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Schoone

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(54) ***PHALAENOPSIS* ORCHID PLANT NAMED 'MELLOWSTAR'**

(50) Latin Name: ***Phalaenopsis hybrida***
Varietal Denomination: **Mellowstar**

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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.: **15/731,132**

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Related U.S. Application Data

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(30) **Foreign Application Priority Data**

Apr. 29, 2016 (NL) ..... PBR OPS1321

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A01H 5/02 (2018.01)

(52) **U.S. Cl.**
USPC **Plt./311**

CPC ***A01H 5/02*** (2013.01)

(58) **Field of Classification Search**
USPC Plt./311
CPC ... A01H 5/02; A01H 5/00; A01H 5/08; A01H 6/62
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2017/0311521 P1 * 10/2017 Schoone A01H 5/02 Plt./311

OTHER PUBLICATIONS

Tsai et al. Biogeography of the *Phalaenopsis amabilis* species complex inferred from nuclear and plastid DNAs, BMC Plant Biology (2015) 15:202, 16 pp. (Year: 2015).*

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(57) **ABSTRACT**

A new and distinct *Phalaenopsis* plant named 'Mellowstar' particularly characterized by flowers which are purple with a darker purple haze; plants which may be propagated economically and uniformly using tissue culture; plants which produce more than one inflorescence; long and sturdy inflorescences; and relatively short, dark-green foliage.

3 Drawing Sheets

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Latin name of the genus and species of the plant claimed: *Phalaenopsis hybrida.*

Variety denomination: 'Mellowstar'.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct cultivar of *Phalaenopsis* plant, botanically known as *Phalaenopsis* of the Orchidaceae family, and hereinafter referred to by the cultivar name 'Mellowstar'.

Phalaenopsis comprises a genus of about 55 species of herbaceous perennials many of which, or the hybrids thereof, are suitable for cultivation in the home or greenhouse. *Phalaenopsis* is predominantly epiphytic or rock-dwelling, and is native to tropical Asia, the Malay Archipelago, and Oceania. The species typically has 2-ranked, fleshy, oblong or elliptic leaves affixed to a short central stem (monopodial growth), which vary in size from 5 to 8 inches to over 2 feet. The leaves may be entirely green or mottled with silver grey.

Phalaenopsis orchids, often referred to as 'Moth Orchids' in the horticultural trade, are frequently used to furnish cut flowers for the florist trade or sold as flowering potted-plants for home or interiorscape.

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Phalaenopsis produces upright or pendent lateral racemes, often with many showy flowers which open in succession beginning with the lowermost. The flowers possess three sepals and three petals; the lateral ones being alike. The lowermost petal, called the labellum, is three-lobed and is often more brightly-colored than the other flower segments. Flower colors include various shades of pink, white, yellow and red-brown.

Phalaenopsis orchids are typically propagated from seeds. Asexual propagation of *Phalaenopsis* is often done from off-shoots which frequently arise from the lower bracts of the inflorescence. The resulting plants are detached from the mother plant and may be planted in a suitable substrate.

The new *Phalaenopsis* 'Mellowstar' is a product of a controlled breeding program conducted by the inventor, René Schoone, in Strengweg, Heemskerk, The Netherlands. The objective of the breeding program was to develop a new *Phalaenopsis* cultivar particularly characterized by its attractive and unique colored flowers, economical propagation via tissue culture, rapid growth, and a plant dimension suitable for packaging and shipping to the market.

The new *Phalaenopsis* 'Mellowstar' originated from a cross made by the inventor in 2003 in Strengweg, Heemskerk, The Netherlands. The female or seed parent is the

Phalaenopsis cultivar designated '(Taisuco Hilo×Malibu Madonna)', unpatented. The male or pollen parent is the *Phalaenopsis* cultivar designated *Phalaenopsis amabilis*, unpatented. The new *Phalaenopsis* 'Mellowstar' was discovered and selected by the inventor as a single flowering plant within the progeny of the stated cross in a controlled environment in 2011 in Strengweg, Heemskerk, The Netherlands.

