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Nielsen

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(54) **DAHLIA PLANT NAMED ‘DAFEMTEN’**

(50) Latin Name: ***Dahlia* sp.**
Varietal Denomination: **DAFEMTEN**

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(58) **Field of Classification Search** **Plt./321**
See application file for complete search history.

(56) **References Cited**

PUBLICATIONS

EU-CPVO Application Form with Technical Questionnaire and Proposal for Variety Denomination for corresponding, international PBR application, CPVO 2006/0529 filed Feb. 21, 2006. (13 pages).

Print-out of the Canadian Food Inspection Agency Plant Varieties Journal for Oct. 2006, No. 61, confirming the filing date and application No. for corresponding Canadian PBR application, No. 06-5483 filed on Jun. 1, 2006 (2 pages).

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(57) **ABSTRACT**

A new and distinct cultivar of *Dahlia* plant named ‘DAFEMTEN’ characterized by its ray floret color (fully opened): upper side: Yellow-orange, RHS 15B and under side: greyed-orange, RHS 168B; capitulum (composite flower head): 8 cm in diameter, with a large number of ray florets (about 100 to 150); mature leaves are about 4 to 7 cm in length, mostly compound, with 1–5 leaflets; and vigorous plant vigor, growing upright with slight spread to form cylindrical-shaped plant.

4 Drawing Sheets

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Latin name of the genus and species of the claimed plant: *Dahlia* sp.

Variety denomination: ‘DAFEMTEN’.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct cultivar of *Dahlia* plant, botanically known as *Dahlia* sp. of the Compositae (Asteraceae) family, hereinafter referred to by the cultivar name ‘DAFEMTEN’.

The new *Dahlia* cultivar is a product of a planned breeding program conducted by the inventor, Rune Harboe Nielsen, in Odense, Denmark. The objective of the breeding program is to develop a new *Dahlia* variety with a compact, strong, and healthy growth habit, suitable for large scale container production; fully double flowers creating globular-shaped flower head (composite flower heads with many ray florets).

The new *Dahlia* cultivar originated from a cross made in a controlled breeding program by the inventor in 2001 in Fyn, Odense, Denmark. The female or seed parent is a *Dahlia* cultivar designated ‘01.200A’ (unpatented). The male or pollen parent is a *Dahlia* cultivar designated ‘DAEN’ (unpatented in the US, granted as EU-CPVO application number 19961145). The new *Dahlia* ‘DAFEMTEN’ was discovered and selected by the inventor as a single flowering plant within the progeny of the stated cross in May of 2004 in a controlled environment in Odense, Denmark.

Asexual reproduction of the new *Dahlia* cultivar by vegetative cuttings was first performed in August of 2004 in Odense, Denmark, and has demonstrated that the combina-

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tion of characteristics as herein disclosed for the new cultivar are firmly fixed and retained through successive generations of asexual reproduction. The new cultivar reproduces true to type.

BRIEF SUMMARY OF THE INVENTION

The following traits have been repeatedly observed and are determined to be unique characteristics of ‘DAFEMTEN’, which in combination distinguish this *Dahlia* as a new and distinct cultivar:

1. Ray floret color (fully opened): upper side: yellow-orange, RHS 15B; under side: greyed-orange, RHS 168B.
2. Capitulum (composite flower head): 8 cm in diameter, with a large number of ray florets (about 100 to 150).
3. Foliage: Mature leaves are about 4 to 7 cm in length, mostly compound, with 1–5 leaflets.
4. Plant Vigor and Growth Habit: Vigorous, grows upright with slight spread to form cylindrical-shaped plant.

Plants of the new *Dahlia* ‘DAFEMTEN’ differ from the parental plants, ‘01.149L’ (unpatented) and ‘DAEN’ (unpatented in the US, granted as EU-CPVO application number 19961145), in the characteristics described in Table 1.

TABLE 1

Characteristic	New Cultivar 'DAFEMTEN'	Female Parent '01.200A' (unpatented)	Male Parent 'DAEN' (unpatented in US, granted as EU-CPVO application number 19961145).
Color of Ray Floret (fully opened, upper side):	Yellow-orange.	Yellow.	Red.
Capitulum Diameter:	About 8 cm.	Larger than 8 cm.	About 5 cm.
Foliage:	Compound, 1-5 with leaflets.	Compound, with 1-5 leaflets.	Mostly single leaves.
Plant Vigor:	Vigorous.	More vigorous than 'DAFEMTEN'.	Vigorous.

