

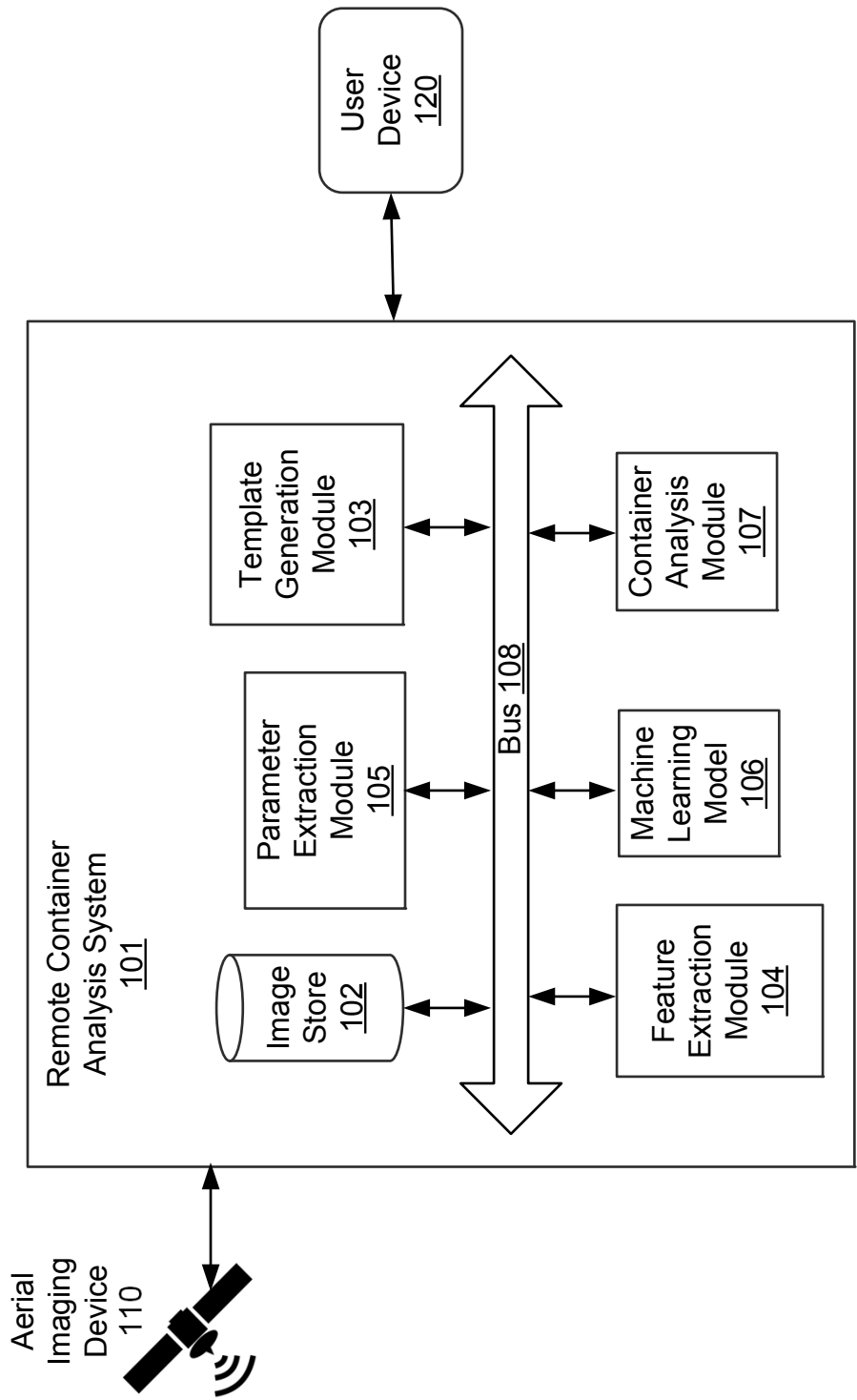


FIG. 1

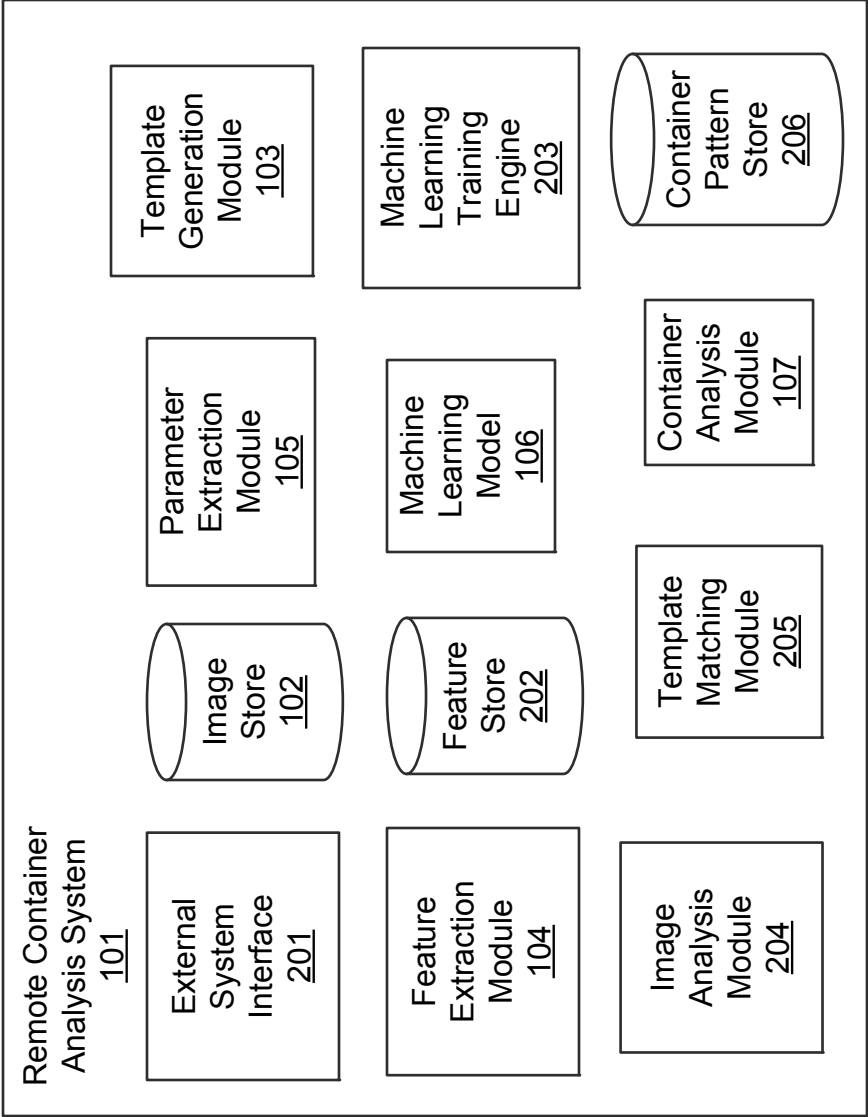


