



(12) **United States Plant Patent**
Merrifield

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(54) **ASPEN TREE NAMED ‘KMN01’**

(50) Latin Name: *Populus tremuloides*
Varietal Denomination: **KMN01**

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patent is extended or adjusted under 35
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A01H 5/00 (2006.01)

(52) **U.S. Cl.**
USPC **Plt./216**

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

Primary Examiner — Keith Robinson

(57) **ABSTRACT**

A new and distinct variety of quaking or trembling aspen
named ‘KMN01’ that is characterized by orange to red leaf
coloration in the fall-season, an upright branching habit, and
disease resistance to *Venturia* leaf and shoot blight. Addition-
ally the new variety is seedless, its spring new growth is
bronze to red in coloration, and it has bright white bark.

4 Drawing Sheets

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Latin name of the genus and species of the plant claimed:
The quaking aspen tree variety of this invention is botanically
identified as *Populus tremuloides*.

Variety denomination: The variety denomination is
‘KMN01’.

BACKGROUND OF THE INVENTION

The present invention relates to a new and distinct seedless
plant variety of *Populus tremuloides*, more commonly known
as Trembling Aspen or Quaking Aspen, having orange to red
fall-season leaf coloration, an upright branching habit, and
disease resistance to *Venturia* leaf and shoot blight.

Trembling Aspen is a deciduous tree with extensive distri-
bution throughout North America. Its adaptation to a variety
of soil conditions and elevations contributes to its broad mar-
ket appeal and utilization where it is a popular landscape
feature. Aspen trees encompass a number of similar species
that are aesthetically appealing for their fall-season leaf col-
oration, which typically ranges from yellow to gold. An addi-
tional aesthetic feature is the “quaking” sound arising from
the wind moving across the flattened petioles. Trembling
Aspen are also used in forest reclamation areas, quickly tak-
ing root after fires. At which time, they provide habitat while
slower growing evergreens repopulate. Trembling Aspen are
highly susceptible to *Venturia* leaf and shoot blight.

The new variety, in contrast, demonstrates disease resis-
tance to *Venturia* leaf and shoot blight. It also differs from the
more prevalent commercially available aspen wherein
‘KMN01’ demonstrates orange to red fall-season leaf color-
ation and its new spring growth is bronze to red in color. This
coloration provides a unique aesthetic value to landscaped
areas. Typical of the species, the expected maximum height is
25.0 meters, with a lifespan of fifty to sixty years.

‘KMN01’, discovered and asexually propagated by the
inventor, was selected from a cultivated nursery field located
in Bonners Ferry, Id. in April 2004. Discovered among a field
of unsold *Populus tremuloides* and likely a result of open
pollination, ‘KMN01’ demonstrated a whiter bark, upright

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form, and leaves that appeared uncharacteristic of the sur-
rounding trees. The specimen was uprooted and replanted in
the inventor’s residential yard in Bonners Ferry, where it was
observed for a number of years. ‘KMN01’ maintained its
upright form without any pruning. ‘KMN01’ has a fall-season
coloration transitioning from green, to yellow, to orange, and
in some years, red.

In April 2011, after observing the consistent presentation
of characteristics that were originally selected for, the inven-
tor planted 200 seedlings of *Populus tremuloides*. Then in
August of the same year, the inventor budded all 200 aspen
with the buds from the discovered plant ‘KMN01’. By August
2012, one hundred and sixty of the budded aspen were four to
eight feet (1.2 to 2.4 meters) tall. Further to this successful
propagation, the inventor budded an additional 300 ramjets
from the discovered ‘KMN01’. This testing and repeated
propagation demonstrated that the distinct characteristics
herein are true to type and transmissible by asexual reproduc-
tion with uniformity and stability.

BRIEF SUMMARY OF THE INVENTION

The following traits represent the characteristics of the new
variety ‘KMN01’. These traits in combination distinguish
this variety from all other commercial varieties known to the
inventor.

