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Amorao et al.

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(54) **STRAWBERRY PLANT NAMED ‘DRISCOLL EL CAPITAN’**

(52) **U.S. Cl.** **Plt./209**

(58) **Field of Search** **Plt./209**

(75) **Inventors:** **Amado Q. Amorao**, Camarillo, CA (US); **Arnoldo Solis, Jr.**, Oxnard, CA (US); **Michael Ferguson**, Chatsworth, CA (US)

Primary Examiner—Bruce R. Campell
Assistant Examiner—Susan B. McCormick
(74) *Attorney, Agent, or Firm*—Pennie & Edmonds, LLP

(73) **Assignee:** **Driscoll Strawberry Assocites, Inc.**, Watsonville, CA (US)

(57) **ABSTRACT**

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

This invention relates to a new and distinct variety of strawberry named ‘Driscoll El Capitan’. The variety is similar to the varieties Coronado and San Miguel. The variety is distinguished from ‘Coronado’ and ‘San Miguel’, in that ‘Driscoll El Capitan’ has an obtuse terminal leaflet teeth shape, medium to dense petiole pubescence, medium to strong anthocyanin coloration, cordate fruit shape, marked difference in shape between primary and secondary fruits, large hollow center size, and time of flowering is mid-December.

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(51) **Int. Cl.**⁷ **A01H 5/00**

4 Drawing Sheets

1

2

1. BACKGROUND OF THE INVENTION

The new variety originated as a result of a controlled cross between the strawberry plants ‘San Miguel’ (U.S. Plant Pat. No. 10,642) and ‘12A71’ (unpatented variety) in an ongoing breeding program, and was discovered as a seedling in Ventura County, Calif. in February, 1996. The original seedling of the new cultivar was asexually propagated by stolons in a nursery in Shasta County, Calif. Propagules were transplanted to a controlled breeding plot in Ventura County, Calif., where the variety was identified and selected for further evaluation. ‘Driscoll El Capitan’ was subsequently asexually propagated and underwent further testing at in Ventura County, Calif. for six years. This propagation and testing has demonstrated that the combination of traits disclosed herein which characterize the new variety are fixed and retained true to type through successive generations of asexual reproduction.

that are different from, or not possessed by ‘Coronado’ and ‘San Miguel’. The new variety has an obtuse terminal leaflet teeth shape, medium to dense petiole pubescence, medium to strong anthocyanin coloration, cordate fruit shape, marked difference in shape between primary and secondary fruits, large hollow center size, and time of flowering is mid-December.

1.1 LATIN NAME OF THE GENUS AND SPECIES OF THE PLANT CLAIMED

The variety is botanically identified as *Fragaria* × *ananassa*.

4. BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying photographs show typical specimens of the new variety, including fruit, foliage and flowers, in color as nearly true as it is reasonably possible to make in color illustrations of these characteristics.

FIG. 1 shows the leaves of the plant.

FIG. 2 shows the upper side and the under side of the flowers.

FIG. 3 shows a close-up of the fruit.

FIG. 4 shows the fruit in longitudinal cross-section.

2. SUMMARY OF THE INVENTION

The present invention relates to a new and distinct variety of strawberry named ‘Driscoll El Capitan’. The variety is botanically identified as *Fragaria* × *ananassa*. The new variety is distinguished from other varieties by a number of characteristics as set forth in Tables 1–4.

5. DESCRIPTION OF THE NEW VARIETY

The following detailed description of the new variety is based upon observations taken of plants and fruit grown in Monterey County, Calif., U.S.A. This description is in accordance with UPOV terminology. Observations of ‘Driscoll El Capitan’, ‘Coronado’ and ‘San Miguel’ were taken in side by side comparison in the year 2001. 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. Colors are described and the most similar color designations are provided from The Royal Horticultural Society (R.H.S.) Colour Chart.

3. COMPARISON TO SIMILAR VARIETIES

The varieties which we believe to be similar to ‘Driscoll El Capitan’ from those known to us are ‘Coronado’ (U.S. Plant Pat. No. 10,221) and ‘San Miguel’ (U.S. Plant Pat. No. 10,642). There are several characteristics of the new variety

5.1 PROPAGATION

The new variety is principally propagated by way of stolons. Although propagation by stolons is presently preferred, other known methods of propagating strawberry plants may be employed.

