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(54) **ORGANIZING IMAGES BY CORRELATING FACES**

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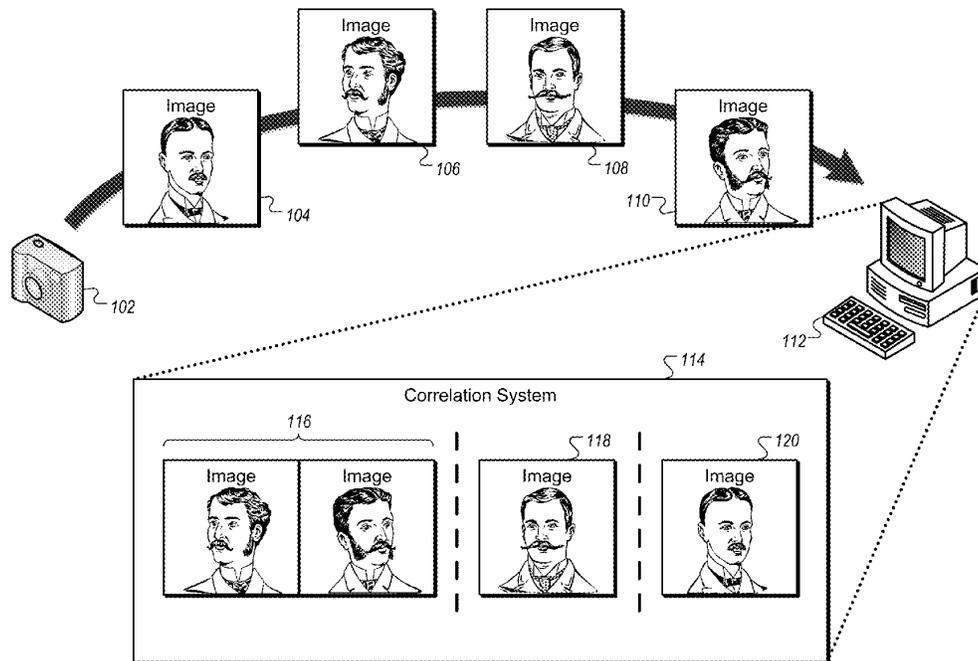**Gregory Charles Lindley**,
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(57) **ABSTRACT**