1. Orange to red fall color;
2. Upright branching habit;
3. Disease resistance to *Venturia* leaf and shoot blight;
4. Spring new growth is bronze to red in coloration;
5. Bright white bark; and
6. The variety is seedless.

Plant Breeder’s Rights for this variety have not been
applied for and ‘KMN01’ has not been offered for sale more
than a year before the filing date of this application. ‘KMN01’
has not been promoted under any other breeder’s reference or
cultivar name.

Plants of ‘KMN01’ have not been observed under all pos-
sible environmental and cultural conditions. The phenotype

may vary somewhat with variations in environmental conditions, for example, with fluctuation in temperature, soil chemistry, and photoperiod without, however, any variance in genotype. The following observations and characteristic data disclosed were collected in the Spring of 2014 in Bonners Ferry, Id. unless otherwise indicated.

BRIEF DESCRIPTION OF THE PHOTOGRAPH(S)

The accompanying colored photographs illustrate the overall, typical appearance of the new and distinct aspen tree showing the colors as true as it is reasonably possible to obtain in colored reproductions of conventional photography. Due to color variation reproduced in the photographs, color characteristics of this new variety should be determined with reference to the observations described herein, rather than a reliance on the photographs alone. Photographs are taken over a number of years and include the originally discovered tree as well as ramets at one and two years. The different photographs are intended to represent the distinctive characteristics of ‘KMN01’.

FIG. 1 (Oct. 2, 2008), demonstrates the red leaf coloration in the Fall for ‘KMN01’ at 5 years-old.

FIG. 2 (Oct. 27, 2013), a 2 year-old tree budded from ‘KMN01’ demonstrates the upright form and orange to red fall-season coloration.

FIG. 3, demonstrates the semi-columnar shape typical of the invention.

FIG. 4 (Oct. 24, 2011), demonstrates orange Fall season color and the bright white bark at 8 years-old.

FIG. 5 (Oct. 27, 2013), represents the largest specimens of the trees budded from ‘KMN01’ (show here at two years-old).

FIG. 6 (Aug. 3, 2013), a one year-old budded plant, demonstrates the leaf size in comparison to an adult human arm.

FIG. 7 (Aug. 3, 2013), a one year-old budded plant, demonstrates the leaf morphology.

FIG. 8 (Jun. 10, 2013), representing two year-old un-pruned plants budded from ‘KMN01’, demonstrates their upright branching habit.

DETAILED BOTANICAL DESCRIPTION

The following is a detailed description of the new variety ‘KMN01’. Data was collected from a plant approximately two years-old and from three year-old rootstock in the Spring (April) 2014. The color determinations are in accordance with the 2007 edition of The Royal Horticultural Society Colour Chart published by The Royal Horticultural Society (London, England), except where general color terms of ordinary dictionary significance are used and color readings were observed under natural, outdoor light.

TABLE 1

VARIETY DESCRIPTION
Classification:
Family: Salicaceae
Botanical: <i>Populus tremuloides</i>
Common: Trembling Aspen
Parentage:
Parent One: A commercially available, unnamed <i>Populus tremuloides</i> (unpatented)
Parent Two: Unknown