FIG. 2

Positive Training Set 300

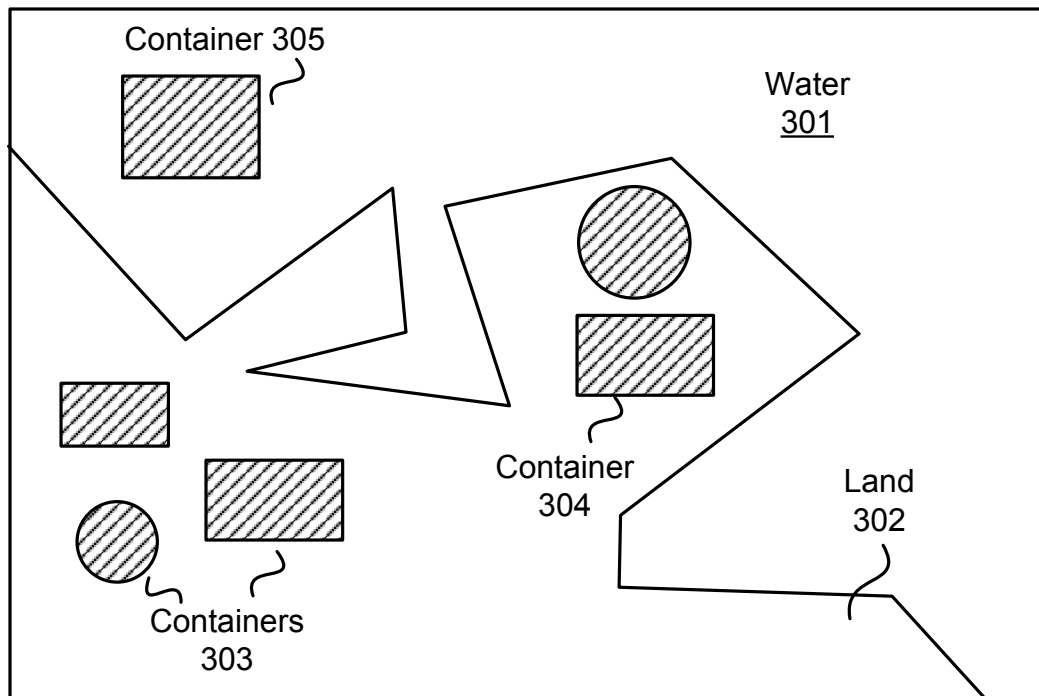


FIG. 3A