Of the many commercial cultivars known to the present inventor, the most similar in comparison to the new *Dahlia* 'DAFEMTEN' is the *Dahlia* 'MAGDALENA' (unpatented in the US, granted as EU-CPVO application number 20031206) in the characteristics described in Table 2:

TABLE 2

Characteristic	New Cultivar 'DAFEMTEN'	Comparison Cultivar 'MAGDALENA' (unpatented in US, granted as EU-CPVO 20031206)
Color of Ray Floret (fully opened, upper side):	Yellow-orange, RHS 15B.	Orange-red, RHS 34B
Color of Ray Floret (fully opened, Under side):	Greyed-orange, RHS 168B.	Orange-red, RHS 33C, with stripes of white RHS 155B, forming two prominent ridges.
Quantity of ray florets	About 100 to 150.	About 180-200.

BRIEF DESCRIPTION OF THE PHOTOGRAPHS

The accompanying photographs illustrate the overall appearance of the new *Dahlia* 'DAFEMTEN' showing the colors as true as is reasonably possible with colored reproductions of this type. Colors in the photographs may differ slightly from the color value cited in the detailed botanical description which accurately describe the color of 'DAFEMTEN'.

FIG. 1 shows a side view perspective of a typical flowering plant of 'DAFEMTEN' in a 11 cm pot, at 9 weeks of age after planting.

FIG. 2 shows a top view perspective of a fully opened capitulum of 'DAFEMTEN' (as identified by breeder reference 01.314A), at 9 weeks of age after potting.

FIG. 3 shows a close-up view of the typical capitulum of 'DAFEMTEN' (as identified by breeder reference 01.314A), in different stages of development.

FIG. 4 shows a close-up top view of the typical foliage, as well as, a close-up top and bottom view of a fully opened capitulum of 'DAFEMTEN' (as identified by breeder reference 01.314A), at 9 weeks of age after potting.

DETAILED BOTANICAL DESCRIPTION

The new *Dahlia* 'DAFEMTEN' has not been observed under all possible environmental conditions. The phenotype of the new cultivar may vary with variations in environment such as temperature, light intensity, and day length without any change in the genotype of the plant.

The aforementioned photographs, together with the following observations, measurements and values describe the new *Dahlia* 'DAFEMTEN' as grown in a protected environment in a glass, greenhouse in Fyn, Odense, Denmark, under conditions which closely approximate those generally used in commercial practice. During propagation, conducted in a glass, greenhouse, vegetative cuttings were planted in small propagation pots with peat as substrate, and then placed in a plastic tunnel averaging about 21° C. and received photoperiodic treatments of 18 hours. Supplementary light was given when natural light fell below 3000–4000 Lux. Rooting occurred about 12 days after planting. In third week after planting, young plants were potted in an 11 cm pot in a glass, greenhouse maintained at 18° C. to 22° C. during the day, and at 17° C. to 19° C. during the night. Photoperiodic treatments were continued at 18 hours, and supplementary light was given when natural light fell below 3000–4000 Lux. Irrigation was done with water. The EC measured in the soil was maintained between 2.0 to 3.0. One week after potting, the first growth regulation was given: a spray with 85% daminozide, 0.2%, 25 ml/m². During the production time, 4 additional sprayings were given with 85% daminozide, 0.2%, 70–100 ml/m².

Color references are made to the Royal Horticultural Society Colour Chart (RHS), 2001 edition, except where general colors of ordinary significance are used. Color values were taken under daylight conditions at approximately 12:00 PM and 2:00 PM in Fyn, Odense, Denmark. The age of the 'DAFEMTEN' plants described is 12 weeks (including propagation time).

Classification:

Botanical.—*Dahlia* sp.

Parentage:

Female or seed parent.—*Dahlia* cultivar designated '01.200A' (unpatented).

Male or pollen parent.—*Dahlia* cultivar designated 'DAEN' (unpatented in US, granted as EU-CPVO application number 19961145).

Propagation:

Type.—Vegetative cuttings.

Rooting description.—Fibrous and freely-branching.

Height of rooting structure.—Depends on container, can grow to about 30 to 40 cm.