Asexual reproduction of the new *Phalaenopsis* cultivar by tissue culture (mericloning) was first performed in November, 2011 in Cieweg 13, Heemskerk, The Netherlands, and has demonstrated that the combination of characteristics as herein disclosed for the new cultivar are firmly fixed and retained through successive generations of asexual reproduction. The new cultivar asexually reproduces true-to-type.

BRIEF DESCRIPTION OF THE INVENTION

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

1. flowers which are purple with a darker purple haze;
2. plant produces more than one inflorescence;
3. plants may be propagated economically and uniformly using tissue culture;
4. inflorescences are long and sturdy; and
5. relatively short, dark-green foliage.

In comparison with the parental cultivars of 'Mellowstar', the flowers of the female parent (Taisuco Hilo×Malibu Madonna) are pink/purple with a white labellum. The flowers of the male parent 'amabilis' are white whereas the flowers of 'Mellowstar' are light purple with darker purple in the center.

Presently, the commercial cultivar to which 'Mellowstar' can be meaningfully compared is 'Funky Love', U.S. Plant patent application Ser. No. 15/731,133. 'Funky Love', U.S. Plant patent application Ser. No. 15/731,133 is about 60 cm in size and the color is the flower is purple/violet, whereas 'Mellowstar' is about 65-70 cm in size and has purple colored flowers. Also the color of the labellum differs. Main upper surface midlobe color for 'Mellowstar' is NN155C with 77C at base with 59A at edges and 145C at corners. While the main color of 'Funky Love' is NN155C with 59C and 12A at the corners. The main color of the lateral lobes is the same (NN155C) but 'Funky Love' has 59C stripes, while 'Mellowstar' has 77A stripes.

BRIEF DESCRIPTION OF THE PHOTOGRAPHS

The accompanying photographs illustrate the overall appearance of the new *Phalaenopsis* 'Mellowstar' 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 values cited in the detailed botanical description, which accurately describe the color of 'Mellowstar'.

FIG. **1** shows a side view perspective of a typical flowering plant of 'Mellowstar' in a 12 cm pot, at 16 months of age.

FIG. **2** shows a close-up view of the typical flower of 'Mellowstar'.

FIG. **3** shows a close-up view of the typical leaves of 'Mellowstar'.

DETAILED BOTANICAL DESCRIPTION

The new *Phalaenopsis* cultivar 'Mellowstar' 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 plants of 'Mellowstar' as grown in a greenhouse in Strengweg, Heemskerk, The Netherlands, under conditions which closely approximate those generally used in commercial practice. Initially, the ideal temperature to grow plants of 'Mellowstar' is 27° C. during the day and at night. Then, during the flowering phase of 'Mellowstar', the ideal growing temperature is 20-22° C. during the day and 18° C. at night. Light levels for growing 'Mellowstar' are a minimum of 5,000 lux and a maximum of 10,000 lux. A balanced fertilizer with level of 200 ppm N, 87 ppm P, 168 ppm K is applied. Duration of growth of 'Mellowstar' from potting size is between 10 and 14 months.

Color references are made to The Royal Horticultural Society Colour Chart (R.H.S.), 2007 edition, except where general colors of ordinary significance are used. Color values were taken under daylight conditions at approximately noon in Zaandammerweg, Assendelft, The Netherlands. The age of the 'Mellowstar' plants described is 12 months after potting.

Classification:

Botanical.—Phalaenopsis hybrida.

Parentage:

Female or seed parent.—Phalaenopsis cultivar designated '(Taisuco Hilo×Malibu Madonna)', unpatented.

Male or pollen parent.—Phalaenopsis cultivar designated *Phalaenopsis amabilis*, unpatented.

Propagation:

Type.—Tissue culture.