5.2 CHARACTERISTICS OF THE NEW VARIETY

Information on the new variety is presented in Tables 1, 2, 3 and 4. In the tables, the flowers described are secondary flowers except where indicated. The petal color of 'Driscoll El Capitan' is white (155C in The R.H.S. Colour Chart). The fruit described is the secondary fruit on one-year-old plants. Fruit and flower measurements are an average of both primary and secondary fruit and flowers. The average stolon diameter at bract subtending the daughter plant is 2.40 mm. The number of propagules/nursery plant in 2002 was 61.8. The anthocyanin coloration of the stipules in the Fall of the year in nursery is light green with a faint blush of pink anthocyanin (149D in The R.H.S. Colour Chart). The petiolule length is 9.47 mm and the petiolule color is 149A. The leaf texture is blistered, the leaf margin is crenate, the leaf vein color is 149A (in The R.H.S. Colour Chart), and the leaf venation is pinnate. The petal shape is ovate to rounded, the petal margin is entire, the petal number is 6, and the petal color of upper and lower surface is 155C (in The R.H.S. Colour Chart). The sepal color is 137B (in The R.H.S. Colour Chart) on the upper surface and 137D (in The R.H.S. Colour Chart) on the lower surface, the average sepal number is 11.7, average sepal length is 13.98 mm, and average sepal width as 6.90 mm. The color of fruit vascular tissue is 155C (in The R.H.S. Colour Chart). The average weight of achenes is 0.00064 g and the average number of achenes/berry is 252.5. The anthocyanin color of stolon is purple red 58A (in The R.H.S. Colour Chart). The color of anthers is yellow 13A (in the R.H.S. Colour Chart) and the color of pistils and receptical is yellow 7A (in The R.H.S. Colour Chart).

Table 1 provides information on the plant and fruit characteristics of the new variety 'Driscoll El Capitan' compared with characteristics of 'Coronado' and 'San Miguel'. Table 2 provides additional information of the plant and fruit characteristics of the new variety 'Driscoll El Capitan' compared with characteristics of the varieties 'Coronado' and 'San Miguel'. Table 3 provides reactions of the new variety to stresses, pests and diseases compared with reactions of the varieties 'Coronado' and 'San Miguel'. Table 4 provides isozyme characteristics of the new variety as compared to that of the varieties 'Coronado' and 'San Miguel'.

TABLE 1

DETAILED COMPARISON OF 'DRISCOLL EL CAPITAN', 'CORONADO' AND 'SAN MIGUEL'			
	'Driscoll El Capitan'	'Coronado'	'San Miguel'
<u>Plant Characteristics</u>			
Height of Plant (cm)	24.0	20.7	22.8
Spread of Plant (cm)	32.6	28.7	29.4
Number of Crowns	6.0	4.6	4.4

TABLE 1-continued

DETAILED COMPARISON OF 'DRISCOLL EL CAPITAN', 'CORONADO' AND 'SAN MIGUEL'			
	'Driscoll El Capitan'	'Coronado'	'San Miguel'
<u>Leaf Characteristics</u>			
Terminal Leaflet Length (cm)	6.0	6.1	6.2
Terminal Leaflet Width (cm)	6.0	6.3	5.8
Terminal Leaflet Length/Width	1.00	0.97	1.07
# Teeth/Terminal Leaflet	16.3	21.6	20.7
Color of upper side	dark green 147A	light to medium green 137A	medium to dark green 147A
Color of under side	light to medium green 147C	light to medium green 137B	light to medium green 138B
Petiole Length (cm)	18.2	16.3	16.0
Petiole Color	149A	149A	149A
Bract Frequency	8% typically single	0%	30% typically paired
Stipule Length (cm)	3.4	3.4	2.9
Stipule Width (cm)	1.1	1.2	1.1
<u>Flower Characteristics</u>			
Petal Length (cm)	1.5	1.6	1.4
Petal Width (cm)	1.7	1.7	1.5
Petal Length/Width Ratio	0.91	0.93	0.98
Flower Diameter (cm)	3.2	3.4	2.7
Calyx Diameter (cm)	4.4	4.4	4.1
<u>Fruiting Truss</u>			
Length (cm)	22.9	22.1	25.7
<u>Fruit Characteristics</u>			
Fruit Length (cm)	5.0	4.3	4.3
Fruit Width (cm)	3.9	3.9	4.1
Fruit Length/Width Ratio	1.28	1.11	1.07
Average Berry Weight (g)	23.3	23.6	23.2
External Color	dark red 53A	red 46A	dark red 53A
Internal Color	red 43A	red 41A	dark red 45A
Average % brix	7.9	7.1	7.1
Brix/Acid Ratio	9.71	9.11	9.33
Achene Coloration	dark red to yellow green 60A to 151A	dark red to yellow 53A to 141B	dark red to yellow green 53A to 151B
Yield (g/plant)	695	598	557

