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

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(54) **PHALAEOPSIS ORCHID PLANT NAMED**
'MISTY SNOW'

(50) Latin Name: *Phalaenopsis hybrida*
Varietal Denomination: **Misty Snow**

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(57) **ABSTRACT**

A new and distinct *Phalaenopsis* plant named 'Misty Snow' particularly characterized by flowers which are white with some red and yellow in the labellum; 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: 'Misty Snow'.

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 'Misty Snow'.

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 often more brightly-colored than the other flower segments. Flower colors include various shades of pink, white, yellow and red-brown.

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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* 'Misty Snow' 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* 'Misty Snow' originated from a cross made by the inventor in 2004 in Strengweg, Heemskerk, The Netherlands. The female or seed parent is the *Phalaenopsis* cultivar designated 'Southern Snow', unpatented. The male or pollen parent is the *Phalaenopsis* cultivar designated 'Misty Mountain', unpatented. The new *Phalaenopsis* 'Misty Snow' 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 (mericlone) was first performed in July, 2012 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 'Misty Snow', which in combination distinguish this *Phalaenopsis* as a new and distinct cultivar:

1. flowers which are white with some red and yellow 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 'Misty Snow', the flowers of the female parent 'Southern Snow' are white with some yellow and red in the labellum and about 12 cm in size, the flowers of the male parent 'Misty Mountain' are white with a yellow labellum and about 10 cm in size, whereas the flowers of 'Misty Snow' are white with some green/yellow in the labellum and about 11 cm in size.

Presently, the commercial cultivar to which 'Misty Snow' can be meaningfully compared is 'FLOR179934'. The flowers of 'FLOR179934' are about 10 cm in size, whereas the flowers of 'Misty Snow' are about 11 cm in size. Also the labellum of 'FLOR179934' has more yellow than the labellum of 'Misty Snow'.

BRIEF DESCRIPTION OF THE PHOTOGRAPHS

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

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

FIG. 2 shows a close-up view of the typical flower of 'Misty Snow'.

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

DETAILED BOTANICAL DESCRIPTION

The new *Phalaenopsis* cultivar 'Misty Snow' 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 'Misty Snow' as grown in a greenhouse in Strenweg, Heemskerk, The Netherlands, under conditions which closely approximate those generally used in commercial practice. Initially, the ideal temperature to grow plants of 'Misty Snow' is 27° C. during the day and at night. Then, during the flowering phase of 'Misty Snow', the ideal growing temperature is 20-22° C. during the day and 18° C. at night. Light levels for growing 'Misty Snow' 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 'Misty Snow' 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 'Misty Snow' plants described is 12 months after potting.

Classification:

Botanical.—*Phalaenopsis hybrida*.

Parentage:

Female or seed parent.—*Phalaenopsis* cultivar designated 'Southern Snow', unpatented.

Male or pollen parent.—*Phalaenopsis* cultivar designated 'Misty Mountain', unpatented.

Propagation:

Type.—Tissue culture.

Rooting habit and description.—Fleshy; approximately 3 mm-6 mm wide and greyed/green in color (RHS 190A); 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 60 cm. Spread: about 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 1-2 racemes with flowers appear.

Foliage:

Quantity per plant.—About 6-8 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 22 cm.

Mature leaf width.—About 8.5 cm.

Mature leaf thickness.—About 2 mm.

Mature leaf color.—Upper side: green (RHS N137A).

Under side: green (RHS 137B and RHS 137C).

Leaf base.—Acute.

Margin.—Entire.

Venation.—Pattern: parallel. Color of midvein: upper side: green (RHS 139A). under side: green (RHS 137B).

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 2.

Number of flowers per raceme.—About 10.

Length.—About 35 cm.

Diameter.—About 5 mm.

Peduncle:

Length.—About 25 cm.

Diameter.—About 4 mm.

Strength.—Strong.

Aspect.—Upright.

Texture.—Glabrous and smooth.

Color.—Green (RHS 137B) and yellow/green (RHS 144A) with brown (RHS 200A).