Rooting habit and description.—Fleshy; approximately 4 mm-6 mm wide and greyed/green in color (RHS 190C); freely branching. It takes 12 weeks for plants growing in tissue culture to initiate roots.

Plant:

Size at maturity.—Height (from bottom of pot to highest flower): about 65 to 70 cm. Spread: about 35 to 50 cm.

Growth habit.—Standard; green leaves (RHS N137A) and a relatively normal raceme.

Vigor.—Moderate.

Crop time.—Following asexual propagation, at about 26 weeks 2 leaves appear; at about 30 weeks 3-4 leaves appear; after a cold treatment of about 4-8 weeks at a temperature of about 19° C. about 1-3 racemes with flowers appear.

Foliage:

Quantity per plant.—About 8 leaves are produced before flowering.

Arrangement and attachment.—Alternate, clasping.

Overall shape of leaf.—Oval; the tip is blunt and asymmetric.

Texture (*upper & underside*).—Smooth and leathery.

Pubescence.—None.

Mature leaf length.—About 16 cm.
Mature leaf width.—About 9 cm.
Mature leaf thickness.—About 2 mm.
Mature leaf color.—Upper side: green (RHS N137A). Under side: green (RHS 137B).
Leaf base.—Acute.
Margin.—Entire.
Venation.—Pattern: parallel. Color of midvein: Upper side: green (RHS N137A). Under side: green (RHS 137A).

Inflorescence description:

Appearance.—Upright to slightly pendant, racemose inflorescence with bilaterally symmetrical flowers that open in succession beginning with the lowermost flower.

Raceme:

Quantity per plant.—About 1 to 3.
Number of flowers per raceme.—About 8-14.
Length.—About 45 cm.
Diameter.—About 40 cm.

Peduncle:

Length.—About 20 cm.
Diameter.—About 5 mm.
Strength.—Strong.
Aspect.—Upright.
Texture.—Glabrous and smooth.
Color.—Green (RHS 137A).
Buds.—Height (from base to tip): about 25 mm. Diameter (at midpoint): about 22 mm. Shape: asymmetric oval. Color: yellow/green (RHS 145B) with some red/purple (RHS 76A). Orientation: same as flowers (forward facing).
Flowering time.—For an untreated plant (flowering plant that has not undergone cold-treatment where the plant grows at a temperature of 18° C. to 19° C. for about 4 to 8 weeks after a period of about 30 weeks at a temperature of 25° C.), 1-3 racemes appear with flower buds and flowers. First flowers can be expected approximately 4 to 6 months after planting a plant with a leaf diameter of 3 to 5 cm. Flowers persistent.
Flowering longevity.—On the plant: about 4 to 6 months; lastingness of cut flowers: has not been observed.
Fragrance.—No fragrance.
Flower.—Rate of opening: Flowers fully opened about 2 to 3 days after petal and sepal separation. Orientation at opening: slanted upward and outward. Shape: Typical shape of *Phalaenopsis*; see FIG. **2**. Size (of single bloom): Height: about 8 cm. Diameter: about 90 mm. Quantity and arrangement: three petals and three sepals. Arrangement of petals are free, not touching. Petals are more pronounced than sepals.
Petals.—Arrangement: Inner whorl comprises 3 petals: 2 lateral petals and a labellum. 2 lateral petals: Overall shape: broadly ovate and weakly cupped. Apex: retuse. Margin: entire and weakly undulate. Base: broadly ovate. Length: about 55 mm. Width: about 45 mm. Texture: Upper surface: smooth and satiny. Under surface: smooth and satiny. Color (when fully opened): upper side: purple (RHS 76D) with at the base some purple (RHS 77C). Under side: white (RHS N155B) with a light purple haze (RHS 77D). Labellum: Overall shape: 3-lobed with 2 prominent callosities at central junction of the lateral lobes and base of the midlobe. Lateral lobes of labellum fold upward about the column; the midlobe extends forward and is terminated by 2 filiform appendages at the apex. Lateral lobes of the labellum are ovate in shape while the midlobe is triangular with a bump and a rib on it. Margin of the midlobe and lateral lobes: entire and weakly undulate. Apex of the midlobe and lateral lobes: rounded. Length midlobe: about 20 mm. Width midlobe (not flattened): about 25 mm. Length lateral lobe: about 18 mm. Width lateral lobe (not flattened): about 15 mm. Depth of tube created by lateral lobes of labellum: about 15 mm. Texture of midlobe and lateral lobes: Upper & under surface: smooth and satiny. Color (when fully opened): Mid lobe, upper side: Main color is white (RHS NN155C). At the base a little purple (RHS 77C) at the edges and in the center some red/purple (RHS 59A). In the corners some green/yellow (RHS 145C). No spots or stripes. Under side: Main color is white end (RHS NN155C). At the base a little purple (RHS 77C) at the edges and in the center some red/purple (RHS 59A). In the corners some green/yellow (RHS 145C). Lateral lobes, upper side: Main color is white (RHS NN155C). At the base a few red/purple (RHS 77A) stripes. At the lower edge yellow/green (RHS 145C). Under side: Main color is white (RHS NN155C). At the base edge some red/purple (RHS 70A). The lower edge yellow/green (RHS 145C). Cirrhi: about 17 mm. color: white (RHS NN155C). Pestle (Callosities): Length: about 4 mm. Width (not flattened): about 6 mm. Color: main color is white (RHS NN155C) with green/yellow (RHS 154D) and red/purple stripes and spots near the edges (RHS 59A). There is no pubescence on the callus.
Sepals.—Arrangement: Outer whorl comprises 3 sepals, one dorsal and two lateral sepals. Overall shape: elliptical and weakly cupped. Margin: entire and weakly undulate. Length: about 42 mm. Width: about 25 mm. Apex: obtuse; lateral sepal a little pointy. Texture: Upper and under surface: smooth and satiny. Color (when fully opened): Upper side, dorsal: purple (RHS 76B) with purple (RHS 77B) and purple faint striping (RHS 77A). Lateral: Main color is purple (RHS 76B). At the base some purple (RHS 77C), some yellow/green (RHS 145C) red/purple spots (RHS 77A) with a haze of white (RHS N155B). Under side, dorsal: purple (RHS 76B) with in the center some red/purple (RHS 72A). Lateral: Main color is purple (RHS 76B) At the base some yellow/green (RHS 145C). On the other side of the lateral sepal some (RHS 72A).
Pedicel.—Length: about 35 mm. Diameter: about 3 mm. Texture: glabrous and smooth. Color: starting at the flower white (RHS 155C) which runs into yellow/green (RHS 145B and RHS 145C) and red/purple (RHS 59A).

Reproductive organs:

Arrangement.—The stamens, style and stigmas are fused into a single, short structure called the column, possessing one terminal anther with pollen grains united into a pollinia, which are covered by an anther cap. The stigma is located under the column behind

the pollinia. The ovary is inferior with three carpels present. The plant has not produced fruit or seed.

Column.—Length: about 7 mm. Diameter: about 5 mm. Color: purple (RHS 77C) with white (RHS NN155D).

Pollinia.—Quantity: two. Diameter: about 2 mm. Color: orange (RHS 26A).

Ovary.—Length: about 4 mm. Diameter: about 5 mm. Color: white (RHS NN155D).

Disease/pest resistance/susceptibility: No specific resistance or susceptibility observed.

Temperature tolerance: Tolerant to a low temperature of about 15° C. and to a high temperature about 30° C.

