



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

(10) **Patent No.:** **US PP25,332 P3**
(45) **Date of Patent:** **Mar. 10, 2015**

(54) **PHALAENOPSIS ORCHID PLANT NAMED**
‘NORTHSTAR’

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

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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 171 days.

(21) Appl. No.: **13/573,500**

(22) Filed: **Sep. 19, 2012**

(65) **Prior Publication Data**
US 2013/0081168 P1 Mar. 28, 2013

Related U.S. Application Data

(60) Provisional application No. 61/540,419, filed on Sep.
28, 2011.

(30) **Foreign Application Priority Data**
Sep. 30, 2011 (NL) PBR OPS845

(51) **Int. Cl.**
A01H 5/00 (2006.01)
A01H 5/02 (2006.01)

(52) **U.S. Cl.**
CPC *A01H 5/02* (2013.01)
USPC **Plt./311**

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

(56) **References Cited**

U.S. PATENT DOCUMENTS

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(57) **ABSTRACT**

A new and distinct *Phalaenopsis* plant named ‘Northstar’
particularly characterized by flowers which are white with
some yellow and some purple/red in the labellum; plants
which may be propagated economically and uniformly using
tissue culture; plants which produce more than one inflores-
cence; long and sturdy inflorescences; and relatively short,
dark-green foliage.

3 Drawing Sheets

1

Latin name of the genus and species of the plant claimed:
Phalaenopsis hybrida.
Variety denomination: ‘Northstar’.

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 ‘Northstar’.

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.

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

2

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.

5 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.

10 The new *Phalaenopsis* ‘Northstar’ is a product of a con-
trolled 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 attrac-
15 tive 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* ‘Northstar’ originated from a cross
made by the inventor in 1999 in Strengweg, Heemskerk, The
Netherlands. The female or seed parent is the *Phalaenopsis*
20 cultivar designated ‘(Malibu RealxamabilisxHohoemixJo-
seph Hampton)’, unpatented. The male or pollen parent is the
Phalaenopsis cultivar designated ‘Taisuco Kaaladian’,
unpatented. The new *Phalaenopsis* ‘Northstar’ was discov-
ered and selected by the inventor as a single flowering plant
25 within the progeny of the stated cross in a controlled environ-
ment in 2006 in Strengweg, Heemskerk, The Netherlands.

Asexual reproduction of the new *Phalaenopsis* cultivar by
tissue culture was first performed in July, 2007 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 'Northstar', which in combination distinguish this *Phalaenopsis* as a new and distinct cultivar:

1. flowers which are white with some yellow and purple/red in the labellum;
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 'Northstar', the female parent '(Malibu Real×amabilis×Hohoemix×Joseph Hampton)' has white flowers which are about 8 cm in size, the male parent 'Taisuco Kaaladian' has white colored flowers which are about 10 cm in size, whereas the flowers of 'Northstar' are white and are about 9 cm in size.

Presently, the most commercially similar cultivar to the claimed variety 'Northstar' are the parental varieties '(Malibu Real×amabilis×Hohoemix×Joseph Hampton)' and 'Taisuco Kaaladian', to which a comparison has been provided above.

BRIEF DESCRIPTION OF THE PHOTOGRAPHS

The accompanying photographs illustrate the overall appearance of the new *Phalaenopsis* 'Northstar' 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 'Northstar'.

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

FIG. 2 shows a close-up view of a typical flower of 'Northstar'.

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

DETAILED BOTANICAL DESCRIPTION

The new *Phalaenopsis* cultivar 'Northstar' 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 'Northstar' 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 'Northstar' is 27° C. during the day and at night. Then, during the flowering phase of 'Northstar', the ideal growing temperature is 20-22° C. during the day and 18° C. at night. Light levels for growing 'Northstar' 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 'Northstar' 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 'Northstar' plants described is 12 months after potting.

Classification:

Botanical.—*Phalaenopsis hybrida*.

Parentage:

Female or seed parent.—*Phalaenopsis* cultivar designated '(Malibu Real×amabilis×Hohoemix×Joseph Hampton)', unpatented.

