

### [54] CHRYSANTHEMUM PLANT

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[73] Assignee: Yoder Brothers, Inc., Barberton, Ohio

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[51] Int. Cl.<sup>3</sup> ..... A01H 5/00

[52] U.S. Cl. .... Plt./78

[58] Field of Search ..... Plt./78

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Attorney, Agent, or Firm—Schwartz, Jeffery, Schwaab, Mack, Blumenthal & Koch

## 1

The present invention comprises a new and distinct cultivar of *Chrysanthemum morifolium*, Ramat., herein after referred to by the cultivar name Sequest.

Sequest is a product of a planned breeding program which had the objective of creating new chrysanthemum cultivars for low light, pinched pot mum programs having decorative capitulum type, dark yellow ray floret color, 10 week flowering response and having the ability to produce commercially acceptable quality in late fall, winter and early spring programs. Such traits in combination were not present in previously available commercial cultivars.

Sequest was originated from x-radiation in a controlled mutation induction program in Salinas, Calif. in 1979. The female parent of the irradiated seedling was Royal Purple, a non-patented commercial cultivar of unknown parentage. Royal Purple is a flat, dark pink, decorative, disbud pot mum. The male parent of the irradiated seedling was Mandalay, a non-patented commercial cultivar originated from a cross between Working Scarlet and Mayford Crimson. Mandalay is a flat, bronze, decorative, disbud pot mum. The x-ray dose level utilized was 900 rads.

Sequest was discovered and selected as one flowering plant within the irradiated population by William E. Duffett on May 21, 1979 in a controlled environment in Salinas, Calif.

The first act of asexual reproduction of Sequest was accomplished when vegetative cuttings were taken from the initial selection in August 1979 in a controlled environment in Salinas, Calif. by a technician working under formulations established and supervised by William E. Duffett. Horticultural examination of selected units initiated October 1979 has demonstrated that the combination of characteristics as herein disclosed for Sequest are firmly fixed and retained through successive generations of asexual reproduction.

Sequest has not been observed under all possible environmental conditions. The phenotype may vary significantly with variations in environment such as temperature, light intensity and day length. The observations, measurements and comparisons describe plants grown in Salinas, Calif. under greenhouse conditions which approximate those generally used in commercial practice.

### [57]

### ABSTRACT

A chrysanthemum plant known by the cultivar name Sequest and particularly characterized as to uniqueness by the combined characteristics of flat capitulum form, decorative capitulum type; dark yellow ray floret color; diameter across face of capitulum ranging from 85 to 110 mm. at maturity; uniform 10 week photoperiodic flowering response to short days; medium plant height when grown as a pinched, disbudded pot mum, spreading branching pattern and being photosynthetically efficient producing strong plants under low, winter light regimes with 14 to 16 hour continuous dark periods.

### 3 Drawing Figures

## 2

The following traits have been repeatedly observed and are determined to be basic characteristics of Sequest which in combination distinguish this chrysanthemum as a new and distinct cultivar:

- (1) flat capitulum form;
- (2) decorative capitulum type;
- (3) dark yellow ray floret color;
- (4) diameter across face of capitulum ranging from 85 to 110 mm. at maturity;
- (5) uniform 10 week photoperiodic flowering response to short days;
- (6) medium plant height (requiring 1-2 long day weeks prior to pinch and short days, and one application 2500 ppm B-9 SP 14 to 21 days after the beginning of short days to attain a flowered plant height of 30 to 40 cm.);
- (7) spreading branching pattern; and
- (8) photosynthetic efficiency sufficient to produce strong plants under low, winter light regimes with 14 to 16 hour continuous dark periods.

The accompanying photographic drawings depict typical foliage and inflorescence characteristics of Sequest. Sheet 1 is a color photograph of a plant of Sequest grown as a pinched disbud, with colors being as accurate as possible with renditions of this type. Sheet 2 is a black and white photograph of three views of the inflorescence of Sequest. Sheet 3 shows the foliage of Sequest in three stages of growth.

