



US00PP32617P2

(12) **United States Plant Patent**
Scorza et al.(10) **Patent No.:** US PP32,617 P2
(45) **Date of Patent:** Dec. 15, 2020

- (54) **HARDY KIWI PLANT NAMED 'TANGO'**
- (50) Latin Name: *Actinidia chinensis* Planch.
Varietal Denomination: Tango
- (71) Applicant: **The United States of America, as Represented by the Secretary of Agriculture**, Washington, DC (US)
- (72) Inventors: **Ralph Scorza**, Shepherdstown, WV (US); **Mark Demuth**, Kearneysville, WV (US)
- (73) Assignee: **The United States of America, as represented by the Secretary of Agriculture**, Washington, DC (US)
- (*) 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.: **16/501,886**
- (22) Filed: **Jun. 26, 2019**

- (51) **Int. Cl.**
A01H 5/08 (2018.01)
A01H 6/00 (2018.01)
- (52) **U.S. Cl.**
USPC **Plt./156**
CPC *A01H 6/00* (2018.05)
- (58) **Field of Classification Search**
USPC Plt./156
CPC A01H 5/08
See application file for complete search history.

Primary Examiner — Kent L Bell(74) *Attorney, Agent, or Firm* — John Fado; Ariel Atkinson**ABSTRACT**

A new hardy kiwi is of the variety denominated 'Tango' *Actinidia chinensis* Planch, originated from open pollination of *A. chinensis* selections collected in Rome. This new kiwi can be distinguished by its cold hardiness, high fruit quality, and relatively large fruit size.

10 Drawing Sheets**1**

Latin name of the genus and species of the plant claimed: 'Tango' is a hardy kiwi that is an *Actinidia chinensis* Planch.

Variety denomination: The new hardy kiwi claimed is of the variety denominated 'Tango' *Actinidia chinensis* Planch.

BACKGROUND OF THE NEW PLANT

The present invention relates to the discovery of a new and distinct variety of kiwi known as *Actinidia chinensis* Planch., and here referred to as 'Tango' as herein described and illustrated. This new and distinct variety of kiwi vine produces fruit of high quality, of significantly larger size than the currently-grown cold hardy species such as *A. arguta* and *A. kolomikta*, and fruit of 'Tango' can be stored for extended periods.

This new and distinct variety of kiwi originated at the USDA-ARS Appalachian Fruit Research Station, Kearneysville, W. Va. from open pollination of *A. chinensis* selections collected by A. Nicotra, Istituto Sperimentale per la Frutticoltura, Rome. These original selections were produced from seeds collected in Guanxi province, China in 1988. One hundred and forty second generation seedlings that originated from seed collected from 19 vines grown in Rome were field planted at the USDA-ARS Appalachian Fruit Research Station, Kearneysville, W. Va. in 1995. Only two vines survived the cold winter temperatures between 1995 and 2015 with a recorded lowest temperature recorded during that period of -21° C. on Jan. 23, 2014 (FIG. 1).

SUMMARY OF THE NEW PLANT

'Tango' differs from its parents and other *Actinidia chinensis* in its combination of cold hardiness, high fruit quality, and relatively large fruit size. In addition, it can be stored for extended periods.

2

'Tango' was evaluated from 2002 through 2015 at one location, the USDA-ARS Appalachian Fruit Research Station (39.3629° N, 77.8633° W). This location is in USDA Plant Hardiness Zone 6a with predicted low weather extremes of -10 to -5° F. (-23.3 to -20.5° C.). 'Tango' grew vigorously, was untrained and received little pruning. No fruit thinning was practiced, and no supplemental irrigation was applied, nor was fertilizer or pesticides applied.

'Tango' fruited from 2002 through 2015 surviving winter temperatures as low as -6° F. (-21.1° C.) (FIG. 1). In 2004 fruit were harvested but yield data were not recorded. In 2012 the crop was reduced to a few fruits due to a severe spring frost event during bloom. Bloom of 'Tango' generally occurred between May 1 and May 15 at the test location and 'Tango' fruit were harvested usually at the first frost, between the third week in October and the first week of November. Over 12 years of fruit evaluation, fruit length averaged 4.3 cm, diameter 3.5 cm and weight 35.0 g. Brix as a measure of sweetness at harvest ranged from 7.2 to 15.4 (FIG. 3). Fruit flesh tends towards a green color, (yellow-green 144C, Royal Horticulture Society, London) at harvest. Fruit can be stored at 5° C. following harvest for extended periods up to 90 days.