Negative Training Set 350

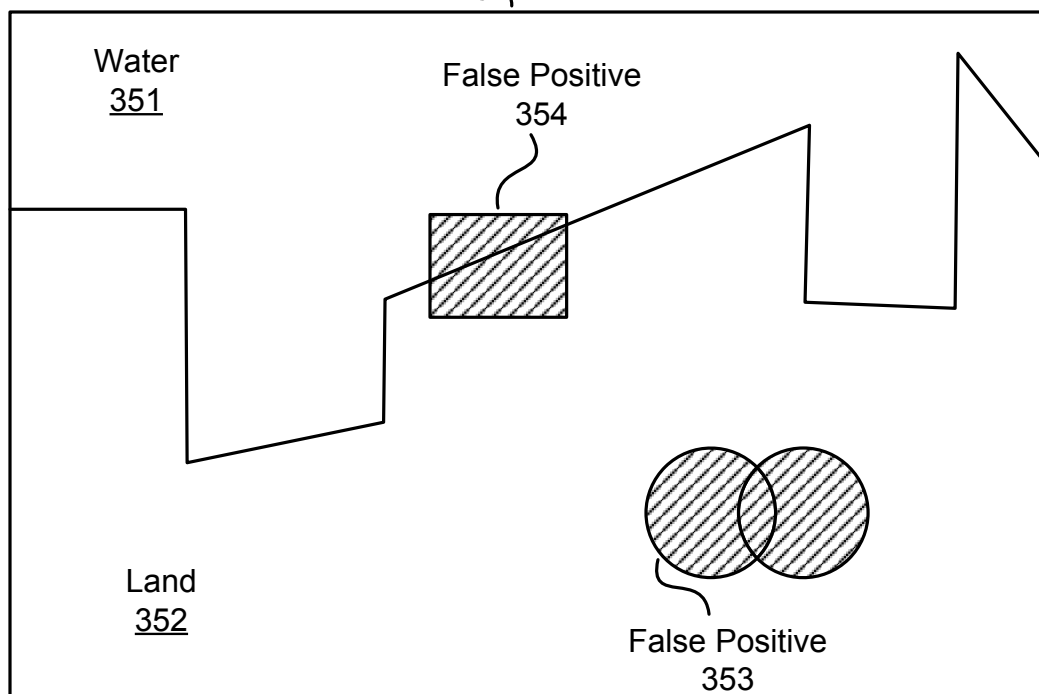


FIG. 3B

Positive Training Set 370

