measurements.
Flower buds.—Color — This characteristic is dependent upon the proximity to bloom. The bud scales are a deep purple, (approximately RHS Greyed-Purple Group N187 A). The buds are considered hardy under typical central San Joaquin Valley climatic conditions.
Hardiness.—No winter injury has been noted during the last several years of evaluation in the central San Joaquin Valley. The current variety has not been intentionally subjected to drought or heat stress, and therefore this information is not available.
Date of first bloom.—Mar. 3, 2004.
Blooming time.—Considered mid season in relative comparison to other commercial nectarine cultivars grown in the central San Joaquin Valley. The date of full bloom was observed on Mar. 8, 2004. The date of bloom varies slightly with climatic conditions and cultural practices.
Duration of bloom.—Approximately 9 days. This characteristic varies slightly with the prevailing climatic conditions.
Flower type.—The variety is considered to have a showy type flower.
Flower size.—Flower diameter at full bloom is approximately 42.0 to about 49.0 millimeters.
Bloom quantity.—Considered abundant.
Flower bud frequency.—Normally 1 or more flower buds appear per node.
Petal size.—Generally — Considered medium-large for the species.
Length.—Approximately 20.0 to about 23.0 millimeters.
Width.—Approximately 18.0 to about 20.0 millimeters.
Petal form.—Considered ovoid.
Petal count.—Nearly always 5.
Petal texture.—Glabrous.

Petal color.—Light pink, approximately (RHS Red-Purple Group 62 C).
Fragrance.—Slight.
Petal claw.—Form — The claw is generally considered elongated, and has a medium size when compared to other varieties.
Length.—Approximately 10.0 to about 13.0 millimeters.
Width.—Approximately 8.0 to about 10.0 millimeters.
Petal margins.—Generally considered reasonably uniform and smooth, and moderately undulate.
Petal apex.—Generally — The petal apices are generally grooved at the tip.
Flower pedicel.—Length — Considered medium-long, and having an average length of approximately 4.0 to about 6.0 millimeters.
Diameter.—Considered average, approximately 3.0 millimeters.
Color.—A dull green, (RHS Yellow-Green Group N144 A).
Floral nectaries.—Color — A dull orange, (RHS Greyed-Orange Group 168 A).
Calyx.—Surface Texture — Generally glabrous.
Color.—Purple, (approximately RHS Greyed-Red Group 181 A).
Sepals.—Surface Texture — The surface has a short, fine pubescent texture.
Size.—Average, and ovate in form.
Color.—A deep purple, (approximately RHS Greyed-Purple Group 183 D).
Anthers.—Generally — Average in length.
Color.—Red to reddish-orange dorsally, (approximately RHS Greyed-Red Group 179 A).
Pollen production.—Pollen is abundant, and has a yellow color, (approximately RHS Yellow-Orange Group 17 C). The present variety is considered self-fruitful and does not require a pollinator.
Filaments.—Size — Length is variable, approximately 16.0 to about 19.0 millimeters long.
Color.—Considered light pink, (RHS Red-Purple Group 65 B).
Pistil.—Number — Usually 1, rarely 2.
Generally.—Average in size.
Length.—Approximately 16.0 to about 19.0 millimeters including the ovary.
Color.—Considered a very pale green, (approximately RHS Yellow-Green Group 145 C).
Surface texture.—The variety has a long glabrous pistil.

Fruit:

Maturity when described.—Firm ripe condition (shipping ripe). Date of first picking — Jul. 12th, 2004. Date of last picking — Jul. 22, 2004. The date of harvest varies slightly with the prevailing climatic conditions and fruit maturity harvested for preferred market requirements.
Size.—Generally — Considered large, and uniform.
Average cheek diameter.—Approximately 71.0 to about 75.0 millimeters.
Average axial diameter.—Approximately 69.0 to about 73.0 millimeters.
Typical weight.—Approximately 277.0 grams. This characteristic is highly dependent upon the prevailing cultural practices, and therefore is not particularly distinctive of the variety.
Fruit form.—Generally — Considered rounded. The fruit is generally uniform in symmetry.

Fruit suture.—Very shallow and smooth, and extending from the stem attachment in the direction of the base, but is further absent in the region of the suture plane. No apparent callousing or stitching exists along the suture line.

Suture.—Color — This has a yellow background color, (approximately RHS Yellow-Orange Group 22 B).

Ventral surface.—Form — Slightly indented.

