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(12) **United States Plant Patent**
Finn

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(54) **STRAWBERRY PLANT NAMED 'CHARM'**

(50) Latin Name: ***Fragaria×ananassa* Duchesne ex Rozier**
Varietal Denomination: **Charm**

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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.

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A01H 5/00 (2006.01)

(52) **U.S. Cl.**
USPC **Plt./208**

(58) **Field of Classification Search**
USPC Plt./208
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

PP8,346	P	8/1993	Nelson et al.
PP8,649	P	3/1994	Sjulin et al.
PP8,659	P	3/1994	Voth et al.
PP8,660	P	3/1994	Voth et al.
PP8,662	P	3/1994	Bringhurst et al.
PP8,663	P	3/1994	Voth et al.
PP8,708	P	5/1994	Voth et al.
PP8,745	P	5/1994	Sjulin et al.
PP8,853	P	8/1994	Buszard et al.
PP8,970	P	11/1994	Sjulin et al.
PP9,130	P	5/1995	Sjulin et al.
PP9,310	P	10/1995	Moore
PP10,191	P	1/1998	Luby et al.
PP10,402	P	5/1998	Hureau
PP10,460	P	6/1998	Khanizadeh et al.
PP10,960	P	6/1999	Lopez
PP11,277	P	3/2000	Gilford et al.
PP12,067	P2	8/2001	Moore
PP16,228	P3	1/2006	Shaw et al.
PP16,480	P3	4/2006	Weber et al.
PP16,571	P3	5/2006	Weber et al.
PP17,404	P3	2/2007	Luby et al.
PP19,472	P3	11/2008	Shaw et al.
PP22,589	P3	3/2012	Larson et al.
PP22,781	P2	6/2012	Moore

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(57) **ABSTRACT**

This invention relates to new and distinct cultivar of strawberry plant named 'Charm'. The new cultivar is primarily characterized by it medium-large fruit that have outstanding processing characteristics including deep red internal and external color, sweet flavor, and very easy calyx removal, as well as vigorous, productive plants.

5 Drawing Sheets

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Latin name of the genus and species of the plant claimed:

'CHARM' is a new strawberry plant that is *Fragaria xananassa* Duchesne ex Rozier.

Variety denomination: The new strawberry plant claimed is of the variety denominated 'Charm' *Fragaria xananassa* Duchesne ex Rozier.

BACKGROUND OF THE NEW PLANT

The present invention relates to a new and distinct strawberry cultivar strawberry designated 'Charm' and botanically known as *Fragaria xananassa* Duchesne ex Rozier. This new strawberry cultivar was discovered in Corvallis, Oreg. in June 2001 and originated from a cross between the female parent BC 91-14-31 (unpatented) and the male parent WA 94023-1 (unpatented). The original seedling of the new cultivar was asexually propagated in Benton County Oregon since 2001 by rooting daughter plants from stolons from the mother plant. The present invention has been found to be stable and reproduce true to type through successive asexual propagations.

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DESCRIPTION OF THE PHOTOGRAPHS

The accompanying color photographs show typical specimen's of the new cultivar at various stages of development as nearly true as it is possible to make in color reproductions.

FIG. **1** shows overall plant habit.

FIG. **2** shows the flower morphology.

FIG. **3** shows a flower truss with fruit in a range of ripening stages.

FIG. **4** shows typical fruit after harvest for processing market.

FIG. **5** shows typical entire and sliced fruit after freezing and thawing.

DESCRIPTION OF THE NEW CULTIVAR

The following description of 'Charm' is based on observations taken from 2004 to 2012 growing seasons in trials in Corvallis and Aurora, Oreg. This description is in accordance with UPOV terminology. Color designations, color descriptions and other phenotypical descriptions may deviate from the stated values and descriptions depending upon variation in environmental, seasonal, climatic and cultural conditions.

'Charm' has not been observed under all possible environmental conditions. The botanical description of 'Charm' was taken from plants one year after establishment in the field. Color terminology follows The Royal Horticultural Society Colour chart. London (R.H.S.) (5th edition, 2007).