Male or pollen parent.—*Phalaenopsis* cultivar designated 'Taisuco Kaaladian', unpatented.

Propagation:

Type.—Tissue culture.

Rooting habit and description.—Fleshy; approximately 4 mm-7 mm wide and green (RHS NN155D/138D) in color; 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 59 cm. Spread: about 43 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 1-2 racemes with flowers appear.

Foliage:

Quantity per plant.—About 6 to 8 leaves are produced before flowering.

Arrangement and attachment.—Half up/horizontal and on two sides.

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

Base.—Acute.

Margin.—Entire.

Texture (both surfaces).—Smooth and leathery.

Pubescence.—None.

Mature leaf length.—About 17 to 24 cm.

Mature leaf width.—About 7 to 11 cm.

Mature leaf thickness.—About 2 mm.

Mature leaf color.—Upper side: RHS N137A. Lower side: RHS 137B.

Venation.—Pattern: parallel. Color of midvein: upper side: dark green (RHS N137A). Lower side: RHS 147A.

Raceme:

Quantity per plant.—About 1 to 2.

Number of flowers per raceme.—About 5 to 12.

Length.—About 50 and 60 cm.

Diameter.—About 5 cm.

Strength.—Strong.

Aspect.—Upright.

Texture.—Glabrous and smooth.

Color.—Dark green (RHS 147A).

Internode.—Length: about 30 to 40 mm.

Inflorescence description:

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

Buds.—Height (from base to tip): about 15 to 25 mm. Diameter (at midpoint): about 15 to 25 mm. Shape: egg-shaped. Color: Yellow/Green (RHS 150B).

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 to 2 racemes appear with about 5 to 12 flower buds and flowers per inflorescence. 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* orchid; see FIG. 2. Size (of single bloom): Height: about 80 mm. Diameter: about 92 mm.

Quantity and arrangement.—Three petals and three sepals that are trimerous, overlapping and arranged in 2 whorls. Petals are more pronounced than sepals.

Petals.—Arrangement: Inner whorl comprises 3 petals, 2 lateral petals and labellum. 2 lateral petals: Overall shape: broadly ovate and weakly cupped. Apex: oval. Base: broadly ovate. Margin: entire and weakly undulate. Length: about 56 mm. Width: about 40 mm. Texture: Upper surface: smooth and satiny. Under surface: smooth and satiny. Color (when fully opened): upper and lower side: white (RHS NN155C). 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 (both midlobe and lateral lobes): entire and weakly undulate. Length: about 20 mm. Width (not flattened): about 25 mm. Depth of tube (made from lateral lobes of labellum): about 18 mm. Texture: Upper & under surface (both

midlobe and lateral lobes): smooth and satiny. Color (when fully opened): Main color is white (RHS NN155C). The upper corners of the midlobe are yellow (RHS 9B) with red/purple (RHS 59C) edges. In the center of the midlobe is a yellow mark (RHS 9B) with a red/purple line through the center (RHS 59C). The bottom of the lateral lobes are yellow (RHS 9B) with red/purple edges (RHS 59C). At the center of the lateral lobes are red/purple stripes (RHS 59C). Cirrhi (appendages at the apex): long (about 17 mm). Color: first white (RHS NN155C) then yellow (RHS 9B). Pestle (Callosities): Length: about 4 mm. Width (not flattened): about 6 mm. Height: about 7 mm. Color: yellow (RHS 9B) with some white (RHS NN155C) and with red/purple (RHS 59C) spots and stripes.

Sepals.—Arrangement: Outer whorl comprises 3 sepals. Overall shape: elliptical and weakly cupped; top dorsal sepal is slightly pointed. Margin: entire and weakly undulate. Apex: oval with a little point. Base: broadly ovate. Length: about 45 mm. Width: about 30 and 35 mm. Texture: Upper & under surface: smooth and satiny. Color (when fully opened): Main color is white (RHS NN155C). At the base of the bottom sepals is a red/purple trace (RHS 59C).

Pedicel.—Length: about 40 mm. Diameter: about 3 mm. Texture: glabrous and smooth. Color: yellow/green (RHS 145C) with RHS 146C.

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 seed.