TABLE 1-continued

VARIETY DESCRIPTION
Propagation:
Budding and sucker harvest from parent plant
Plant:
Height, unpruned (m): 4.22 meters
Vigor: Optimal
Shape: Pyramidal to semi-columnar
Growth rate: Rapid (19.05 mm diameter per year) taken from 152.4 mm from ground
Growth habit: Upright
Crown width (m): 0.83 meters
Crown height (m): 3.96 meters
Crown shape: Semi-columnar
Crown volume (m3): 0.7 m ³
Trunk and Branches:
Trunk diameter (cm): 3.81 cm taken at 15.24 cm above the ground
Trunk texture: Smooth with powder on bark
Trunk bark color: RHS Black Group 202D
Tree bark depth (mm): 2 mm
Tree bark furrows: None observed
Branch length (m): 0.89 m (measured from trunk, along upper branch surface on a branch located at mid-crown)
Branch texture: Smooth
Branch color: RHS Greyed-Green Group 198A
Branch arrangement: Alternate
Crotch angle from main trunk: 27°
Burl: None observed
Scion/rootstock:
Scion circumference/rootstock circumference ratio: 13.5 cm to 16.5 cm (of 3-year-old rootstock)
Height at which scion measurement is taken: 4.0 cm from ground
Bud-union characteristics: Slight wave from rootstock to scion on the bud union
Time to initiate roots (average): 14 days
Time to produce a rooted plant (average): 6 months
Height at which rootstock measurement is taken: 2.5 cm from ground
Suckering: None observed on two-year-old invention plants. Suckering from roots at year ten, on discovered plant.
Leaves:
Size:
a. Length (mm): 62.0 mm
b. Width (mm): 56.0 mm
Type: Simple
Shape: Broadly ovate
Apex: Acute
Base: Obtuse
Margin: Sinuate to Serrate
Cross section: Flat
Venation: Each leaf has a central primary vein, which runs to the apex of the leaf. Secondary veins initiate from the primary vein at a 28 degree angle in the apex direction of the leaf, and eventually spreading to other, smaller veins to form a network of netted veins
Surface:
a. Upper surface texture: Glabrous, smooth
b. Lower surface texture: Reticulate netted veins
c. Upper surface color: RHS Green Group N137A
d. Lower surface color: RHS Green Group 137C
Leaf bud:
a. Shape (both immature and mature): Imbricate, conical, and sharp-pointed
b. Texture: Smooth, slightly resinous
c. Color:
Immature: RHS Green Group 143A
Mature (before opening): RHS Greyed-Orange 166B
d. Length (mm):
Immature: 9.0 mm
Mature: 12.0 mm
e. Width (mm):
Immature: 3.0 mm
Mature: 4.0 mm

TABLE 1-continued

VARIETY DESCRIPTION
Petiole:
a. Shape: Oval and flat on upper and lower surfaces
b. Color: RHS Yellow-Green Group 146B
c. Thorns, Spines: Absent
d. Length (mm): 30.0 mm
e. Width (mm): 1.5 mm
f. Texture: Glabrous
Cones: None observed
Flowers: None observed
Petal: None observed
Reproductive Organs: None observed
Fruit: None observed
Best mode growing conditions:
Soil conditions: Loam with a pH range from 5.0 to 7.5
Water use/drought tolerance: Drought tolerant, specimen current growing without irrigation; however, while the tree will grow in hot and dry conditions, it will grow most rapidly with soil moisture
Resistance to disease: Disease resistance to <i>Venturia</i> leaf and shoot blight

COMPARISON TO SIMILAR VARIETIES

Parent One, a commercially available, unpatented and unnamed variety of *Populus tremuloides*, producing seed and presenting branching angles of 55 degrees with serrate leaf blade margins. In contrast, ‘KMN01’ is seedless, is more upright in form, with a branching angle of 27 degrees, and has sinuate to serrate leaf blade margins.

Parent Two is unknown; therefore, no comparison can be made.

The commercially available *Populus tremuloides* named ‘Driefest’ (unpatented) produces seed, has a silver bark color and a branch angle from the stem at 16 degrees. In contrast, ‘KMN01’ is seedless, has white bark color and a branching angle from stem at 27 degrees.

I claim:

1. A new and distinct variety of *Populus tremuloides* having the characteristics substantially as described and illustrated herein.

