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// Manuale di Programmazione Cinematografica  
// Daniele Olmisani, 2015
```

```
// Modern Times (1936)
```

```
final color PAPER = color(240);  
final color INK = color(45, 60, 40);
```

```
void setup() {  
  size(480, 640);  
  noLoop();  
}
```

```
void draw() {  
  
  final float S = min(width, height);  
  
  translate(0.5*width, 0.3*height);  
  
  background(PAPER);  
  
  drawGear( 0.0, 0.0, 0.16*S, 0.04*S, 0, 0.01*S);  
  drawGear(0.21*S, 0.21*S, 0.11*S, 0.04*S, 0, 0.01*S);  
  drawGear(0.02*S, 0.35*S, 0.10*S, 0.04*S, 0, 0.01*S);  
  drawGear(0.12*S, 0.52*S, 0.07*S, 0.04*S, 0, 0.01*S);  
  
  save("modern-times.png");  
}
```

```
void drawGear(float x, float y, float r, float s, float a, float h) {  
  
  pushMatrix();  
  fill(INK);  
  noStroke();  
  
  translate(x, y);  
  rotate(a);  
  
  rectMode(CENTER);  
  ellipseMode(CENTER);  
  
  final int N = (int)((r*PI) / s);  
  for (int i=0; i<N; i++) {  
    rect(r, 0, s, s);  
    rotate(TWO_PI / N);  
  }  
  ellipse(0, 0, 2*r, 2*r);  
  
  fill(PAPER);  
  ellipse(0, 0, h, h);  
  popMatrix();  
}
```