Of the many commercial cultivars known to the present inventor, the most similar in comparison to Sequest is Yellow Mandalay. Reference is made to attached Chart A which compares certain characteristics of Sequest to those same characteristics of Yellow Mandalay.

In comparison to Yellow Mandalay, Sequest has superior color clarity and color intensity, lower disc petal count, and is more photosynthetically efficient resulting in stronger plants under low winter light regimes. Response to 10 weeks versus 9 weeks. The capitulum form, shape and branching pattern are similar to those same characteristics of Yellow Mandalay.

In the following description, color references are made to The Royal Horticultural Society Colour Chart. The color values were determined between 10:15 and 10:30 A.M. on Oct. 21, 1981 under 150 foot-candle light intensity at Salinas, Calif.

Classification:

Botanical.—*Chrysanthemum morifolium*, Ramat.,  
CV SEQUEST.

Commercial.—Pinched Disbudded Pot Mum.

1. Inflorescence:

A. Capitulum.—Form: Flat. Type: Decorative.  
Diameter across face: 85 to 110 mm.

B. Corolla of ray florets.—Color (general tonality  
from a distance of three meters): Dark yellow.  
Color (abaxial): 13-A to 13-C oxidizing to 12-A  
to 12-B. Color (adaxial): 9-A.

C. Corolla of disc florets.—Color (mature): 14-A.  
Color (immature): 4-B. Scant: Few to absent.

D. Reproductive organs.—Androecium: Present  
disc florets only; scant pollen. Gynoecium: Pres-  
ent both ray and disc florets.

II. Plant:

A. General appearance.—Height: Medium; 30 to 40  
cm. given 2 long day weeks before pinch and  
lights out, and 1-2 applications 2500 ppm B-9 SP  
after lights out. Branching pattern: Spreading.

B. Foliage.—Color (abaxial): 137-A. Color (adax-  
ial): 138-B to 138-C. Shape: Deeply lobed and  
moderately serrated.

CHART A

COMPARISON OF SEQUEST AND YELLOW MANDALAY

| CULTIVAR | RAY<br>FLORET<br>COLOR | CAPITULUM<br>FORM AND<br>TYPE                         | BRANCH-<br>ING<br>PATTERN |
|----------|------------------------|---|---------------------------|
| SEQUEST  | Dark<br>Yellow         | Flat Decorative.<br>Under low light<br>few to no disc | Spreading                 |

CHART A-continued

| YELLOW<br>MANDALAY | Yellow<br>Frequently<br>tinged bronze      | florets.<br>Flat Decorative.<br>Under low light<br>disc florets are<br>abundant. | Spreading   |
|--------------------|--|--|---|
| CULTIVAR           | DIAMETER<br>ACROSS<br>FACE OF<br>CAPITULUM | PLANT<br>HEIGHT  | FLOWERING<br>RESPONSE<br>PERIOD                               |
| SEQUEST            | 85 to 110 mm.                              | 30 to 40<br>cm.  | 10 Week<br>Requires a<br>minimum<br>hour dark<br>period.      |
| YELLOW<br>MANDALAY | 75 to 100 mm.                              | 20 to 30<br>cm.  | 9 Week<br>Develops in a<br>minimum 13<br>hour dark<br>period. |

