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(54) **PEACH TREE NAMED 'FLATQUEEN'**

(50) Latin Name: *Prunus persica*  
Varietal Denomination: **FLATQUEEN**

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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 256 days.

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*A01H 5/00* (2006.01)

(52) **U.S. Cl.** ..... **Plt./195**

(58) **Field of Classification Search** ..... **Plt./195**  
See application file for complete search history.

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(57) **ABSTRACT**

A new and distinct variety of flat peach tree, denominated 'FLATQUEEN', has a late evenness of maturity, a very aromatic taste and fruit is the same as 'MAILLARFLAT' 'FLATPRETTY' 'FLATNICE' and 'FLATPRINCESSE'.

**2 Drawing Sheets**

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Botanical classification: *Prunus persica* L. Batsch - White Flat peach.

Variety denomination: 'FLATQUEEN'.

BACKGROUND OF THE VARIETY

The present invention relates to a new and distinct variety of *Prunus persica* L. Batsch white flat peach tree. This new tree, named 'FLATQUEEN', produces very long lifetime, good eating quality, semi-freestone flesh fruit for fresh market in August in the 66—Pyrénées Orientales departement—France. Contrast is made to 'MAILLARFLAT' (unpatented) flat peach, 'O Henry Mercil' yellow peach (U.S. Plant Pat. No. 4,399), standard varieties, for reliable description. 'FLATQUEEN' is a promising candidate for commercial success in that it has a late evenness of maturity, a very aromatic taste and fruit is the same as 'MAILLARFLAT' (unpatented), 'FLATPRETTY' (U.S. Plant Pat. application Publication No. 20060265795), 'FLATNICE' (unpatented) and 'FLATPRINCESSE' (U.S. Plant Pat. application publication No. 20060265796).

ORIGIN OF THE VARIETY

'FLATQUEEN' flat peach tree originated in a cultivated area of the south of France, in the 66—Pyrénées Orientales departement—France, where it was tested. This place is under a Mediterranean climate in a temperate area characterized by irregular and low precipitation with drought in summer, high temperatures all year long. The 'FLATQUEEN' variety was obtained by open-pollination of the 'MAILLARFLAT' (unpatented) variety. 'FLATQUEEN' was provisionally designated and tested as 01.24.88 PBPL and is reg-

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istered at the Official Catalogue of the Agriculture Ministry of the French Republic Dec. 29, 2004 under No. 1016570. It was obtained from open-pollination and is propagated by grafting. It has been determined to have unique tree and fruit characteristics making it worthy for commercial fresh fruit production. There are no known effects of this standard rootstock on this scion cultivar. Asexually propagated plants remained true to the original tree and all characteristics of the tree and the fruit were transmitted. The plant was reproduced asexually by us in Les Regalines, Route d'Alenya, La Prade de Mousseillous, 66200 ELNE, Pyrénées Orientales, France.

SUMMARY OF THE VARIETY

The new and distinct variety of flat peach tree blooms in March at Perpignan in the Pyrénées Orientales departement, France. More particularly, it blooms at the same time as 'MAILLARFLAT' variety, between 7<sup>th</sup> and 20<sup>th</sup> of March.

The first fruit of 'FLATQUEEN' ripens at the end of August to the beginning of the month of September, 27 days after the first fruit of 'MAILLARFLAT'. More particularly, it approximately ripens between August 25<sup>th</sup> and September 4<sup>th</sup>.

DESCRIPTION OF THE DRAWINGS

In the accompanying drawing, which are as nearly true as it is reasonably possible to make in a colour illustration of this type:

FIG. 1 is a colour photograph which shows the flesh of the fruit of the new variety 'FLATQUEEN'.

FIG. 2 is a colour photograph which shows a typical specimen of the fruit of the new variety 'FLATQUEEN'.

## DETAILED BOTANICAL DESCRIPTION

The tree, flowers, and fruit may vary in slight detail due to variations in soil type, cultural practices, and climatic condition. The potential for commercial production of fresh fruit by 'FLATQUEEN' is high, due to its fruit early ripening, and fruit evenness of maturity. Trees are vigorous and medium stature half-standing in a semi-spread out aspect. The flowering shoot is present excluding brushwoods side away from sun. Flowering begins medium in springtime. The type of flower is showy with petal of large size. Petals are medium pink. Three to four leaf glands are present and reniform. Time of maturity for consumption is late. The fruit flesh is white and its skin is shiny red orange. The stone is of small size and the flesh is semi adherent.