Apex.—Rounded.

Base.—Generally retuse.

Stem cavity.—Generally uniform and rounded in shape, and moderately deep. Average depth of the stem cavity is about 11.0 mm. Average width of the stem cavity is about 19.0 mm.

Fruit skin.—Thickness — Considered medium in thickness, and tenacious to the flesh.

Texture.—Glabrous. Occasional speckling is typically observed toward the apex.

Taste.—Non-astringent.

Tendency to crack.—None observed.

Color.—Blush Color — This blush color is generally red (approximately RHS Red Group 45 A). The blush covers approximately 85–95% of the fruit skin surface. The percentage of the blush on the fruit skin surface can vary, and is generally dependent upon the prevailing conditions under which the fruit was grown.

Ground color.—Yellow orange, (approximately RHS Yellow-Orange Group 22 B).

Fruit stem.—Medium, approximately 6.0 to about 8.0 millimeters.

Diameter.—Approximately 2.0 to 3.0 millimeters.

Color.—Pale yellow-green, (approximately RHS Yellow-Green Group 144 B).

Flesh.—Ripens — Evenly.

Texture.—Firm, juicy and dense. The flesh is considered firm-melting.

Fibers.—Few, small, and tender ones are typically found.

Aroma.—Very slight.

Eating quality.—Considered very good.

Flavor.—Considered sweet and sub-acidic. The flavor is considered both pleasant and balanced.

Juice.—Moderate.

Brix.—About 16.0 degrees. This characteristic varies slightly with the number of fruit per tree; prevailing cultural practices; and the surrounding climatic conditions.

Flesh color.—Pale yellow-orange, (approximately RHS Yellow-Orange Group 20 C).

Stone:

Type.—Freestone. Some slight separation of the stone from the flesh is observed.

Size.—Considered medium for the variety. The stone size varies significantly depending upon the tree vigor, crop load and the prevailing growing conditions.

Length.—Average, about 26.0 to about 30.0 millimeters.

Width.—Average, about 20.0 to about 27.0 millimeters.

Diameter.—Average, about 15.0 to about 18.0 millimeters.

Form.—Generally ovoid.

Base.—The stone is usually ovoid basally.

Apex.—Shape — Generally the stone apex has a small prominent tip.

Stone surface.—Surface Texture — The pit is irregularly furrowed toward the ventral and dorsal sides. Pitting is generally more present and notable on the lateral sides.

Ridges.—The surface texture is generally characterized by more prominent ridges along the dorsal margins.

Ventral edge.—Width — Considered medium, and having a dimension of approximately 3.0 to about 4.0 millimeters when measured at the mid-suture.

Dorsal edge.—Shape — Oblique toward the stem end, and exhibiting a slight reduction of the margin toward the apex.

Stone color.—The color of the dry stone is Reddish brown, (approximately Greyed-Red Group RHS 178 A).

Tendency to split.—Splitting has rarely been noted.

Kernel.—Size — The kernel is considered medium-large.

Form.—Considered generally ovoid.

Pellicle.—Pubescent and ridging is usually absent.

Color.—(RHS Greyed-Orange Group 168 D).

Use.—The subject variety ‘Burnecteighteen’ is considered to be a nectarine tree of the mid-season of maturity, and which produces fruit that are considered firm, attractively colored, and which are useful for both local and long distance shipping.

Keeping quality.—Excellent. Fruit has stored well for up to 25 days after harvest at 1.0 degree Celsius.

Shipping quality.—Considered good. The fruit of the new nectarine variety showed minimal bruising of the flesh, or skin damage after being subjected to normal harvesting and packing procedures.

Resistance to insects and disease.—No particular susceptibilities were noted. The present variety has not been tested to expose or detect any susceptibilities or resistances to any known plant and/or fruit diseases.

Although the new variety of nectarine tree possesses the described characteristics when grown under the ecological conditions prevailing near Fowler, Calif., in the central part of the San Joaquin Valley of California, 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.

Having thus described and illustrated our new variety nectarine tree, what we claim is new and desire to secure by Plant Letters Patent is:

1. A new distinct variety of nectarine tree substantially as illustrated and described, and which is characterized principally as to novelty by producing an attractively colored yellow-fleshed, freestone, sub-acid nectarine which is mature for harvesting approximately July 10 to July 22 under the ecological conditions prevailing in the San Joaquin Valley of central California.

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