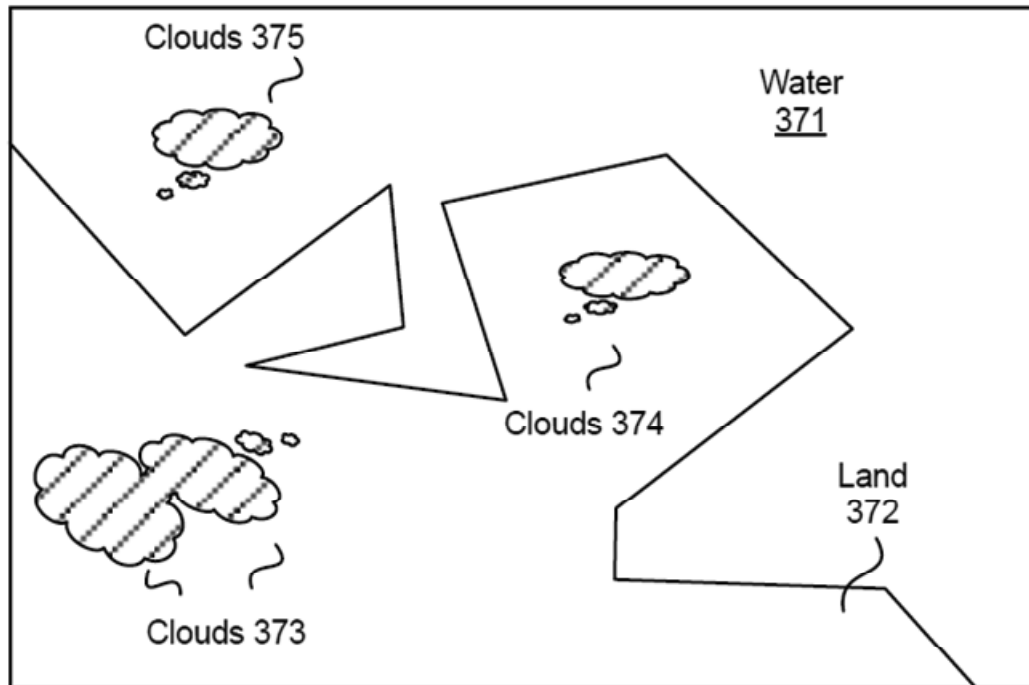


FIG. 3C

Negative Training Set 380