'Tango' has been propagated from semi-hardwood cuttings using a modification of the method described by Sim and Lawes (1981). Cuttings were dipped in 3500 ppm IBA derived from Woods Rooting Compound (Earth Science Products, Aurora, Oreg.) and stuck into flats containing 70% potting mix (Metro-Mix 510, Sun Gro, Vancouver, Canada) and 30% coarse perlite. Flats were covered with a humidity dome and placed into a reach-in growth chamber (Conviron, Winnipeg, Canada) set for a 16 hour daylength at 20° C. with 70-80% relative humidity. Seventy percent rooting was achieved in 3 weeks.

BRIEF DESCRIPTION OF THE FIGURES

35 This new hardy kiwi plant is illustrated by the accompanying figures that show the flowers, fruit and entire plants;

Seed: Elliptical, glossy, entire surface is dimpled.

Seed size (mm):

Length.—2.3.

Width.—1.3.

Thickness.—0.9.

Seed weight (g): 0.019 per 15 seeds.

Vigor: Moderately vigorous to vigorous.

Shoot:

Length (m) end of growing season.—1.8.

Caliper (mm).—9.5.

Color: Yellow-green 144B, becoming greyed-orange 174A on sun exposed surfaces. Covered in dense hairs of greyed-orange N176B. 1-year-old shoots are greyed-orange 165A.

Lenticels:

Length (mm).—2.3.

Width (mm).—0.44.

Density.—(0.5 cm²) 3.86.

Color.—Greyed-brown 199C.

Trunk: Bark, becoming very rough with by year 5.

Bark color.—2-year-old wood brown 200A, some areas of brown. 3-year-old wood brown N200A. >5-year-old wood brown N200B, some areas brown 201B.

COMPARISON WITH COMMERCIAL CULTIVARS

The size of the fruit of 'Tango' (length 4.3 cm, diameter 3.5 cm and weight 35.0 g) compares with commercially produced 'Hayward' (*Actinidia deliciosa*) measuring 7 cm in length and 5 cm in diameter, and 85-115 g weight (Cruz-Castillo et al., 1999; Minchin et al. 2010); with *A. chinensis* 'Hort16A' (ZESPRI™ GOLD), 76-84 mm in length, width 47-55 mm, weight 43-176 g (U.S. Plant Pat. No. 11,066); and with grape-sized cold hardy *A. arguta* with fruit weight of 5-12 g (Kepler and Kabaluk, 1995; Pescie and Strik, 2004; Williams et al., 2003). Fruit yield of 'Tango' averaged 25.7 kg/year over the 12-year fruiting test period (FIG. 1) compared with a recorded yield of 32.5 kg/vine for unthinned *A. arguta* (Pescie and Strik, 2004).

'Tango' differs from its parents and other *Actinidia chinensis* in its combination of cold hardiness, high fruit quality, and relatively large fruit size. In addition, it can be stored for extended periods.

We claim:

1. A new and distinct cultivar of hardy kiwi plant, substantially as illustrated and described, characterized by its cold hardiness, high fruit quality, and relatively large fruit size.