Compared to 'MAILLARFLAT' variety, 'FLATQUEEN' has an older time of maturity, 26 days later. Fruit are less embossed and their colour is more homogeneous. Fruit taste is the same, semi-sweet and very aromatic.

The first fruit of the 'FLATQUEEN' variety ripens 5 days later than the first fruit of the 'O Henry Mercil' variety.

## DETAILED DESCRIPTION

Referring more specifically to the pomological details of this new and distinct variety of flat peach tree, the following has been observed, if not differently specified, during the second fruiting season under the ecological conditions prevailing at the orchards located in Elne, in the Pyrénées Orientales département, France. All observations have been done on rootstock cultivar. The rootstock was a 'Franc Inra Montclar®' (unpatented) tree. All major color code designations are by reference to The R.H.S. Color Chart (Fourth Edition) provided by The royal Horticultural Society of Great Britain.

## TREE

## Size:

*Generally.*—Considered medium to large as compared to other common commercial flat peach cultivars ripening in the late season of maturity. The tree size the first year was approximately 280 cm. The tree was pruned during each following dormant season to a height of approximately 250 cm. Current season shoots growth could reach 80 cm. So the tree size from the second year (second and next years) reached a final height of 330 cm with current season shoots length comprised.

Spread: Approximately 200 cm with a cylindrical shape. The whole orchard was oriented to a central leader organisation, with tree lines spaced of 4.0 meters and trees spaced of 1.0 meter in a same tree line. As a result, the orchard contains 2500 trees by hectare.

Vigor: Considered moderately vigorous.

Productivity: Very Productive. Fruit set is spaced by thinning to develop the remaining fruit into the desired market sized fruit. The number of the fruit set varies with the prevailing climatic conditions, and cultural practices employed during the bloom period, and is therefore not distinctive of the present variety.

Bearer: Very regular. Fruit set has been heavy during the years of observation and thinning of 1 fruit on 3 to 1 fruit on 2 was necessary every year during the past 5 years.

Form: The 'FLATQUEEN' variety has naturally a semi-spread shape.

Density: Considered dense. Hardiness: The present tree was grown and evaluated in France. The variety appears to be hardy under typical central Pyrénées Orientales département climatic conditions. Experimentations on different sites with winter chilling requirement comprised between 350 and 1200 hours showed a good behavior of the tree in all cases. Ascertained temperatures as low as -12 degrees Celsius caused no damages to the tree. The tree was also very resistant to frosty springtime weather.

## TRUNK

Diameter: Approximately between 6.8 and 8.0 cm in diameter when measured at a distance of approximately 30 cm above the soil level.

Bark texture: Considered slightly rough, with folds of papery scarfskin being present.

Lenticels: Numerous lenticels are present. The lenticels range in size from approximately 5 mm in width, and from 1.5 to 2.5 mm in height.

Lenticel colour: The outside of lenticels has a silver-grey color (varying from R.H.S. Grey 201 D to R.H.S. Black 202 D), whereas the inside is considered brown (R.H.S. Greyed Orange 166B).

Bark colouration: The bark has a silver-grey color a little darker than the lenticels (varying from R.H.S. Grey 201 C to R.H.S. Black 202 C).

## BRANCHES

Size: Mature branches as well as current season shoots are medium to thick for the variety.

Diameter: Average as compared to other flat peach varieties. The current season shoots have a diameter from 4.0 to 12.0 millimeters, and branches of trees have a diameter comprised between 22.0 and 30.0 millimeters.

Surface texture: Average, wood which is several years old has no furrowed appearance.

Crotch angles: Primary branches are considered variable, but the crotch angles are generally around 70 degrees from the horizontal axis. This particular characteristic is not considered distinctive of the variety, however.

Current season shoots:

*Surface texture.*—Substantially glabrous.

Internode length: Generally 22.0 to 30.0 millimeters.

Colour of mature branches: Medium grey-brown (varying from R.H.S. Grey Brown 199 C to B).