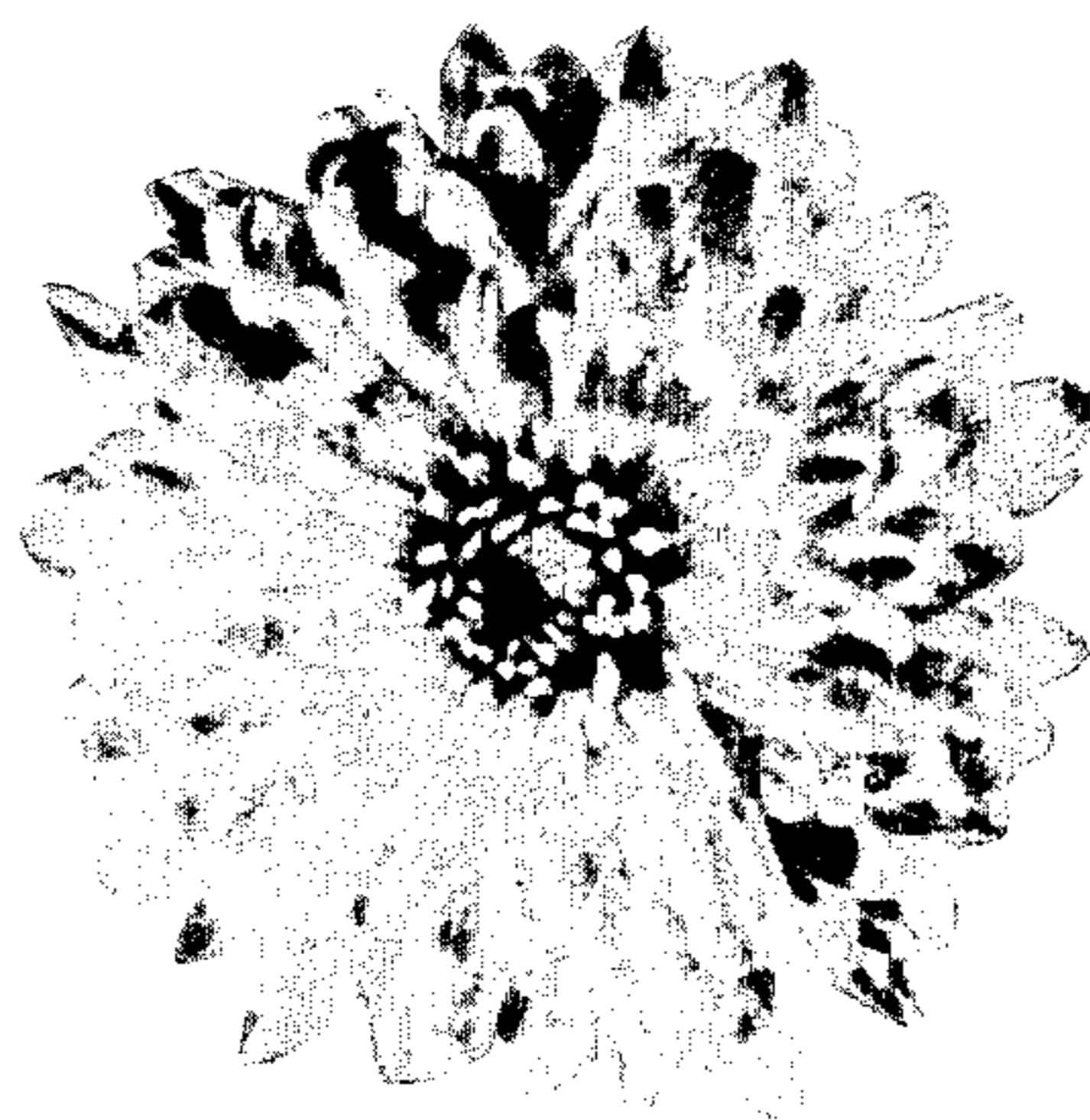
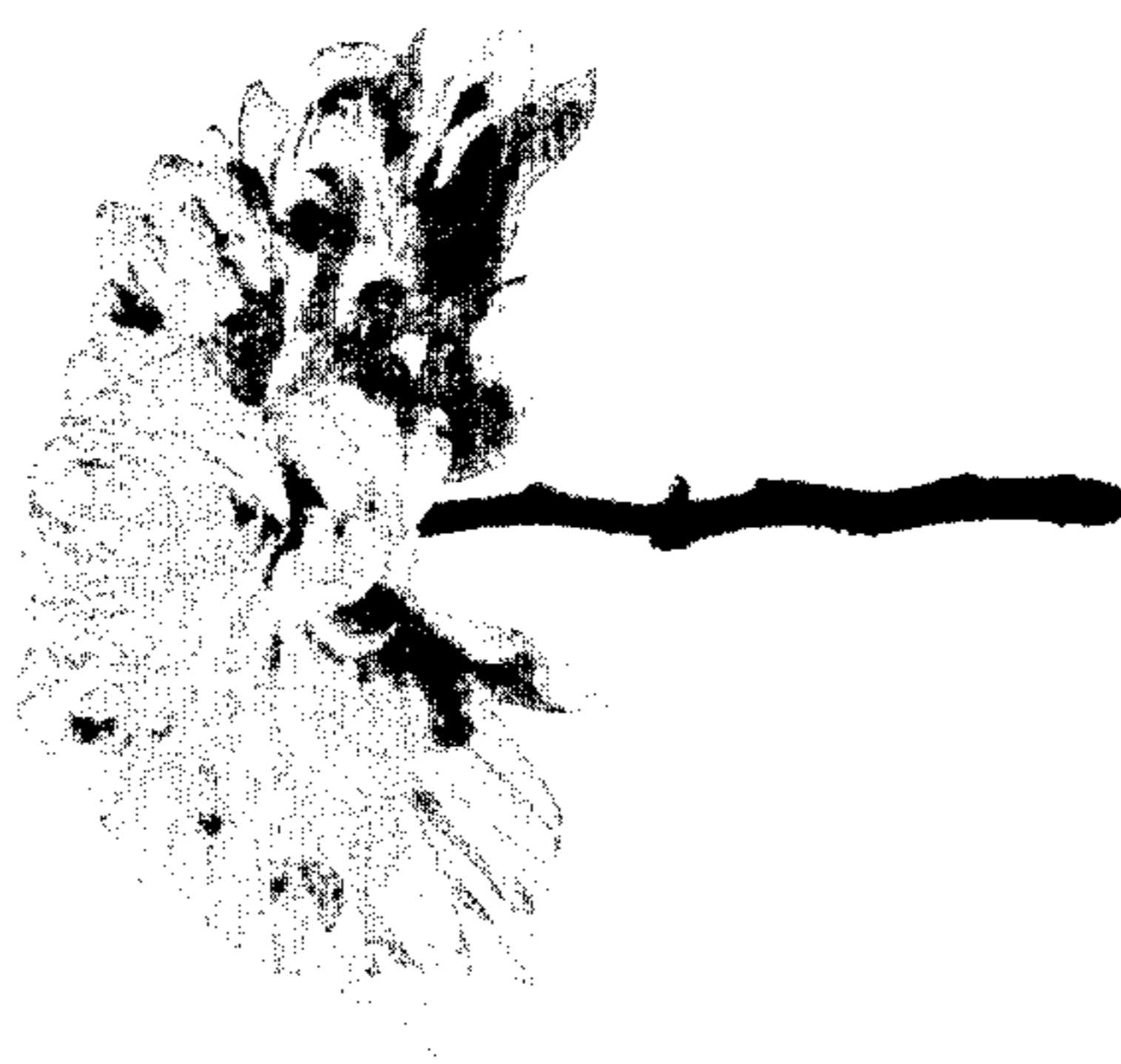
COMPARISONS MADE OF PLANTS GROWN AS  
PINCHED, DISBUDED POT MUMS IN SALINAS,  
CALIFORNIA.