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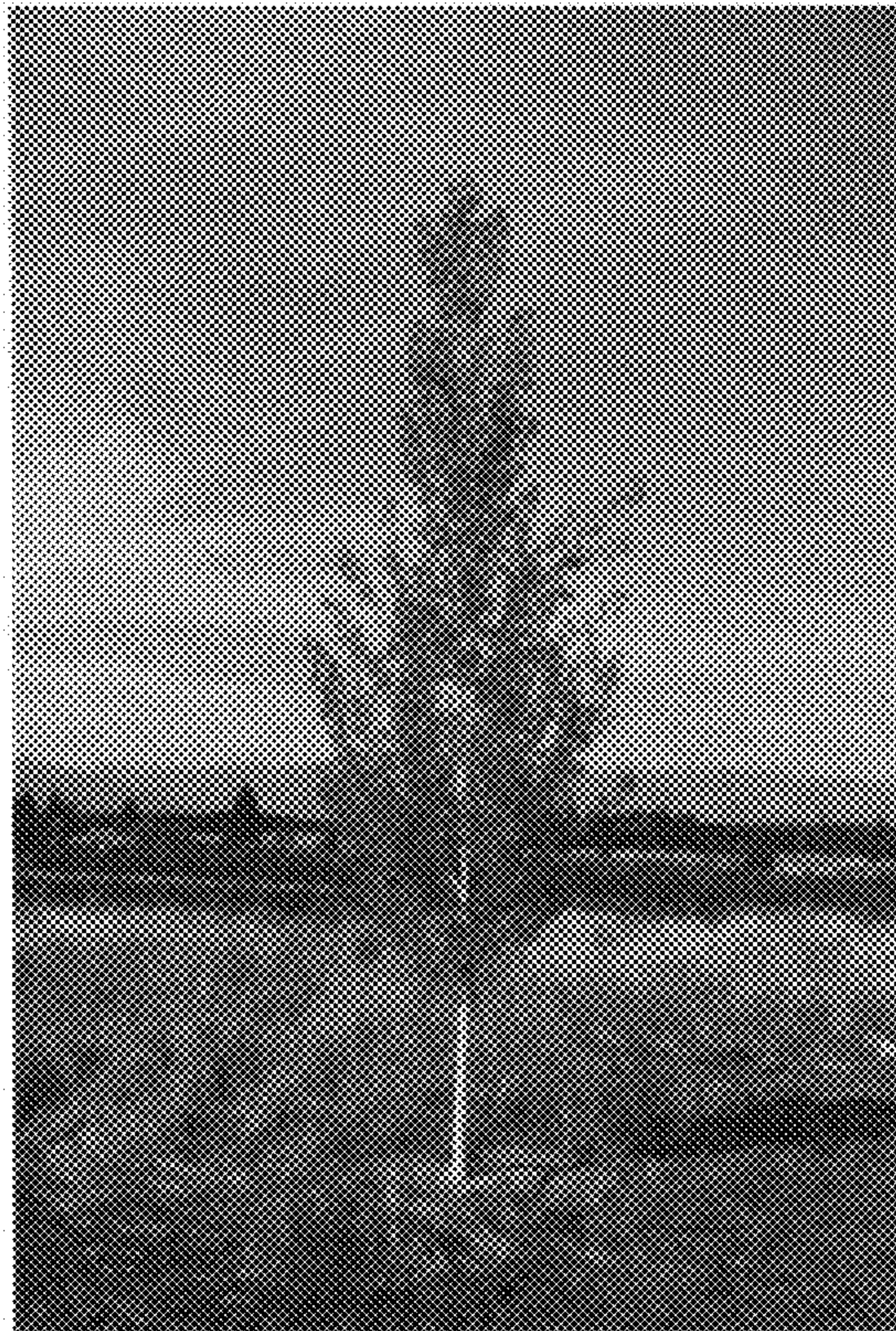