Buds.—Height (from base to tip): about 25 mm. Diameter (at midpoint): about 19 mm. Shape: oval with a bump. Color: yellow/green (RHS 145A and RHS 145C) with a red/purple haze (RHS 70A and RHS 71A). 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.), 1-2 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 95 mm. Diameter: about 110 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 a labellum. 2 lateral petals: Overall shape: broadly ovate and weakly cupped. Apex: round. Margin: entire and weakly undulate. Base: broadly ovate. Length: about 60 mm. Width: about 50 mm. Texture: Upper surface: smooth and satiny. Under surface: smooth and satiny. Color (when fully opened): upper side: white (RHS NN155D). Under side: white (RHS NN155D). 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 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: entire and weakly undulate. Apex of the midlobe and lateral lobes: oval. Length midlobe: about 25 mm. Width midlobe (not flattened): about 25 mm. Length lateral lobe: about 18 mm. Width lateral lobe (not flattened): about 17 mm. Depth of tube created by lateral lobes of labellum: about 18 mm. Texture: Upper & under surface: smooth and satiny. Color (when fully opened): Midlobe, upper side: Main color is white (RHS NN155D). At the base red/purple (RHS 71A) with yellow/green (RHS 1B). Under side: Main color is white (RHS NN155D). At the base red/purple (RHS 71A) with some yellow/green (RHS 1B). Lateral lobes, upper side: Main color is white (RHS NN155D). At the

base red/purple stripes (RHS 59A). At the lower edge some red/purple (RHS 59A) with green/yellow (RHS 1B). Under side: Main color is white (RHS NN155D). Lower edges some red/purple (RHS 59A) with green/yellow (RHS 1B). Cirrhi: about 20 mm. color: white (RHS NN155D) long and curled. Pestle (Callosities): Length: about 8 mm. Width (not flattened): about 8 mm. Color: white (RHS NN155D) with red/purple stripes/spots (RHS 59A) and a yellow haze (RHS 5A).

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 50 mm. Width: about 30 mm. Apex: oval. Texture: Upper and under surface: smooth and satiny. Color (when fully opened): Upper side, dorsal: White (RHS NN155D) with a yellow/green haze (RHS 145B). Lateral: white (RHS NN155D) with a yellow/green haze (RHS 145B) and at the base some red/purple spots (RHS 70A). Under side, dorsal: white (RHS NN155D) with a yellow/green (RHS 145) and red/purple haze (RHS 70A). Lateral: white (RHS NN155D) with a yellow/green haze (RHS 145B).

Pedice.—Length: about 4.5 cm. Diameter: about 4 mm. Texture: glabrous and smooth. Color: yellow/green (RHS 145C and RHS 145D) with a red/purple haze (RHS 70A) which runs into yellow/green (RHS 145A and RHS 145B).

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 3 mm. Color: white (RHS NN155D) with haze yellow/green (RHS 145D).

Pollinia.—Quantity: two. Diameter: about 2 mm. Color: yellow/orange (RHS 23A).

Ovary.—Length: about 4 mm. Diameter: about 3 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 'Misty Snow', as illustrated and described herein.