TABLE 2

CHARACTERISTICS OF 'DRISCOLL EL CAPITAN', 'CORONADO' AND 'SAN MIGUEL'			
	'Driscoll El Capitan'	'Coronado'	'San Miguel'
<u>Plant</u>			
Habit	globase	globase	flat globase
Density	open	open	open
Vigor	strong	medium	medium

TABLE 2-continued

CHARACTERISTICS OF 'DRISCOLL EL CAPITAN', 'CORONADO' AND 'SAN MIGUEL'			
	'Driscoll El Capitan'	'Coronado'	'San Miguel'
<u>Leaf</u>			
Shape in cross section	concave	slightly concave	concave
Interveinal blistering	medium	strong	strong
Glossiness	medium strong	strong	strong
Number of leaflets	three only	more than three on up to 5 out of 10 leaves	three only
Terminal leaflet margin profile	flat	flat to cupped	flat to revolute
Terminal leaflet shape of base	obtuse	obtuse	rounded
Terminal leaflet shape of teeth	obtuse	rounded	rounded
Stipule pubescence	sparse	sparse	sparse
Petiole pubescence	medium to dense	medium	sparse to medium
Petiole pose of hairs	outward	outward	outward
<u>Stolon</u>			
Amount	many	medium to many	many
Anthocyanin coloration	medium to strong	weak to medium	weak to medium
Thickness	thin	medium	thin to medium
Pubescence	sparse to medium	sparse to medium	sparse to medium
<u>Inflorescence</u>			
Position relative to foilage	above	level to above	above
Diameter of calyx relative to corolla on secondary flowers	larger	larger	larger
Diameter of inner calyx relative to outer secondary flowers	smaller to same size	same size to larger	same size
Spacing of petals	overlapping	touching to overlapping	overlapping
<u>Fruiting Truss</u>			
Attitude at first picking Fruit	prostrate	semi-erect to prostrate	prostrate
Predominant shape	cordate	conical to wedged	conical to cylindrical
Difference in shapes between primary and secondary fruits	marked	moderate	moderate
Band without achenes	very narrow	narrow	very narrow
Unevenness of surface	weak to medium	weak to medium	weak to medium
Evenness of color	slightly uneven to even	even	even
Glossiness	strong	medium to strong	medium
Insertion of achenes	below to level with the surface	below surface	below surface
Insertion of calyx	in a basin to level reflexed	level to set above spreading	set above
Pose of the calyx segments			spreading to reflexed
Size of calyx in relation to fruit on secondary fruit	larger	larger	same size
Adherence of calyx	strong	medium	strong
Firmness of flesh	firm	firm	firm

TABLE 2-continued

CHARACTERISTICS OF 'DRISCOLL EL CAPITAN', 'CORONADO' AND 'SAN MIGUEL'			
	'Driscoll El Capitan'	'Coronado'	'San Miguel'
Evenness of flesh color	even	slightly even	even
Distribution of flesh color	marginal and central	marginal and central	marginal and central
Hollow center size	large	medium	medium
Sweetness	strong	weak	strong
Texture when tested	fine	fine	fine
Acidity	medium	strong	medium
Time of Flowering	mid-December	early-January	early-January
Harvest Interval in 2001	late-January to mid-June	early-February to mid-June	early-February to mid-June
Type of Bearing	partially everbearing	partially everbearing	partially everbearing

