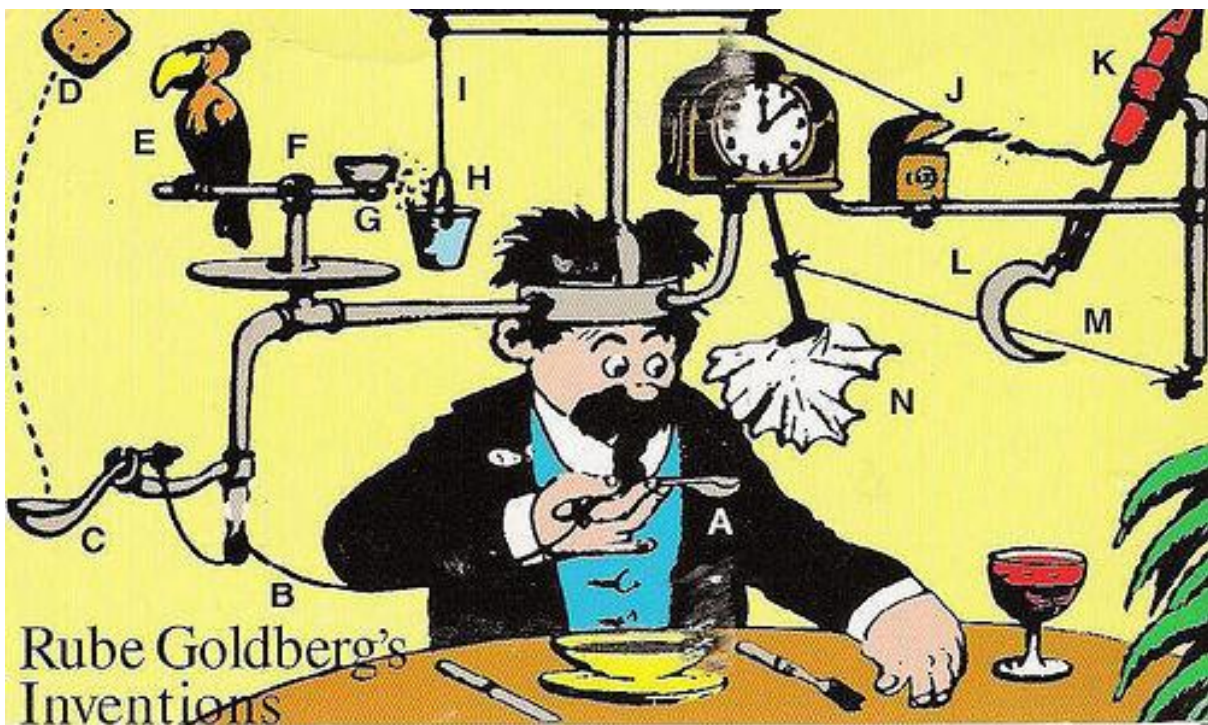


# Describing a process



Reuben Garrett Lucius "Rube" Goldberg was an American cartoonist, sculptor, author, engineer and inventor. He is best known for a series of popular cartoons depicting complex gadgets that perform simple tasks in indirect, complicated ways



Task 1: Write down as many things as you can see in the picture

**Task 2a:** What actions need to happen for the self-operating Napkin to function properly? What do the following words mean and which letters in the picture above do they apply to?

Pull =  
tilt =  
jerk =  
swing =  
pendulum =

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**Task 2b:** Key language to describe the cause and effect of a process

**Thereby + verb 'ing'**

The man moves the spoon to his mouth, **thereby jerking** the spoon

**Which causes the**

The parrot jumps for the bread **which causes the** perch to tilt

**And as a result the**

The rocket fires **and as a result the** attached sickle cuts the string

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**Task 3:** Can you explain the cause and effect for each process? Use the words from Task 2a and 2b.