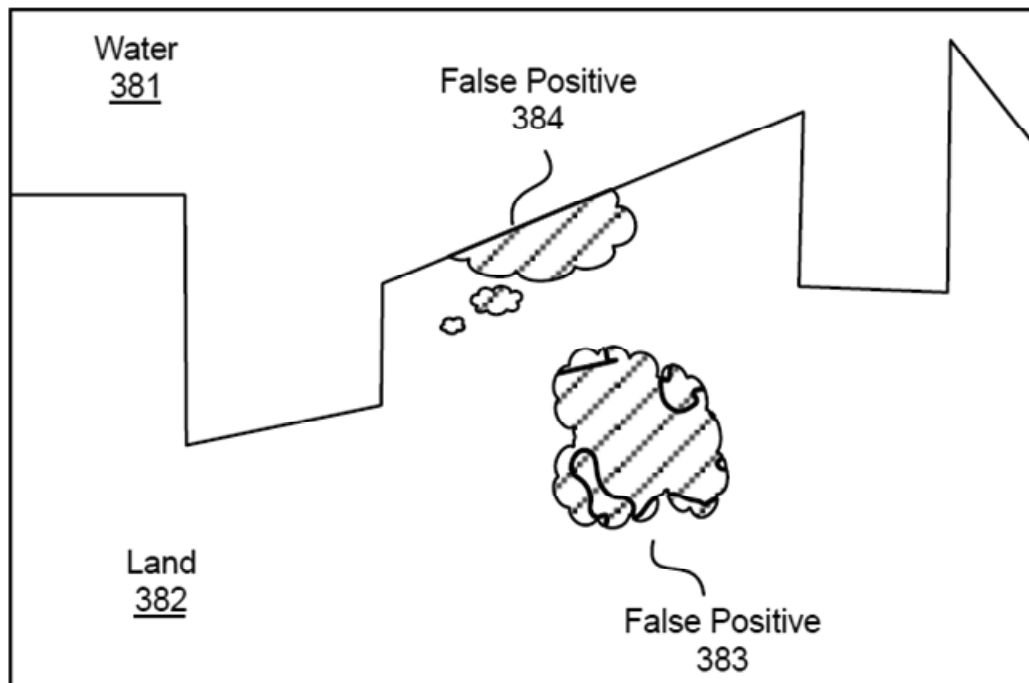
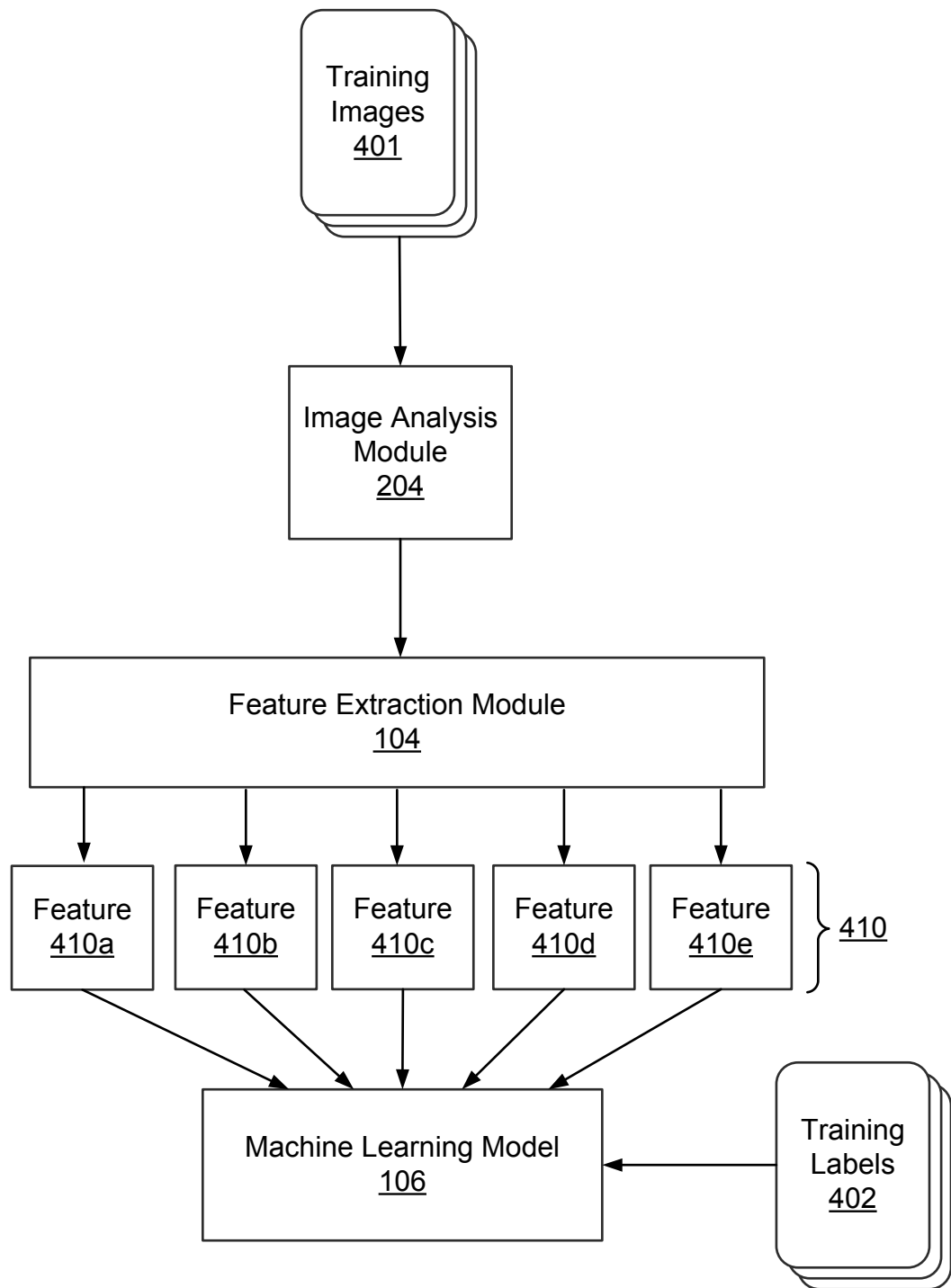
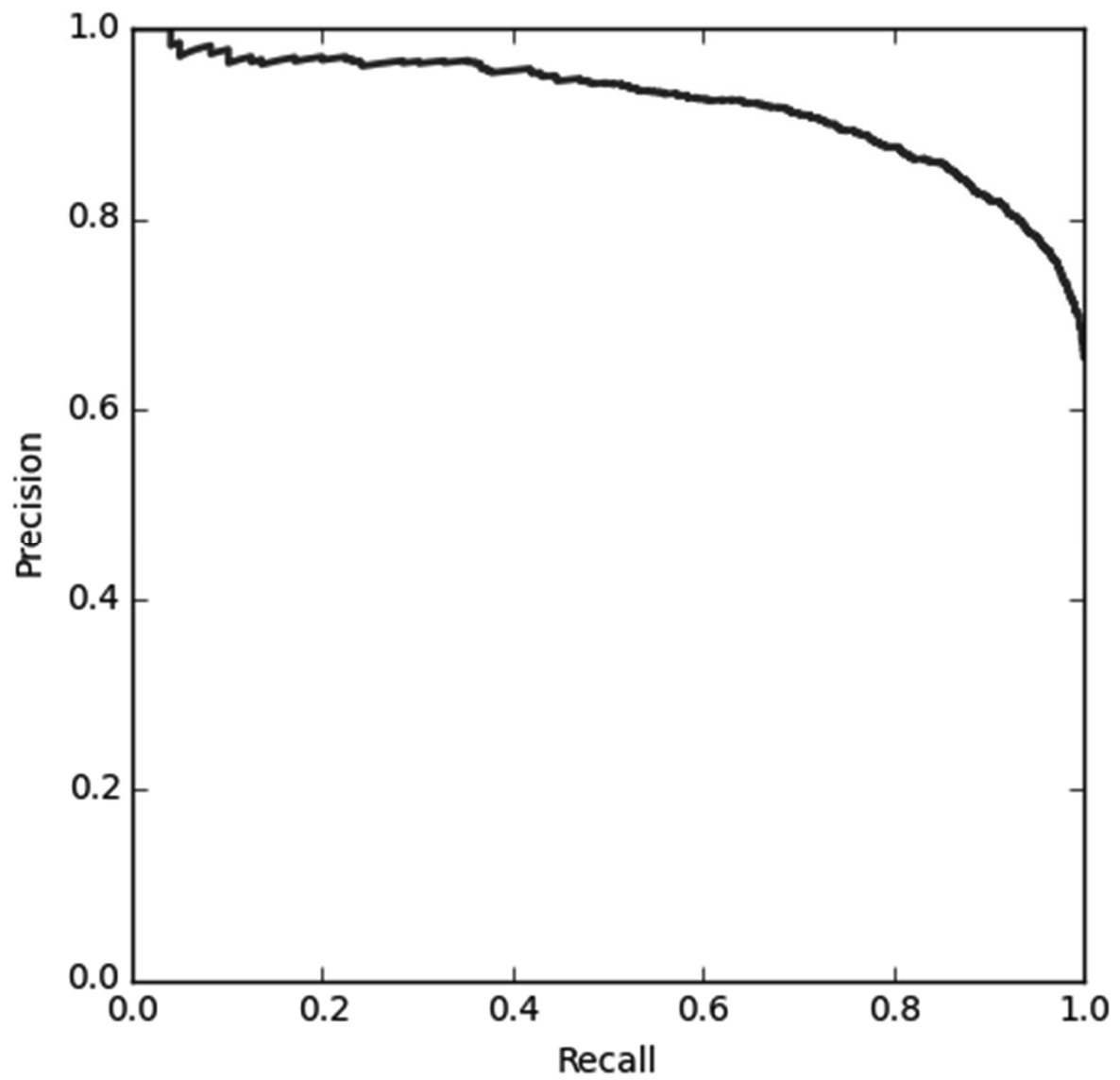