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FIG. 1

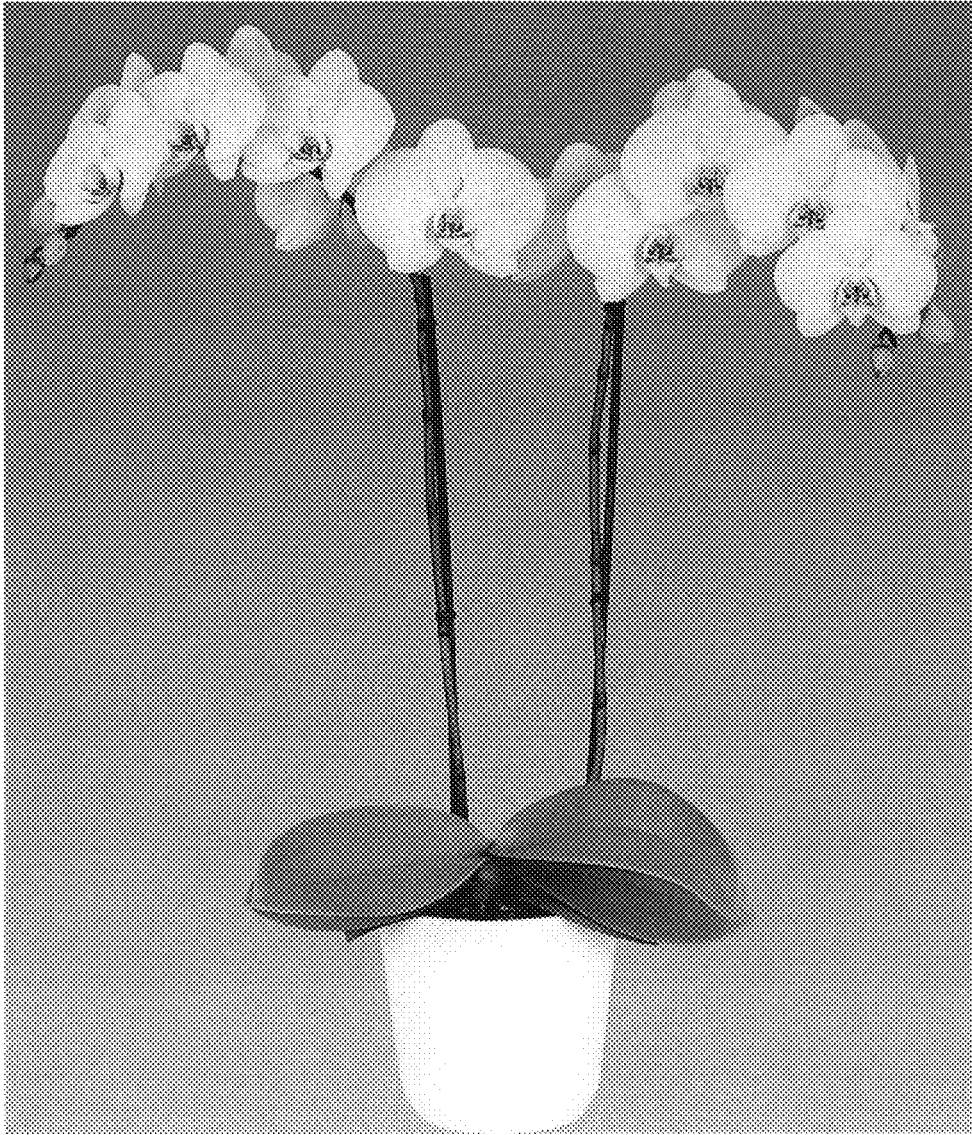


FIG. 2

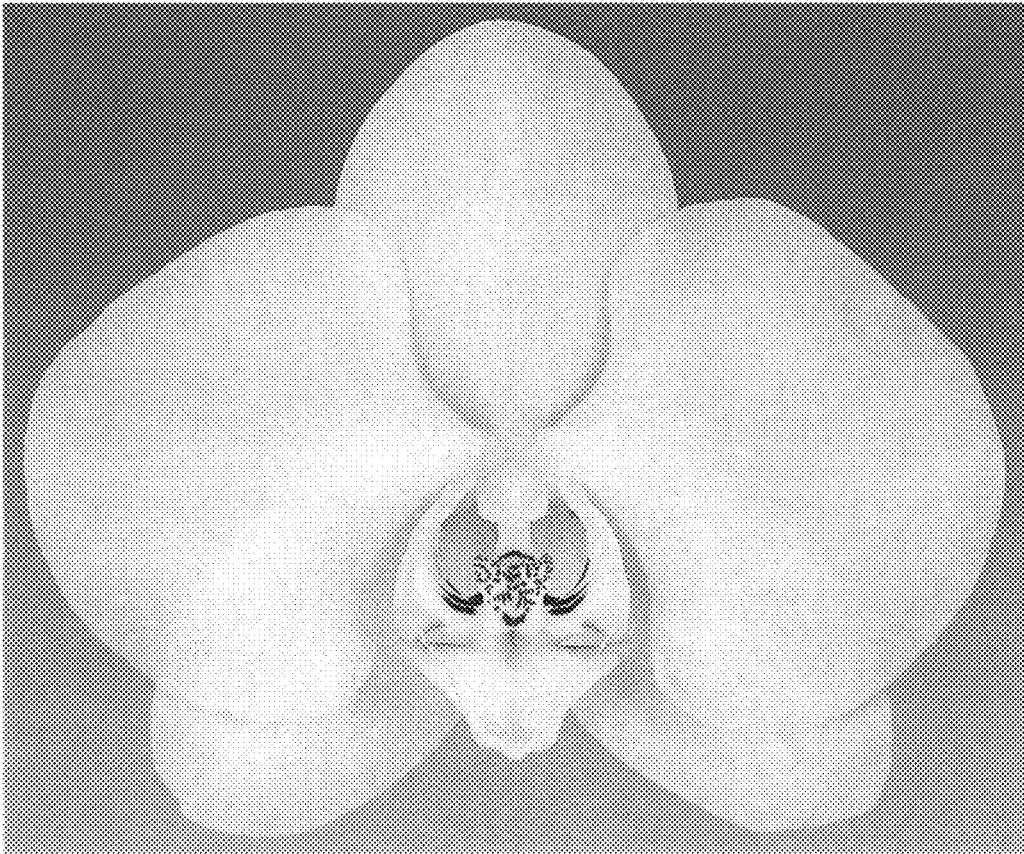


FIG. 3