25

* * * * *

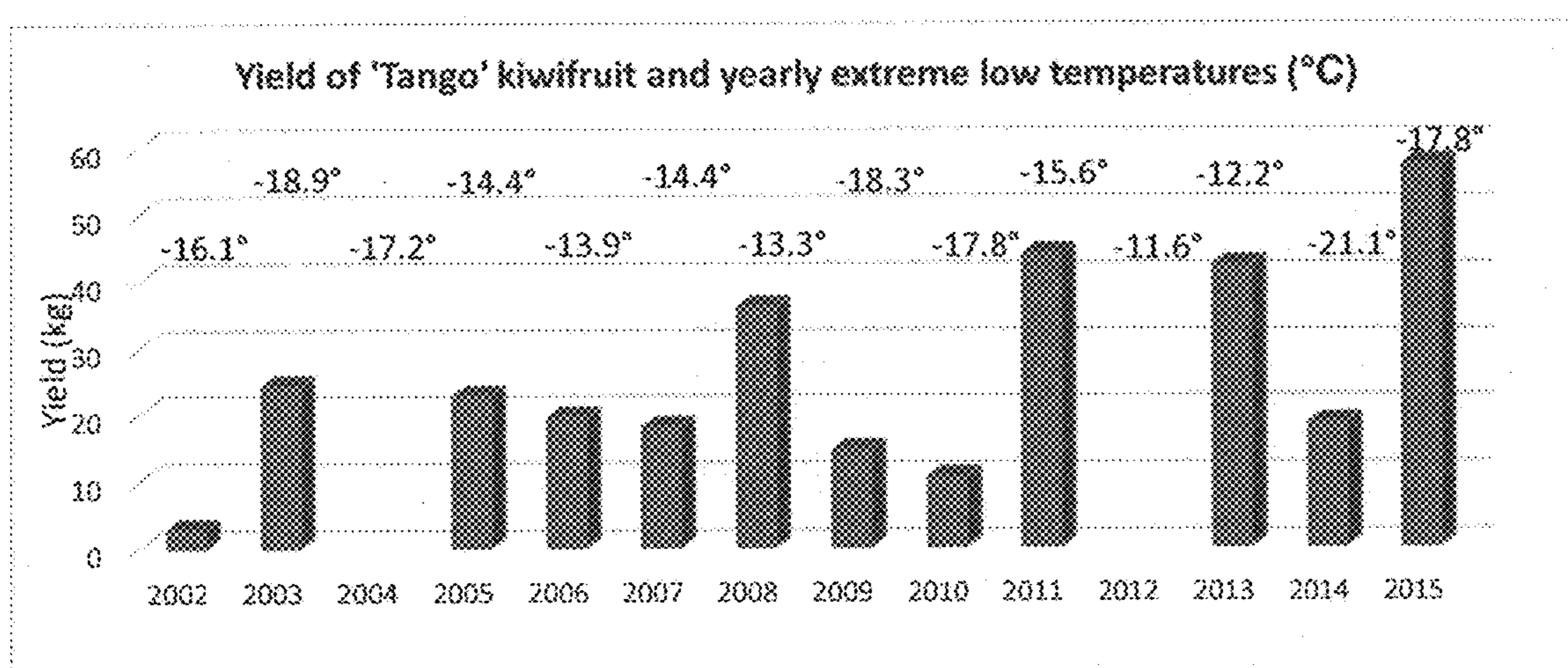


FIG. 1