DETAILED BOTANICAL DESCRIPTION

Table 1 shows selected characteristics of the new cultivar compared with plant characteristics of 'SWEET SUNRISE', (U.S. Plant patent application Ser. No. 13/694,950). Characteristics include plant height, number of crowns per plant, plant habit, bract frequency, petiole texture, petal length and width, fruit shape, and fruit weight.

TABLE 1

Characteristic	'Charm'	'Sweet Sunrise'
Plant height (cm)	20.0	11.9
Number of crowns/plant	11.0	6.2
Habit	Upright globose	Upright, open globose
Bract frequency	None	Typically two
Texture petiole	Hirsute	Dense
Petal length (cm)	1.0	1.4
Petal width (cm)	1.0	1.3
Fruit shape	Conic, slight wedge	Conic
Weight fruit (g)	14.6	15.4

Table 2 shows plant characteristics of the new cultivar compared with plant characteristics of 'Sweet Sunrise', (U.S. Plant patent application Ser. No. 13/694,950). Plant characteristics include plant height, diameter, number of crowns per plant, habit, density of individual plants and vigor.

TABLE 2

Characteristic	'Charm'	'Sweet Sunrise'
Plant height (cm)	20.0	11.9
Plant diameter (cm)	34.7	25.0
Number of crowns/plant	11.0	6.2
Habit	Upright globose	Upright, open globose
Density of individual plant	Medium to Dense	Medium
Vigor	Strong	Medium

Table 3 shows leaf characteristics of the new cultivar compared with leaf characteristics of 'Sweet Sunrise', (U.S. Plant patent application Ser. No. 13/364,950). Leaf characteristics include leaf type, leaf shape. leaf length, leaf width, terminal leaflet length, terminal leaflet width, terminal leaflet length to width ratio, leaf margins, shape of teeth, leaf serrations per leaflet, upper and lower leaf surface color, number of leaflets, terminal leaflet apex shape, terminal leaflet base shape, glossiness upper side leaf surface, texture upper side leaf surface, texture underside leaf surface and leaf arrangement.

TABLE 3

Characteristic	'Charm'	'Sweet Sunrise'
Leaf type	Semi-evergreen leaves that die back to the ground in severe winters	Semi-evergreen leaves that die back to the ground in severe winters
Leaf shape	Ovate	Ovate
Leaf length (cm)	6.98	7.94
Leaf width (cm)	6.53	6.76
Terminal leaflet length (cm)	7.87	7.72

TABLE 3-continued

Characteristic	'Charm'	'Sweet Sunrise'
Terminal leaflet width (cm)	6.93	6.27
Terminal leaflet length/width ratio	1.1	1.2
Leaf margins	Serrate	Single serration, coarsely serrate
Shape of teeth	Rounded	Pointed
Leaf serrations per leaflet	20.3	21.7
Color mature leaves upper surface	Green Group N 137B	Green Group N 137A
Color mature leaves lower surface	Green Group N138C	Green Group 138C
Number of leaflets	3	3
Terminal leaflet apex shape	Obtuse	Obtuse
Terminal leaflet base shape	Cuneate	Cuneate
Glossiness upper side leaf surface	Semi-gloss	Semi-gloss
Texture upper side leaf surface	Very lightly tomentose	Very lightly tomentose
Texture underside leaf surface	Tomentulose	Tomentulose
Leaf arrangement	Compound with three leaflets	Compound with three leaflets

Table 4 shows information about the petiole, the petiolule, the bract and the stipule of the new cultivar compared to 'Sweet Sunrise', (U.S. Plant patent application Ser. No. 13/694,950). This includes petiole length, petiole diameter, petiole pubescence, petiole color, petiolule color, petiolule length, bract frequency, texture petiole, stipule length, and stipule width.

TABLE 4

Characteristic	'Charm'	'Sweet Sunrise'
Leaf petiole length (cm)	18.0	10.8
Petiole diameter (cm)	0.26	0.27
Petiole pubescence	Hirsute	Dense
Petiole color	144C	144C
Petiolule color	144C	144C
Petiolule length (cm)	1.11	1.17
Bract frequency	None	Typically two
Texture petiole	Hirsute	Dense
Stipule length (cm)	1.96	2.51
Stipule width (cm)	1.01	1.24

Table 5 shows stolon characteristics of the new cultivar compared to 'Sweet Sunrise', (U.S. Plant patent application Ser. No. 13/694,950). These characteristics include the number of stolons, the anthocyanin coloration of the stolons, the thickness of the stolons, and the pubescence of the stolons.