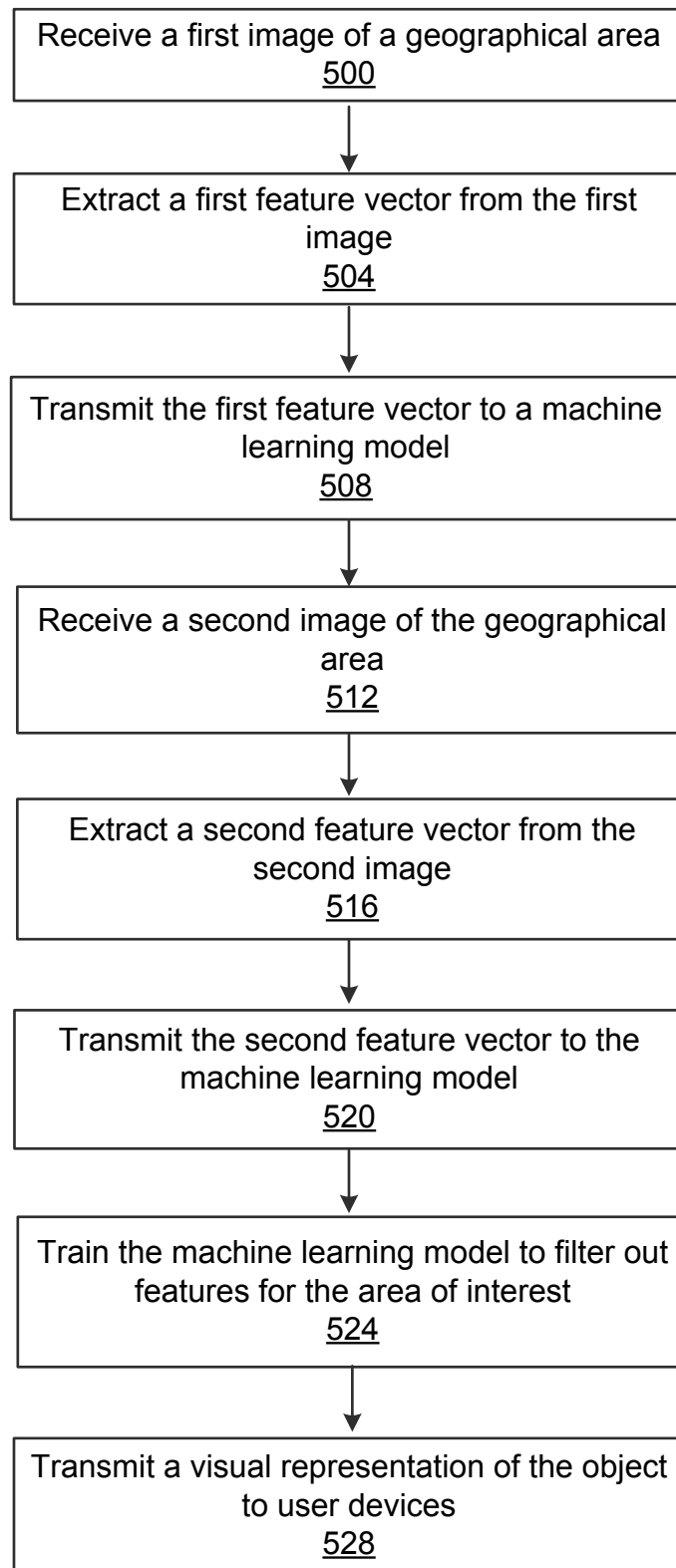
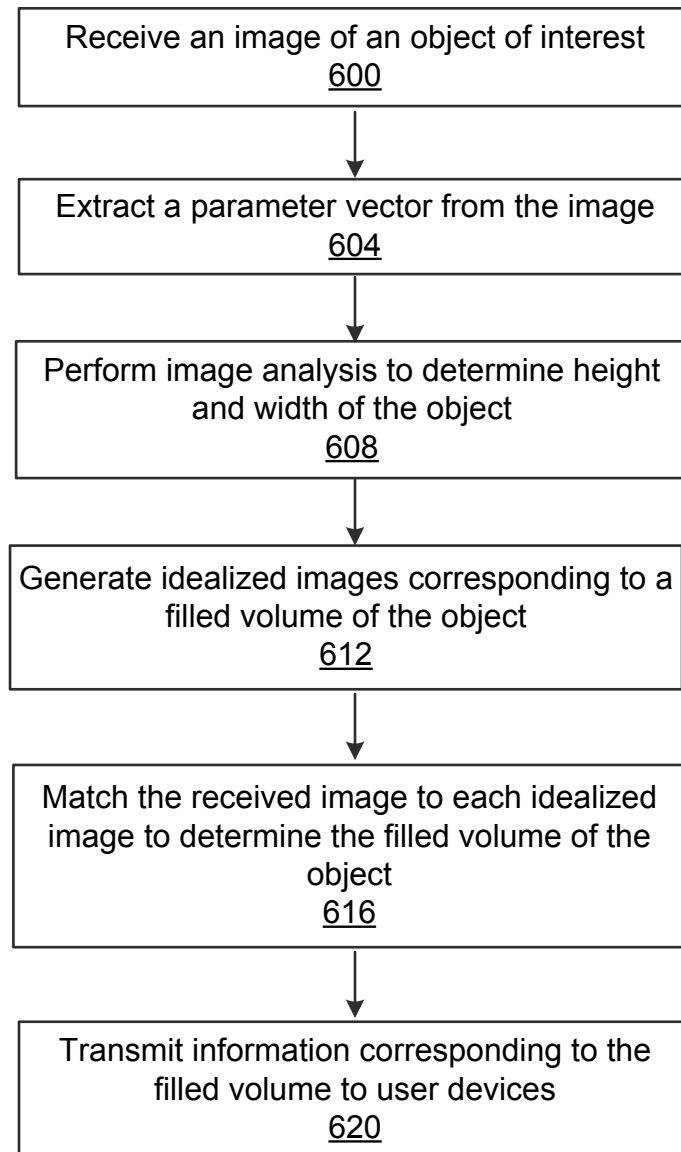