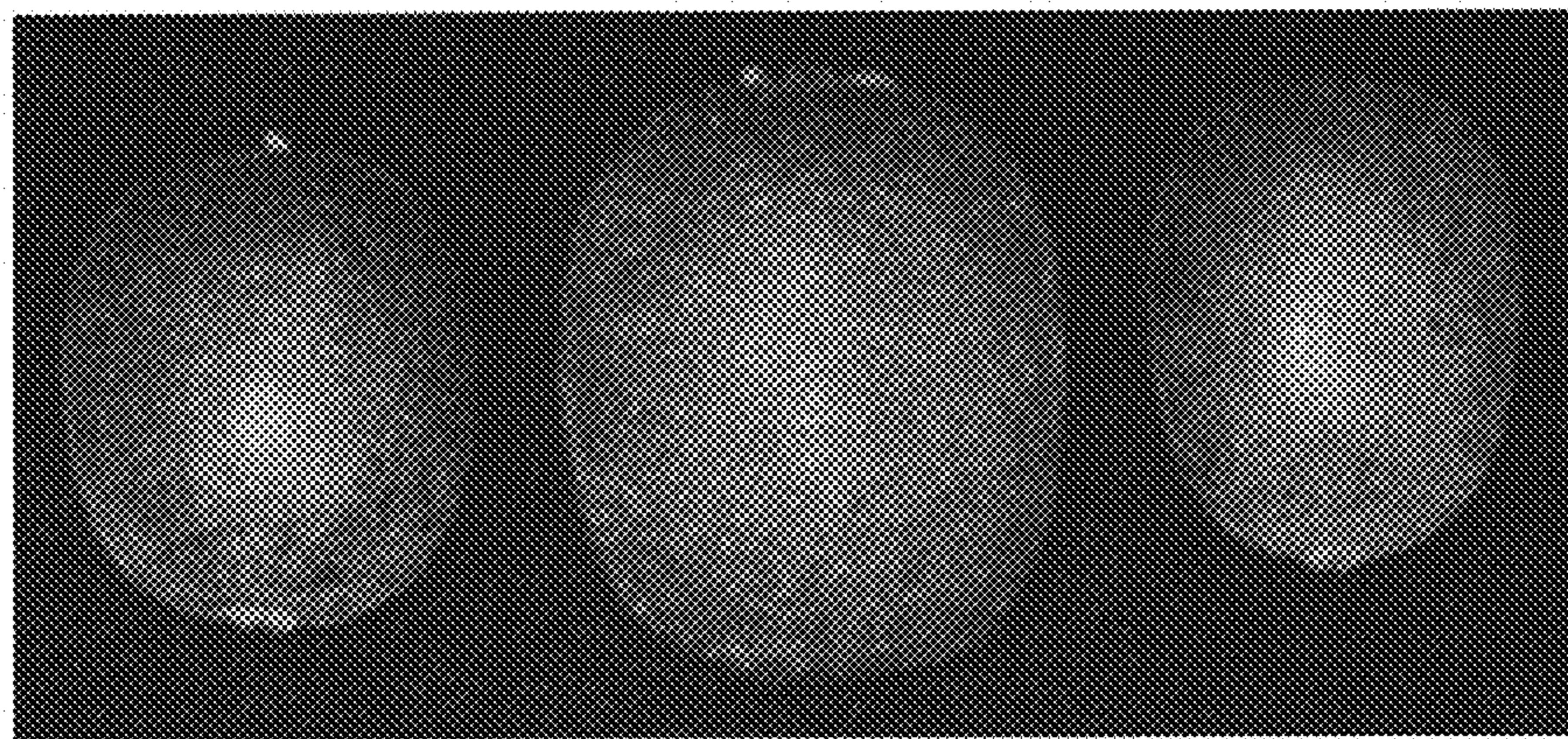


FIG. 2

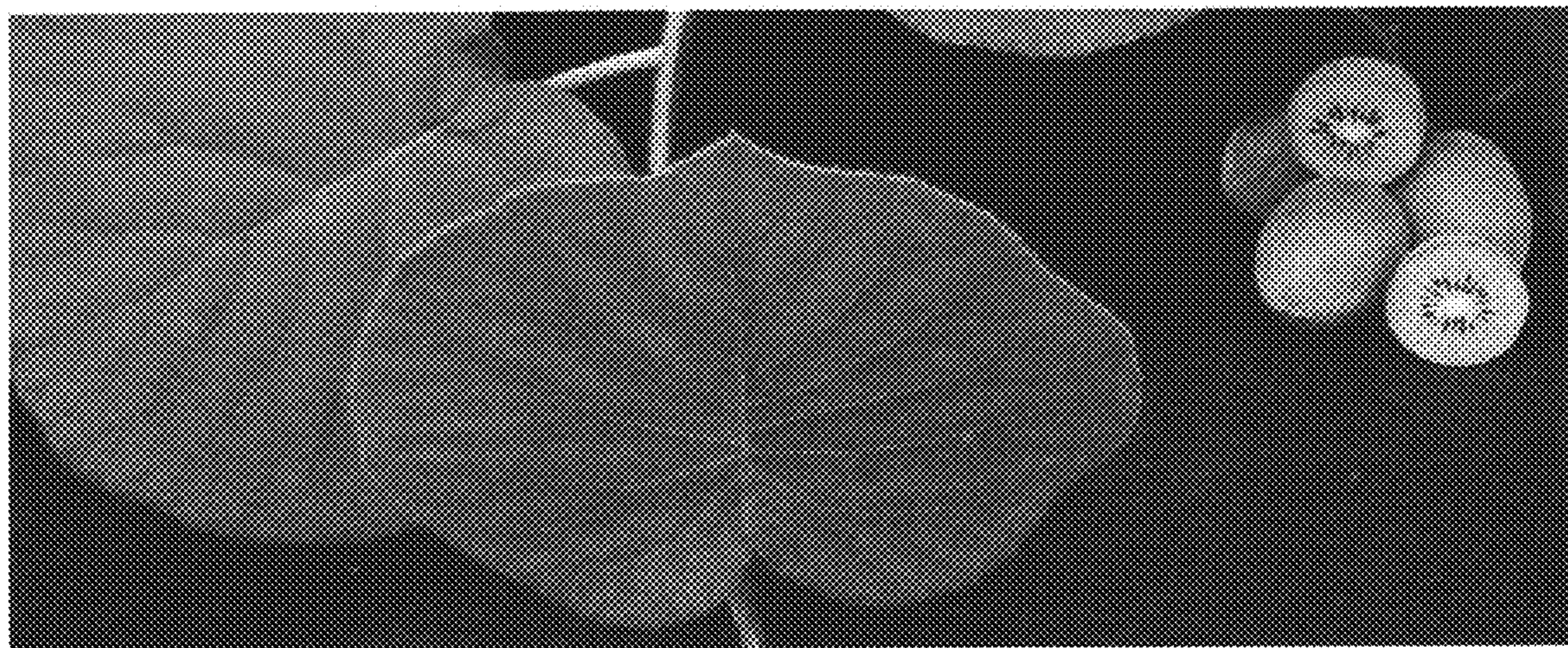