A → B

*He brings the spoon to his mouth thereby jerking the attached string*

C → D

E → F

G → H

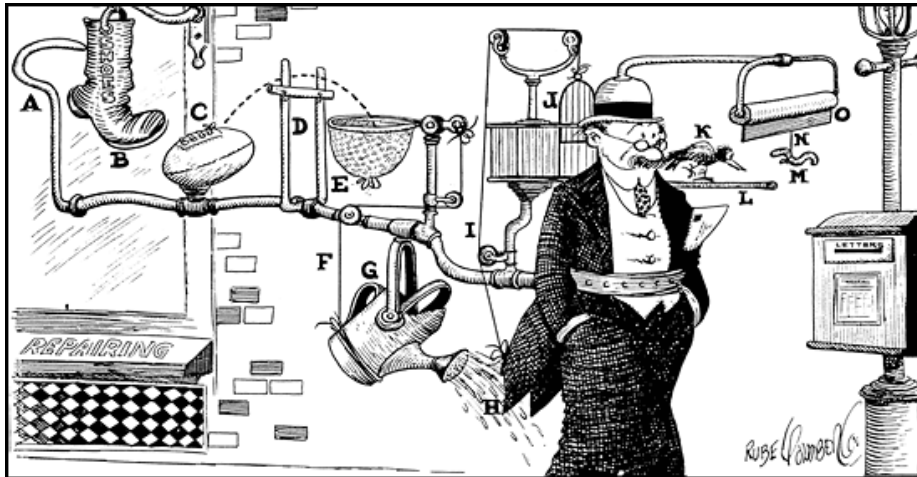
I → J

K → L

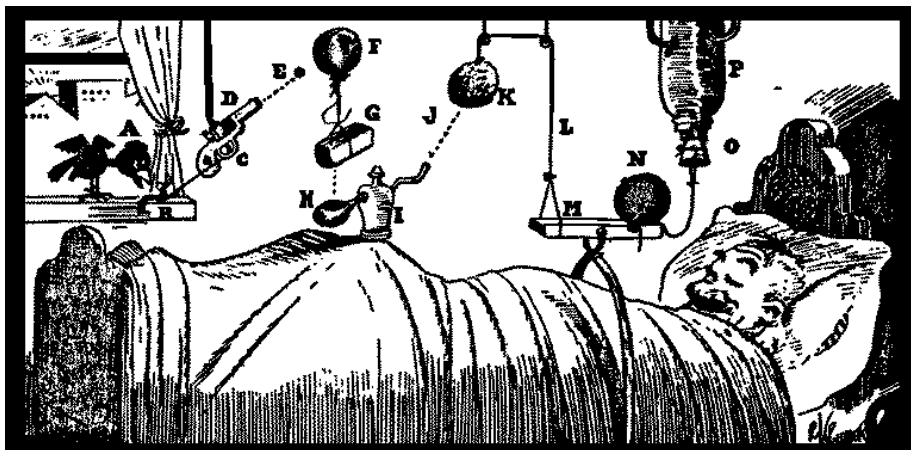
M → N

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A: Posting a letter



B: An Alarm Clock



Interactive Game – Describing a process – The Burglar Catcher

<http://www.fossweb.com/modules3-6/LeversandPulleys/activities/rubegoldbergmachine.html>

## Lesson Plan

1) Begin by introducing Rube Goldberg to the group, explaining who he was and why he was famous. He is famous for creating overly complicated devices for very simple tasks.

2) Show the participants the first picture on page 1 (the napkin picture) and ask them, in pairs, to note down as many things as they can see in the picture (don't get them to describe the process just yet). This will give them the key vocab when they describe the process later.

3) Ask the participants if they know and can explain any of the action verbs in task 2a. Use the picture to help you illustrate the meaning– Elicit as many action verbs as you can see, this will help with the speaking activity later.

4) Next, introduce the key language on page 2 and drill the sentences. Ask each participant to describe one process in the picture using the key language for example:

**“The bird flies away with the bread, thereby dropping the seed into the bucket”**

5) Ask the participants to now think about the whole process (task 3) and how the device works. First ask them to look at A → B

you want to elicit the sentences like:

“The man lifts the spoon, which causes the string to tighten” (A→B)

“The big spoon jerks, thereby causing the bread to fly in the air (C→D)

Then ask them to do the same for the rest of the process:

E → F, G → H etc. Discuss the answers as a class.

