

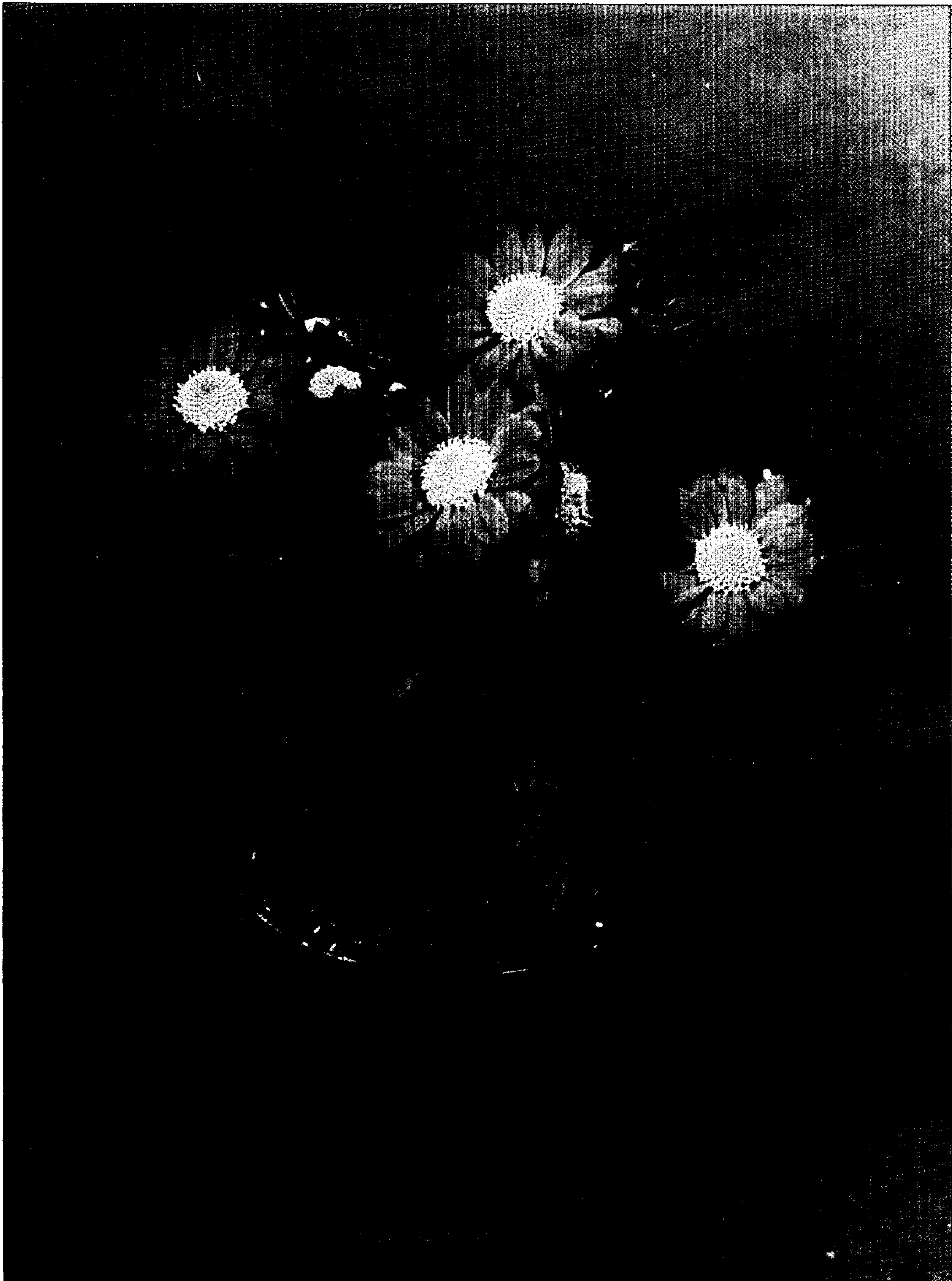
Aug. 24, 1976

W. H. JESSEL, Jr. et al.  
CHRYSANTHEMUM PLANT

Plant Pat. 3,946

Filed July 24, 1975

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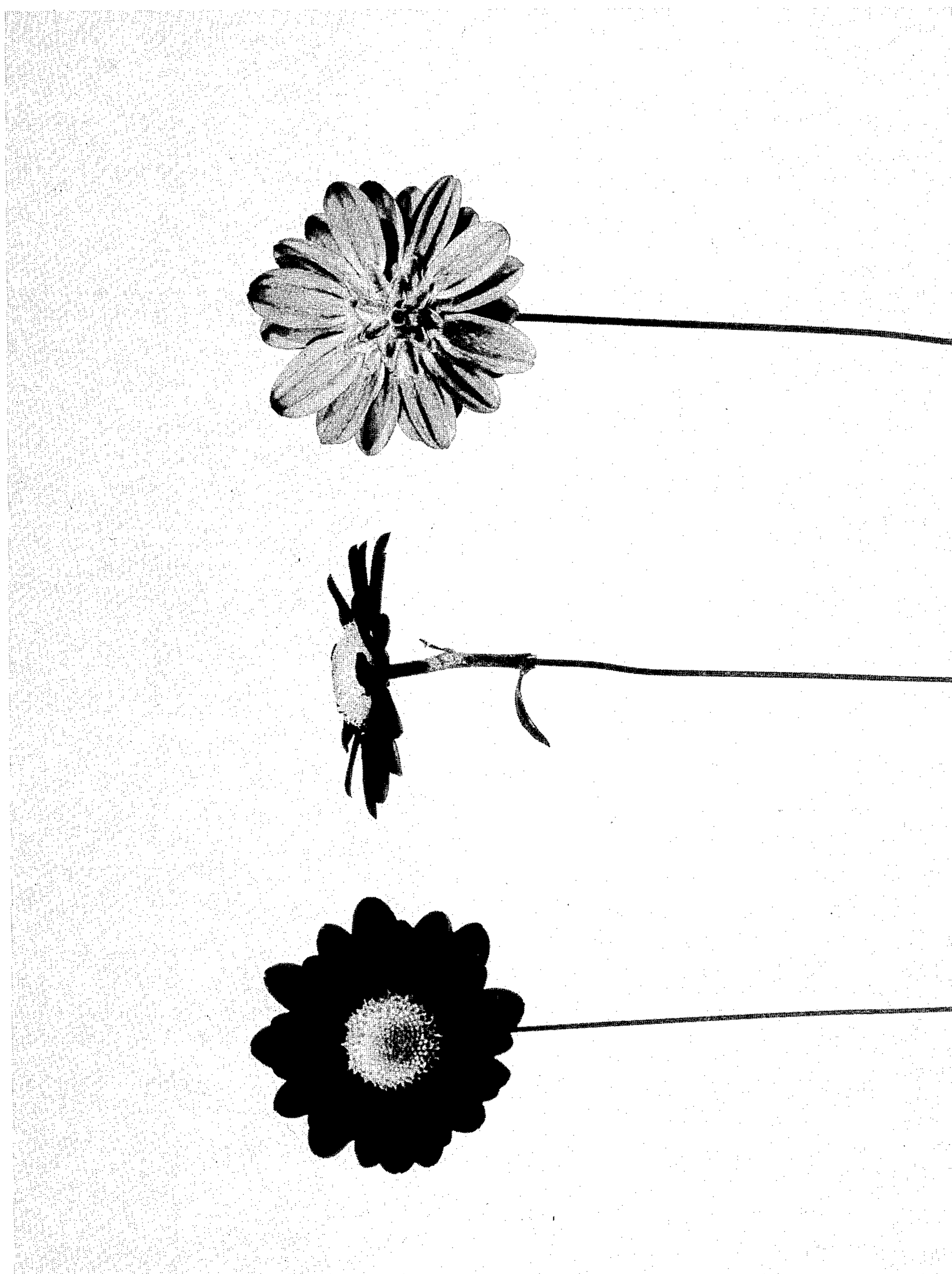
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3,946

## CHRYSANTHEMUM PLANT

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Akron, Ohio, assignors to Yoder Brothers, Inc., Bar-  
berton, Ohio

Filed July 24, 1975, Ser. No. 598,867

Int. Cl.<sup>2</sup> A01H 5/00

U.S. Cl. Plt.—74

1 Claim

The present invention comprises a new and distinct cul-  
tivar of *Chrysanthemum morifolium*, Ramat., hereinafter  
referred to by the cultivar name Spark (#73156008).