FIG. 3

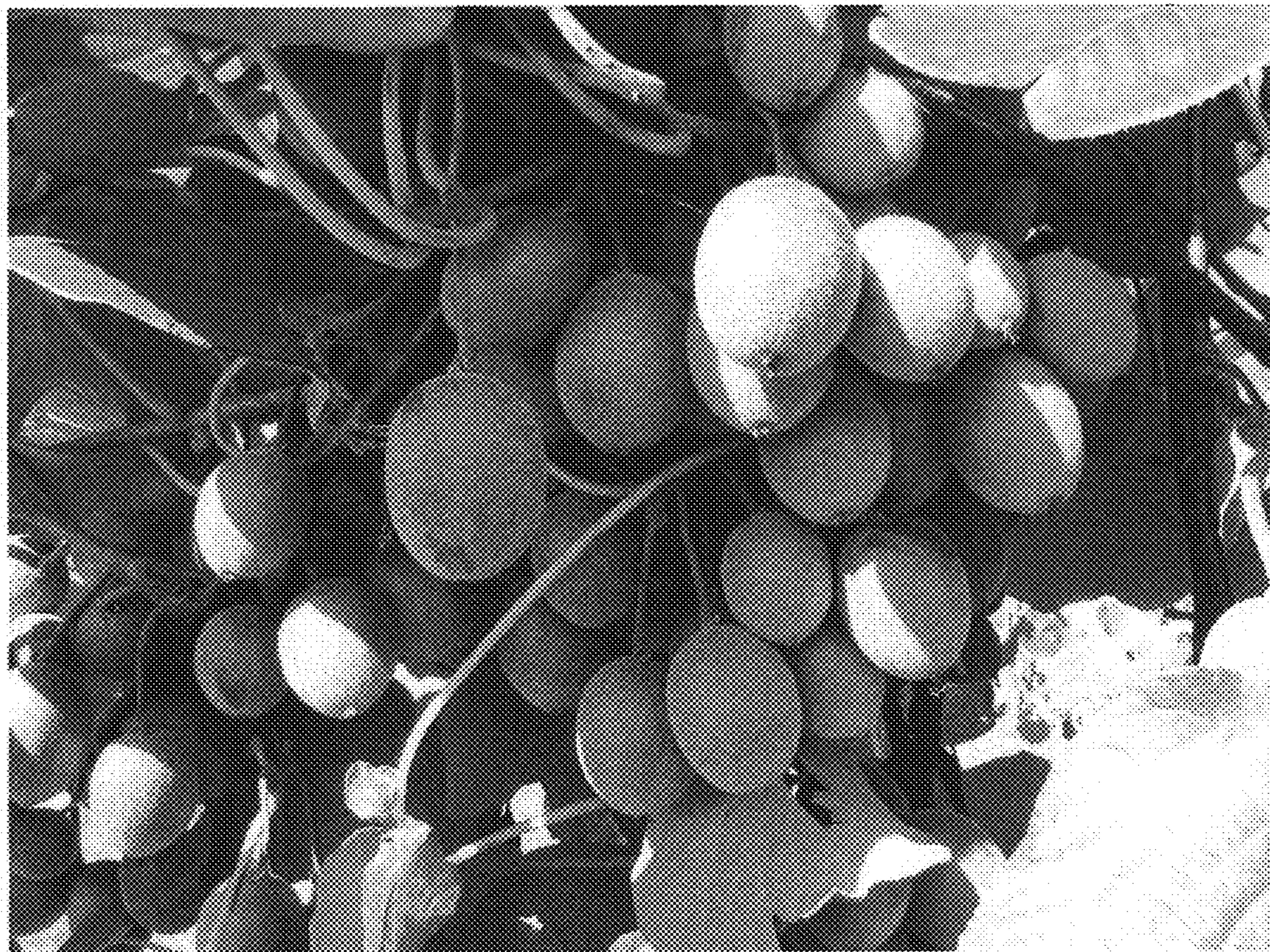


FIG. 4