Methods and systems are presented for organizing images. In
one aspect, a method can include generating a correlation
value indicating a likelihood that a face included in a test
image corresponds to a face associated with a base image,
determining that a correlation threshold exceeds the correla-
tion value and that the correlation value exceeds a non-cor-
relation threshold, generating a similarity score based on one
or more exposure values and one or more color distribution
values corresponding to the test image and the base image,
combining the similarity score with the correlation value to
generate a weighted correlation value, and determining that
the test image and the base image are correlated when the
weighted correlation value exceeds the correlation threshold.
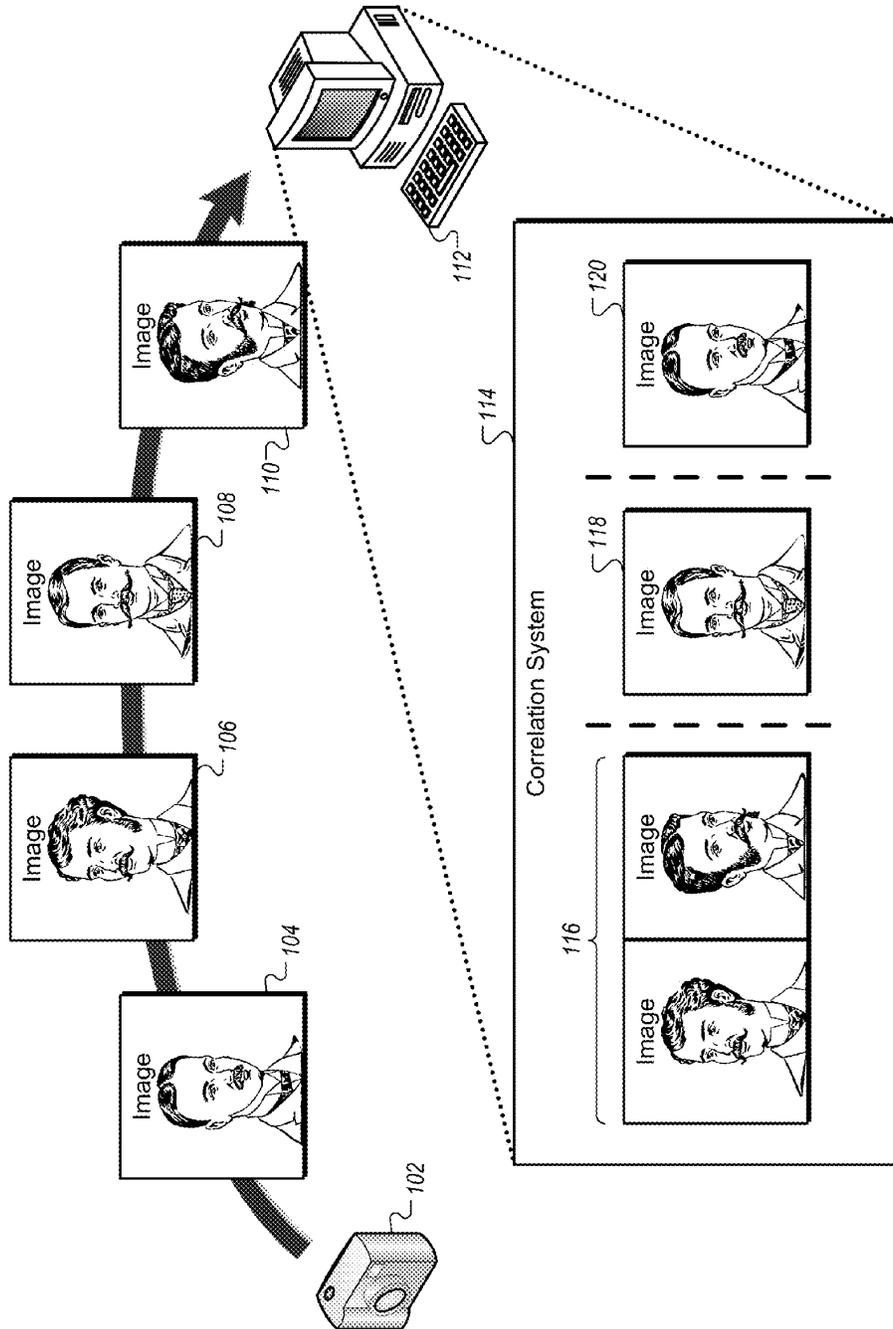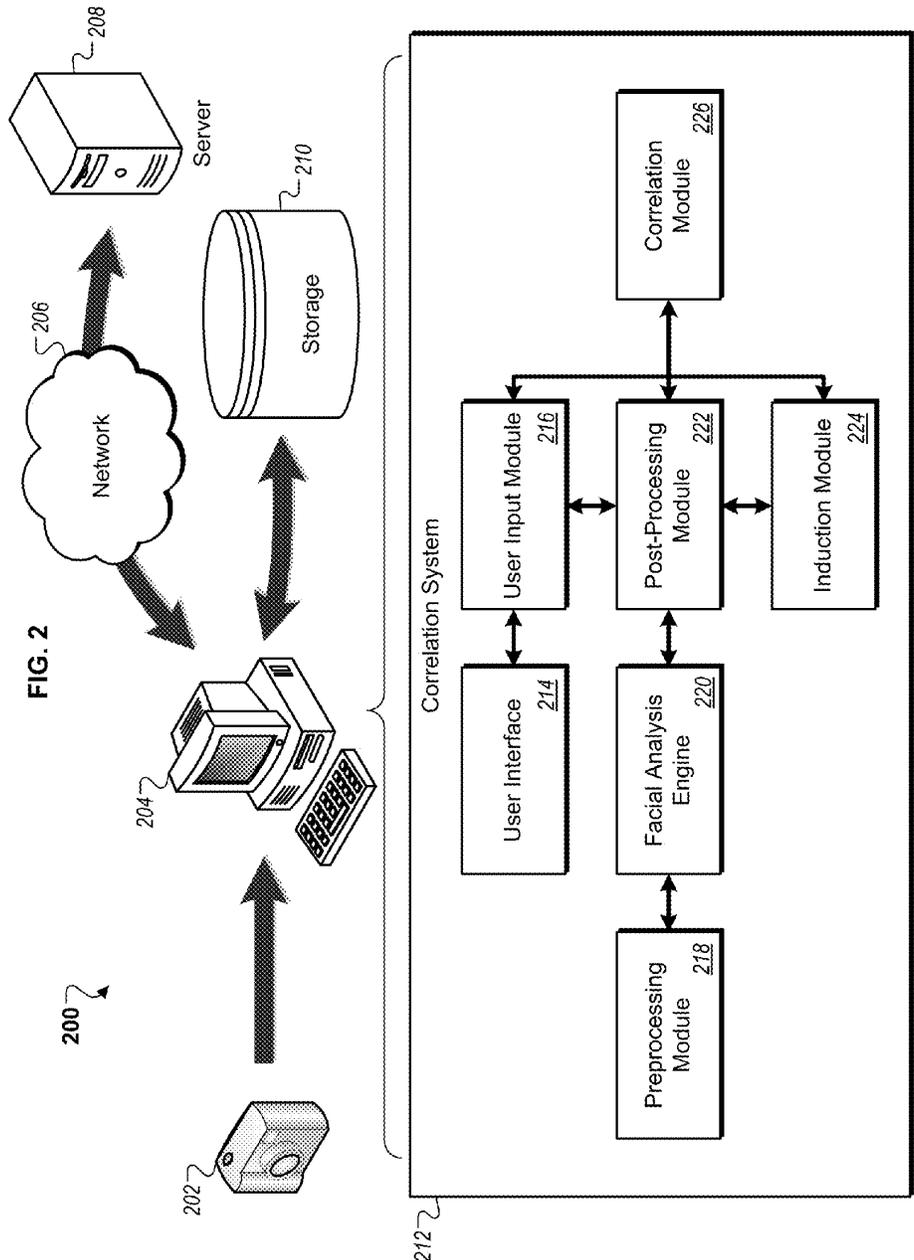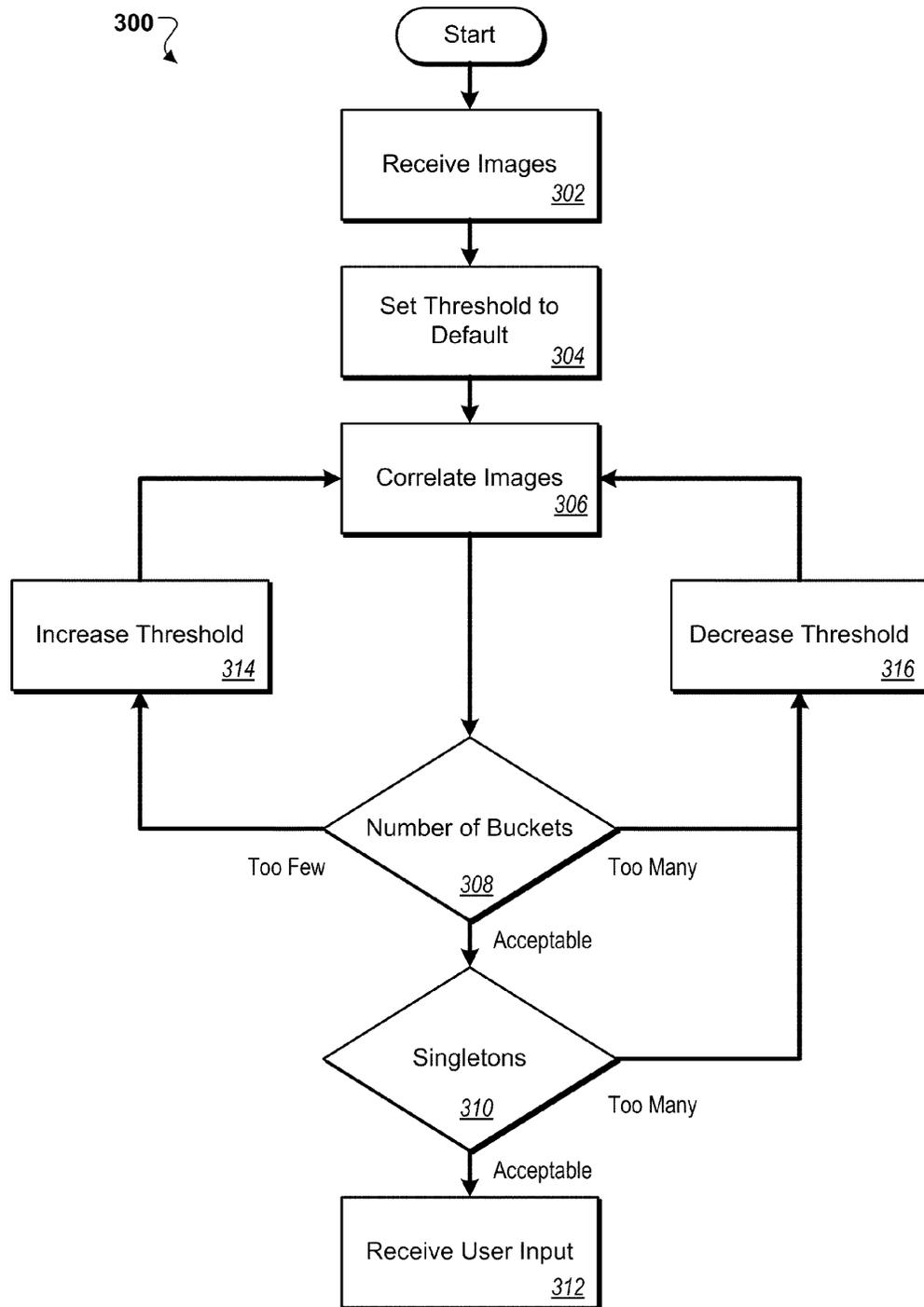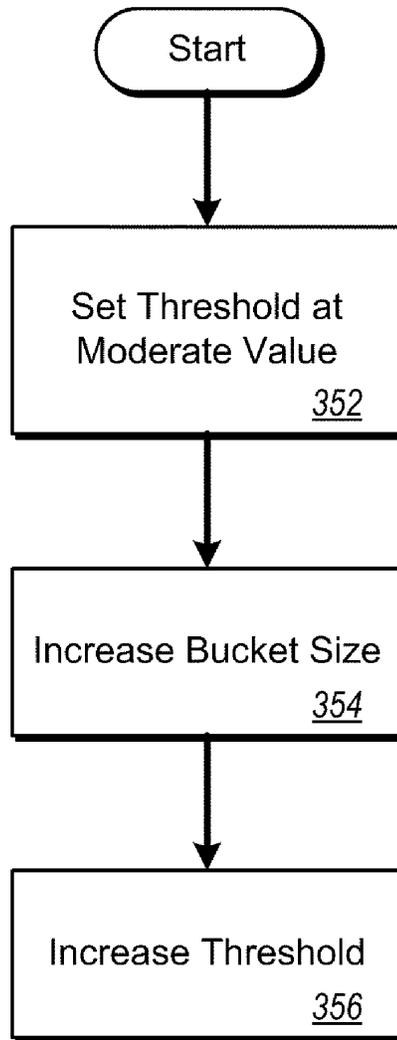
FIG. 1