6) Split participants into pairs (participant A and participant B) and give participant A the “Posting a letter” picture and B the “alarm clock picture.” Before the lesson, separate picture A and B by cutting along the line between them. Participant A then describes their picture to participant B and participant B must draw the picture according to the description. Once completed, swap roles so participant B describes their picture and participant A must draw. Finally, the participants compare their drawings with the pictures to see how accurate they drew/described the process.

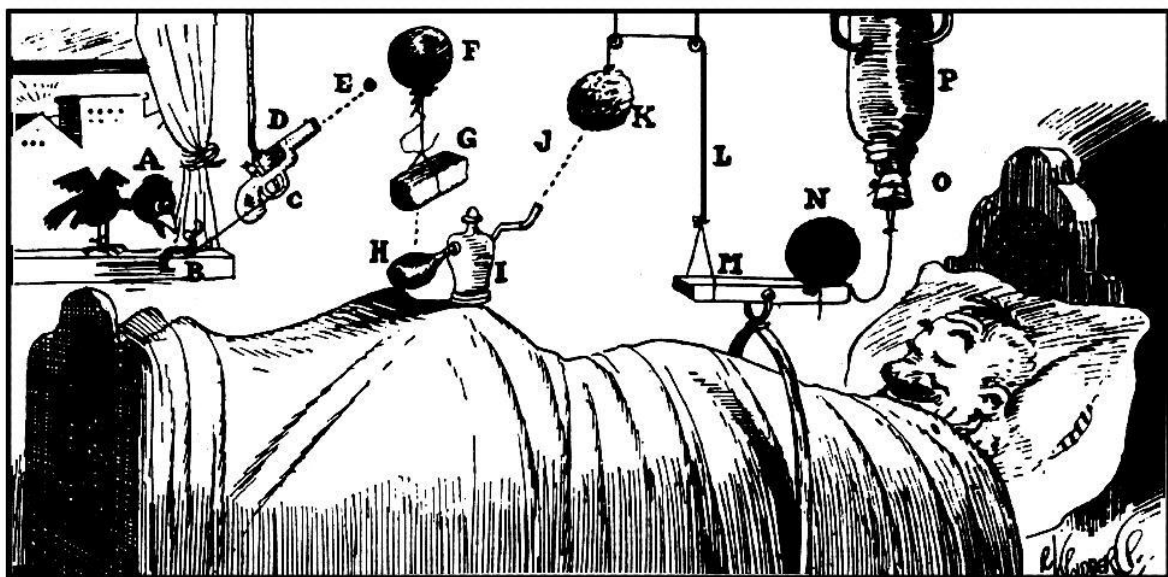
7) Warm down: Describe how the contraptions can be improved (or if you are feeling extra creative, design your own contraption). There is also an interactive version of Goldberg's “Burglar catcher” where you can move certain components around and activate more discussion. The link can be found at the bottom of page 3.

## Answer Key

### Posting a Letter:

The majority of this is self-explanatory. In my experience, the problem that participants encounter is from  $K \rightarrow L \rightarrow M \rightarrow N$ . The idea is that the bird eats the worm, which pulls down on the paper, which reveals a message that reminds the man to post the letter. The common misconception is the device posts the letter for the man, which is not true. The purpose of the device is to remind the man to post the letter.

### Simple Alarm Clock



The early bird (A) arrives and catches worm (B), pulling string (C) and shooting off pistol (D). Bullet (E) busts balloon (F), dropping brick (G) on bulb (H) of atomizer (I) and shooting perfume (J) on sponge (K)—As sponge gains in weight, it lowers itself and pulls string (L), raising end of board

(M)—Cannon ball (N) drops on nose of sleeping gentleman—String tied to cannon ball releases cork (O) of vacuum bottle (P) and ice water falls on sleeper's face to assist the cannon ball in its good work.