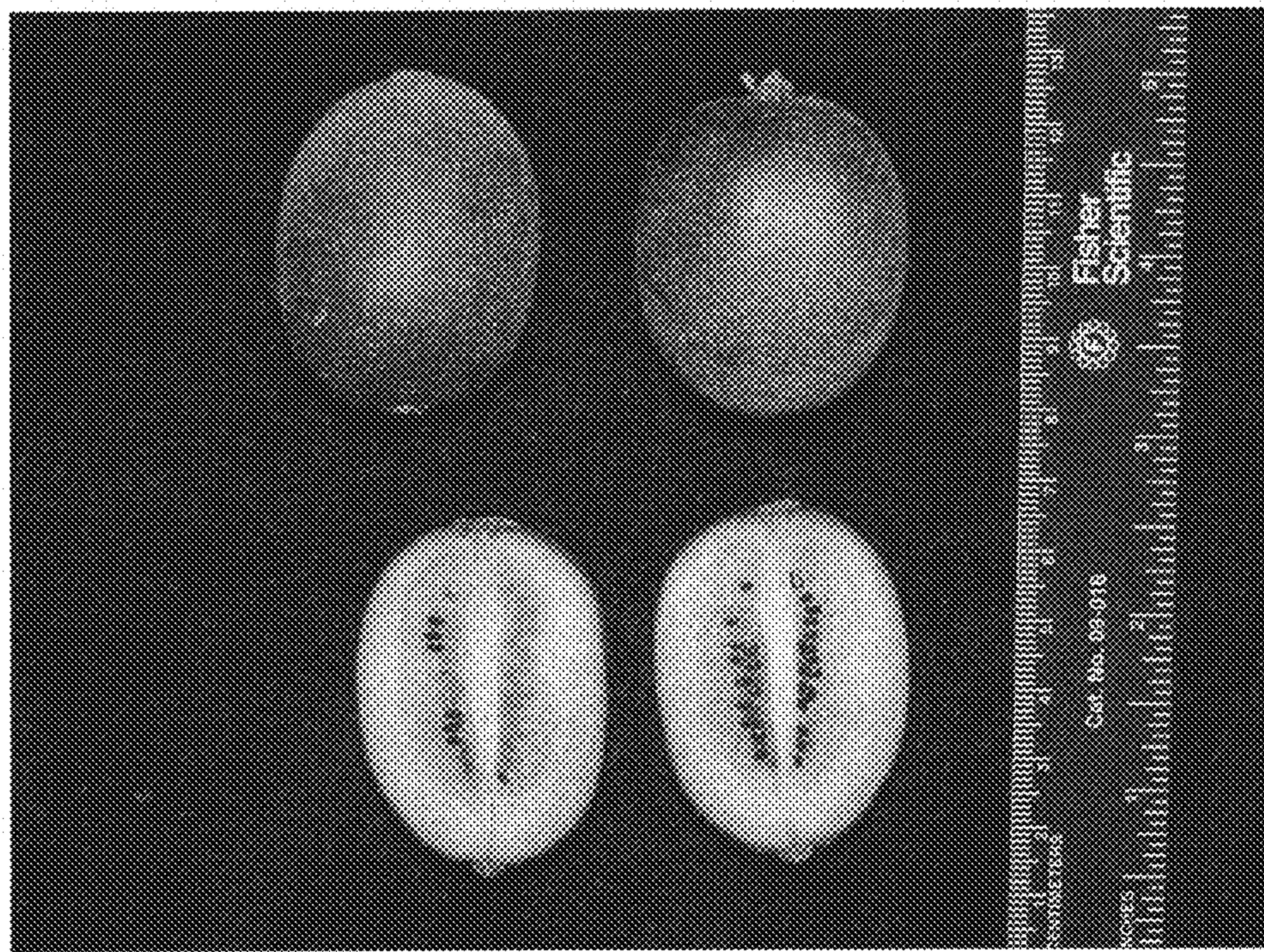


FIG. 5A

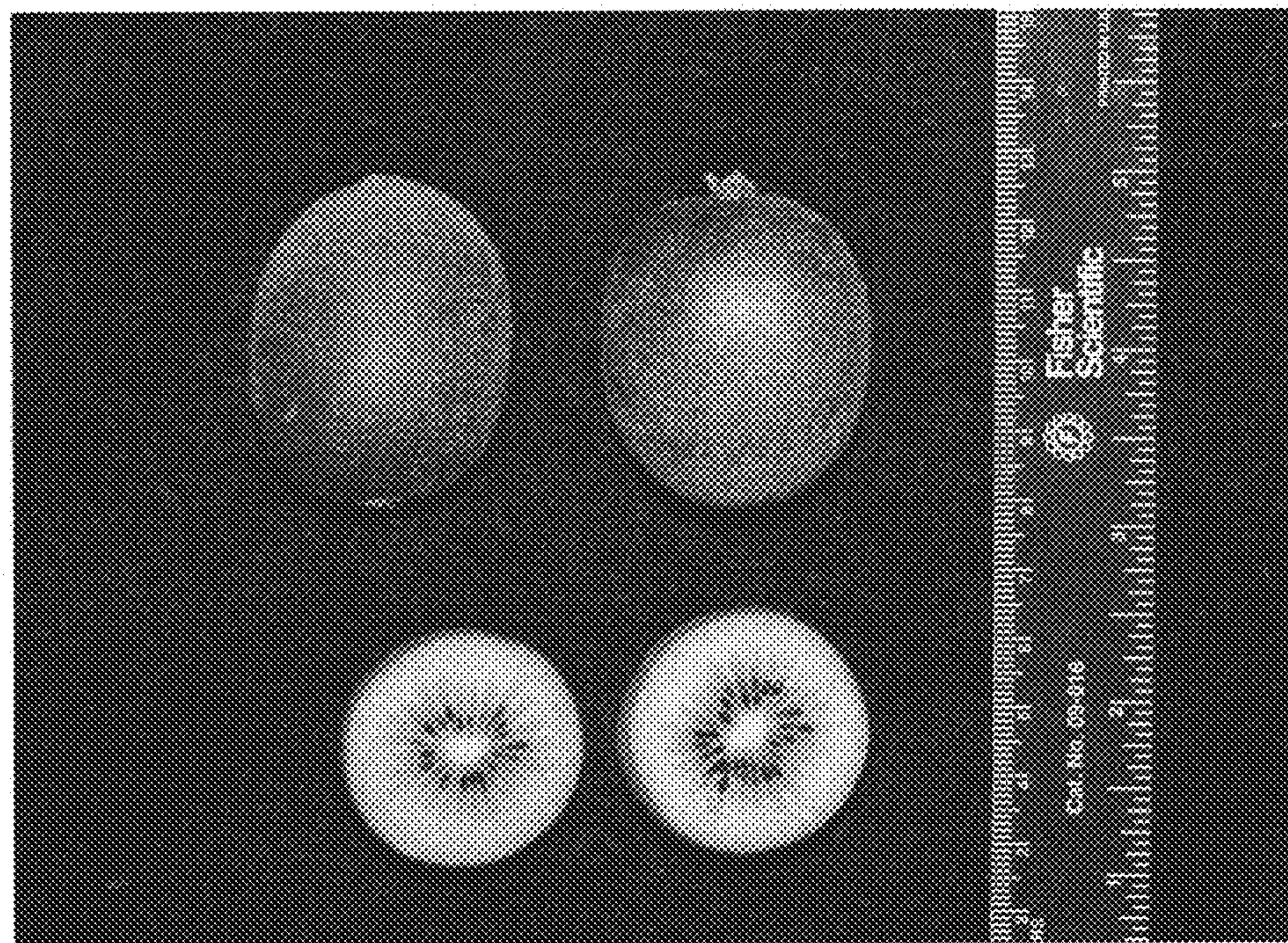