Diameter of rooting structure.—Depends on container, can grow to about 30 to 40 cm.

Color of roots.—White, RHS 155B.

Time to initiate roots.—About 12 days at 21° C.

Time to produce a rooted cutting.—About 21 days at 21° C. during rooting phase, followed by 18° C.

Tubers.—Will form under short day conditions, 12 hours of darkness. Tubers may develop in late summer/early autumn when planted outdoors.

Plant:

Crop time.—After rooting, about 8 to 9 weeks are required to produce finished flowering plants in 11–12 cm pots.

Plant vigor.—Vigorous.

Form.—Cylindrical, upright and slight spreading.

Size.—Height (from soil level to top of plant plane): About 15 to 18 cm. Height (from soil level to top of foliage): About 12 cm. Spread: About 18 to 20 cm.

Stem.—Appearance/Shape: Circular, hollow, glabrous. Diameter: About 4 to 8 mm. Aspect: Upright to outward. Strength: Strong. Texture: Glaucous. Pubescence: None. Color: Yellow-green, RHS 144A.

Lateral branches.—Quantity per plant: About 3 to 5 (when pinching over 3 pair of leaves). Length: (including inflorescences): About 10 to 16 cm. (including break to base of peduncle): About 2 to 6 cm. Diameter: About 4 to 8 mm. Color: Yellow-green, RHS 144A. Habit: Freely branching. Basal Branching: Yes. Pinching: Pinching recommended. Internode length: About 1 to 4 cm.

Foliage.—Type: Upper leaves: Single. Bottom leaves: compound, 3–5 lobed. Quantity of leaves per lateral branch: About 4 to 8. Quantity of leaflets per compound leaf: 1 to 5. Color (leaves and leaflets): Color (mature): Upper side: Green, RHS 139A. Under side: Greyed-green, RHS 191D. Color (immature): Upper side: Green, RHS 137A. Under side: RHS, RHS 138A.

Venation (leaves and leaflets).—Pattern: Pinnate. Color: Upper side: Yellow green, RHS 146A. Under side: Yellow-green, RHS 146A.

Simple leaves.—Leaves on the cuttings are single, but all visible leaves are compound leaves. Arrangement: Opposite, decussate. Length: About 5 to 11 cm. Width: About 4 to 6 cm. Shape: Elliptical, cuspidate tip, rounded to cordate base. Margin: Dentate. Texture (both sides): Rugose. Petiole: Shape: Semi circular. Length: About 2 to 5 cm. Diameter: About 3 to 6 mm. Color: Upper side: Yellow-green, RHS 146B. Under side: Yellow-green, RHS 146A.

Compound leaves.—Arrangement and shape: Opposite, decussate. Length: Up to 16 cm, generally about 12 cm. Width: Up to 12 cm, generally about 8 cm. Shape: Elliptical, acuminate tip, decurrent base. Margin: Dentate. Texture (both sides): Rugose. Petiole: Shape: Semi circular. Length: About 3 cm. Diameter: About 4 to 5 mm. Color: Upper side: Yellow-green, RHS 146B. Under side: Yellow-green, RHS 146A. Leaflets of Compound Leaf: Terminal: Quantity: One. Length: About 6 cm. Width: About 4 cm. Rachis: Length: About 2.5 cm. Diameter: About 3 to 4 mm. Color: Yellow-green, RHS 146A. Lateral: Quantity: About 2 to 4. Length: About 5 cm. Width: About 3 cm.

Flowering description:

Natural flowering season.—Grown outside as a bedding plant, flowering occurs continuously during growing season (In Denmark, from June to beginning of October). Plants can be brought to flower anytime when grown under the recommended greenhouse conditions.

Time to first flower.—About 7 to 8 weeks from potting of a rooted cutting.

Lastingness of individual blooms on plant.—Depending on weather conditions, about 7 to 12 days.

Fragrance.—None.

Inflorescence description:

Type.—Capitulum (composite flower head).

Arrangement.—Persistent, single, composite inflorescences from leaf axils. Disc and ray florets arranged acropetally on a capitulum.

Flowering aspect.—Upright, slightly spreading. Young flower head/buds initially 70° to 90° turning to 30° when flower head opens.

Quantity of flowers and buds per lateral branch.—About 1 open capitulum and 3 buds.