FIG. 1



FIG. 2

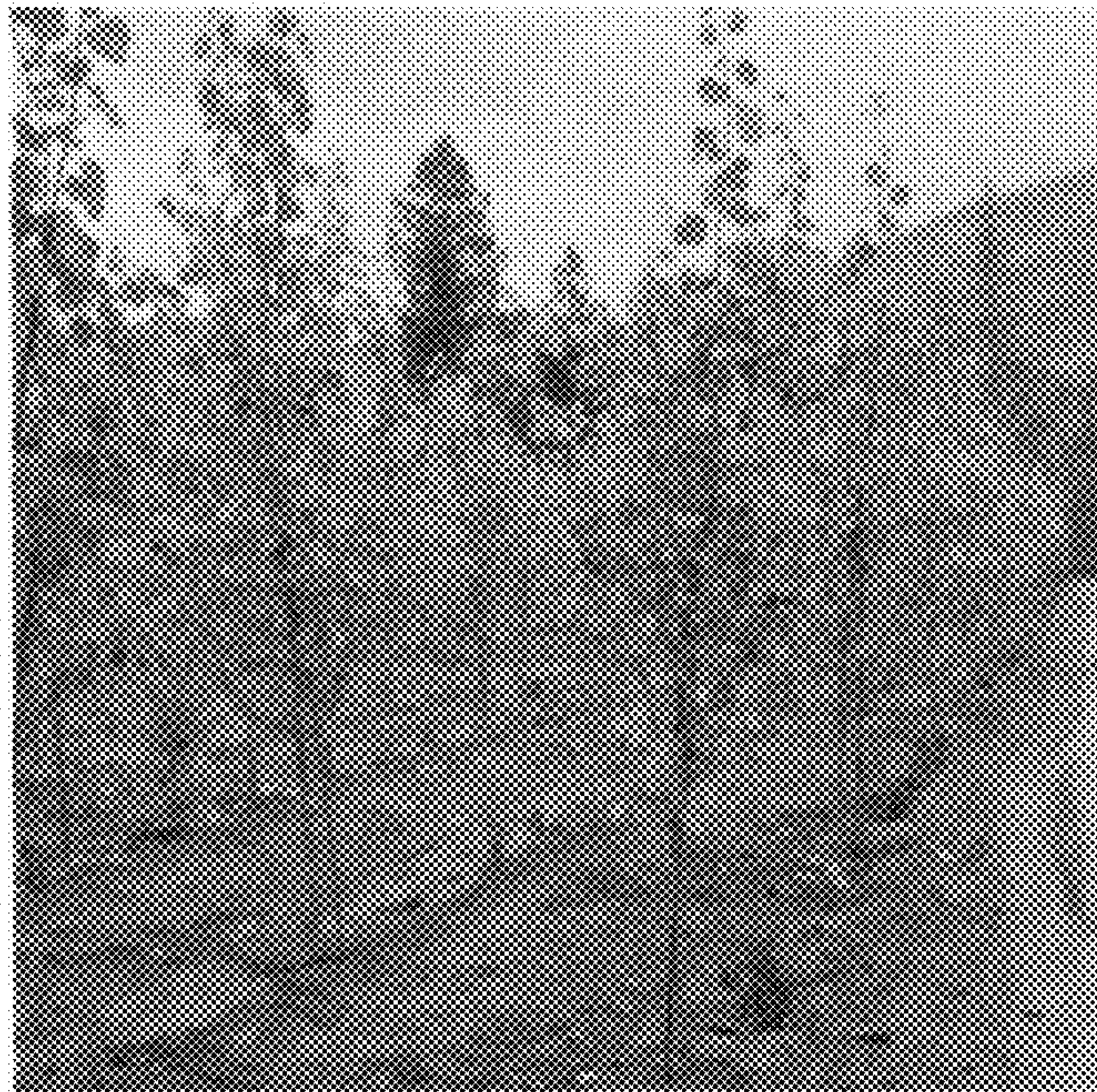


FIG. 3