FIG. 5B

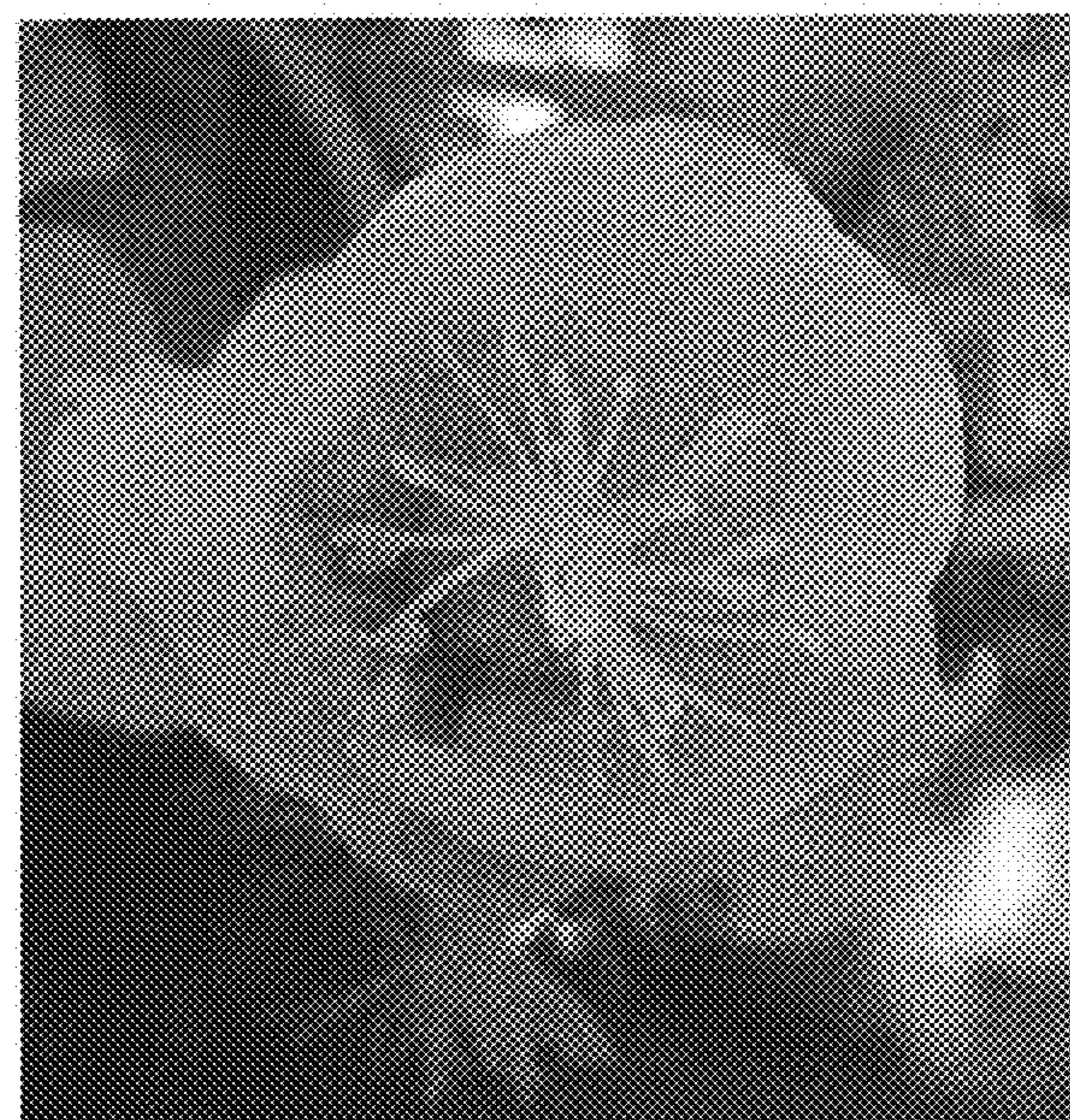


FIG. 6