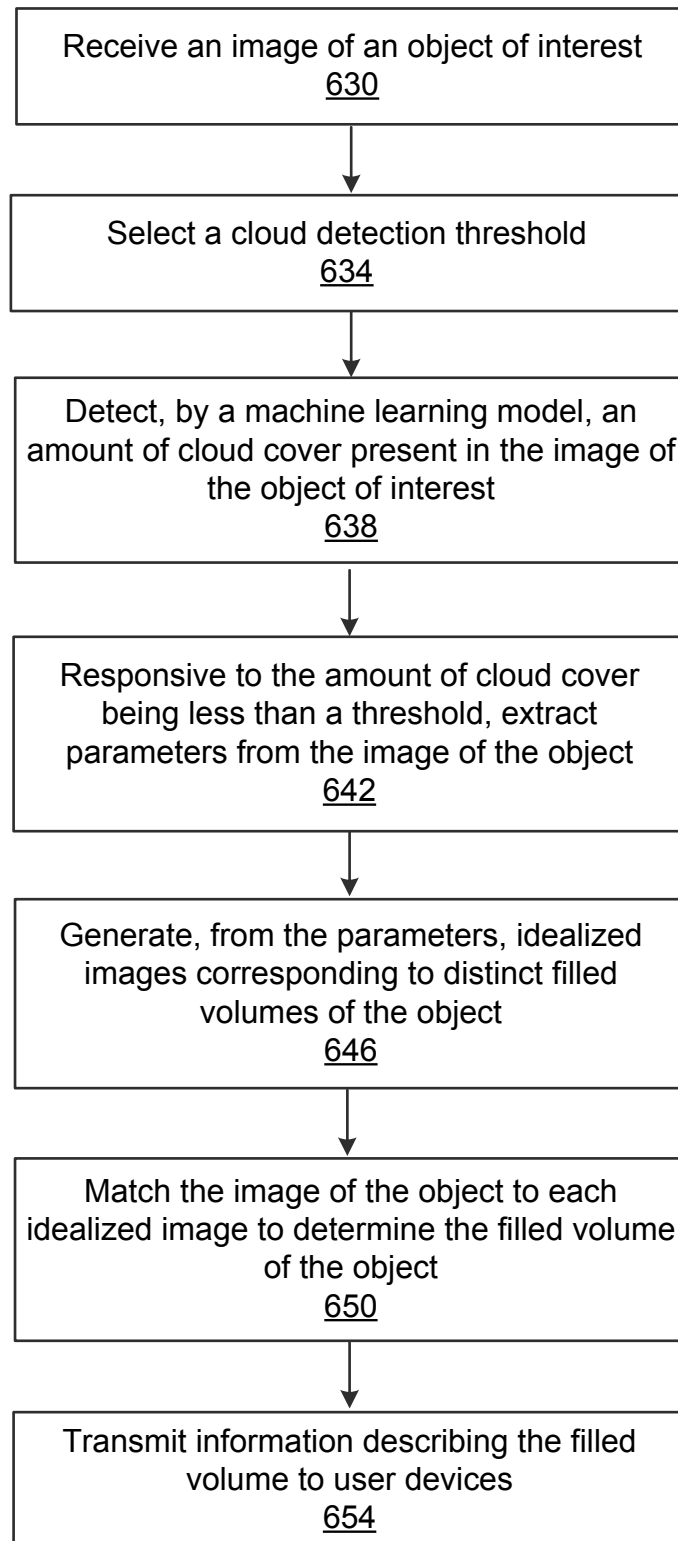
FIG. 3D

**FIG. 4A**

**FIG. 4B**

**FIG. 5**

**FIG. 6A**

**FIG. 6B**

Idealized Image Generation
700

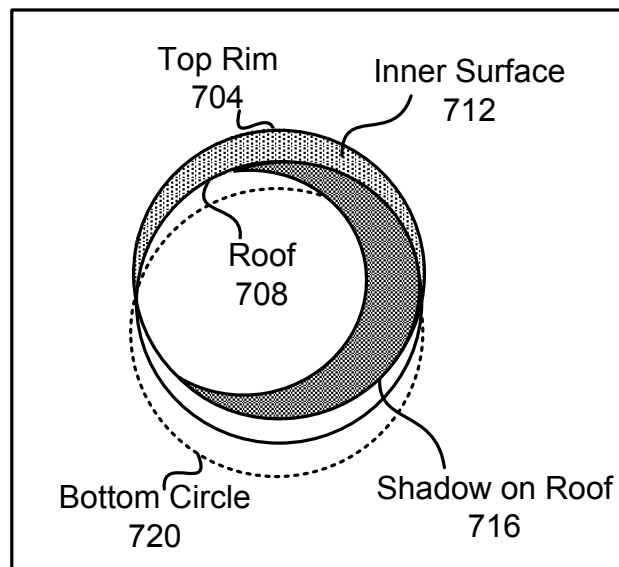


FIG. 7

Roof Height (RH) circle position

$$\Delta l_v = \frac{RH}{\tan(sat_elev)}$$

$$RH_x = BC_x + \Delta l_v \sin(sat_az)$$

$$RH_y = BC_y + \Delta l_v \cos(sat_az)$$

Internal Shadow (IS) circle position

$$\Delta l_s = \frac{TH - RH}{\tan(sun_elev)}$$

$$IS_x = BC_x + \Delta l_v \sin(sat_az) - \Delta l_s \sin(sun_az)$$

$$IS_y = BC_y + \Delta l_v \cos(sat_az) + \Delta l_s \cos(sun_az)$$

Top Circle (TC) circle position

$$\Delta t_v = \frac{TH}{\tan(sat_elev)}$$

$$TC_x = BC_x + \Delta t_v \sin(sat_az)$$

$$TC_y = BC_y + \Delta t_v \cos(sat_az)$$

Notes: BC = Bottom Circle, sat_az = satellite azimuth angle, sat_elev = satellite elevation angle, sun_az = sun azimuth angle, sun_elev = sun elevation angle