Column.—Length: about 10 mm. Diameter: about 6 mm. Color: White (RHS NN155C).

Pollinia.—Quantity: Two. Size: about 1 mm. Color: orange (RHS N25A).

Ovary.—Length: about 5 mm. Diameter: about 5 mm. Color: white (RHS NN155C).

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 'North-star', as illustrated and described herein.

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FIG. 1

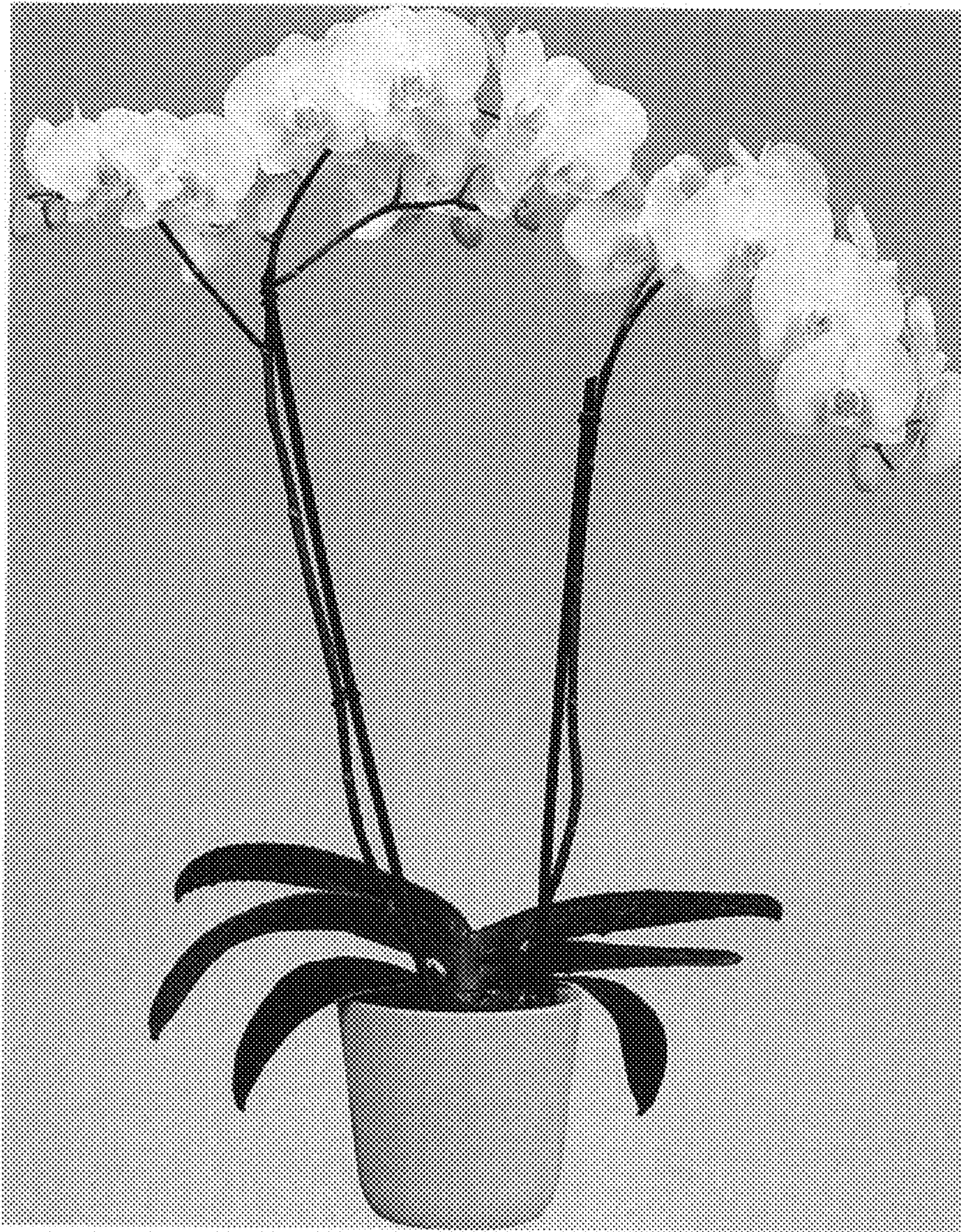


FIG. 2

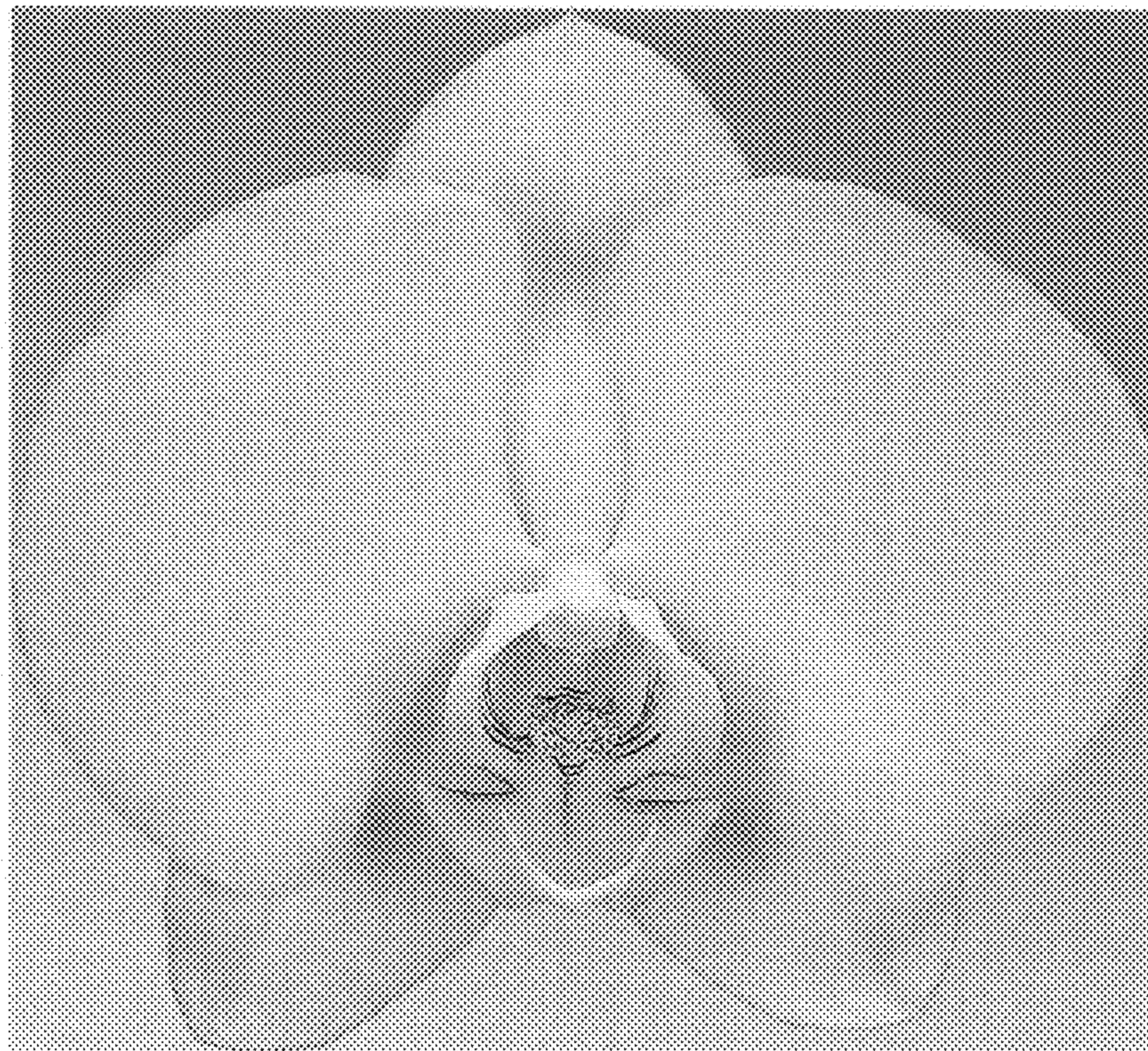


FIG. 3