Current seasons shoots:

*Colour.*—The color of new shoot tips is considered a light green (varying from R.H.S. Green 143 C to D) on lower part of new shoot tips, whereas the upper part is colored in reddish brown (varying from R.H.S. Greyed Red 182 B to C), darkening when more exposed to the sun.

## LEAVES

Size: Considered medium for the species. Leaf measurements have been taken from vigorous, upright, current-season growth at approximately mid-shoot. The ratio leaf length/leaf width is between 3.6 and 3.8.

Leaf length: Approximately 152 to 175 millimeters without the petiole.

Leaf width: Approximately 42 to 47 millimeters.

Leaf base shape: Concave.

Leaf form: Lanceolate.

Leaf tip form: Acuminate and small.

Leaf colour:

*Upper leaf surface.*—Dark Green (R.H.S. Green 137 A).

*Lower surface.*—Medium Green (varying from R.H.S. Green 137 B to 137 C).

Leaf texture: Smooth and glabrous.

Leaf venation: Pinnately veined.

Mid-vein:

*Colour.*—Light yellow green (R.H.S. Yellow Green 145 D).

Leaf margins: Slightly undulating.

Form: Considered slightly dentate.

Uniformity: Leaves are isolated or grouped by 2 or 3. In this last case, it is found one leaf of normal size with one or two smaller leaves (size-reduction of 50 % and more).

Leaf glands:

*Size.*—Considered medium to large, between 1.5 and 2.0 millimeters.

*Number.*—Generally between 3 and 4.

*Type.*—Reniform.

*Colour.*—On young leaves, leaf glands color is considered a pale green (R.H.S. Green 145 B). On older leaves, leaf glands color turns to a dark brown (varying from R.H.S. Grey Brown 199 A to 199 B).

Leaf stipules:

Generally.—No leaf stipules were observed. But as seen in the characteristic relative to the leaves uniformity, it is possible to find leaves by groups of 2 or 3, with a normal-size leaf and smaller ones.

## FLOWERS

Generally.—Observations have been made at the end of blooming, on Mar. 2, 2008.

Flower buds:

*Generally.*—At pre-floral stage of development, the floral buds are conic in form with a round tip. Their form is evolving until blooming, with variables dimensions. Just before blooming, floral buds are approximately 10.0 millimeters wide and approximately 18.0 millimeters long.

Flower buds:

*Colour.*—This characteristic is dependent upon the proximity to bloom. At pre-floral stage of development, the bottom of the flowers buds, formed by sepals, is of purple-brown color (R.H.S. Greyed Purple 183 A); the corolla, formed by petals, is generally of pale pink color (varying from R.H.S. Red Purple 65 A to B). Petals color shows an evolution until the end of flowering. The buds are considered hardy under typical central Pyrénées Orientales departement climatic conditions.

Hardiness: No winter injury was noted during the last several years of evaluation in the central Pyrénées Orientales departement, with winter temperatures as low as -12 degrees Celsius in January. The current variety has not been intentionally subjected to drought or heat stress, but the variety showed a very good resistance in orchard to temperatures up to 42 degrees Celsius with an average temperature between 28 and 30 degrees Celsius during 3 weeks in summer.

Date of bloom: Generally March. The first bloom, observed on Feb. 26, 2002, was exceptionally early. Second and third bloom took place respectively on Mar. 10, 2003 and Mar. 7, 2004.

Blooming time: Considered early-season in relative comparison to other commercial nectarine cultivars grown in the Pyrénées-Orientales departement, France. The date of full bloom is observed on March, more particularly between March 3<sup>th</sup> and 18<sup>th</sup>. The date of bloom varies slightly with climatic conditions and cultural practices.

Duration of bloom: Approximately 15 days. This characteristic varies slightly with the prevailing climatic conditions.

Flower type: The variety is considered to have a showy type flower.

Flower size: Considered large. Flower diameter at full bloom is approximately 38.0 to about 46.0 millimeters.

Bloom quantity: Considered abundant, approximately about 45 flowers per meter.

Flower bud frequency: Generally 2 flower buds appear per node, occasionally 1.

Petal size:

*Generally.*—Considered very large for the species.

Length: Generally about 21.0 to 24.0 millimeters.