TABLE 5

Characteristic	'Charm'	'Sweet Sunrise'
Stolon number	13.5	6.0
Stolon anthocyanin	Weak	Between weak and medium
Stolon thickness (cm)	0.26	0.25
Stolon pubescence	Sparse to medium	Sparse

Table 6 shows inflorescence characteristics of the new cultivar compared to 'Sweet Sunrise', (U.S. Plant patent application Ser. No. 13/694,950). These characteristics include inflorescence position relative to foliage, flower type, flower size, petal shape, relative petal spacing, petal apex

shape, petal margin, petal base shape, petal length, petal width, petal length/width ratio, number of petals, petal color, stigma color, style color, anther color, filament color, and flower truss type.

TABLE 6

Characteristic	'Charm'	'Sweet Sunrise'
Inflorescence position	Between level with and above	Between level with and above
Flower type	Complete simple	Complete simple
Flower diameter (cm)	2.7	2.7
Petal shape	Orbicular	Orbicular
Petal spacing	Overlapping	Overlapping
Petal apex shape	Rounded	Rounded
Petal margin	Entire	Entire
Petal base shape	Rounded	Rounded
Petal length (cm)	1.00	1.43
Petal width (cm)	1.00	1.31
Petal length/width ratio	1.0	1.1
Petal count	5.1	5.4
Petal color	White Group NN155C	White Group NN 155B
Stigma color	Green-Yellow Group 1B	Yellow Group 13A
Style color	Green-Yellow Group 1B	Yellow Group 13A
Anther color	Yellow-Orange Group 14A	Yellow-Orange Group 14A
Filament color	Yellow-Orange Group 14D	Yellow-Orange Group 14A
Blooming habit	Cyme	Cyme

Table 7 shows fruit characteristics of the new cultivar compared to 'Sweet Sunshine' (U.S. Plant patent application Ser. No. 13/694,650). These characteristics include number of berries per truss, fruiting truss attitude, fruit length, fruit diameter, fruit length/width ratio, fruit weight, relative fruit size, predominant fruit shape, difference in shape between primary and secondary fruit, band without achenes, evenness of fruit surface, top color, non-blush side color, blush side color, internal color, achene color, achene count per fruit, insertion of calyx, pose of calyx segments, size of calyx in relation to fruit, ease of calyx removal, firmness of flesh, evenness of flesh color, distribution of flesh color, sweetness, acidity, Brix, pH, titratable acidity, texture when tasted, time of flowering, harvest maturity (50% of plants with ripe fruit), type of bearing, and yield.

TABLE 7

Characteristic	'Charm'	'Sweet Sunrise'
Number of berries per fruiting truss	6.8	5.2
Fruiting truss attitude	Between prostrate and semi-erect	Between erect and semi-erect
Diameter fruit (cm)	3.50	2.93
Length fruit (cm)	4.30	3.23
Ratio fruit length/width	1.2	1.1
Weight fruit (g)	14.6	15.4
Relative fruit size	Medium	Medium-large
Predominant fruit shape	Conic, slight wedge	Conic
Difference in shape between primary and secondary fruits	Slight	Slight
Band without achenes	Absent or very narrow	Very narrow
Evenness of fruit surface	Very even	Even
Color of top of fruit	Red Group 53A	Red Group 53A
Non-blush side color	Red Group 53A	Red Group 53A
Blush side color	Red Group 53A	Red Group 53A
Internal flesh color	Red Group 47A (mostly uniform, slightly open core)	Red Group 47A (mostly uniform)
Achene color	Red Group 53B	Red Group 53A
Achene count	216	278
Insertion of calyx	Level	Level
Pose of calyx segments	Spreading	Spreading to reflexed
Size of calyx in relation to fruit	Between same size and smaller	Smaller
Ease of calyx removal	Very easy	Easy
Firmness of flesh	Medium	Firm
Evenness of flesh color	Even	Even
Distribution of flesh color	Throughout	Throughout
Sweetness	Strong	Strong
Acidity	Medium	Medium
Brix (percent soluble solids)	7.65	8.27
pH	3.43	3.56
Titratable acidity (g citric acid/100 g fruit)	9.45	7.65
Texture when tasted	Fine	Fine
Time of flowering	First bloom mid-late April, ends early-mid June	Begins late April early May, ends early-mid June
Harvest maturity (50% of plant with ripe fruit)	Mid-June	Early June
Type of bearing	Short-day/June-bearing	Short-day/June-bearing
Yield (kg/hectare)	38063	34455