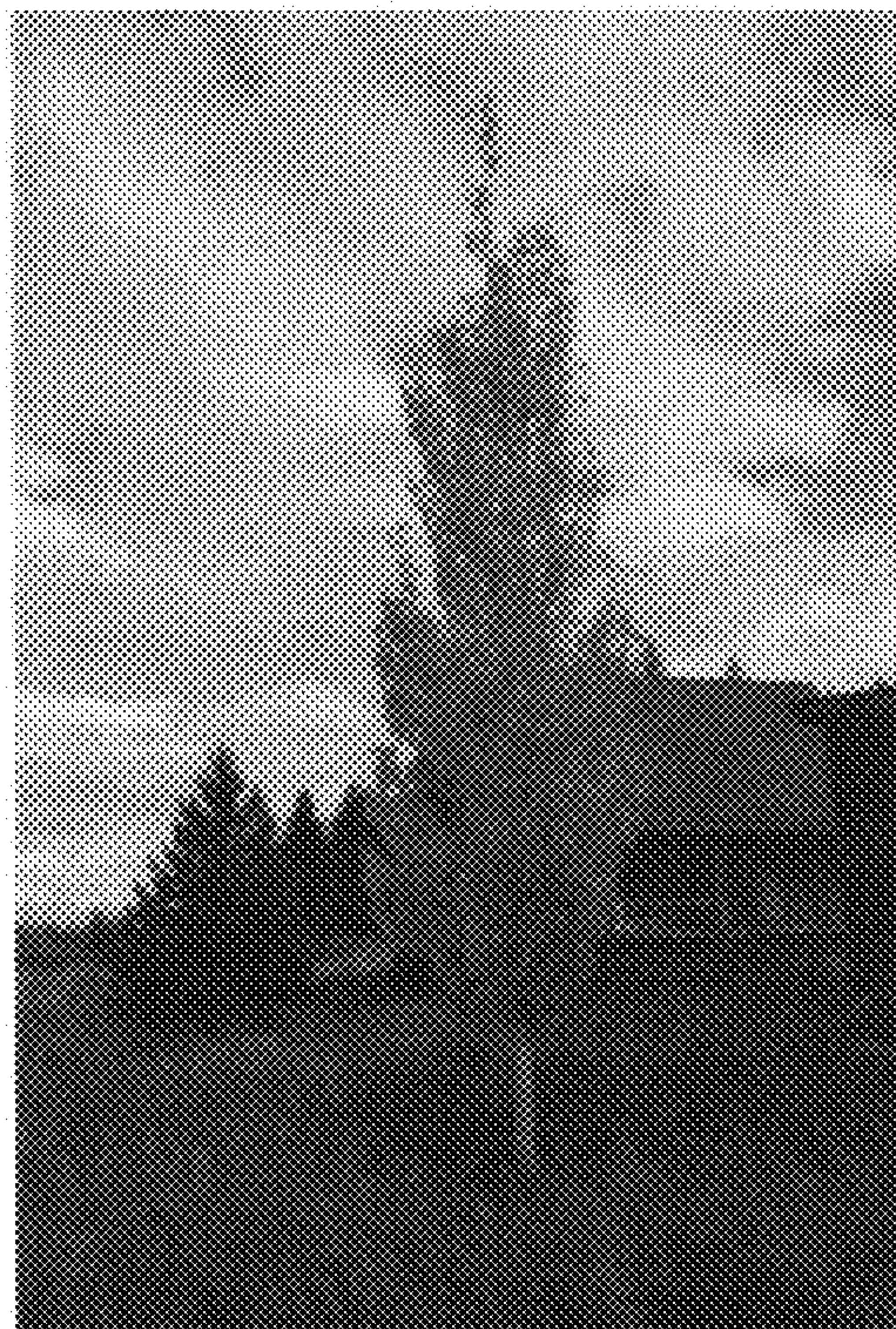


FIG. 4



FIG. 5