Width: Generally about 18.0 to 20.0 millimeters.

Petal form: Rounded.

Petal count: 5.

Petal texture: Smooth and glabrous.

Petal colour: Medium Pink (varying from R.H.S. Red Purple 65 A to B) when young, darkening with advancing senescence.

Fragrance: Slight.

Petal claw:

*Form.*—The claw is considered to have a conic form with a slightly rounded extremity.

*Length.*—Approximately 6.0 to 8.0 millimeters.

*Width.*—Approximately 4.0 to 6.0 millimeters.

Petal margins: Generally very slightly undulated.

Petal apex:

*Generally.*—The petal apices are generally entire at the tip, dome-shaped.

Flower pedicel:

*Length.*—Considered medium-long and having an average length of approximately 4.0 to 5.0 millimeters.

*Diameter.*—Considered average, approximately 2.0 millimeters.

*Colour.*—Brown to Light Brown (varying from R.H.S. Grey Brown N199 C to D).

Floral nectaries:

*Colour.*—A greenish yellow (ranging from R.H.S. Yellow Group 13 A to B to R.H.S. Yellow Green 150 A to B).

Calyx:

*Internal surface texture.*—Smooth and glabrous.

*Color.*—The outer surface of the calyx is considered of Purple-brown (R.H.S. Greyed Purple 183A) color.

Sepals:

*Surface texture.*—The outer surface has a short, fine pubescent texture.

*Size.*—Generally large.

*Colour.*—A Purple-brown (R.H.S. Greyed Purple 183 A).

Average number of stamens per flower: Approximately 40 to 45 stamens per flower.

Anthers:

*Generally.*—Small in length.

*Color.*—Orange-Yellow (varying from R.H.S. Yellow Orange 16 A to B). Anthers are becoming brown after maturity (R.H.S. Greyed Purple Group 178 A).

Pollen production: Pollen is abundant, and has a yellow color (varying from R.H.S. Yellow Orange 17 B to C). The present variety is considered self fruitful (self-pollinating).

Filaments:

*Size.*—Variable in length, approximately 13.0 to 19.0 millimeters in length. In all cases filament's length is superior or equal to pistil's length.

*Color:* Considered light pink (varying from R.H.S. Red Purple 62 C to D) to darker pink (varying from R.H.S. Red Purple 73 A to B) with advancing senescence.

Pistil:

*Number.*—Generally 1.

*Generally.*—Average in size.

*Length.*—Approximately 13.0 to 16.0 millimeters including the ovary; Smaller or equal to filament's length.

*Colour.*—Considered a very pale green (varying from R.H.S. Yellow Green 150 D Group to R.H.S. Yellow Green 151 D Group).

*Surface texture.*—The variety has a glabrous pistil.

#### FRUIT

Maturity when described: Very firm ripe condition (shipping ripe).

Date of first picking: Aug. 26, 2002. The date of harvest varies slightly with the prevailing climatic conditions.

Date of last picking: Sep. 4, 2002, only 2 harvests in 10 days were necessary.

Size:

*Generally.*—Considered medium, and uniform.

Average cheek diameter: Approximately 67.0 to 74.0 millimeters

Average axial diameter: Approximately 35.0 to 45.0 millimeters

Typical weight: Approximately about 100.0 grams. This characteristic is high dependent upon the prevailing cultural practices, and therefore is not particularly distinctive of the variety.

Fruit form:

*Generally.*—Flat and rounded. The fruit is generally uniform in symmetry, viewed from pistil end. Generally not very embossed.

Fruit suture: Shallow, extending from the base to the apex. No apparent callousing or stitching exists along the suture line.

Suture:

*Colour.*—This has generally a color similar to the blush fruit color, an Orange Red (varying from R.H.S. Orange Red Group 34 A to B).

Ventral surface:

*Form.*—Smooth.

Apex: Depressed.

Base: Shallow.

Stem cavity: Average depth of the stem cavity is about 0.5 to 0.6 cm. Average width is about 1.2 to 1.5 cm.

Fruit skin:

*Thickness.*—Considered thick and strong, and tenacious to the flesh to moderately tenacious to the flesh depending on stage of maturity.

*Texture.*—Very slightly pubescent.