COMPARISON WITH PARENTAL GENOTYPES

When 'Charm' is compared to female parent BC 9114-31 (unpatented), the fruit are less firm and brighter colored and the plants less susceptible to foliar disease. When 'Charm' is compared to the male parent WA 94023-1 (unpatented) the fruit are darker and firmer and the plants more productive.

We claim:

1. A new and distinct cultivar of strawberry plant as described and illustrated herein.

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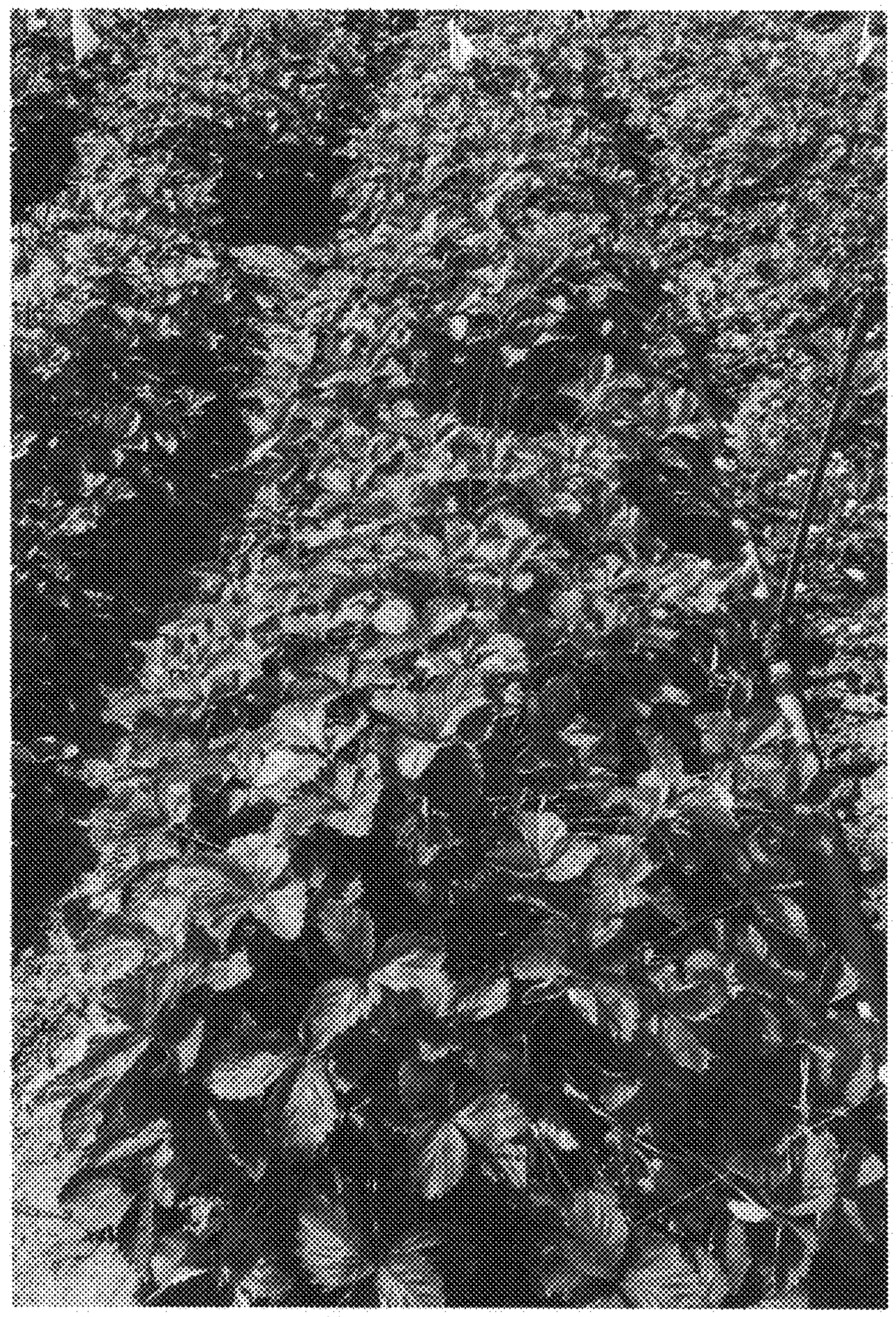