FIG. 8

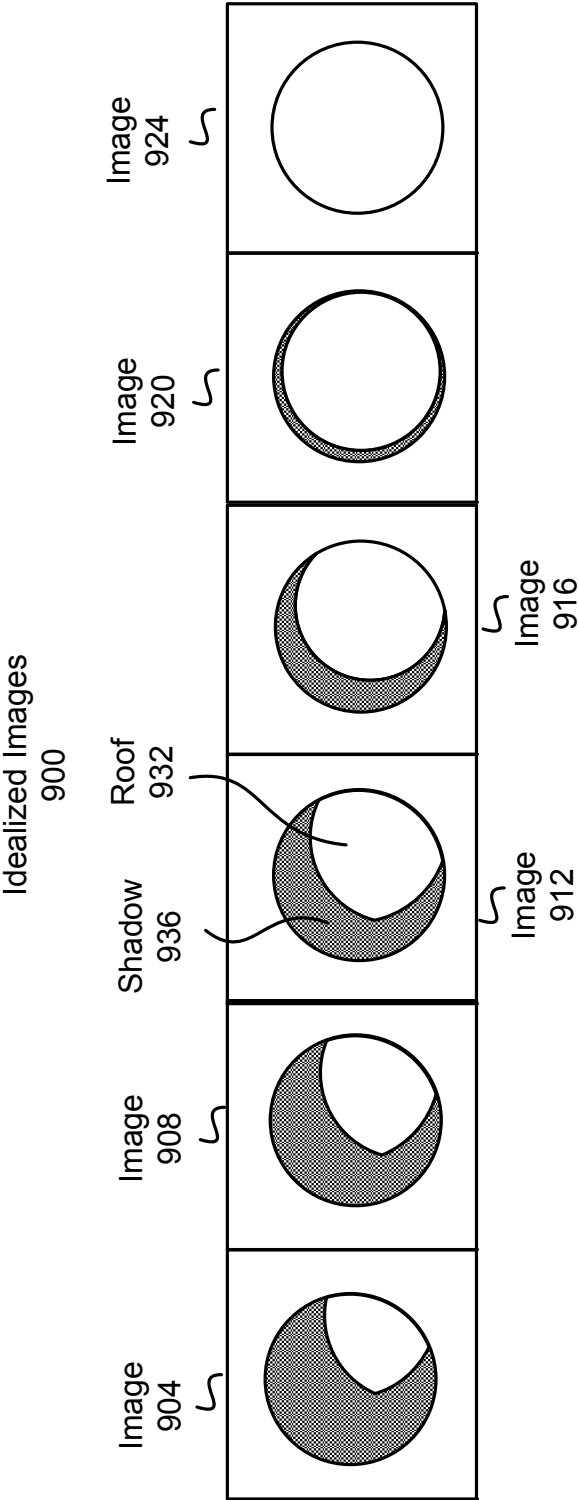


FIG. 9

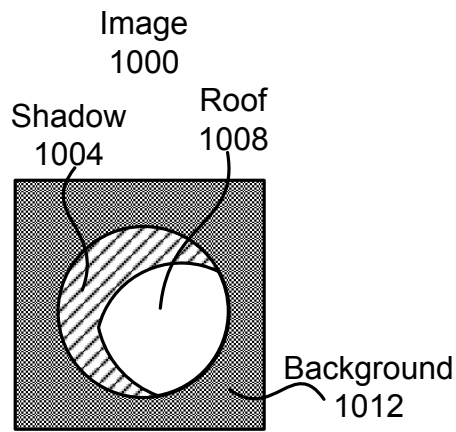


FIG. 10A

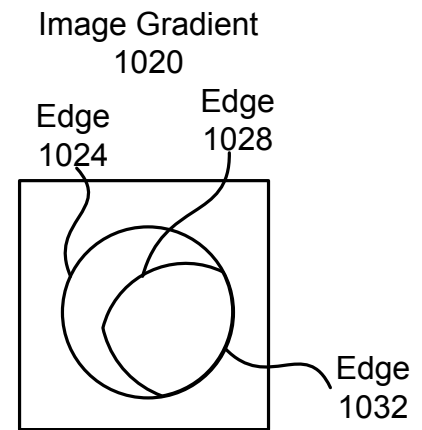


FIG. 10B

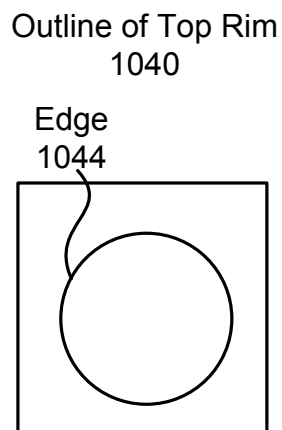


FIG. 10C

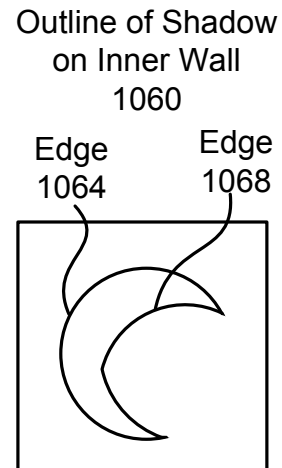


FIG. 10D