*Taste.*—Semi-sweet.

*Tendency to crack.*—Generally none observed.

Colour:

*Blush colour.*—This blush colour is generally homogenous and Orange Red (varying from R.H.S. Orange

Red Group 34 A to B). The red blush covers about 80% of the fruit skin surface. The percentage of the blush on the fruit skin surface can vary, and is generally dependant upon the prevailing conditions under which the fruit was grown.

*Ground colour.*—Yellow Orange (R.H.S. Yellow Orange Group 18 D).

Fruit stem: Medium in length, approximately between 4.0 and 5.0 millimeters.

Diameter: Approximately between 3.0 and 4.0 millimeters.

Colour: Pale green (varying from R.H.S. Yellow Green 145A to 145 B).

Flesh:

*Ripens.*—Very evenly, homogenous, long shelf-life of the fruit.

*Texture.*—Very firm, very dense, juicy at harvest maturity stage.

*Fibers.*—Generally none observed.

*Aroma.*—Pronounced.

*Eating quality.*—Considered very good, aromatic.

*Flavor.*—Considered semi-sweet. The Brix is superior to 13.0 degrees. Acidity is comprised between 6 and 9 meq/100ml. The flavor is considered aromatic. The flesh is juicy.

*Juice.*—Juicy to very juicy at complete maturity.

*Brix.*—Generally superior to 13.0 degrees. This characteristic varies slightly with the number of fruit per tree; prevailing cultural practices; and the surrounding climatic conditions, and can be much more higher.

*Flesh colour.*—White (R.H.S. White Group N155D) with a slight red pigmentation (varying from R.H.S. Red Purple 60 A to B) close to the stone.

#### STONE

Type: Semi-clingstone.

Size: Considered small for the variety.

Length: Approximately between 20.0 and 25.0 millimeters.

Width: Approximately between 20.0 and 24.0 millimeters.

Diameter: Approximately between 12.0 and 15.0 millimeters.

Form: Flat.

Base: Straight.

Apex:

*Shape.*—The stone apex has a flat tip.

Stone Cavity: Considered small size, with dimensions corresponding to stone's dimensions.

Stone surface:

*Surface texture.*—The pit is transversely furrowed on its entire surface. Furrows are more pronounced and more flat toward lateral faces.

*Ridges.*—The surface texture is generally characterized by more prominent ridges along the ventral edges and is more prominent at the apical tip.

Ventral edge:

*Width.*—Considered small.

Dorsal edge:

*Shape.*—Grooved.

Stone colour: The color of the dry stone is generally considered an Orange to Red Brown (varying from RHS Greyed Orange 173 C to D).

Tendency to split: Splitting is absent or very low, depending on climatic conditions between blooming period and stone hardening.

## Kernel:

*Size.*—The kernel is considered small.

*Length.*—About 7.0 millimeters.

*Thickness.*—About 5.0 millimeters.

*Form.*—Considered flat and and elliptic.

*Pellicle.*—Pubescent.

*Colour.*—The kernel skin is a light yellowish orange (R.H.S. Greyed Orange 166 C). The almond is cream-white (R.H.S. Orange Chite 159 D). The kernel and its embryo are mature at the time of fruit maturity.

Use: The subject variety 'FLATQUEEN' is considered to be a nectarine tree of the LATE season of maturity, and which produces fruit that are considered very firm, attractively coloured. Fruits are excellent for uncooked consumption, crunchy or at full maturity, and very aromatic. They are useful for both local and very long distance shipping, with a shelf life of few weeks after harvest.

Keeping quality: Good. Fruit stayed a little more than one week on tree before harvest and then, has stored well until 2 to 3 weeks after harvest at 2.0 degree Celsius. They have a slow maturation and a long shelf life both on the tree after growth completion and after harvesting without alteration.

Shipping quality: Considered good. The fruit of the new flat peach variety showed minimal bruising of the flesh or skin damage after being subjected to normal harvesting and packing procedures.

5 Resistance to insects and disease: No particular susceptibilities were noted. The present variety has not been shown to be very sensitive to powdery mildew, or conservation diseases and decay due to its thick and strong skin. Although the new variety of flat peach tree possesses the described characteristics when grown under the ecological conditions prevailing near the town of ELNE, FRANCE, it should be understood that variations of the usual magnitude and characteristics incident to changes in growing conditions, fertilization, pruning, pest control and horticultural management are to be expected.