Spark was originated from a cross made in a controlled  
breeding program in Barberton, Ohio in the year 1972.  
The female, or seed parent, was #71078021 (unnamed  
seedling), a red daisy originated by the present inventors  
from a cross between Dramatic (#67079001; U.S. Plant  
Pat. No. 3,189) and Mischief (#22019E01; unpatented;  
commercially available). The male, or pollen parent of  
Spark, was #71285002 (unnamed seedling), a yellow  
anemone originated by the present inventors from a cross  
between #70040020 (unnamed seedling) and #70010030  
(unnamed seedling). Mischief is of parentage unknown  
to the present inventors. Dramatic, #70040020, and  
#70010030 are products of the breeding program of the  
present inventors.

Spark is a product of a planned breeding program which  
had the objective of creating cultivars readily adaptable  
for use in spray pot mum culture with daisy inflorescence  
type, intense red and red-bronze ray floret color, scarcity  
of pollen, spreading branching pattern, and with the  
ability to produce commercially acceptable quality in con-  
trolled flowering programs. These traits in combination  
were not present in previously available commercial cul-  
tivars.

Spark was discovered and selected as a flowering plant  
within the progeny of the stated cross by William E. Duf-  
fett and Walter H. Jessel, Jr. on Nov. 14, 1973 in a con-  
trolled environment in Barberton, Ohio.

The first act of asexual reproduction of Spark was ac-  
complished when vegetative cuttings were taken from the  
initial selection in January 1974 in a controlled environ-  
ment in Barberton, Ohio by a technician working under  
formulations established and supervised by William E.  
Duffett and Walter H. Jessel, Jr. Horticultural examina-  
tion of selected units initiated May 17, 1974, has demon-  
strated that the combination of characteristics as herein  
disclosed for Spark are firmly fixed and are retained  
through successive generations of asexual reproduction.

Spark has not been observed under all possible environ-  
ments. The phenotype may vary significantly with varia-  
tions in environment such as temperature, light intensity,  
and daylength. The following observation, measurements,  
and comparisons describe plants grown in a greenhouse  
in Barberton, Ohio under environmental conditions which  
approximate those generally used in commercial practice,  
as described in Chart A and Chart B which appear at the  
end of the present specification.

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

- (1) Flat inflorescence form.
- (2) Daisy inflorescence type. Slight elongation of disc  
florets produces crested anemone appearance.
- (3) Red ray floret color.
- (4) Semi-spreading branching pattern.
- (5) Seven week flowering response.
- (6) Medium plant height.
- (7) Scant pollen.
- (8) Permanence of inflorescence, averaging from 14 to  
18 days.
- (9) Dark green foliage color with high gloss appear-  
ance.

The accompanying photographic drawings show typical  
inflorescence and foliage characteristics of Spark with  
colors being as nearly true as possible with illustrations of  
this type. Sheet 1 is a color photograph of Spark. Sheet 2  
is a black and white photograph showing three views of  
the inflorescence of Spark. Sheet 3 is a black and white  
photograph of the foliage of Spark at three stages of  
growth.

Of the many commercial cultivars known to the present  
inventors, the most similar existing cultivar is Fireside  
Cushion (#21680E06; unpatented). Reference is made to  
attached Chart C which compares certain characteristics  
of Fireside Cushion with the same characteristics of Spark.  
In comparison to Fireside Cushion, Spark has a more  
spreading branching pattern, less pollen and longer in-  
florescence permanence. The inflorescence form, inflores-  
cence type, inflorescence color, and flowering response of  
Spark are similar to those of Fireside Cushion.