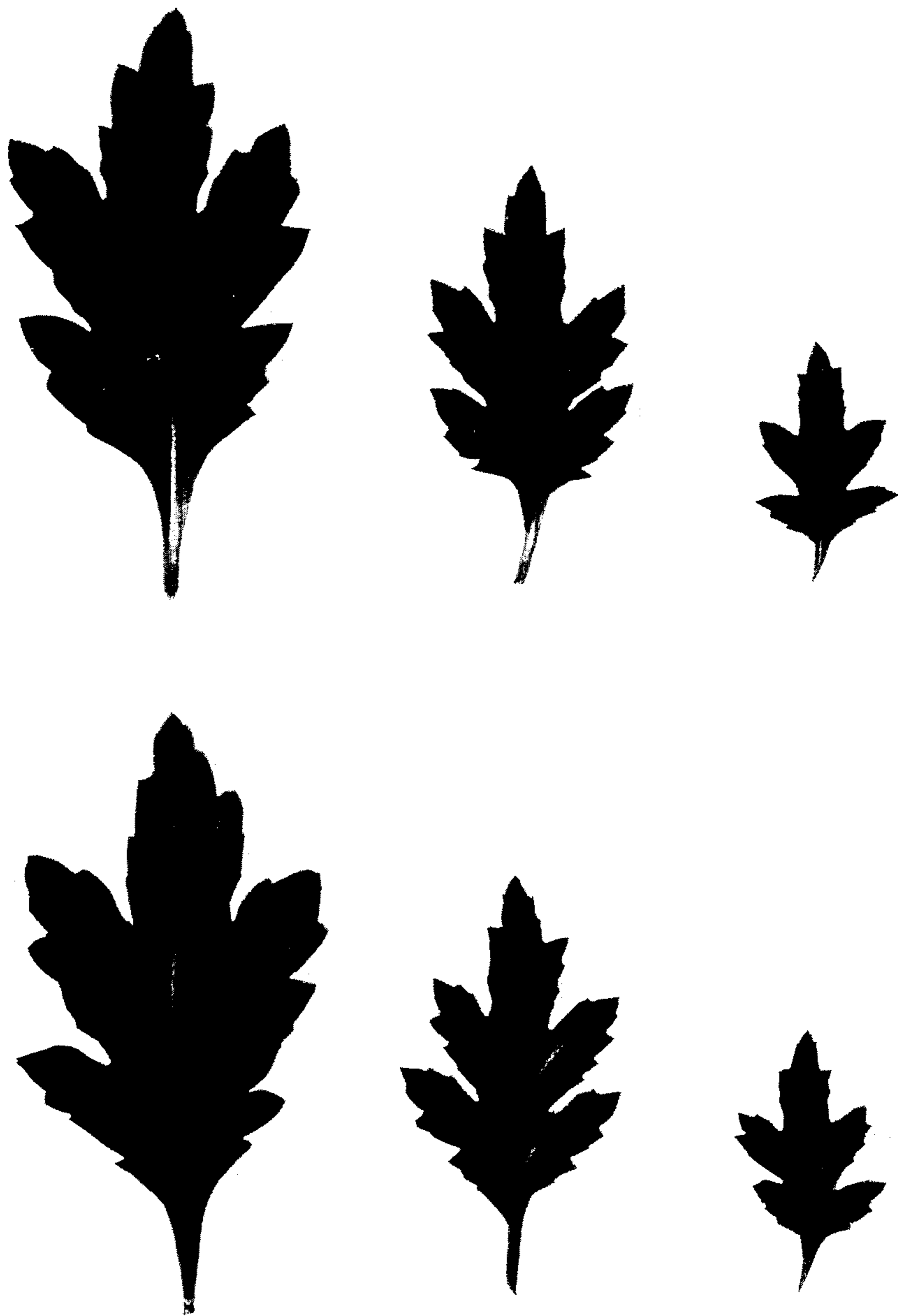
I claim:

1. A new and distinct cultivar of *Chrysanthemum morifolium*, Ramat., plant known by the cultivar name of Sequest, as described and illustrated, and particularly characterized as to uniqueness by the combined characteristics of flat capitulum form; decorative capitulum type; dark yellow ray floret color; diameter across face of capitulum ranging from 85 to 110 mm. at maturity; uniform 10 week flowering response; medium plant height; spreading branching pattern; and being photo-synthetically efficient, producing strong plants under low, winter light regimes with 14 to 16 hour continuous dark periods.

\* \* \* \* \*







UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION

PATENT NO. : PP5127  
DATED : October 25, 1983  
INVENTOR(S) : William E. Duffett

It is certified that error appears in the above—identified patent and that said Letters Patent is hereby corrected as shown below:

--In column 4, line 13, after "minimum", insert --14--.

**Signed and Sealed this**

*First Day of May 1984*

[SEAL]

*Attest:*

GERALD J. MOSSINGHOFF

*Attesting Officer*

*Commissioner of Patents and Trademarks*