FIG. 6

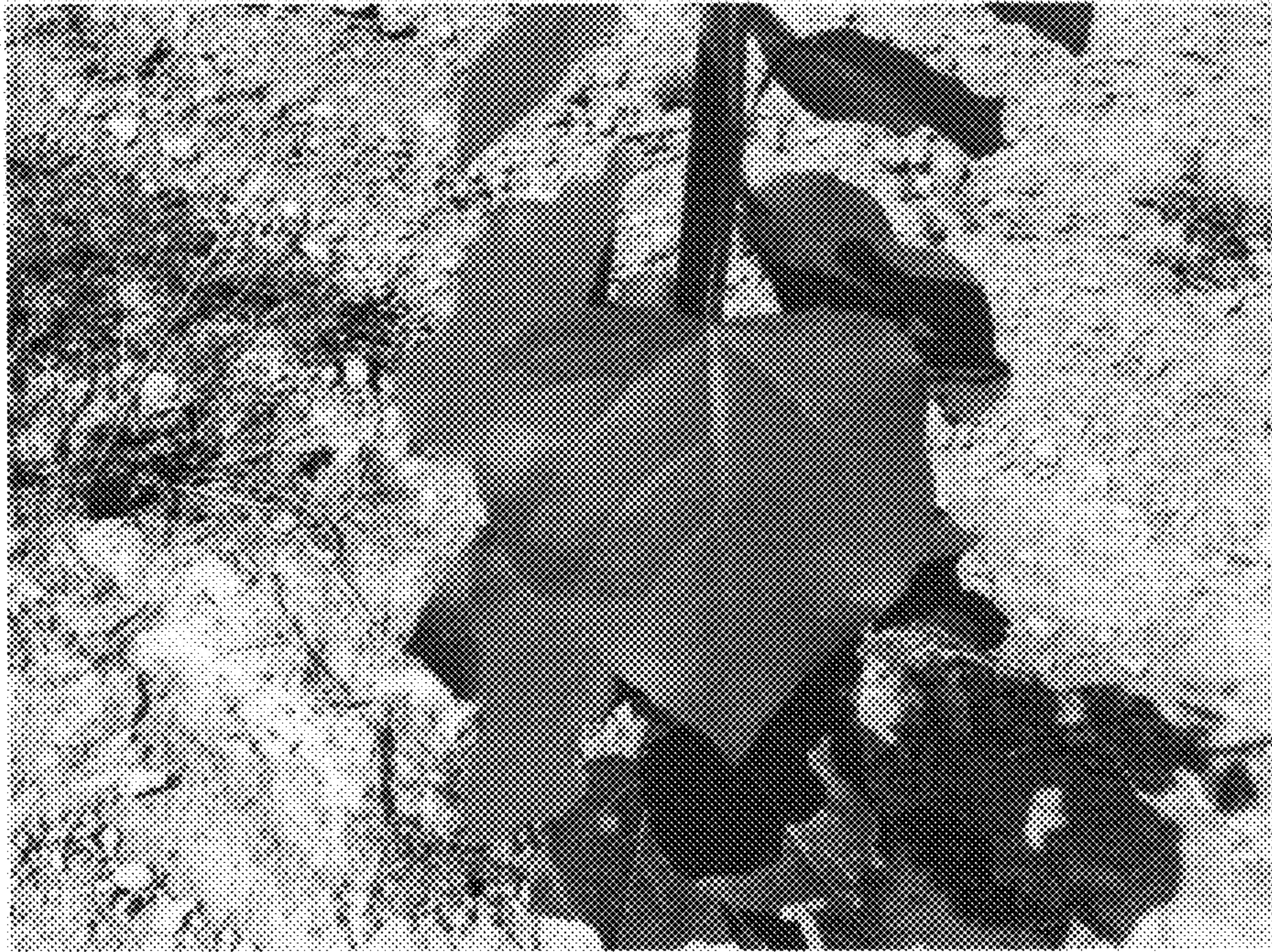


FIG. 7



FIG. 8