In the following description, color references are made  
to The Munsell Limit Color Cascade, 1972 edition. The  
color values were determined between 3:00 p.m. and 3:30  
p.m. on May 5, 1975 under 150 foot candle light intensity.

### BOTANICAL CLASSIFICATION

*Chrysanthemum morifolium*, Ramat., cv Spark.

#### I. Inflorescence

##### A. Capitulum:

*Form.*—Flat.

*Type.*—Daisy, with slight elongation of disc florets.

*Permanence.*—14 to 18 days.

*Diameter across face.*—1½ to 2¼ inches.

##### B. Corolla of ray florets:

*Texture (adaxial).*—Glabrous.

*Appearance and form.*—Ligulate.

*Arrangement.*—Whorled on receptacle.

*Persistence.*—Resists shatter.

*Color (abaxial).*—40-15 streaked with 40-14.

*Color (adaxial).*—Approximately 30-5 to 34-6 streaked with 40-12 to 40-15.

*Veination.*—Prominent.  
*Margin.*—Moderately serrated.

CHART A—AVERAGE GREENHOUSE CHRYSANTHEMUM ENVIRONMENTS USED FOR BARBERTON, OHIO

Season	Temperatures used (°F.)			Lighting used	Black cloth used	Supp., CO <sub>2</sub>
	Night	Bright day	Cloudy day			
Fall.....	65 to 56..	65 to 80..	60 to 75..	2 to 4 weeks at 3 hours per night of 7-10 f.e.	To Sept. 15: on, 5:30 p.m.; off, 7:30 a.m.....	From Oct. 15: 300 p.p.m.
Winter.....	58 to 62..	65 to 70..	60 to 65..	2 to 5 weeks at 5 hours per night of 7-10 f.e.	None.....	300 p.p.m.
Spring.....	58 to 65..	65 to 80..	60 to 75..	2 to 4 weeks at 5 hours per night of 7-10 f.e.	From Mar. 15: on, 5:30 p.m.; off, 7:30 a.m.....	To Apr. 15: 300 p.p.m.
Summer.....	62 to 68..	70 to 90..	65 to 75..	1 to 2 weeks at 3 hours per night of 7-10 f.e.	On, 6:00 p.m.; off, 8:00 a.m.....	None.

NOTE.—For intensity of direct solar radiation, refer to Chart B.

C. Corolla of disc florets:

*Appearance.*—Gameopetalous; tubular; slightly elongated; 5-lobed.

*Color.*—23-10 to 27-6.

D. Reproductive organs:

*Androecium.*—Present disc florets only; syngenesious Stamen; scant pollen.

*Gynoecium.*—Present both ray and disc florets; inferior, bicarpellate ovary; single style; 2-lobed stigma.

II. Plant

A. General appearance: Semi-spreading; medium height.

B. Duration and texture: Herbaceous; perennial.

C. Foliage:

*Color (abaxial).*—Approximately 21-13 to 21-16.

*Color (adaxial).*—21-13 overlaid with white.

*Shape.*—Spatulate; deeply lobed.

*Texture.*—Glabrous; leathery.

*Arrangement.*—Alternate.

