



US00PP21535P2

(12) **United States Plant Patent**
Grosser et al.(10) **Patent No.:** US PP21,535 P2
(45) **Date of Patent:** Nov. 30, 2010

- (54) **SWEET ORANGE TREE NAMED ‘SF14W-62’**
- (50) Latin Name: *Citrus sinensis* L. Osbeck
Varietal Denomination: **SF14W-62**
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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.: **12/454,449**
- (22) Filed: **May 18, 2009**
- (51) **Int. Cl.**
A01H 5/00 (2006.01)
- (52) **U.S. Cl.** **Plt./202**
- (58) **Field of Classification Search** Plt./202
See application file for complete search history.

(56) **References Cited**

OTHER PUBLICATIONS

Grosser, et al. (2007) Somaclonal Variation in Sweet Orange: Practical Applications for Variety Improvement and Possible Causes In: *Citrus Genetics, Breeding and Biotechnology* (ed. I.A. Khan). CAB International. pp. 219-233.
Larkin, et al. (1981) Somaclonal Variation—a Novel Source of Variability from Cell Cultures for Plant Improvement. *Theor. Appl. Genet.* 60, pp. 197-214.

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(57) **ABSTRACT**

A new ‘Valencia’-derived sweet orange tree particularly distinguished by producing trees that bear fruit that ripens 4 to 8 weeks earlier than standard ‘Valencia’ trees, trees that have an upright and moderately vigorous growth habit, trees that have a tendency for terminal fruit bearing and fruit having excellent juice quality, is disclosed.

2 Drawing Sheets

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Genus and species: *Citrus sinensis* L. Osbeck.
Variety denomination: ‘SF14W-62’.

BACKGROUND OF THE NEW PLANT

The invention relates to a new and distinct variety of sweet orange tree, *Citrus sinensis* L. Osbeck, named ‘SF14W-62’. SF14W-62 is a moderately vigorous tree that produces standard ‘Valencia’ type sweet orange fruit but with a significantly earlier fruit maturation date (4 to 8 weeks) than standard ‘Valencia’ trees. In Florida, fruit can generally be harvested from mid-January through February, depending on environmental conditions. Juice quality from fruit of ‘SF14W-62’ is equivalent to that of ‘Valencia’, the highest quality juice from oranges currently available. ‘SF14W-62’ provides the processing industry with earlier blending opportunities with ‘Hamlin’ or ‘Midsweet’ sweet oranges to improve the flavor and color of NFC (Not From Concentrate) orange juice. In the event of January or February freeze-mandated harvests in Florida, this blending opportunity would allow for grade A juice recovery and would significantly lessen economic losses as would normally be encountered with standard ‘Valencia’ oranges that have not reached full maturity at this time.

‘SF14W-62’ originated as a somaclonal tree regenerated from protoplasts isolated from an embryogenic suspension of tissue culture of standard ‘Valencia’ (*Citrus sinensis* L. Osbeck) in 1989. For the methodology, see Grosser, J.W. and F.G.J. Gmitter (1990). Protoplast fusion and citrus improvement. pp. 339-374. In: Janick, J. (Ed.). *Plant Breeding Reviews*. Timber Press, Inc, Portland, Oreg., USA. The original ‘SF14W-62’ tree was grafted to ‘Carrizo’ (unpatented) citrange rootstock and planted at a collaborative research block in Venus, Fla. in 1991. ‘SF14W-62’ is a true ‘Valencia’ sweet orange with an altered maturity date that allows for harvest 4 to 8 weeks earlier than traditional ‘Valencia’ clones. ‘SF14W-62’ has been subsequently asexually reproduced by

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inverted “T” bud-grafting onto widely-used commercial citrus rootstocks ‘Carrizo’ citrange and ‘Swingle’ citrumelo. The present invention has been found to retain its distinctive characteristics through successive asexual propagations via 5 an inverted “T” graft.

Plant Breeder’s Rights for this cultivar have not been applied for. ‘SF14W-62’ has not been made publicly available or sold more than one year prior to the filing of this application.

SUMMARY OF THE INVENTION

‘SF14W-62’ is a new and distinct variety of sweet orange tree which bears fruit that ripens from mid-January through 10 February in central Florida. The trees usually bloom between early to late March in central Florida, depending on seasonal weather. ‘SF14W-62’ trees are upright and of moderate vigor, with a tendency for alternate bearing. Second and third generation trees are more thorny than traditional ‘Valencia’ selections, especially on internal scaffold branches; however, 15 thorniness diminishes over time and is less obvious with each generation of propagation. Thorns can be long, but are quite variable. Trees tend to bear more terminal fruit, which can cause long scaffold branches to bend over from the weight of 20 the fruit, but also minimizes the impact of the thorns on harvesting.