5.3 REACTION TO STRESS, PESTS AND DISEASE

TABLE 3

	'Driscoll El Capitan'	'Coronado'	'San Miguel'
<u>Reaction to Stress</u>			
high pH	moderately resistant	moderately resistant	moderately resistant
high soil salt levels	moderately resistant	moderately resistant	moderately resistant
<u>Reaction to Pests</u>			
<i>Tetranychus urticae</i>	moderately resistant	moderately resistant	moderately resistant
<i>Lygus hesperus</i>	susceptible	susceptible	susceptible
<u>Reaction To Diseases</u>			
Botrytis fruit rot	moderately susceptible	moderately susceptible	moderately susceptible
Powdery mildew	moderately resistant	moderately resistant	moderately resistant
Verticillium wilt	susceptible	susceptible	susceptible
Strawberry Mottle Virus	moderately resistant	moderately resistant	moderately resistant
<i>Xanthomonas fragariae</i>	moderately susceptible	moderately susceptible	moderately susceptible

5.4 ISOZYME ANALYSIS

In addition to the morphological description above, the new cultivar 'Driscoll El Capitan' has been analyzed to obtain an indication of its genetic makeup to provide further means for identifying the new variety and distinguishing it from other somewhat similar and/or related strawberry varieties. Specifically, leaf samples of 'Driscoll El Capitan', 'Coronado' and 'San Miguel' were analyzed by electrophoresis for isozyme patterns of the enzymes phosphoglucoisomerase ("PGI"), leucine aminopeptidase ("LAP") and phosphoglucomutase ("PGM"). See *J. Amer. Soc. Hort. Sci.* 106:684–687. Isozyme characterization of the three varieties is presented in Table 4, with the letters representing the banding patterns for each enzyme as designated in the above-identified article.

TABLE 4

ISOZYME ANALYSIS FOR 'DRISCOLL EL CAPITAN',
'CORONADO' AND 'SAN MIGUEL'

Locus	'Driscoll El Capitan'	'Coronado'	'San Miguel'
PGI	A2	A2	A4
LAP	B3	B3	B3
PGM	C4	C4	C2

What is claimed is:

1. A new and distinct variety of strawberry plant, substantially as shown and described.

* * * * *

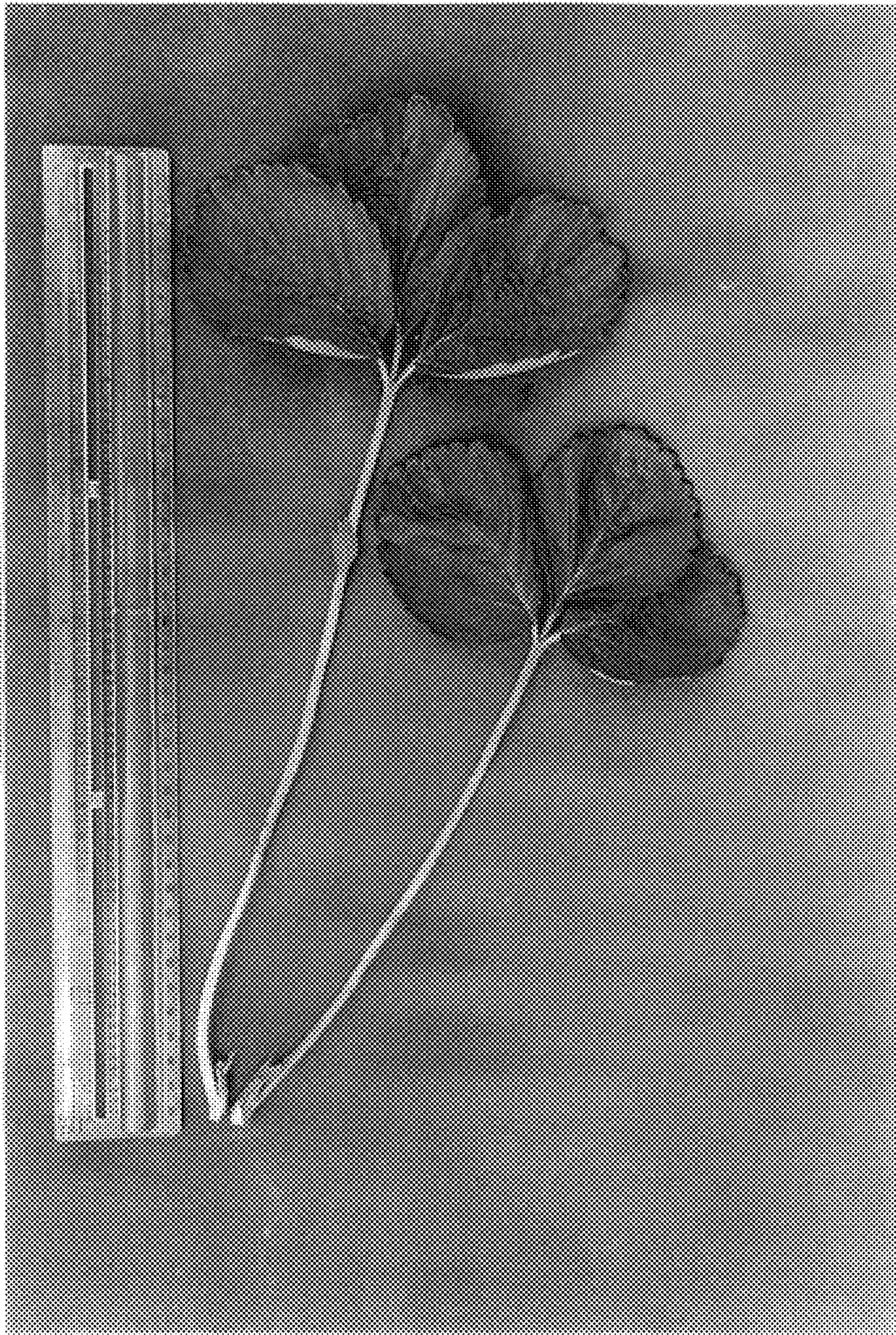


FIG. 1

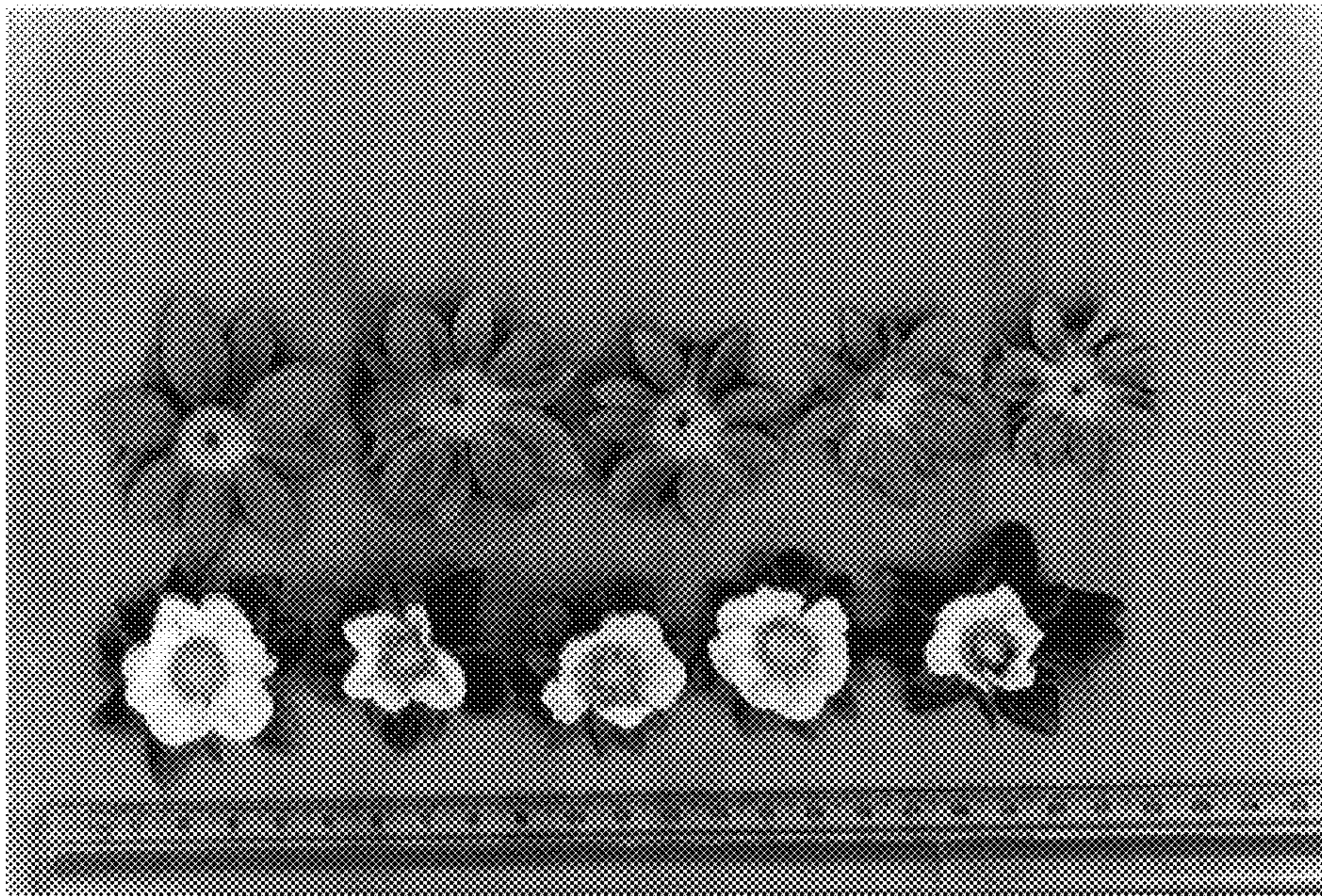


FIG. 2