CHART B

INTENSITY OF DIRECT SOLAR RADIATION

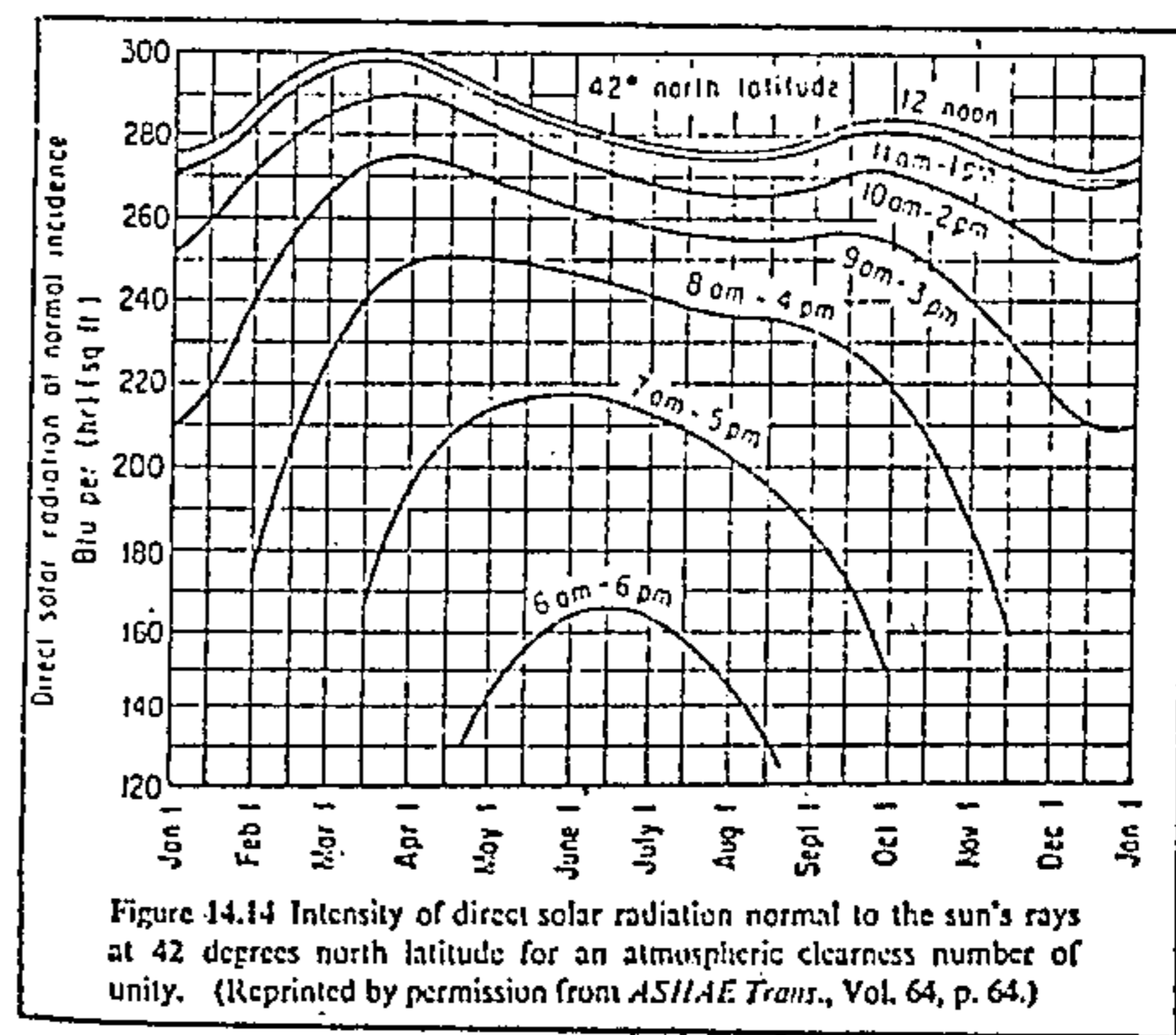


CHART C—COMPARISON OF SPARK AND FIRESIDE CUSHION

Cultivar	Inflorescence form and type	Inflorescence color	Branching pattern	Inflorescence permanence	Flowering response	Pollen
Spark.....	Flat daisy.....	Red.....	Semi-spreading.....	14-18 days.....	7 weeks.....	Scant.
Fireside cushion.....	do.....	Red.....	Semi-upright.....	4-5 days.....	do.....	Abundant.

NOTE.—Comparisons made of flowered, pinched plants grown in a greenhouse in Barberton, Ohio under conditions as described in Chart A and Chart B.

We claim:

1. A new and distinct cultivar of chrysanthemum known by the cultivar name Spark and particularly characterized as to uniqueness by the combined characteristics of flat inflorescence form; daisy inflorescence type having a slight elongation of the disc florets thereby producing a crested anemone appearance; red ray floret color; semi-spreading branching pattern; seven week flowering response; medium plant height, scant pollen; permanence of inflorescence, averaging from 14 to 18 days, and dark green foliage color with high gloss appearance.

No references cited.

ROBERT E. BAGWILL, Primary Examiner