I claim:

1. A new and distinct variety of peach tree, as herein illustrated and described.

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FIG. 1

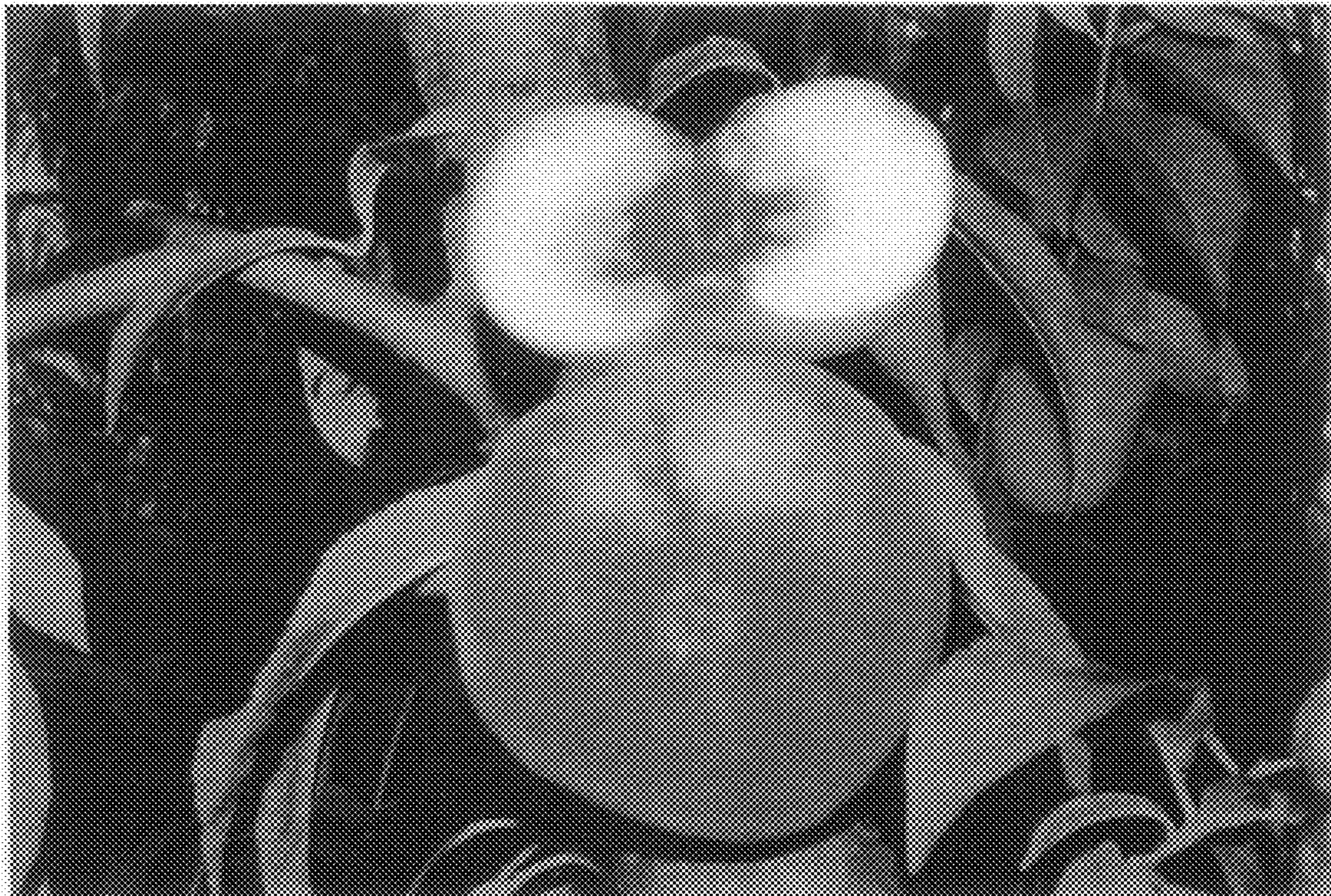


FIG. 2