Fragrance.—None.

Bud.—Quantity: About 3 to 5 per lateral stem (buds continue to develop when the dead composite flower heads are removed). Rate of Opening: About 4 to 10 days for bud to progress from first color to fully opened inflorescence. Shape: Globular. Length (when color shows): About 1.5 to 2.0 cm. Diameter (when color shows): About 1.0 to 2.0 cm. Texture: Glabrous, shining. Color: Yellow-green, RHS 144C.

Peduncle.—Length: About 3 to 10 cm. Diameter: About 4 to 6 mm. Strength: Strong. Aspect (angle to vertical): First flower: About 0° to 10°. Second flower: About 20° to 30°. Texture: Glabrous. Color: Green, RHS 138B.

Inflorescence.—Inflorescence depth (height): About 5 to 7 cm. Inflorescence diameter: About 7–8 cm. Disc diameter: About 1.2 cm. Receptacle diameter: About 1.4 cm. Receptacle height: About 0.8 cm.

Ray florets.—Arrangement: Imbricate, in about 8–10 whorls of ray florets, each with 10 to 18 florets to equal a total of about 100–150 ray florets per capitulum, depending on light and temperature conditions. Overall shape: circular to elliptic, involute with a rounded tip. Apex shape: Obtuse. Base shape: Acuminate, fused to form tube. Length: About 25 to 35 mm. Diameter (width): About 19 to 25 cm. Margin: Entire. Texture: Upper surface: Glabrous. Under surface: Glabrous with visible veins. Orientation: Initially 15° from vertical, with development, to 160° from vertical. Color: Development and tones of color for florets may change slightly depending on light and temperature conditions. When opening: Upper surface: Yellow-orange RHS 15A. Under surface: Greyed-orange, RHS 168B. When fully opened: Upper surface: Yellow-orange, RHS 15B. Under surface: Greyed-orange, RHS 168B. Just before senescence: Upper surface: Yellow-orange, RHS 16B. Under surface: Greyed-orange, RHS 168C.

Disc florets.—Arrangement: Massed at center of capitulum, about 70–90 disc florets per capitulum, which are yellow-white in color at the lower half, but appear more yellow in appearance due to the transparent corollas and the underlying yellow color from the anthers. Appearance: Tubular to single, fused corolla. Overall shape: Tubular. Apex shape: Star with 5 triangular tips. Base shape: Fused to tube. Length: About 4 to 6 mm. Diameter: About 1 mm. Margin: Entire. Texture (both surfaces): Glabrous, translucent. Color: Transparent, yellow-white, RHS 158C, letting the yellow, RHS 13A color of the anthers come through (before anthesis), to yellow-orange, RHS 20A (at anthesis).

Phyllaries.—Quantity: One subtending each floret. About 180 to 200 phyllaries per capitulum. Overall shape: Thin translucent, papery. Phyllaries, arranged acropetally on the capitulum. Overall shape: Subulate. Apex shape: Acute with rounded tip. Base shape: Fused. Length: About 12 mm. Width: About 7 mm. Margin: Entire. Color: Mature: Yellow-green, RHS 151D. Immature: Yellow-green, RHS 151D.

Bracts.—Quantity: About 5 to 6. Appearance and arrangement: Reflexed, involucre bracts. Overall

shape: Subovate. Apex shape: Rounded. Base shape: Sessile. Length: About 10 to 14 mm. Width: About 5 to 8 mm. Margin: Entire. Texture (both sides): Glabrous. Color: Mature: Upper side: Green, RHS 139A. Under side: Green, RHS 138B. Immature: Upper side: Green, RHS 139A. Under side: Green, RHS 138B.

Reproductive organs:

Androecium.—Stamen: Number: 5, fused into synandrous tube around style. Disc florets fertile, ray florets sterile. Length: About 8 to 10 mm. Anther: Shape: Linear. Length: About 4 to 5 mm. Color: Yellow-orange, RHS 20A. Pollen: Amount: Moderate. Color: Yellow-orange, RHS 20A.

Gynoecium.—Pistil: Quantity: One per disc floret. Length: About 12 to 15 mm. Stigma: Shape: Bifurcate. Length: About 4 to 8 mm. Color: Yellow-orange, RHS 20A. Style: Length: About 6–8 mm.