FIG. 7



FIG. 8A

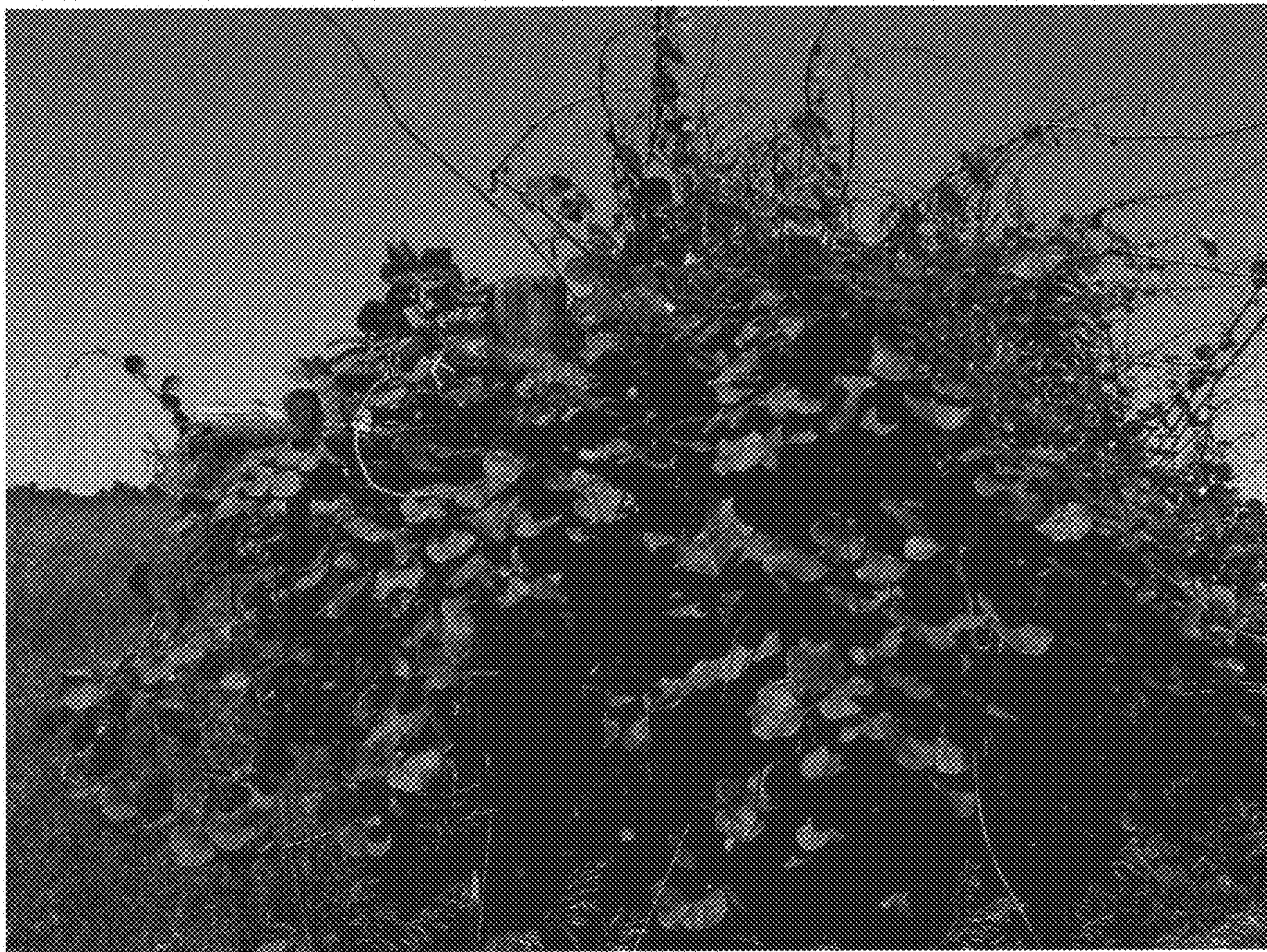


FIG. 8B



FIG. 8C