FIG. 1

FIG. 2

FIG. 3

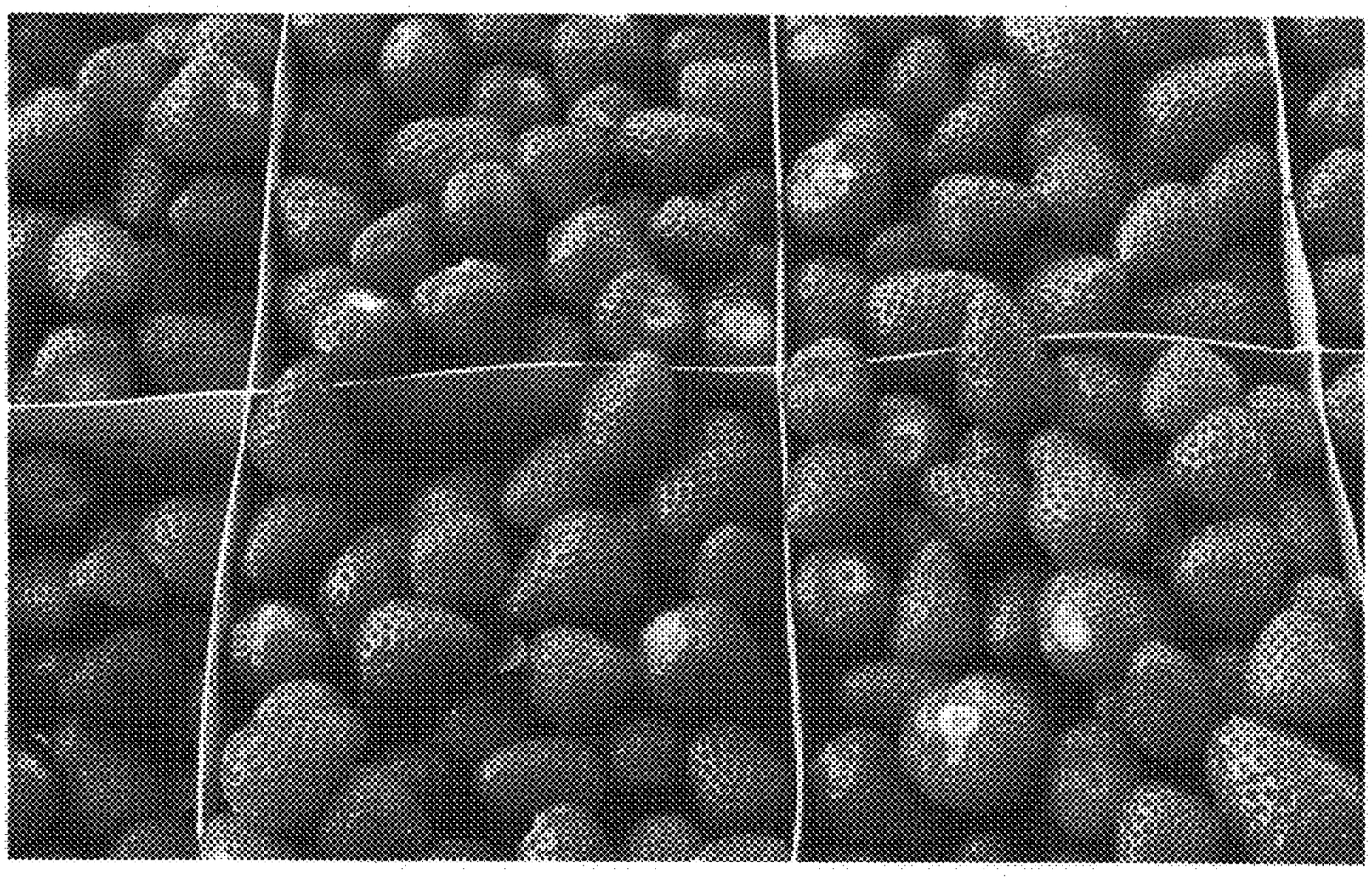