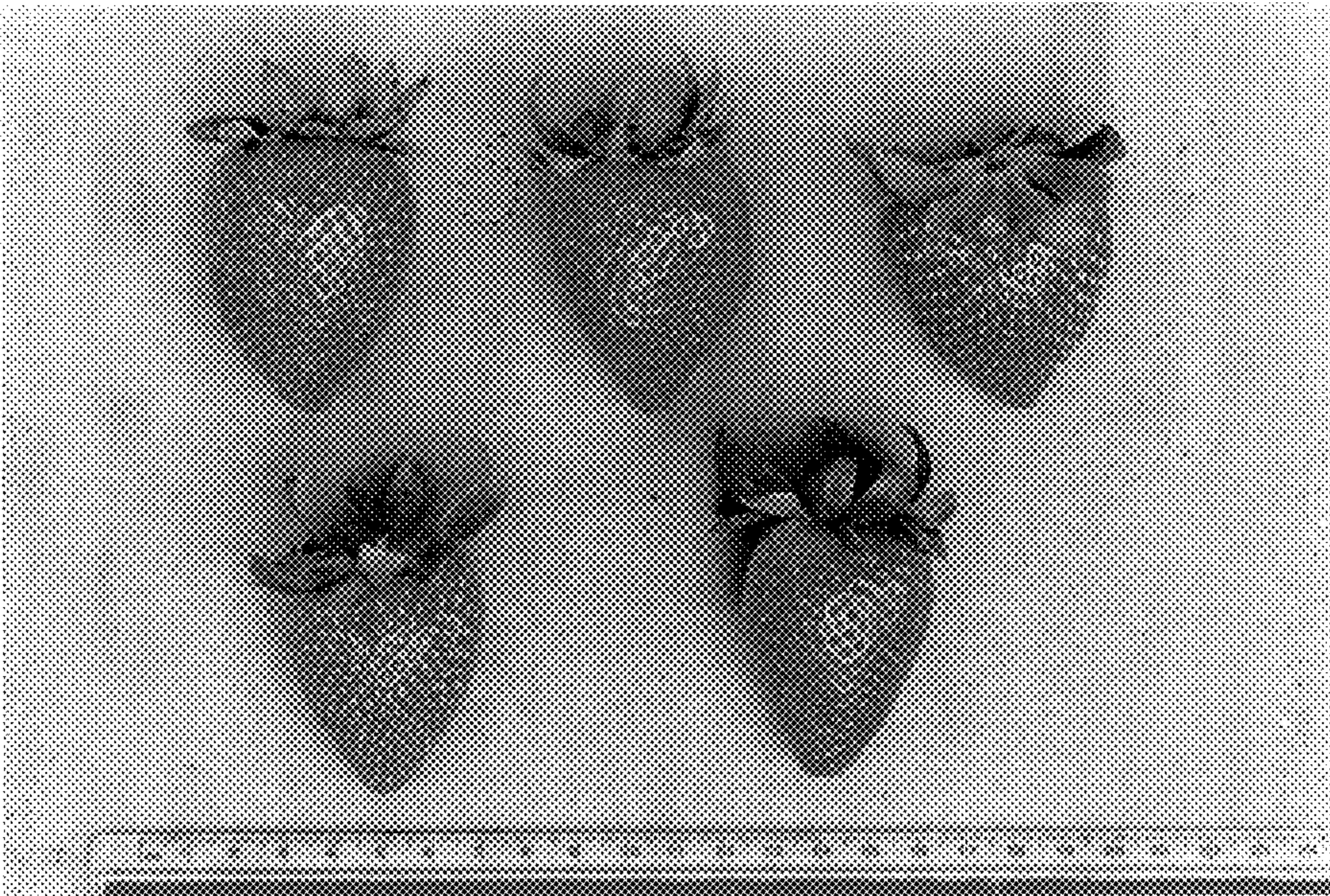


FIG. 3

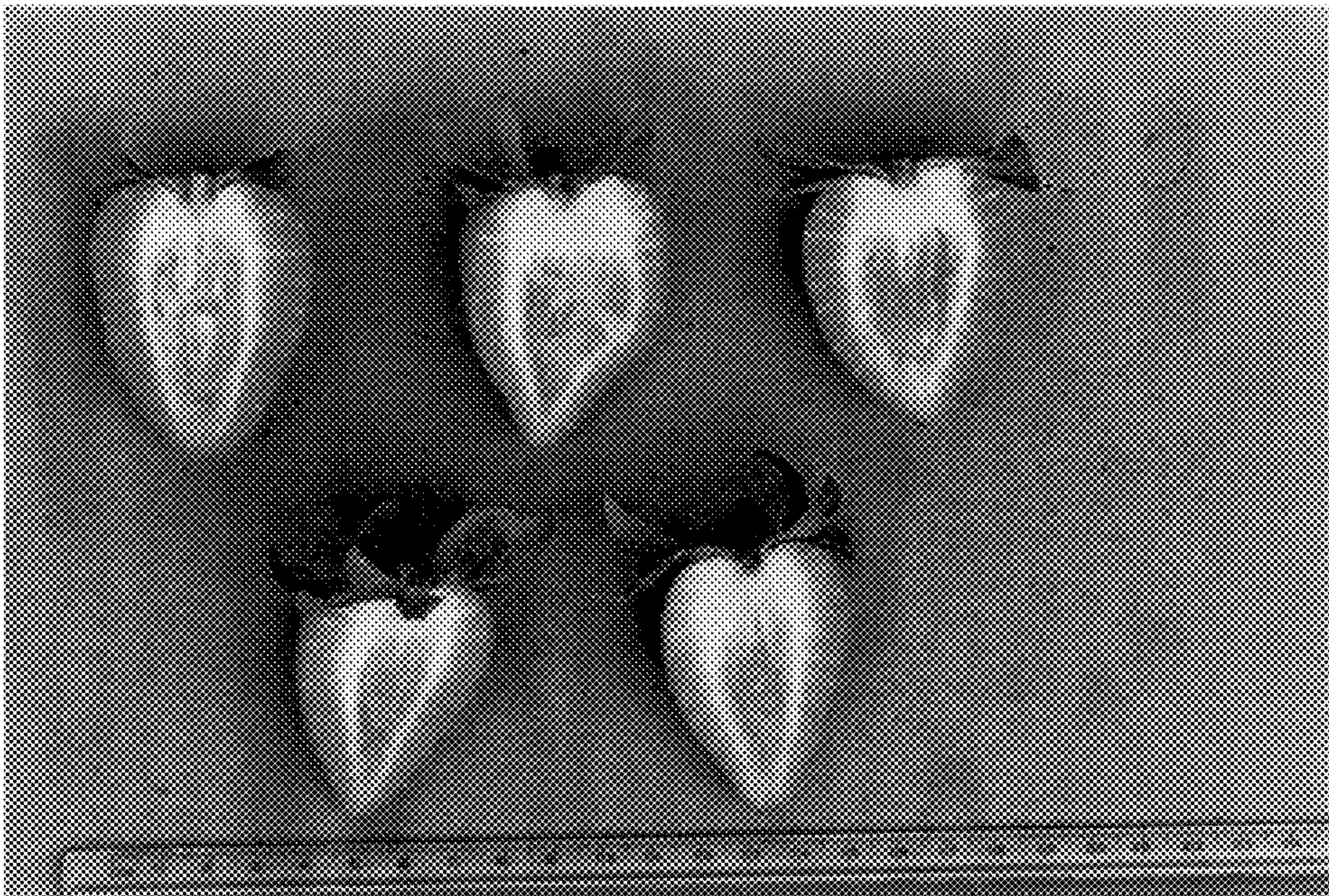


FIG. 4