‘SF14W-62’ trees bear fruit that is typical of ‘Valencia’ trees but ‘SF14W-62’ fruit ripens 4 to 8 weeks earlier than standard ‘Valencia’ clones based on the brix/acid ratio (see 25 30 Table 1). Juice quality of ‘SF14W-62’ is typical of ‘Valencia’ in sugar and acid content, color and flavor. The fruit of ‘SF14W-62’ are juicy and difficult to peel. The fruit of ‘SF14W-62’ is slightly less seedy than standard ‘Valencia’ but not seedless. Replicated trials (both 2nd generation and top-worked 3rd generation trees) to determine yield were destroyed by the Florida state-run canker eradication program. The original tree in Venus, Fla. yielded more than 35 10



FIG. 1



FIG. 2

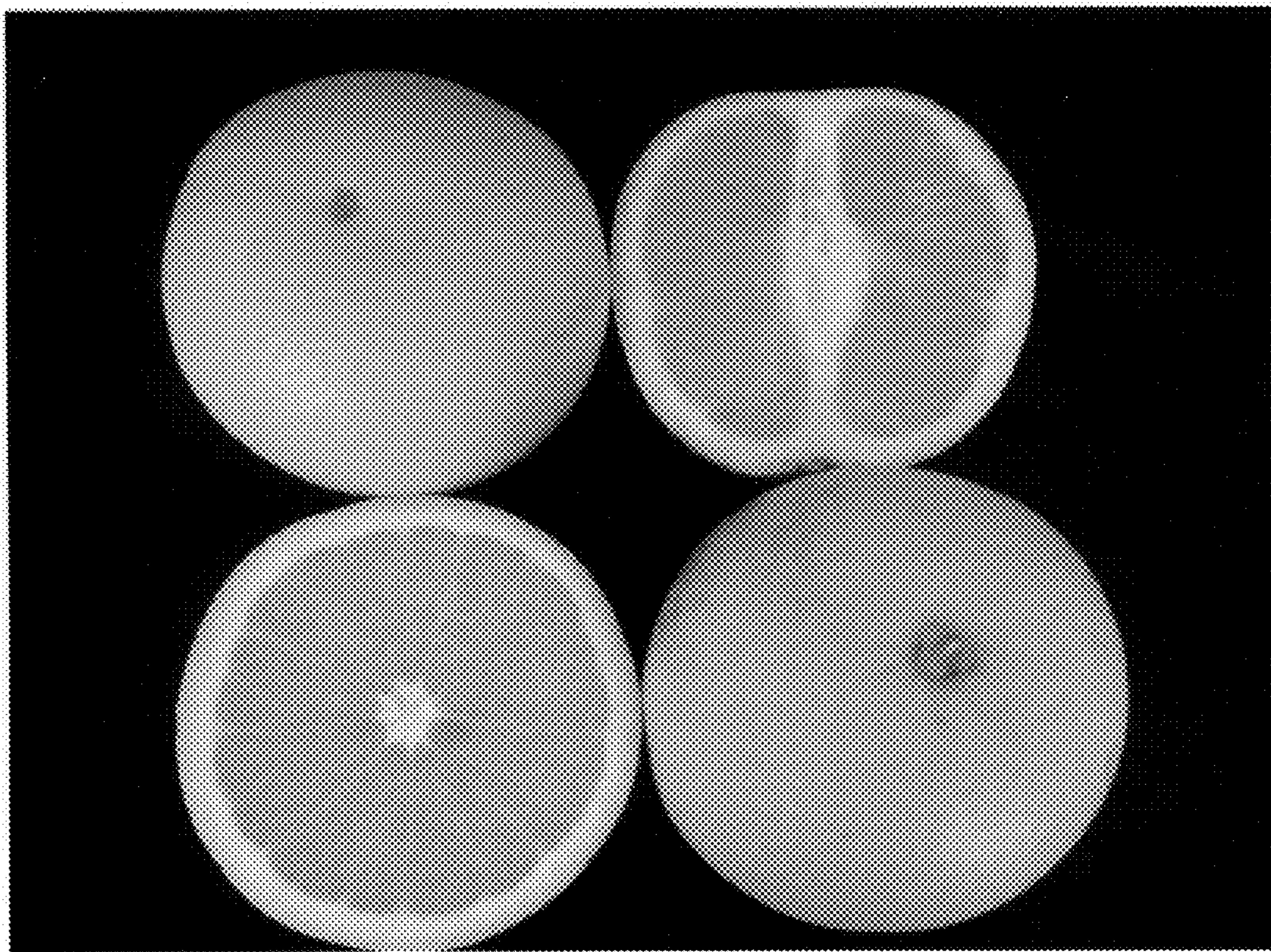


FIG. 3

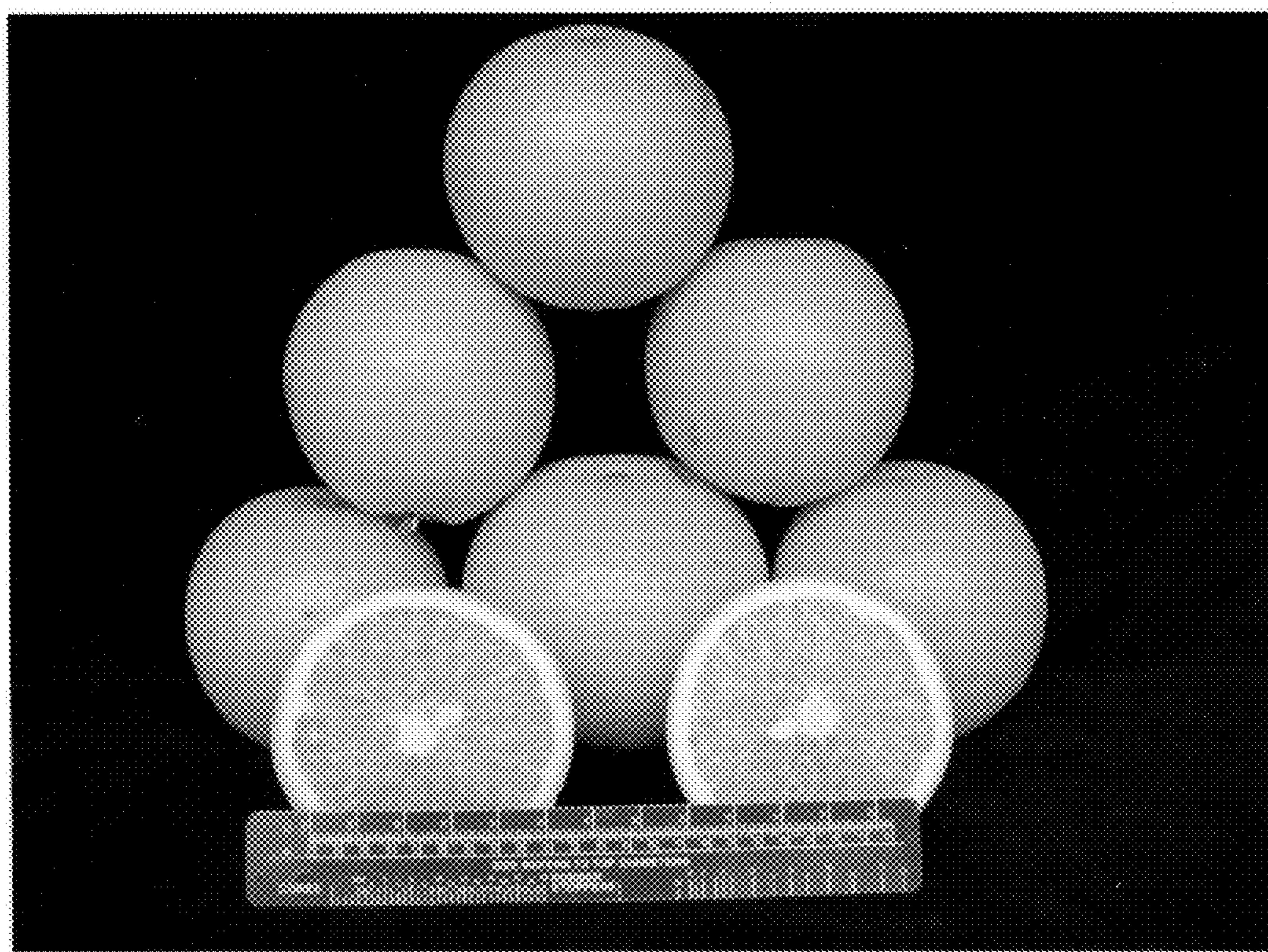


FIG. 4