FIG. 4

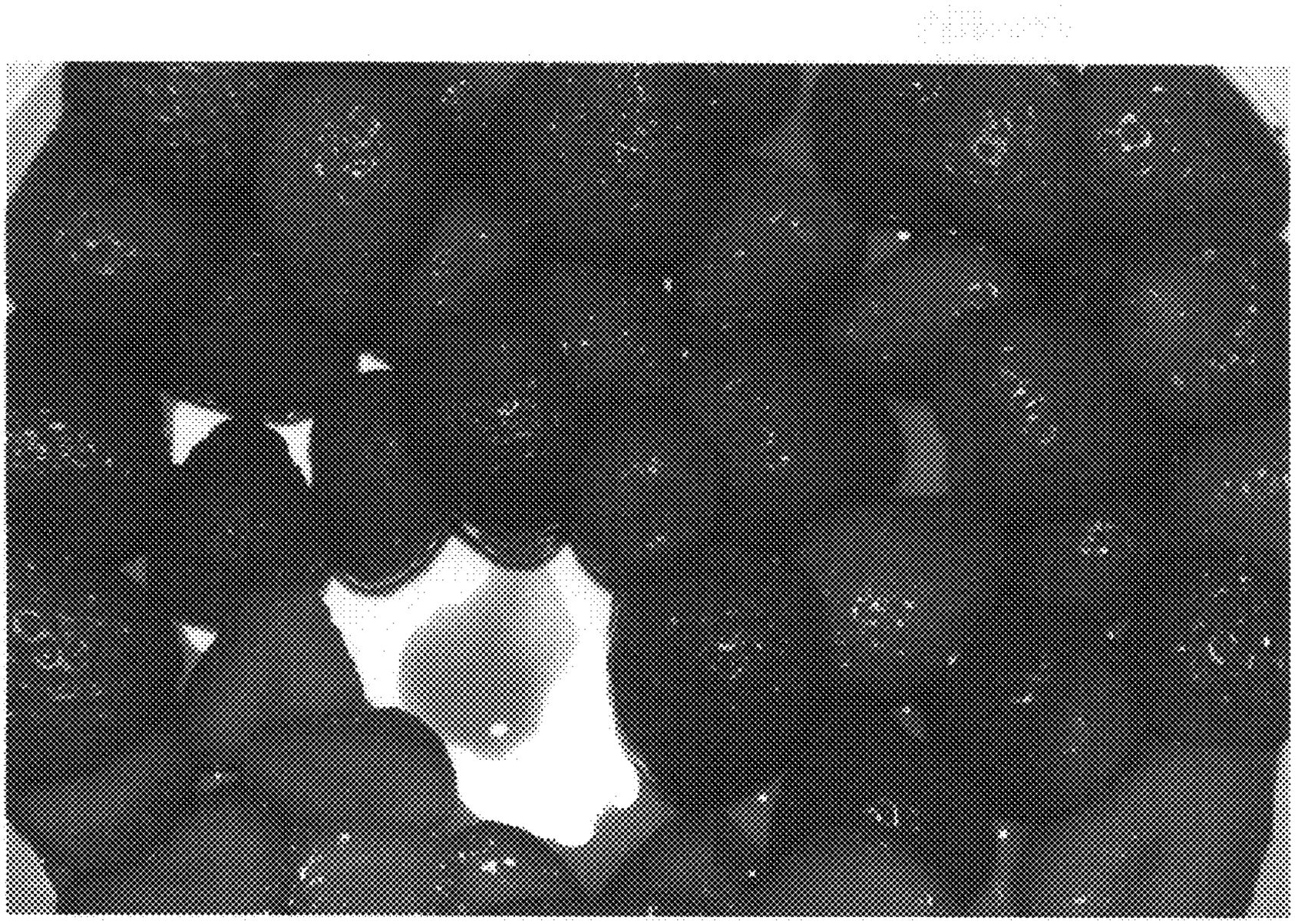

FIG. 5