What is claimed is:

1. A new and distinct *Phalaenopsis* plant named 'Mellowstar', as illustrated and described herein.

* * * * *

FIG. 1

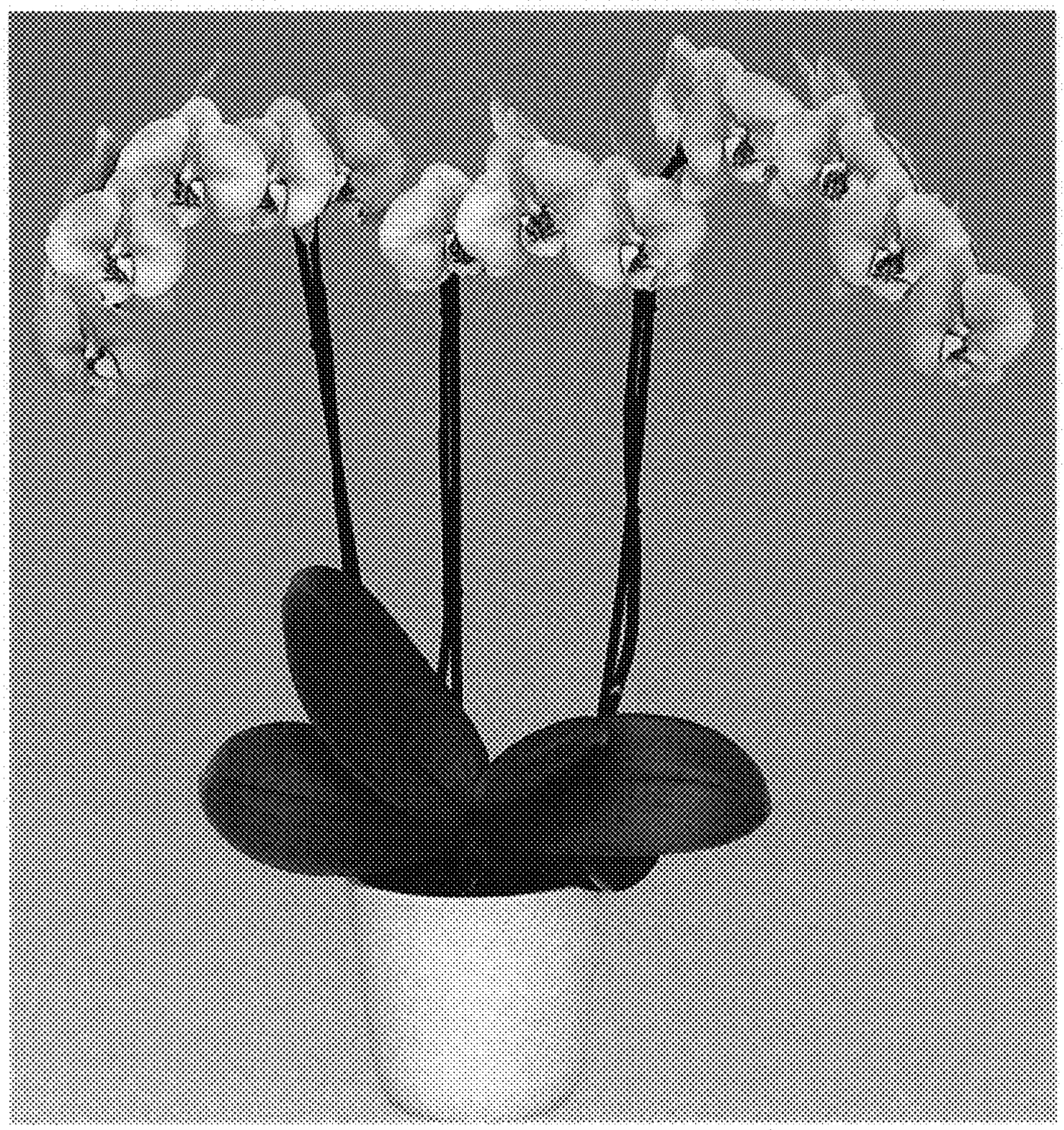

FIG. 2

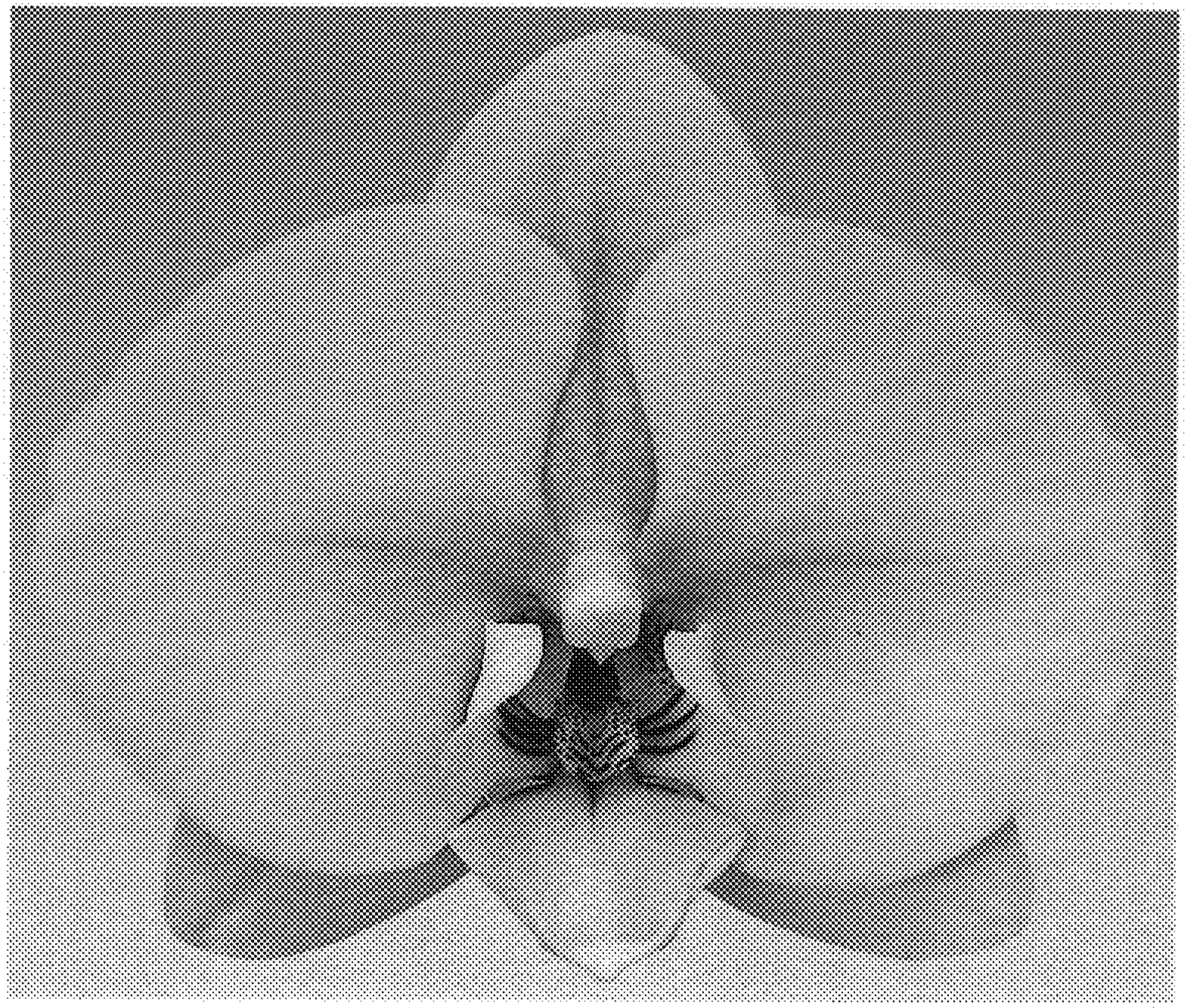

FIG. 3