FIG. 2

Correlation System

User Interface 214

User Input Module 216

Post-Processing Module 222

Induction Module 224

Correlation Module 226

Facial Analysis Engine 220

Preprocessing Module 218

Server

Network

Storage

300

```
              ┌───────────┐
              │   Start   │
              └─────┬─────┘
                    │
                    ▼
          ┌──────────────────┐
          │  Receive Images  │
          │       302        │
          └────────┬─────────┘
                   │
                   ▼
          ┌──────────────────┐
          │ Set Threshold to │
          │     Default      │
          │       304        │
          └────────┬─────────┘
                   │
                   ▼
          ┌──────────────────┐
   ┌─────▶│ Correlate Images │◀─────┐
   │      │       306        │      │
   │      └────────┬─────────┘      │
   │               │                │
┌──┴───────────┐   │   ┌────────────┴──────┐
│ Increase     │   │   │ Decrease Threshold│
│ Threshold    │   │   │       316         │
│    314       │   │   └────────┬──────────┘
└──▲───────────┘   │            ▲
   │               ▼            │
   │         ◇─────────────◇    │
   │        ╱ Number of    ╲    │
   └───────╱   Buckets      ╲───┘
  Too Few  ╲     308        ╱ Too Many
            ╲─────┬────────╱
                  │ Acceptable
                  ▼
            ◇───────────◇
           ╱  Singletons ╲────────┐
           ╲     310     ╱  Too Many
            ╲─────┬─────╱
                  │ Acceptable
                  ▼
          ┌──────────────────┐
          │ Receive User Input│
          │       312        │
          └──────────────────┘
```

FIG. 3A

350

```
         ┌──────────────┐
         │    Start      │
         └──────┬───────┘
                │
                ▼
      ┌─────────────────────┐
      │   Set Threshold at   │
      │   Moderate Value     │
      │         352          │
      └──────────┬──────────┘
                 │
                 ▼
      ┌─────────────────────┐
      │  Increase Bucket Size│
      │         354          │
      └──────────┬──────────┘
                 │
                 ▼
      ┌─────────────────────┐
      │  Increase Threshold  │
      │         356          │
      └─────────────────────┘
```

FIG. 3B

DOCKET ALARM

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