Color: Yellow-orange, RHS 20D. Ovary: Diameter: About 1 mm. Color: Yellow-green, RHS 151C.

Seed/fruit: None observed.

Disease/pest resistance: Resistance to pathogens and pests common to *Dahlia* have not been observed.

Disease/pest susceptibility: Susceptibility to pathogens and pests common to *Dahlia* have not been observed.

Temperature tolerance: Tolerant to a low temperature of about 2° C. (but flowering ceases at constant temperature of 12° C.) and tolerant to a high temperature of about 35° C. High temperatures might reduce flowering.

Growth regulators: Daminozide (85% water soluble dry concentrate formulation).

I claim:

1. A new and distinct cultivar of *Dahlia* plant named 'DAFEMTEN', as described and illustrated herein.

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FIG. 1



FIG. 2

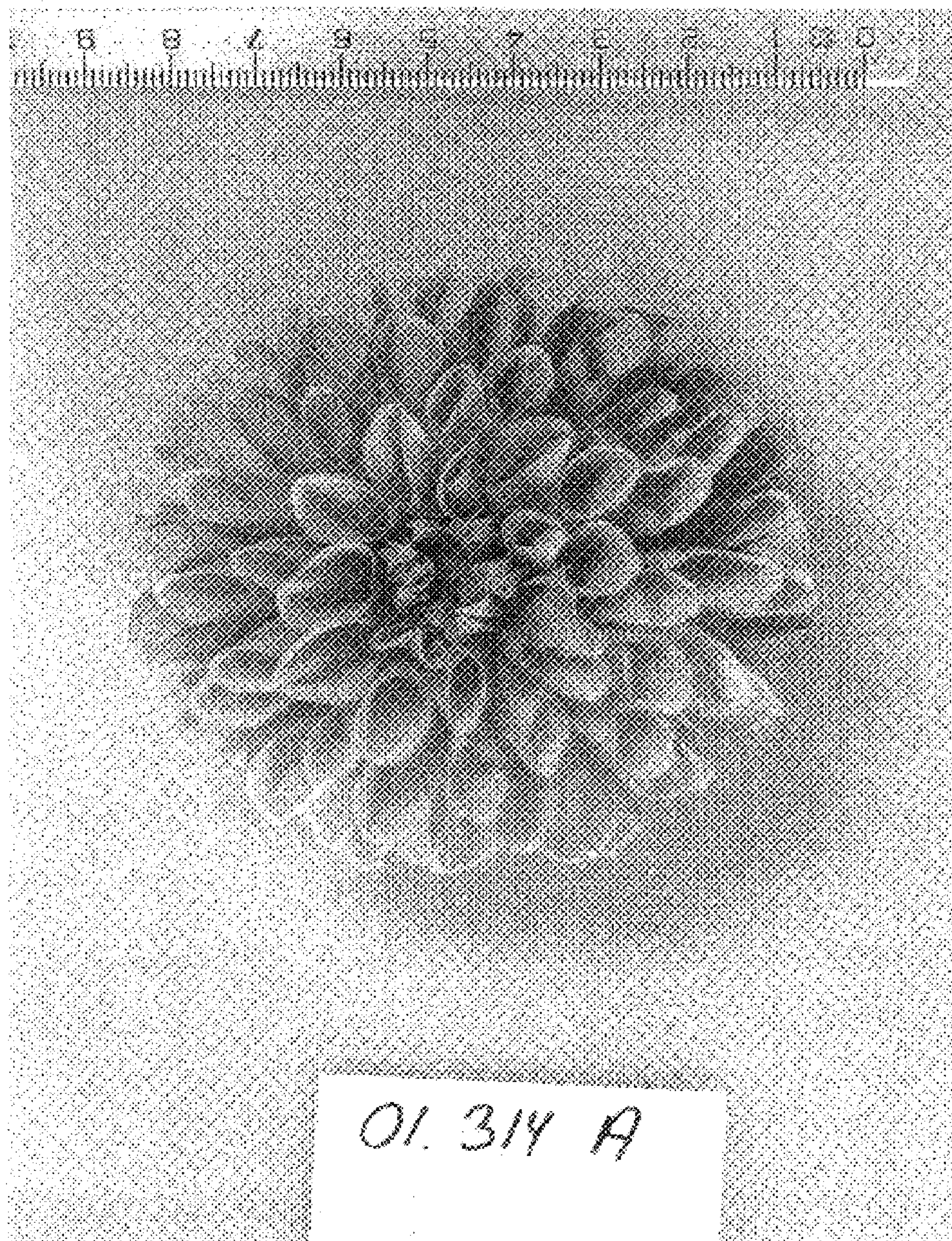


FIG. 3

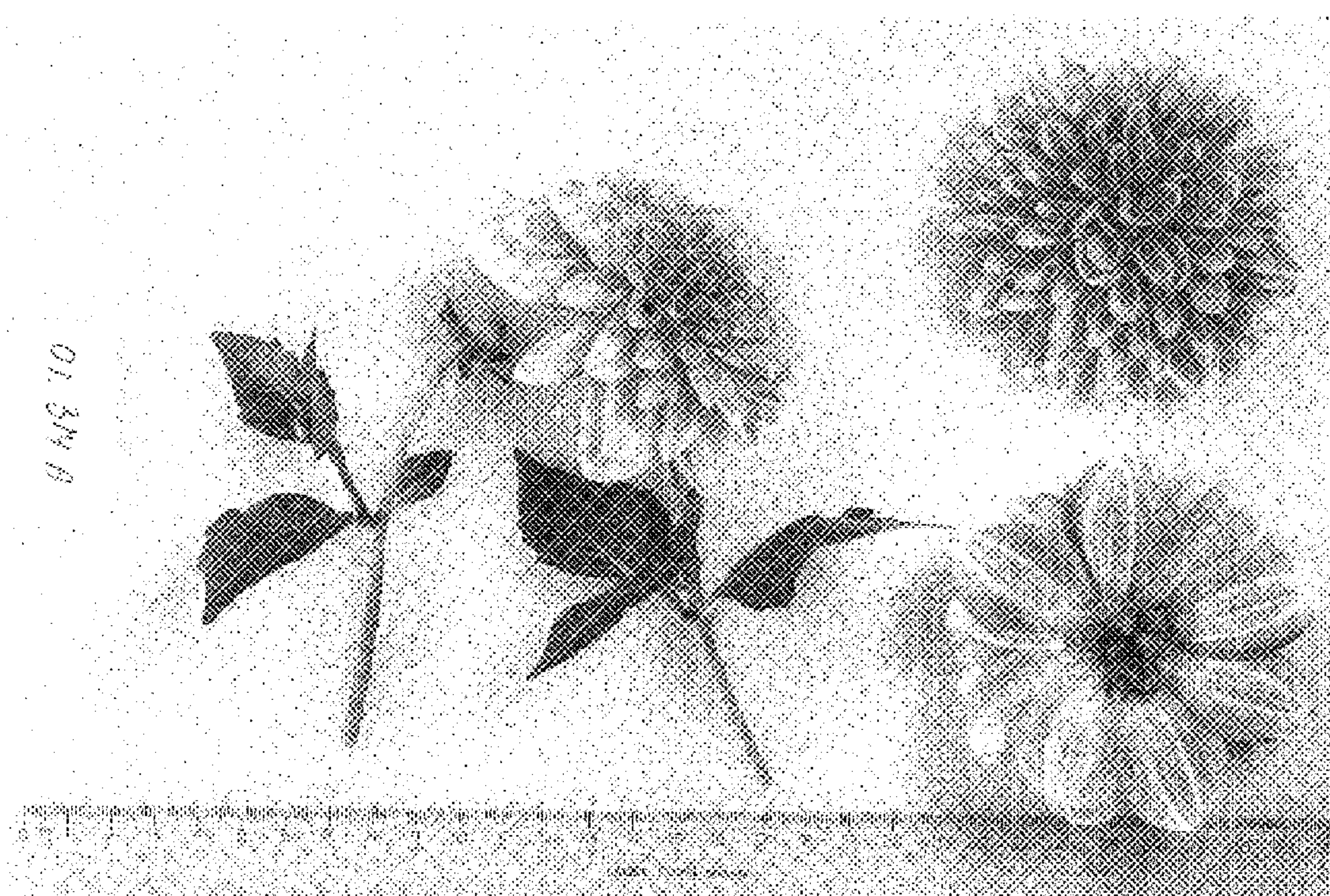


FIG. 4

